Nuclear Renaissance in Kazakhstan and Russia: Prospects for Industrial Cooperation and Financing

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1. Nuclear Renaissance

The world's nuclear industry is entering a phase of revival. After two decades of frozen projects and ecological protests, countries around the world have finally begun to increase the share of nuclear energy in their national energy balances. Economic expediency in the light of expensive carbohydrons and – at first glance paradoxical – the ecological efficiency of nuclear energy take an important place among the reasons to build new nuclear power stations (NPS).

According to the International Atomic Energy Agency (IAEA), more than $200 billion will be spent on nuclear facilities in the world by 2030. Specific plans to expand capacity are taking place in the US, India, Spain, Switzerland, Finland, Japan, China and South Korea. Vietnam, Egypt, and Turkey are contemplating building nuclear power stations as well. The emerging Asian economies are expected to give a major boost to the world's nuclear energy production. AREVA, the major player in the field, and the French national champion, forecasts that approximately 20 reactors will be put into operation yearly over the next two decades. The expansion of generating capacities will be limited only by supply bottlenecks on the side of the nuclear reactor producers.

The northern Eurasian countries, notably Russia, Ukraine, Kazakhstan and Belarus, are experiencing a surge in interest in the nuclear industry as well. For example, Belarus plans to tender its first NPS very soon. More significantly, the year 2006 was the turning point for the Russian nuclear industry. First of all, administrative reform began and the industry will be re-organised and consolidated. Second, public opinion polls point at a qualitative change in public perception of the atom. Third, the state has adopted a large-scale development program for nuclear energy generation. The following activities also deserve mention: adoption of a legislative base; the construction work on the fourth power unit at the Beloyarsk NPS with the fast reactor BH-800; construction of the fourth power unit at Kalinin NPS; the commencement of work at an offshore NPS with a modernised KLT-40C reactor; winning the tender for construction of NPS Belene in Bulgaria, even more significant since it became the first international tender won by Russia after the break-up of the Soviet Union; the start of uranium extraction by the Kazakh-Russian joint venture (JV) Zarechnoye in Kazakhstan (this project is financed by the Eurasian Development Bank and represents the first Russian uranium extraction project abroad); and finally, a positive change in the public perception of nuclear energy. A representative survey revealed that 45% of respondents favor the construction of new NPS and power units against 28% who are opposed.[2] The nuclear industry is becoming a priority for investment and production activities.[3]

A large-scale Federal Task Program for nuclear energy development for the period until 2015 was adopted by the Russian government in October 2006.[4] The program foresees the construction of a number of new power units in the fastest-growing Russian regions: Moscow and other regions of the European part of Russia, as well as in the Urals and the Far East. Currently, there are ten NPS in Russia with an installed capacity of 23.2 GWt. Their share in the national energy balance amounts to 15.5%. The realisation of the program should result in putting into operation new power units with an installed capacity of 11 GWt by 2015. The nuclear energy share should rise to 22%. The total financing within the program should amount to $55 billion, including $26 billion from the federal budget, with the rest financed by the industry. It is expected that the budgetary means will not be needed any more after 2015. Construction costs should fall 10% and electricity prime costs should decrease by 20% within the same time frame.

The direction of management reform in the sector was defined by the subsequent Federal Law, which entered into force in February 2007.[5] The idea anchored in the Law is one of consolidation. Russian nuclear assets should be consolidated in a 100% state-owned holding company - Atomenergoprom. It will become a full-cycle corporation that will be active in uranium extraction, nuclear fuel manufacturing, electricity production, NPS construction, atomic machine-building and R&D. The total assets of this prospective national champion are estimated at $40-50 billion.

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2. *The results of the public opinion poll by research center Super Job, October 6-16, 2006. Accessible at http://www.rosatom.ru/news/3348_09.01.2007, retrieved June 2007, in Russian.*
3. *See the interview with V. Gagiev, head of the Union of Employees in Atomic Industry, Energy and Science, http://www.rosatom.ru/comments/3437_16.01.2007, retrieved June 2007, in Russian.*
4. *The Federal Task Program is available at http://www.government.gov.ru/government/governmentactivity/rfgovernmentplans/8123133.htm, retrieved June 2007, in Russian.*

Turning to Kazakhstan, its nuclear industry finds itself on the path of rapid growth. The declaration was made as early as June 2001, that Kazakhstan should become one of the world's leaders in uranium extraction within ten years[6]. Taking into account the efficient anti-crisis management of the 100% state-owned Kazatomprom, the Kazakh government adopted the Concept for the development of the uranium industry and nuclear energy industry for the period 2002-2030, with the goal to transform the nuclear sector into a rapidly growing high-tech industry, which would become a reliable basis for sustainable growth.[7] The Concept first mentioned the aim of achieving yearly extraction levels of 15,000 tons, which would make Kazakhstan the largest uranium producer in the world.

