Renewable energy

Development of renewable energy is still in its infancy in EDB’s countries of operation. In the majority of EDB countries the share of renewables in installed generation capacity and electricity production does not exceed 2-3% (excluding large hydro).

The majority of EDB countries have abundant renewable energy resources: in Russia – wind and hydro, Kazakhstan – wind and solar, Kyrgyzstan and Tajikistan – solar and hydro. Armenia is rich in all three major renewable energy sources.

Most EDB countries have adopted national programs and set targets for development of renewables. The most ambitious renewable targets are set by Kazakhstan – 30% of electricity production by 2030 and 50% by 2050.

Renewables are already competitive with fossil fuel electricity generation in Armenia and Belarus - countries which depend on energy imports. In Russia renewable energy gradually becomes more competitive to conventional fossil fuel generation along with technology improvement, however due to relatively low domestic gas tariffs gas-fired generation still has a sizable cost advantage over renewables. Kazakhstan’s ambitious medium-term plans which envisage commissioning over 2 GW of renewable capacity by the end of 2020 imply competitiveness of renewable energy sources relative to traditional generation.

Key issues which constrain the development of renewables in EDB countries is oversupply of capacity combined with excessive regulation of national electricity markets. Generating capacity surpluses currently evident in most EDB countries discourage governments to stimulate investments in new capacity, including renewable energy sources. All EDB countries have electricity sectors heavily regulated by authorities in a way which usually leads to artificially low electricity tariffs for incumbent generators. In this situation renewable energy sources appear to be less competitive vs incumbents relative to the case where liberalized electricity markets lead to electricity prices reflecting the economic cost of production.

Russia, Armenia and Kazakhstan are adopting competitive bidding auctions for renewables quotas distribution, which serves to bring down the costs of renewable generation for power consumers.
EDB is an active player in renewable industry in the region, having provided financing for several hydro, solar and wind projects in Russia and Kazakhstan. Renewable energy is a focus of the Bank’s medium-term strategy for 2018-2022.

**Energy Efficiency**

Most EDB countries still have high rates of electricity losses in distribution and transmission grids relative to developed world standards, so there is a sizable potential for energy savings in this area.

The bulk of electricity generating capacity in Russia is still employing outdated steam turbines, which are 30-40% less efficient compared to modern power plants, such as combined cycle gas turbines (CCGT). This implies massive potential for primary energy savings should old capacity be upgraded with latest technology.