Main Conclusions

1. By 2010 the total installed capacity of power plants in the Eurasian Development Bank’s (EDB) member states had reached 270 GW with generation of 1,190 TWh. The type of power plants that operate or are under construction in the EDB countries include thermal power plants, hydropower and pumped-storage hydropower plants, nuclear power plants, and renewable energy power plants. Fossil-fuelled thermal power plants dominate the generating capacity and this situation has remained practically unchanged in recent years. However, the structure of electricity generating capacities differs between countries depending on the availability, or lack, of certain energy resources in a given country. For example, hydropower dominates the power sectors of Tajikistan and Kyrgyzstan.

2. The EDB member states are building an electricity grid with the primary aim of creating and strengthening their national grid infrastructures so that they are able to supply electricity to all consumers, including those in remote regions.

3. External power grids linking EDB member states with each other and foreign countries are well developed, except for Armenia, whose power system is geographically disconnected from the power grids of the EDB and CIS member states, and Tajikistan, whose electricity network has been isolated from other EDB countries since late 2009.

4. The EDB member states trade in electricity with each other and with third countries. Since mid-2000s, electricity exports and imports have decreased by more than 30% and 60% respectively. The reasons for these declines include increased domestic consumption, economic recession, and the reluctance of certain parties to make compromises in energy trading.

5. In most EDB member states, internal electricity demand is driven primarily by the industrial sector. In certain cases, however, such as in Tajikistan and Armenia, it is the utilities and general household consumption that shape demand patterns.

6. The EDB member states cooperate intensively with each other in the construction, acquisition, management and operation of power facilities, the development of design documents, and in the supply, installation and maintenance of power-generating and electrical equipment. Russia is one of the key players in this cooperation. A significant presence of investors and suppliers from third countries in the power markets of the EDB member states poses serious competition to Russian suppliers.

7. The EDB member states face serious challenges in the development of their electric power markets, especially the depreciation of key production assets in all countries. The depreciation of fixed assets averages 40-60% but can be as high as 90%, restricting efficiency in the sector (high costs of fuel needed for electricity generation and losses during power transmission and distribution). Although in recent years there has been a greater tendency to modernise and upgrade equipment, the
technological gap between the EDB country’s electricity sector and the global industry has not been bridged. Efficiency is also restricted by deficiencies in the electrical engineering sector, the high cost of equipment, the low impact of innovation, and imbalanced structure of generating capacities. The latter leads to suboptimal operation system and requires a national electric power system to swap energy with neighbouring grids. Moreover, electric power assets are less effectively managed in some countries.

8. A number of obstacles to deeper integration remain, including the recurring suspension of electricity exports and imports, outages in interstate electricity grids, and even a disconnection of the national power system and discontinuation of its parallel operation with other power systems (as it happened with Tajikistan). In addition, the development of generating capacities and grid infrastructure in the regions that face power shortages and depend on electricity imports reinforces the electrical independence of the EDB member states and weakens their integration in the power sector.

9. System effects, including regime, structural and other effects, can play a significant role in the interaction of national power systems. Some of these effects already exist, both in the relationships between the EDB member states and in their relationships with third countries. However, they are still considerably weaker than they could be.

10. The principles of creating and organising the common electric power market of the Commonwealth of Independent States (CIS) and EDB countries, which have been defined by respective agreements, need to be reviewed in the light of Russia’s experience in operating a liberalised competitive market. This experience cannot be deemed successful and many experts assert that market reforms in the Russian power sector have failed to achieve their objectives.

11. Multinational initiatives are being developed with the aim of deepening integration in the electric power sector between the CIS, EurAsEC and EDB countries. They include the Strategy for Interaction and Cooperation between the CIS Member States in the Field of Electric Power, the Concept for and the Agreement on the Establishment of the Common Electric Power Market of the CIS Member States, and other documents. In the long run, integration initiatives should result in the creation of a common electric power space, which would encompass not only national power sectors and systems, but also related industries such as fuel production, electrical and electronics engineering and professional education.