To render the Concept concrete, the development program for the period 2004-2015 was adopted.[8]

Kazatomprom has confidently built up uranium extraction over the last few years. According to the company's data, 5,200 tons of uranium was produced in 2006, which accounts for 8% of the world's total output. A total of 7,200 tons are planned for 2007. The real-life dynamics allowed for a correction of the forecasts and the adoption of the Program of intensive development, "15,000 tons of uranium by 2010." The main priorities foreseen by this new program are (1) modernisation and expansion of existing uranium mines, (2) construction and putting into operation of new mines, (3) construction and modernisation of infrastructure (electricity transmission lines, automobile and railroads), and (4) attraction of stable and efficient financing for the industry. The latest forecasts view the production level rising to 18,200 tons by 2010. Thus, Kazakhstan should surpass Canada and become the world's largest uranium producer. Meanwhile, reserves are estimated at 900,000 tons.

Table 1. The dynamics of uranium extraction in Kazakhstan.

Mines	2005	2006	2007E	2008E	2009E	2010E	Planned Capacity
Uvanas	420	300	300	300	300	300	300
Eastern Mynkuduk	633	500	1,000	1,000	1,000	1,000	1,000
Central Mynkuduk	-	-	200	600	1,200	2,000	2,000
Akdala (JV, Canada)	726	700	1,000	1,000	1,000	1,000	1,000
Southern Inkai (JV, Canada)	176	308	508	300	1,970	2,000	2,000
Inkai	-	-	100	300	600	1,000	2,000
Kanzhugan	440	400	400	400	400	400	400
Western Mynkuduk (JV, Japan)	-	-	-	100	300	600	1,000
Budennovskoye (JV, Russia)	-	-	-	100	300	600	1,000
Southern Moinkum	502	500	500	500	500	500	500
Moinkum (JV, France)	39	400	500	500	500	500	500
Tortkuduk (JV, France)	-	100	350	750	900	1,000	1,000
Northern Karamurun	700	750	800	980	980	1,000	1,000
Southern Karamurun	214	200	200	150	250	250	250
Irkol (JV, Japan)	-	-	100	250	500	750	750
Kharasan (JV, Canada)	-	-	100	300	600	1,000	2,000
Zarechnoye (JV, Russia)	-	250	500	500	1,000	1,000	1,000
SGKhK mines	507	525	545	645	815	450	500
Total:	**4,357**	**4,933**	**7,103**	**8,675**	**13,115**	**15,350**	**18,200**

Source: Kazatomprom.

Table 1 demonstrates the dynamics of uranium extraction in Kazakhstan. Kazatomprom data correlate with the estimates by an authoritative consulting company Ux Consulting. In addition, the consultant forecasts the growth of uranium extraction in Russia to 8,000 tons by 2015. However, the extraction growth in Russia demands massive capital investment as the prospective mines are difficult to access.

Table 2 shows the projections for uranium extraction in the world, by country, while Table 3 contains data on the largest consumers.

5. *Federal Law of the Russian Federation "On the peculiarities of management and command of assets and shares of organisation in the field of atomic energy…" from February 5, 2007. Rossiyskaya Gazeta no.4291, February 9, 2007, in Russian. Entered into force on February 20, 2007.*

6. *Dzhakishev M. (Head of Kazatomprom). Kazakhstan can become one of the world's leaders in uranium sales. Kazakhstan Today. June 18, 2001.*

7. *The Concept for the development of uranium industry and nuclear energy industry for the period 2002-2030. Approved by the RK Government, resolution no. 926, August 20, 2002.*

8. *The Development Program for the Uranium Industry for the period 2004-2015. Approved by the RK Government, resolution no. 78, January 23, 2004.*

Table 2. Volumes of uranium extraction in the world, 2005-2015 (tons of uranium oxide).

	2005	2010	2015	Average growth per year, 2005-2015, %
Canada	13,713	16,500	21,772	4.7
Kazakhstan	5,144	14,800	19,200	14.1
Russia	3,921	6,400	8,000	7.4
Africa	8,154	12,445	12,645	4.5
Australia	11,222	10,874	16,654	4.0
Others	7,123	8,943	8,122	1.3
Total extraction	49,277	69,962	86,393	5.8
HEU[9] supply	7,258	9,072	-	-
Other secondary resources	18,733	13,744	11,703	-4.6
Total supply	**75,267**	**92,778**	**98,096**	**2.7**

Source: Uranium Market Outlook. Ux Consulting, 2007.

