



PROSPECTS FOR NUCLEAR POWER DEVELOPMENT IN KAZAKHSTAN

For a number of years Kazakhstan has seriously been considering a construction of a nuclear power plant (NPP) on its territory. It was not an unexpected development for a country that hosted the BN-350 fast reactor in Aktau (formerly Shevchenko) in western Kazakhstan during the Soviet times. The reactor that was in operation from 1973 produced electricity and potable water until it was closed down in 1999. An earlier attempt, the 2006 joint venture with Russia for the development and export marketing of innovative small and medium-sized reactors, was not successful due to disagreements between the parties on the intellectual property rights, funding arrangements, technical and pricing issues. There was also a proposal by the National Nuclear Centre of Kazakhstan to construct small 50-100 MWe reactors to supply remote towns. The plan for an NPP resurfaced in early 2013 when President Nazarbayev, speaking at the government meeting, stated that Kazakhstan was going to launch its first post-independence nuclear power project in the near future. In early 2014 he commissioned the government to decide on the NPP location, sources of investment and timing of construction.

The rationale behind the push for nuclear power was mainly based on the expected energy shortage resulting from the implementation of ambitious industrial and infrastructural projects, as well as the population growth. The Ministry of Industry and New Technologies projected that Kazakhstan would increase its energy consumption from 86.2 billion kWh in 2011 to 145 billion kWh in 2030, and by then, nuclear power was to account for about 4.5% of total power generation. In addition, it was expected that nuclear power would help in addressing issues of uneven energy distribution, dependence on foreign supplies, rising electricity costs, and environmental pollution. For instance, currently about 87% of power plants in Kazakhstan burn fossil fuel and over

70% of electricity is generated from coal-fired power stations, leading to large emissions of greenhouse gases containing heavy metals and radionuclides.

President Nazarbayev provided another reason for an NPP in his 2014 Address to the Nation saying that nuclear power would allow Kazakhstan to use natural gas to produce high value added products rather than just waste it as an energy source. It is also plausible that the decision to construct an NPP was prompted by the consideration to turn the country's traumatic Soviet experience into the national advantage, as Kazakhstan suffered heavily from the consequences of testing of nuclear weapons and should now benefit from peaceful uses of nuclear energy. At the same time, the NPP opponents raised concerns about potential safety and security hazards, especially after the Fukushima disaster, and argued that nuclear power tariffs for consumers might be higher since they would include the cost of nuclear waste management and subsequent NPP dismantlement.

In addition, there are concerns that the country may confront new threats stemming from its decision to develop a national nuclear power industry, including the threat of nuclear and radiological terrorism. Technical weaknesses in the safety and security systems of nuclear facilities, as well as shortcomings in personnel training and in emergency response procedures, can make these facilities vulnerable not only to natural disasters and emergencies but also to break-ins, theft, and sabotage. Even if a facility is reliably guarded and equipped with advanced physical protection systems, human error or greed can lead to security breaches.

It is also important to work with public opinion. Evidence suggests that it is very easy to form negative perception of any nuclear-related initiative among the general public in Kazakhstan, primarily due to a high level of radiophobia. In the late 1990s activists

of nongovernmental organizations and environmental movements succeeded in mobilizing the public against the proposed imports of nuclear and radioactive waste to Kazakhstan for reprocessing and burial. Similarly, Kazakhstan's initiatives to return lands of the former Semipalatinsk nuclear test site to economic use, to host an international nuclear fuel bank, and to build an NPP received negative feedback and coverage. Such anti-nuclear campaigns can have an adverse impact on the stability of the social and political life of the country.

Since 2013 the government has moved quickly to the identification of several sites, the most likely ones being the town of Kurchatov in eastern Kazakhstan and the site near the village of Ulken on the south-western shore of Lake Balkhash, and even signed a preliminary intergovernmental agreement with Russia regarding the NPP construction. Japan has also showed readiness to participate in Kazakhstan's NPP project. However, despite all the declared plans, this project has never progressed beyond a feasibility study, let alone a firm decision on the exact location and a primary strategic partner for the first NPP to be built in Kazakhstan.

Thus, a final decision on the NPP construction project is still pending and will depend on Kazakhstan's future economic situation and energy needs. The NPP construction is a complex, large-scale and expensive endeavor, and, given present-day budget constraints, it is clear that it will be a massive financial burden for the country. Nevertheless, if Kazakhstan decides to continue the NPP construction project, it should undergo an independent international certification to make sure that it meets all nuclear safety and security standards. In any case, peaceful nuclear energy in Kazakhstan should be developed alongside with renewable energy, as well as energy saving and energy efficiency technologies.

