

Important global energy role

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VLADIMIR SHKOLNIK graduated from the Moscow Institute of Physics and Power Engineering and holds a doctorate in Physics and Mathematical Sciences. He has served as Minister of Science of the Republic of Kazakhstan, as well as Minister of Energy and Mineral Resources, and Minister of Industry and Trade. He has also held the position of Deputy Prime Minister and Deputy Head of the Executive Office of the President of the Republic of Kazakhstan. He has also served as Chairman of the Board of JSC "NAC "Kazatomprom". Vladimir Shkolnik is President of the Nuclear Society of Kazakhstan and is Co-Chairman of the Kazakhstan-Switzerland Business Council. In 2014 he was appointed Minister of Energy.

As our President Nursultan Nazarbayev said in his annual address to the nation, "the years to come will be a time of global trials. The international architecture will change. Not all countries will effectively manage and come through these difficult times. Only strong states, with their people united, will manage to do that." Kazakhstan's energy resources, and the revenue they produce, provide an important and stable base at a time when we need to bring about profound change. Sustainable development cannot exist without sufficient energy sustainability, and developments in the energy sector can have far reaching consequences on economics, investments and in foreign affairs.

The energy sector, the world over, shares common goals and challenges. Global warming and climate change is a challenge to our civilisation. We are already seeing irreversible changes and their damaging effects. Rapid development is improving the lives of millions around the world but also means demand for energy is growing exponentially. Building an energy sector that can satisfy this growing appetite and avert conflicts driven by climate change and increasing pressures on resources is a common and urgent goal for the global community.

Kazakhstan has an important role to play in meeting the international energy challenge. Our country is in the top twenty producers of primary energy resources, twelfth in terms of oil and gas reserves, seventh in proven coal reserves and second in uranium reserves. We have been blessed with more than enough resources to meet our domestic requirements and exports have and will continue to provide an important source of revenue for our national economy.

The production and export of Kazakhstani oil, coal and natural gas continues to grow year on year. Major projects, such as the Karachaganak and Tengiz fields, have been delivered and operate in partnership with some of the world's leading energy companies, including many British, US and European firms. Our energy infrastructure - pipelines, processing plants and refineries - allowed us to export over 11 billion cubic meters of gas, produce over 80 million tons of oil and refine 14 million tons of oil in 2013.

We are also exploring and expanding development on new fields. Close to 200 subsoil hydrocarbon contracts are currently registered in Kazakhstan and over the last few years, six major deposits - Alimbay,

Masabay, Rakushechnoye, East Zhagabulak, East Karaturun, and Sea Karaturun - have moved from the exploration stage to commercial development.

For Kazakhstan, however, our ambition is to move beyond 'just' the production of natural resources and develop our industrial, scientific and technical skills to enable us to progress up the value chain. We know this requires strong partnerships with international energy companies, which will only come if we can maintain the country as an attractive investment destination. This is why we continue to make Kazakhstan an easier and more rewarding place for international companies, with simplified business processes, tax incentives and government subsidies in our priority sectors.

As part of our state program for industrial and innovative development and our comprehensive plan for the oil and gas sector, we are investing heavily in new and existing facilities in the petrochemical industry as well as the pipeline infrastructure to realise its potential. The government's investment in fundamental infrastructure removes this cost from companies - domestic and foreign - and creates a more attractive investment prospect, enabling investors to focus their attention and funds on their core business.

For example, the infrastructure currently being developed around the Special Economic Zone in Atyrau will allow companies to save an estimated 20 per cent in CAPEX and 15 per cent in OPEX. On completion of the infrastructure, plants and production facilities, we expect the site to produce high value products for export worth in the region of US\$2 billion a year, with external investment into the main production sites reaching US\$9 billion.