Table 3. The world's largest uranium consumers, 2005-2030 (tons of uranium oxide).

	2005	2010	2015	2030
U.S.A.	24,765	25,086	25,923	30,916
Canada	2,118	1,931	1,931	2,370
EU	27,195	24,593	24,156	19,376
Japan	9,651	9,908	13,084	16,940
South Korea	3,551	4,247	5,910	7,983
Taiwan	1,126	2,211	1,562	1,593
Russia	4,020	6,880	8,069	10,427
China	1,594	3,378	3,806	15,771
India	414	474	1,229	4,177
Total consumption	**78,818**	**84,786**	**91,719**	**117,193**

Source: Uranium Market Outlook. Ux Consulting, 2007.

The expediency and necessity of developing nuclear energy in both Russia and Kazakhstan are primarily defined by the looming energy deficit. There are several quite substantial supplementary factors.

To begin with, developing nuclear energy in Kazakhstan should alleviate the imbalance in current energy production. Most of the production is concentrated in the north (coal-fueled stations in Ekibastuz), while the consumers are concentrated in the South (Almaty, Shymkent, etc.) and, increasingly, in the west of the country (Aktau, Atyrau). To make the national energy system more stable and to reduce energy losses, the construction of one or two NPS in Aktau and on Balkhash Lake is advisable. A background factor in Russia is somewhat different as an increase in nuclear energy production might free up gas for exports.

Furthermore, both countries now look at uranium as an ecologically attractive alternative to other fuels. NPS, under normal usage conditions are much cleaner than TPS using fossil fuels (although this argument can be contested on various grounds). Table 4 illustrates this idea by providing a comparison of emissions by a nuclear and thermal power station of equal capacity.

Table 4. Quantitative characteristics of thermal and nuclear power stations (referent capacity of 4000 MWt).

Substance	Volume (tons per year) TPS	Volume (tons per year) NPS
Fuel consumption	*12,000,000	4
Atmospheric oxygen consumption	32,000,000	0
Emissions of carbon monoxide	36,000,000	0
Emissions of sulfur monoxide	800,000	0
Emissions of nitrogen monoxide	400,000	0
Solid waste	8,000,000	200
Particulate pollutants	400,000	0
Thermal emissions, MWt	6,000	8,000

Source: Zhantikin T., Baldov A., Koltyshev S. (2005) Kazakhstan's Nuclear Energy Development Concept. Report of the Committee for nuclear energy. AO KATEP, National nuclear centre of the Republic of Kazakhstan. Note: fuel consumption is quoted in tons of standard coal.

9. *HEU - highly enriched uranium.*

2. Fierce Competition for Kazakhstan's Uranium

Kazakhstan's uranium has become the subject of intent attention and fierce competition by the leading market players and uranium consumers, in particular, Canada, China, France, Japan and Russia. Foreign investors enter the Kazakh market with private equity, as well as by means of providing loans, trade financing, and, at Kazakhstan's persevering request, access to advanced technologies. The fight for uranium has led to the formation of a tough competitive environment. It has provided the rising Central Asian "snow leopard" with a wide range of choice. Kazakhstan can now afford to pick and choose its partners and play them skillfully against each other. At the same time, the country adheres to its diversification policy, trying not to become all too dependent on one single partner.
Let us give a short overview of major foreign investments in the sector over the last few years.[10]

To begin with, Kazatomprom has been quite successful in attracting *foreign loans and trade financing*. For example, in June 2005, the company attracted a syndicate loan of $150 million organised by Natexis Banques Populaires and Citibank. In September 2005, a $60 million pre-export financing agreement was signed with Mizuho Corporate Bank LTD, tied to uranium exports to Japan. It is worth noting that credit rates on syndicate loans were quite moderate for an emerging market company (6.3-7.7%).[11]

France, the world's leader in nuclear reactor technology, could not ignore the opportunities coming up in Kazakhstan. JV KATCO, owned 51% by AREVA and 49% by Kazatomprom, was established as early as 2001 in order to explore the Moinkum deposit.