Politics, Foreign Affairs and Security

- During the European Union – Central Asia Ministerial Meeting held in Astana the Foreign Minister of Kazakhstan, Erlan Idrissov, and the European Union (EU) High Representative for Foreign Affairs and Security Policy, Federica Mogherini, signed an expanded partnership agreement. This agreement opens new opportunities for cooperation between Kazakhstan and the EU in the spheres of trade, economic and investment. Kazakhstan became the first country in Central Asia to sign a new comprehensive document with the EU.
- During the 69th Session of the Council of Defense Ministers of the Commonwealth of Independent States (CIS) the high-ranked officials discussed the development of a common air defense and communications system. As a result of the meeting, Russia and Armenia signed an agreement on establishing the Combined Regional Air Defense System in the Caucasian Collective Security Region. Moreover, the Defense Minister of Russia, Sergey Shoigu, signed military cooperation plans for 2016 with his counterparts from Azerbaijan, Kyrgyzstan, Tajikistan and Kazakhstan.
- The UN General Assembly has adopted a resolution on creation of transit transport corridors submitted by Turkmenistan. This resolution provides a basis for cooperation between all modes of transport on building continuous chains of cargo transportation along the inter-regional transport corridors.
- During official visit to Moscow, the Foreign Minister of Qatar, Khalid bin Mohammad Al Attiyah, discussed the current situation of the crisis in Syria with his Russian counterpart, Sergey Lavrov. Since Russia and Qatar are the members of the International Syria Support Group (ISSG), the parties focused on the issue of conflict settlement in Syria and on ensuring security in the Persian Gulf zone.

Economy, Finance and Energy

- Turkmenistan announced the launching of the East-West gas pipeline that links the country's biggest deposits into one gas transportation system. The pipeline stretches for 733 km from

Shatlyk gas compressor station in Mary province to Belek gas compressor station in the Balkan province. The carrying capacity of the gas pipeline is 30 billion cubic meters of gas per annum.

- According to the Energy Minister of Russia, Alexander Novak, production of crude oil on Russia's continental shelf went up by 16% to 18.8 million tons in 2015 from 16.2 million tons in 2014. Moreover, the Ministry of Energy of Russia stated that there would be a 5% growth of natural gas exports up to 190 billion cubic meters upon the results of 2015 compared to 181.2 billion cubic meters in 2014.
- According to the Tajik holding company Barqi Tojik, Tajikistan earned approximately \$46 million for electricity exports to Kyrgyzstan and Afghanistan in 2015. More than 90% of the total volume of exports fell to Afghanistan and the rest 10% fell to Kyrgyzstan, hence the sales of electricity to Afghanistan and to Kyrgyzstan amounted to about \$42,069 million and \$4 million respectively.
- During the 10th Joint Economic Cooperation Commission Meeting held in Tehran Iran and Azerbaijan signed a Memorandum of Understanding (MoU), which would cover cooperation in 12 various sectors including oil, gas, industry, trade, healthcare, culture, transportation and renewable energy. The MoU envisages investments in oil projects, as well as settling of gas swap disputes and coordination of using gas storage facilities in Azerbaijan. Moreover, the parties agreed to start exporting Azerbaijani electricity to Iran starting from 2016.
- The Industry, Mines and Trade Minister of Iran, Mohammad Reza Nematzadeh, and the Minister for Trade of the Eurasian Economic Commission, Andrey Slepnev, signed an interim accord on preferential tariff in Tehran. The interim accord is the start point for launching trade agreement talks between Iran and the Eurasian Economic Union.
- During the official visit of the Prime Minister of India, Narendra Modi, to Moscow Russia and India signed a package of 15 documents. In particular, Russian company Sistema and Indian Reliance Group have signed an agreement to establish a joint tel-

ecomunications company. Besides, the Ministry for the Development of the Russian Far East and India's Tata Power energy company signed a MoU in the area of investment cooperation in the energy sector in Russia's Far East.

- Tajikistan has ratified agreement on free trade zone within the CIS. According to the Ministry of Economic Development and Trade of Tajikistan, in January-November 2015 the volume of trade with the main trade partners of Tajikistan among the CIS countries, namely, Russia and Kazakhstan, decreased by 7.6% and 18% respectively.
- The Parliament of Ukraine, the Verkhovna Rada, approved the state budget for 2016 with a total of 263 votes taking into consideration amendments to the country's tax legislation. Under the document, in 2016 the budget deficit will amount to 3.7% of GDP. The budget for 2016 envisages revenues of 595 billion hryvnias (\$25.9 billion) and expenditures of 667.7 billion hryvnias (\$29.1 billion). It is expected that the inflation rate will amount to 12% and the GDP growth will reach 2%.

Society and Culture

- Russia's westernmost Kaliningrad region finished the Russia-Lithuania border demarcation process that was started in 2006. The ceremony took place at a border checkpoint in the town of Nesterov in the Kaliningrad region.
- More than 40 people were injured in the Pakistan's northwestern city of Peshawar as a result of a strong earthquake that shook parts of Pakistan and Afghanistan.
- Turkmenistan and the United Nations Children's Fund (UNICEF) announced the launching of a new program of cooperation for 2016-2020. The program will be carried out in the following areas: survival and well-being of young children; high-quality and inclusive learning in early ages; provision of social equality; and implementation of children's rights.
- According to the Head of the Russian Federal Space Agency (Roscosmos), Igor Komarov, Russia's new draft Federal Space Program provides for a flight around the moon in the second half of 2020s.