



2011: A year of change for the Energy Industry?

By Pierre Gadonneix, Chairman, World Energy Council and Honorary Chairman, Electricité de France (EDF)

When I closed the World Energy Congress in Montreal last year I set out the key challenges facing the energy sector: energy security, environment and climate protection, and the struggle against inequalities and energy poverty. This was all in the context of a world starting to recover from the global economic crisis, the oil industry waking up after the dreadful spill in the Gulf of Mexico and the realisation that global energy demand was increasing at an incredible rate, since the energy global demand will at least double by 2050. The challenge I set out at that stage was great and I believe that both governments and the industry were rising to meet it. A consensus was established at that time among all delegates that we would need to invest in infrastructures and in R&D at a level and at a pace never reached before (about 4 per cent of global GDP by 2030), and in a financial context that has become worse and worse: at the time I am drafting this article, the financial markets are in an unprecedented turmoil. A consensus was also established in Montreal that, in order to ensure these investments, we would need a renewed governance at both national and international levels, to give a (visible) hand to the market and help governments, industries and investors make the right decisions as regards investments, R&D, international trade, safety regulations, environment protection, and fight against inequalities.

But little did any of the 7,000 delegates in Montreal know what 2011 had in store. The events in 2011 urge us to move even faster towards a greater coordination and a reinforced international governance of the energy sector, to promote a safer, greener and more equal energy mix. Let us have a deeper look at what 2011 taught us.

The price of oil at the time of the Montreal congress was at US\$80 a barrel, and at a level where some commentators were suggesting that it had reached its maximum level. Then the so called "Arab Spring" that sprouted in Tunisia and sprawled to Egypt, Libya and now Syria, has increased the uncertainty in the oil markets and coupled with unprecedented demand from China we now see in 2011 the price of crude reaching US\$125 a barrel, with many of the same commentators predicting yet further price rises, also in part due to some shift of demand from countries giving up nuclear.

Indeed, on March 11th tragedy struck the north eastern coast of Japan. Whereas in Montreal, the consensus was that the world would need all energies, including nuclear, to face the challenge of energy security, governments

have been forced by this dreadful event to look again at their plans to use nuclear power to meet their countries' energy needs. While most countries have confirmed their plans to develop nuclear; some are carving out a new route. Yet everywhere, safety measures are being reinforced. The results from WEC's nuclear survey show that the perception of nuclear safety in developing countries has not changed significantly since Fukushima, in comparison to the reaction in developed countries. Therefore we will continue to see growth in this area, regardless of the recent decisions taken by Germany, Switzerland and Italy. Globally nuclear will move on – driven by China, Korea and Russia.

Countries like China keep on developing nuclear energy to maintain their impressive growth rate. China already has a further 23 reactors under construction in an attempt to keep pace with the ever increasing demand. However, despite their drive to increase the use of renewables, coal continues to be the largest source of energy in China, representing about 79 per cent of their current electricity mix as opposed to only 1.9 per cent for nuclear. The significance of China's need for oil and gas will continue to put pressure on prices and will impact countries throughout the world.

In the short term gas will be used to meet the demand for energy as we recover from the economic slowdown. This of course has an impact on the many commitments to reduce CO₂ emissions and on energy security.

Even before the event in Japan, we identified in Montreal that gas was becoming increasingly significant, with the impact of shale gas effectively removing the historic link between the gas markets and the oil price. For the same content in energy, the price of gas is today three times cheaper than the price of oil in the US market, which is a far greater gap than the price differential observed in the past. Gas is being looked upon by many developed countries as a convenient way to meet their growing energy needs with a greener energy source than coal without CCS for example. And it is true, gas has a role to play towards a low-carbon energy mix.

Oil will remain the primary source of fuel for the mobility sector well into this millennium and we'd look forward to the finding of our Future Transport 2050 report. Although some suggest that by 2050 the use of fossil fuels to power the world's transportation needs will have to decrease significantly, with transport responsible for 28 per cent of energy-related CO₂ emissions, this change will create a huge supply gap. Electric vehicles and the use of biofuels will meet this demand in part but both fuels have significant

limitations requiring us to look deeper into new technologies such as hydrogen. In the meantime, hybrid options will become ever more popular in the developed world as we seek to increase the energy efficiency of our transport offer. But they will require, again, huge investments in new infrastructures.

Yet of course, Energy Efficiency is key to help us meet the challenge of energy demand and mitigate up to 40 per cent of possible carbon emissions by 2050, but we know this is not a low hanging fruit: we need to incentivise offer and demand and, for example, real prices of energy can be a helpful device.

The renewables market has great potential but will require significant leadership to fully realise its potential: we need to promote the use of already mature technologies, while fostering R&D for technologies that are not yet mature. This will also require the directions of an inspired regulatory framework.

But providing more efficient forms of energy for those who already have it is only half the battle. We must seek to identify ways of providing electricity access for the 1.5 billion energy poor in developing and also developed countries. Energy poverty hinders development and threatens growth. This is why we are actively supporting the UN Secretary General's "International Year of Sustainable Energy for All" in 2012.

The 2011 events in the energy sector have thus reinforced our need for well oriented and incited investments in all energy resources and technologies, all over the world. Nevertheless, there are no "one size fits all" solution, and the consistent message from WEC's annual issues survey is that the energy sector needs clearer policy frameworks to enable these consistent investments. 2011 has also seen governments reacting more eagerly than ever looking to capitalise on the opportunity to secure a more sustainable model of development and energy provision. President Obama, in his State of the Union address, has challenged law makers in the US to set a new goal; that by 2035, 80 per cent of the nation's electricity will come from clean energy sources. In China, President Hu has included alternative energy as one of the country's new "seven strategic industries." And in Europe the EU has its 20-20-20 target, with Germany and Italy renouncing nuclear power.

These are the signs that the governments will not let the market alone. I believe this is a good step taken: the energy sector needs more national and international governance. This year I have already called for improved global governance for the nuclear industry in the wake of

the Fukushima accident. In general for all energy sources, we must ensure that safety cannot be used to provide a competitive advantage in the rush to develop this sector of the green economy.

If we are to face all our challenges, the sector will need clear leadership. It is our duty to contribute to the debate and help leaders make decisions in order to have clear direction and develop a sustainable energy economy. I am committed to ensuring that the World Energy Council will play its full part in sharing experience and knowledge, organising the debate and helping to promote a sustainable supply and use of energy for the greatest benefit of all, as this is at the core of our mission.

2011 has been a significant year of change for the energy industry but as we look to 2012, I foresee even more challenges for the sector. With the first round of the Kyoto protocol coming to an end and a world recovering from the economic and financial crisis, we need to help policy makers guide the frameworks that will deliver sustainable growth for all. The insights within this publication and the work that WEC will be doing to provide the forum for energy leaders will only strengthen this process, along with the ongoing WEC studies and programmes on Energy Policies, 2050 Energy Scenarios, Energy Resources & Technologies, Energy for Urban Innovation, Rules Of Energy Trade and Global Energy Access that we seek to deliver soon.

Let me now wish you a very insightful reading of this edition of *World Energy Insight* and very promising and efficient debates at our many events over the coming year. □

Plenary session, World Energy Leaders Summit, Rio de Janeiro