Canada, another world leader in the industry and the world's number one uranium producer, entered Kazakhstan in the 1990s. Canadian Cameco established a JV with Kazatomprom to explore the rich Inkai mine (Cameco's share is 60%). In addition, UrAsia Energy acquired a number of assets in Kazakhstan in 2005, including a 30% share in the Kharasan project and a 70% share in the South Inkai and Akdala mines. In 2007, this company was acquired by another Canadian player, SXR Uranium One.

In contrast, the ***US*** – despite being the leading foreign investor in the country with a 40% share – is not active in the sector. The only noticeable project is at the Ulba metallurgical plant, which specialises in processing uranium-bearing scraps and producing fuel pellets. The project is financed by the US State Department as part of its nonproliferation of atomic weapons initiative.

Japan is well on its way to becoming one of Kazakhstan's principal partners along the nuclear technology chain. Japan's attractiveness to Kazakhstan is defined not only by the sheer size of the market (nuclear power accounts for about one third of Japanese electricity output), but also through available technologies that should enable Kazakhstan to produce higher value-added products. After a series of successfully implemented contracts (uranium exports and pre-export financing in 2005, a joint venture with Sumitomo and Kansai Electric Power in 2006 in order to explore the Western Mynkuduk deposit), an ambitious deal was signed in May 2007. It foresaw that Kazakhstan's share in Japanese uranium imports would rise to 30%. To reach this goal, Japanese NEXI will open a $500 million insurance line for Kazatomprom. Furthermore, the parties envisage that Kazakhstan will enter the market of higher value-added products, including fuel pellets to be produced and exported by the Ulba metallurgical plant. In summary, the Kazakh-Japanese deal will let the former increase the added value of its exports by two- to threefold. The parties have also expressed their interest to use Japanese small and medium capacity nuclear reactors in Kazakhstan. This intention contradicts Russian-Kazakh plans to jointly develop and produce small and medium capacity reactors.

Three months later, Kazatomprom signed a deal to purchase 10% of Toshiba's stake in US nuclear reactor manufacturer Westinghouse Electric for $540 million. The deal creates an alliance of Toshiba, Kazatomprom and Westinghouse in the nuclear energy arena. This move should be viewed as another step stemming from Kazakhstan's aspiration to develop advanced nuclear technologies. In addition, in May 2007, Kazatomprom has reached an agreement with China's CGNPC. Similarly, the strategic goal of the Kazakh company is to produce and sell higher value-added products, namely fuel elements for Chinese NPS.[12]

At the beginning of the 2000s, ***Russia*** began focusing its attention on the opportunities provided by restoration and deepening of joint economic activities in the nuclear industry with its Eurasian neighbor. As the large-scale nuclear ambitions of the Russian Federal Task Program unfold, we may ascertain that *there is a strong necessity to cooperate closely with Kazakhstan* despite the plans to increase the volume of uranium extraction in Russian itself. *However, now Russia has to enter into serious competition with the world's leading market players.* Taking into consideration the higher exploration costs of uranium deposits on Russian territory, the increasing demands for uranium in the world, and Kazakhstan's consistent policy to diversify its partners (Kazakhstan has learned to play the divide and conquer game rather skillfully), Russia will have to move swiftly and efficiently in order to gain its share of Kazakhstan's uranium and deepen cooperation along the nuclear technological chain.

10. A more comprehensive overview was provided by the author in another paper: Vinokurov E. (2007) Kazakhstan-Russia: the Prospects of Integration Processes in the Nuclear Industry, in: Kontinent Partnerstva, July, pp. 32-44. In Russian. Accessible at www.eabr.org/download/kontinent.july.pdf

11. Kazatomprom. 2005 Report, in Russian. www.kase.kz/emitters/kzap.asp, retrieved June 2007.

12. Expert Kazakhstan, no. (123), June 4-10 2007, p.24.

Russia possesses a number of competitive advantages, which may help to achieve substantial successes in advancing comprehensive cooperation with Kazakhstan:

- Russia and Kazakhstan share aspirations for a higher level of economic integration. Both states are members of the Eurasian Economic Community, the Commonwealth of Independent States, the Single Economic Space, the Shanghai Cooperation Organisation and the Collective Security Treaty Organisation.
- Russia and Kazakhstan's nuclear industries complement each other along the technologic chain of nuclear products: uranium extraction in Kazakhstan, uranium enrichment in Russia, fuel pellets in Kazakhstan and the production of fuel assemblies in Russia. These complementary elements have emerged historically, since both states inherited the major chunks of the former Soviet nuclear industry. The joint design, production and construction of the medium-capacity reactors VBER-300 may logically complete this chain.
- Many engineers, researchers and managers now in charge of Kazakh nuclear facilities were educated and trained in Russia. They still keep close business and personal contacts with their counterparts in Russia. It may influence the choice of Russian technologies and cooperation with Russian partners.