The evolution of Kazakhstan's domestic energy and electric market is another priority for our economic development. As recently highlighted by President Nazarbayev, the lack of transmission networks covering the vast territory of Kazakhstan - the size of Western Europe - has led to power deficits in regions and slowed their development. To overcome the challenges, the government is investing in two new power grids in the East and South of Kazakhstan, which will help supply electricity for railroad links suffering from power shortages, promote development in trans-border areas and open up new opportunities for renewable energy projects.

For while our significant traditional energy reserves

have helped boost our development with their revenues, we know they will not last forever. And, as any visitor to Kazakhstan can testify, there is an abundance of rivers, sun and wind which offers great potential for the development of clean and renewable power. Or, to give some scientific data, around two percent of 50,000 square metres of Kazakhstan's territory, has average annual wind speeds in excess of 7m/sec.

Kazakhstan has big ambitions for the renewable energy sector and in 2013, the government set out a new economic plan to transition to a 'green economy'. According to the concept, Kazakhstan aims to produce three percent of its electricity from renewable sources by 2020, rising to 10 percent by 2030. Developing alternative and renewable of energy, including nuclear, is a major focus of the country's 2050 strategy, by when we plan to generate 50 per cent of domestic energy demand from renewable sources.

Delivering on this bold objective is no small task, but we believe the benefits – environmental and economic – are clear. Our own projections estimate that the move to a green economy will increase GDP by three percent, creating more than half a million new jobs in new industrial areas and services, and improving living standards dramatically by 2050.

And we are already seeing signs of good progress. We have, for example, started the mass production of solar panels made from locally mined and processed materials. Kazakhstani scientists have created a unique wind turbine that works even under squally wind conditions and the field tests have been very successful. Over the next five years, 34 wind power stations, 28 solar power stations and 41 small hydro plants will start operations, providing a cumulative installed capacity of 3000MW. The projected future investment into Kazakhstan's renewable energy sector is KZT 540 billion, close to US\$3 billion.


An important ingredient of a cleaner energy mix and a technology that is competitive and well developed is nuclear power – a sector in which Kazakhstan is already established. We have substantially explored uranium reserves, production and processing facilities, allowing us to be the world's biggest supplier of uranium for energy generation for the last five years, meeting about 40 percent of global demand in 2014.

We have nuclear scientists, highly-qualified experts, as well as a strong legal and regulatory framework on nuclear power use, in line with IAEA requirements. We are also in the final stages of negotiations to host an international nuclear fuel bank, which will operate under the auspices of the IAEA and provide a secure and reliable source of low-enriched uranium to countries pursuing the peaceful use of nuclear energy.

We are currently considering the construction of the first nuclear power station in Kazakhstan. If we can

generate our own nuclear energy, we can optimise and balance the use of our fuel and mineral resources and boost exports of traditional energy resources. It also opens up opportunities to develop the wider nuclear sector, providing jobs and growth in a high tech and high value sector.

Transitioning to clean and renewable energy resources is a necessity for the global community if we are to reduce harmful emissions and avoid the worst effects of climate change. As a responsible member of the global community, Kazakhstan has actively advocated for and participated in international initiatives to tackle climate change. In 2010, we authored the Green Bridge – a concept designed to accelerate the green economy and promote technology transfer to developing states – which was later adopted by the Rio+20 Climate Summit. And in 2017, we are hosting the Future Energy Expo in Astana, which will bring together governments, businesses and entrepreneurs to help drive innovation in the energy sector. We hope international companies will take up our invitation to participate.

Kazakhstan's energy sector has, more than any other industry, defined our country's 24 years of independence. Our natural resource wealth has given us the funds to invest in our nation's economic development and diversification, allowing us to become a success story and one of the recognised leaders among post-Soviet countries. But we are an ambitious nation and have set ourselves a higher goal of joining the world's top thirty economies by 2050. Energy, both conventional and alternative, will be central to achieving this bold objective and international companies have and will continue to play a vital part in Kazakhstan's most important sector. 

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A stretch of the Turkmenistan-China pipeline at Otar gas station, some 130 kilometres outside Almaty

