

Securing tomorrow's energy today: Energy in transformation

By Christoph Frei Secretary General, World Energy Council

his is a time of unprecedented uncertainty for the energy sector. Energy demand will continue to increase, driven by non-OECD economic growth. The pressure and challenge to further develop and transform the energy system is immense. To make things more daunting, policy makers and business leaders today have to take critical decisions on our future energy infrastructure in a context of unprecedented uncertainty. Over the last five years we have seen acceleration and increased complexity of various energy policy drivers and investment signals. The latest World Energy Issues Monitor illustrates that uncertainties on future CO₂ prices, recession and energy prices continue to be what most keeps energy leaders awake at night. There is indeed great dynamism in investment signals, with cheap natural gas prices de-linking from oil prices, collapsing solar prices, uncertain carbon emission prices or increasing nuclear costs affected by enhanced post-Fukushima safety requirements. As a result, there is much greater uncertainty behind the outlook for nuclear or renewables than five years ago; there is much greater optimism regarding energy resources today compared to five years ago (shale gas versus peak oil); and, there is much greater and new awareness of the energy access and affordability issues, driven by the 2012 UN year of Sustainable Energy for All

on the one hand and by financial hardship on the other. Yet, awareness is one thing, delivering in time is another. We are still very far away from a global deal on these issues.

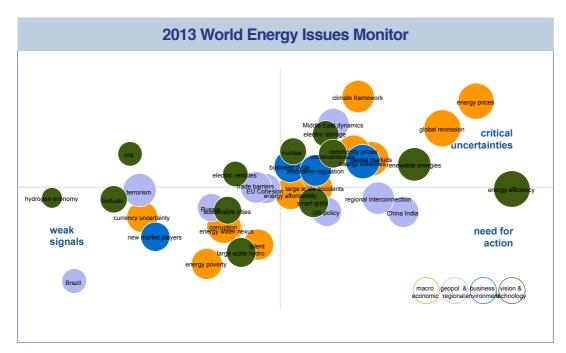
2013 World Energy Issues Monitor

We are all struggling to take long-term investment decisions that are robust and deliver the resilient energy infrastructure we will need. We will be locked into the energy infrastructure that we build today for the next half-century - for good or for bad. Physical assets with long lifetimes therefore need to be robust with regard to different possible futures driven by technology innovation or global policy developments and resilient to change driven by greater stress from the accelerating energy-water-food nexus, from extreme weather events or, by new threats from cyber terrorism. In this context, finding the right policies that build on own resources and recognise specific limitations is a struggle for every single country.

Only a sound policy framework enables the delivery of a robust and resilient infrastructure, whereas an opportunistic policy approach may endanger energy security, hamper environmental viability, decrease social equity and put national competitiveness at risk. It is with these considerations of complexity and uncertainty that WEC promotes the 'Energy

> Trilemma' approach, with the objective to deliver balanced, predictable stable policy frameworks. It is such balance that mitigates political risk. which too often keeps the necessary investments from flowing.

With the urgency to take critical decisions in a context of daunting uncertainty, more than ever do we need an impartial, inclusive and fact-based dialogue on our future: to improve our common understanding of the implications of today's decisions and actions so we can make



them the ones that deliver the future we want. A key foundation for policy and investment decisions is a thorough understanding of critical drivers and uncertainties, which will define our future. Exploratory scenarios - plausible and coherent stories of how our future may unfold, based on a systemic analysis of critical drivers and uncertainties provide a reference point to challenge and test our own assumptions and thereby strengthen the foundation for our capacity to define balanced policies and take informed investment decisions. This foundation is as strong as it is impartial, capable of capturing signals from very different regional or sectorial dynamics, and transparent to interested stakeholders. I am personally convinced that the World Energy Council, together with our knowledge networks and project partners, is uniquely placed to be the world's reference for energy scenarios, with our unparalleled network of 3,000 organisations in almost 100 countries, including the public and private sectors and academia, including BRICs, developing and industrialised countries, including producing and consuming countries, and covering all technologies. With this in mind, WEC is committed to developing its scenarios with an 'open source' spirit to ensure that our insights are accessible to all and enable energy leaders to work on our sustainable energy future for the greatest benefit of all. Already today we have organisations that have chosen to use (at no cost) the model that we are jointly developing with our Project Partners in order to quantify our scenario stories and we are committed to support the growing interest from governments and private sector in this regard.

What can "Symphony" and "Jazz" do for us? There are many ways to read the two scenarios, which describe two very different future worlds: One, in which the world attempts to orchestrate mitigation; and one in which the world will focus on adaptation. One, in which trust is placed in leadership and cooperation; and one, where trust is placed in decentralised decisions and markets. One, in which energy access is programmed by governments; and one, where market driven growth provides the rising tide that lift all boats. The hard truth is that in both worlds we seem unable to mitigate the climate challenge in time to the extent our scientists believe is necessary to avoid the risk of dramatic climate effects. In a Symphony world we will take this as a call for greater urgency to adopt a global deal and coordinated action. In a Jazz world we will take this as call to redefine physical, economic and social resilience. I believe that both Jazz and Symphony provide us with valuable guidance and that we must prevent ideological discussions that will only slow down the finding of effective solutions to face the challenges ahead. The real discussion must be on how can we can do both: enhance greater collaboration with a view to further strengthening institutions in charge of safety, green trade, development finance, the exchange of best practices and technologies, and a focused R&D effort in critical game-changing areas such as energy storage or CCS. And also on how we can make our world into one that is resilient against change that we must be prepared for.

There can hardly be a more meaningful context to hold the 22nd World Energy Congress. It is the opportunity for all of us to make it a milestone in the sharpening of Global Energy Leaders' and our own thinking and truly improve our common understanding of the implications of today's decisions and actions so we can make them the ones that deliver the future we want. The main ingredients are all there to combine and make this a truly meaningful event: the right timing, the right questions, the right people and, the right place. In the changing energy scene, we see a shift in traditional energy from the East to the West: the US and Canada are now becoming the new Middle East in terms of oil and gas; we see a shift in renewable energy/clean energy from the West to the East; we also - perhaps most significantly - see a big demand shift from West to East. In other words: the energy map is being redrawn. Given the shift of demand to Asia, the location for the World Energy Congress this year is all the more appropriate. All eyes are naturally on China. Korea is politically equidistant from the key players in Asia. Korea is the ideal good faith partner and therefore ideal host for such a globally important forum. With the outlined challenges at hand, finding solutions has become a priority for many prime ministers and even presidents. What makes this 22nd World Energy Congress in Korea truly unique is that it brings together the leading international actors from governments, multilateral institutions, civil society and all segments and technologies of the private sector, at a tipping point in the global energy transformation and in the heart of Asia, the transformation of which will affect the entire world. It is a time to work out new visions, renew leadership, provide creative new thinking and deliver new partnerships.

I look forward to our discussions and to incorporating your insights into our flagship studies: World Energy Scenarios, World Energy Resources and the World Energy Trilemma.