A number of practical steps are currently being made towards the realisation of a Russian-Kazakh major integration project in the nuclear industry.

3. Russian-Kazakh Economic Cooperation along the Nuclear Cycle

The first cooperation agreements between Russian and Kazakhstan business partners were signed in the 1990s, followed by a few attempts to advance cooperation at the beginning of the 2000s, albeit with moderate success. It was only in 2006 that industrial cooperation in the nuclear industry received a powerful push, as Vladimir Putin and Nursultan Nazarbayev formulated a number of tasks in their Joint Statement on cooperation in the field of peaceful uses of atomic energy from January 25. Tied to this statement, a Strategic Partnership Program has been developed. This program foresaw six major fields of cooperation between neighboring countries: (1) nuclear fuel production, (2) nuclear energy, (3) transport infrastructure for uranium exports, (4) development of the legal base for bilateral cooperation, (5) research, and (6) training of qualified personnel.

The practical part of Russian-Kazakh cooperation has been centered on the establishment of several joint ventures. The first one is JV Zarechnoye, with the goal to start exploration of the uranium mine under the same name. This joint venture was established late in 2006 and started production in 2007. Another JV was planned with specialisation in uranium enrichment. The subsequent documents on the establishment of the International Uranium Enrichment Center in Angarsk (Russia) were signed by the representatives of the two countries on May 10, 2007. The parties expect Ukraine to join the agreement. Yet another joint venture was established between Kazatomprom and Russian Atomstroyexport with the goal of designing and producing a new nuclear reactor with the capacity of 300 MWt, based on the technologies and experience of the Soviet/Russian Navy. The statutes of the JV Nuclear Stations were endorsed in October 2006. The new reactor should fill the niche of small- and medium capacity reactors, partly with the view to build one or two NPS in Kazakhstan (1000 MWt reactors do not suit the needs of the national energy system). The companies plan to produce the reactors for export as well.

As mentioned above, the Russian and Kazakh nuclear industries have remarkable complementary factors. Deepening industrial cooperation is feasible – and economically efficient – at all levels of the nuclear technology cycle.

(1) Uranium extraction. JV Zarechnoye was set up in 2006. In addition, two Russian-Kazakh joint ventures have been set up to explore the deposit Budennovskoye. The projects, however, are still in the initial phase.

(2) Uranium enrichment. The so-called yellow cake is an intermediary product. Further enrichment is possible both at Kazakhstan-based factories (Ulba and Stepnogorsk) and in Russia, in Angarsk.[13]

(3) Fuel pellets and fuel assemblies. While Kazakhstan's Ulba plant is the CIS' leading fuel pellet producer, Russian state-owned corporation TVEL produces fuel assemblies.

(4) Small and medium-capacity nuclear reactors. The above mentioned Kazakh-Russian JV Nuclear Stations, according to announced plans, demands three years and $60-70 million to prepare the project of a two-block NPS with the 300 MWt VBER reactors. The first NPS of this type could be constructed in Aktau, in the west of Kazakhstan. However, the latest deal with Japan raises concerns as to whether Kazakhstan will prefer the Japanese technology.

The partners suppose that VBER-300 reactors possess substantial export potential, basically focusing on countries with large territories and a comparably small population. Market volume is estimated at $15-20 billion (30 to 50 reactors).

(5) Construction of nuclear power stations. Cooperation is feasible in constructing and operating NPS, in particular, in Kazakhstan.

(6) Finally, cooperation is expedient in the disposal, processing, and recycling of nuclear waste.

Thus, the demands of national economies, combined with the technological complementary factors of the Eurasian neighbors and their close economic and political ties, determine the economic efficiency and desirability of deep cooperation – and, indeed, integration – of the Kazakh and Russian nuclear industries. However, while being the natural partner for Kazakhstan, Russia is not the only option. Kazakh-Russian joint undertakings in the nuclear sector represent a complex economic and political issue. Technology alone is not enough to implement ambitious development plans. Now we turn from the technological issues to the field of finance.

13. http://www.kazatomprom.kz/cgi-bin/index.cgi?p11&version=en, retrieved June 2007.

