In recent years, new trends have emerged in the energy policy of Saudi Arabia, one of the richest countries in the world in terms of hydrocarbon resources. Riyadh’s attention has been gradually shifting from further increasing the investments in the oil and gas industry towards environmentally friendly and renewable sources of energy (nuclear, solar), which, until recently, have not played a significant role in the national energy mix. Saudi Arabia’s leadership is prompted to do so by a number of objective and subjective factors.

First, the progressive development of the economy, infrastructure, agriculture, the rapid population growth, the improvement of its education level and the problem of providing the country with fresh water increasingly demand enhanced electricity generation. It has turned out that the use of hydrocarbon resources for these purposes is not always beneficial in terms of economy, it is environmentally harmful and has its natural limits.

Second, the Kingdom of Saudi Arabia (KSA) cannot stay on the sidelines of the globalisation of the world’s processes and the further scientific and technical progress on the planet. It is expected that the increased demand for hydrocarbons in the world market may gradually give way to other, alternative sources of energy such as, for example, shale gas, biofuels, solar and nuclear energy etc. The plans for the construction of nuclear power plants in Turkey, the UAE, Egypt and other countries in the region are being taken into consideration.

Third, the development of the nuclear industry and scientific research in the field in Israel and in the Islamic Republic of Iran, which is Riyadh’s main competitor, if not potential enemy, in the region, force Saudi Arabia’s leadership to follow the same path. Here Riyadh undoubtedly considers the threat of the emergence of nuclear missile weapons in Iran as the main argument in favour of the intensive development of its nuclear programme.

Fourth, the US and other interested Western states are persuading the leadership of the KSA and other Gulf monarchies to invest their spare petrodollars in the development of the nuclear industry. In the context of the continuing global financial and economic crisis, these multi-billion dollar investments are of particular importance for the West.

The interest in the nuclear industry emerged in the KSA as far back as the late 70s of the last century. Back then, based on the geological and seismological research and after studying the issues of the establishment of infrastructure, two locations were selected: in Dhahran – on the Persian Gulf cost, and in Jeddah – on the Red Sea, where it was planned to deploy small-scale reactors for power production and water desalination. It is quite possible that the construction of the first Saudi Arabian nuclear power plants will soon begin exactly there. Today, the King Abdulaziz City for Science and Technology in Riyadh has already the Atomic Energy Research Institute carrying out research in the atomic energy field, training nuclear experts and designing projects for the use of nuclear energy. The KSA is also conducting research on the use of atom for medical purposes and in industrial radiography. Saudi scientists, jointly with their foreign colleagues, are involved in many projects associated with uranium, isotope production, protection from radiation, treatment of spent nuclear fuel and servicing of nuclear reactors. But, on the whole, the KSA's real capabilities in conducting major nuclear R&D, not to mention the implementation of large-
scale practical projects, have been until recently not very big, which is confirmed by the IAEA's data.

When creating its nuclear industry, Saudi Arabia will inevitably resort to foreign assistance, in particular, to the purchase of technology, the attraction of foreign experts and the training of national staff. In May 2008, the KSA and the US signed a memorandum of understanding concerning cooperation in the peaceful uses of nuclear energy, under which the Americans promised to assist Saudi Arabia in establishing the nuclear industry in accordance with the IAEA's requirements. Riyadh undertook to use only the official international markets of nuclear fuel and stated that they would not be seeking to acquire technology related to the production of nuclear weapons. It is not impossible that the KSA will, most likely, also go for assistance to Pakistan, China, France, Russia and India. The Russian companies of Rosatom and Rusatom Overseas are taking an active part in talks with their counterparts in Saudi Arabia to conclude corresponding agreements on the use of nuclear energy for peaceful purposes.

It has been announced by the Saudi Arabian authorities that, by the year 2030, it is planned to build 16 nuclear power plant reactors, for the construction of which over $100 billion will have been allocated, and up to $300 billion in total will have been allocated for the nuclear industry programme. The first two nuclear power plant reactors (units) will be built within a period of 10 years, and after that it is planned to construct two units each year. If this programme is implemented, Saudi Arabia's nuclear industry will be able to meet up to 20% of the country's needs in electricity, even taking into account the fact that over the coming decade they are forecast to grow by 7 to 8% each year. Currently, Saudi Arabia is in the process of developing detailed plans for the construction of its first nuclear power plants; it is consulting with specialised companies and preparing tenders for the selection of contractors for the construction of nuclear power plants. Participation in these tenders is open to companies from any country, including Russia. On the whole, the intentions of the KSA's leadership to develop the peaceful uses of nuclear energy are based on the most serious economic and political reasons, and it looks like they will start to be implemented in the near future.

Saudi Arabia's weakness is the absence of large proven reserves of uranium ore in the territory of the country. Small uranium and thorium deposits have been discovered in the north-west of the country, the Tabouk province, although they have not been properly explored. The country has large phosphate deposits, but producing uranium from phosphates exceeds its market value. The KSA has no infrastructure to store spent nuclear fuel either. In connection with the increased terrorist activity in the Middle East region, there are serious concerns in terms of ensuring guaranteed security of Saudi Arabia's future nuclear facilities.

It should be noted that the KSA is a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Comprehensive Nuclear Test Ban Treaty (CTBT), although it has not yet signed the additional protocol to the NPT on the monitoring of the use of atomic energy for peaceful purposes.

In connection with Riyadh's plans for the development of its nuclear industry, politicians and experts raise the question: Is it possible that Saudi Arabia is contemplating secret projects for use of the atom for other, to be more precise - military, purposes? Many Western and Arab experts suppose that Saudi Arabia is quite capable of an "adequate response" in the case of the creation of nuclear weapons by Iran. Riyadh, in turn, is making it clear that the KSA's leadership may officially renounce such plans on the condition that the US provides strong guarantees of the external protection of the kingdom from the nuclear threat on the part of Iran.

However, versions of Riyadh's hypothetical access to nuclear weapons are peddled by some international media. For example, the possibility is considered that nuclear technology and even warheads themselves could be transferred to Saudi Arabia by the Pakistani authorities or that equipment, technologies, weapons-grade nuclear fuel could be purchased through foreign firms in the "black market" or that specialists could be attracted from abroad in order to assemble (quickly and covertly) its own nuclear weapons. Here the fact of the selling of nuclear technology by Pakistani nuclear scientist A.K.Khan is mentioned: he allegedly has been able to provide covert supplies of equipment and documentation for the nuclear programmes of Libya, Iran and the DPRK with the help of dozens of European and other international firms around the world.

Objectively assessing today's plans and opportunities of Saudi Arabia for the development of its nuclear industry, it can be concluded that the country is at the very beginning of the path in this direction and it will take dozens of years to build and launch the nuclear power plants (units) planned in the programme. Taking into account the KSA's virtually unlimited financial capacities, it can be assumed that the national programme for the diversification of energy sources through the use of the "peaceful atom" will be successfully completed, provided there are favourable external conditions.

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