4. Financing the Atom: Increasing Involvement of the Development Banks?

The nuclear industry is a specific sector where the states and state-owned companies often dominate the scene. In particular, this is the case in Russia and Kazakhstan. The Kazakh national champion, Kazatomprom, and its state-owned counterpart in Russia, which are currently undergoing reorganisation and consolidation, control the absolute majority of nuclear assets. In both states, the nuclear industry is recognised as strategic. Consequently, although the financing sources vary, the share of state-backed financing is heavy.

- Budgetary sources. The total financing under the Russian federal task program for the development of nuclear energy, described above, should amount to $55 billion, including $26 billion, or 47%, from the federal budget, with the rest financed by the industry. It is, however, expected that budgetary means will no longer be needed after 2015.
- State-owned companies have their own investment programs that are financed through commercial loans.
- Joint ventures of state-owned companies with foreign companies brings capital and, in many cases, technology.
- Financing by development banks.

The latter financing source is particularly interesting in the international context. On the one hand, development banks might potentially become one of the principal sources for NPS financing. (By comparison, the World Bank has historically been the single largest financer of large dams worldwide, providing an average of around $1.25 billion a year over the past 60 years). On the other hand, they are well aware of the complexity of the issues raised by nuclear projects, rendering their financing a cumbersome and politically sensitive task. The reasons are well-known: the fears connected to the NPS, worries over nuclear waste, the Chernobyl catastrophe and the Three Mile Island near-catastrophe. Thus, their involvement in the nuclear industry was minimal. However, the situation and public sentiment around nuclear energy are undergoing a slow but decisive change. Nuclear energy is proving to be, in many respects, much greener than conventional energy generation based on fossil fuels. Also, the much praised alternative sources, such as wind power, appear to be not so harmless after all. In addition, the involvement of development banks is justified by the sheer size and duration of the typical nuclear project as well as the ensuing specific risks.

There are other reasons for development banks to get involved in the nuclear industry, particularly in developing countries. These are, first, the *innovation potential of the industry*. As we described, relative to Kazakh-Russian economic cooperation, the nuclear business chain starts with extraction, but then goes on to enrichment, production of higher value-added goods such as fuel pellets and assemblies, and then on to technology and capital intensive goods and services, namely reactor-building, the construction and operation of nuclear power stations and the disposal and recycling of nuclear waste. Second, there is a broad class of oil and gas-rich developing countries, which fully understand the dangers of hydrocarbon-dependent economies and the ensuing *need for diversification*. Russia and Kazakhstan are two of these countries. In this context, developing the nuclear industry, particularly its technology-intensive segments, is attractive, especially taking into consideration the competitive strengths that both countries possess.

The Eurasian Development Bank (EDB), established by Russia and Kazakhstan in 2006, considers the nuclear industry to be one of its priorities. One of the Bank's first projects was a $60 million loan for the Kazakh-Russian joint venture to explore the Zarechnoye mine in South Kazakhstan. According to its strategic goals, the Bank is supposed to foster sustainable economic growth of its member states and their economic integration. The innovation and diversification aspects are thus fully in line with the Bank's mission. *The integration potential of projects in the nuclear industry serves as another equally powerful impetus for the EDB to be actively involved*. The Bank is now looking into other projects in Russia and Kazakhstan that have a sizeable potential for advancing the economic integration of the Eurasian neighbors.

The newly created Russian Development Bank and the Development Bank of Kazakhstan, although not yet active in the industry, do not have clauses forbidding such involvement. Given their close ties with their respective states and their supporting function with respect to state priorities, it is expected that both national development banks will be looking into the industry as well.

On the whole, the current conditions and demands of the Kazakh and Russian national economies determine the economic efficiency of existing ambitious development plans, complemented by deep cooperation between two countries. The development of nuclear energy demands massive financing, which can be provided by a wide variety of sources. Financing by development banks, justified by the industry's great potential for energy production, innovation, diversification, and economic integration, represents a new and promising source.

The EDB is an international financial institution established by Russia and Kazakhstan in January 2006, with the goal of fostering regional integration and promoting economic growth in its member countries and within the Eurasian Economic Community (EurAsEC) as a whole. The main strategic objective of the EDB is to facilitate the development of market economies in the member states, their sustainable economic growth and the expansion of mutual trade and economic relations. The Bank strives to become a catalyst of integration processes and a consolidating element within the regional financial infrastructure of the EurAsEC member countries. The Bank was founded at the initiative of the presidents of Russia and Kazakhstan. It was established with a charter capital of US$1.5 billion. According to the Bank's founding documents, any country or international organisation can apply to become a member of the EDB if it is prepared to financially participate in its share capital.