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GRADUATE SCHOOL OF DEVELOPMENT

Decarbonization of energy in Central Asia

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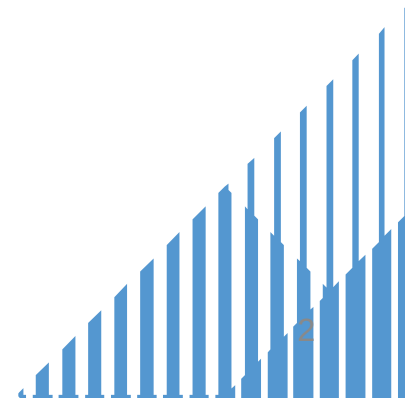
Content

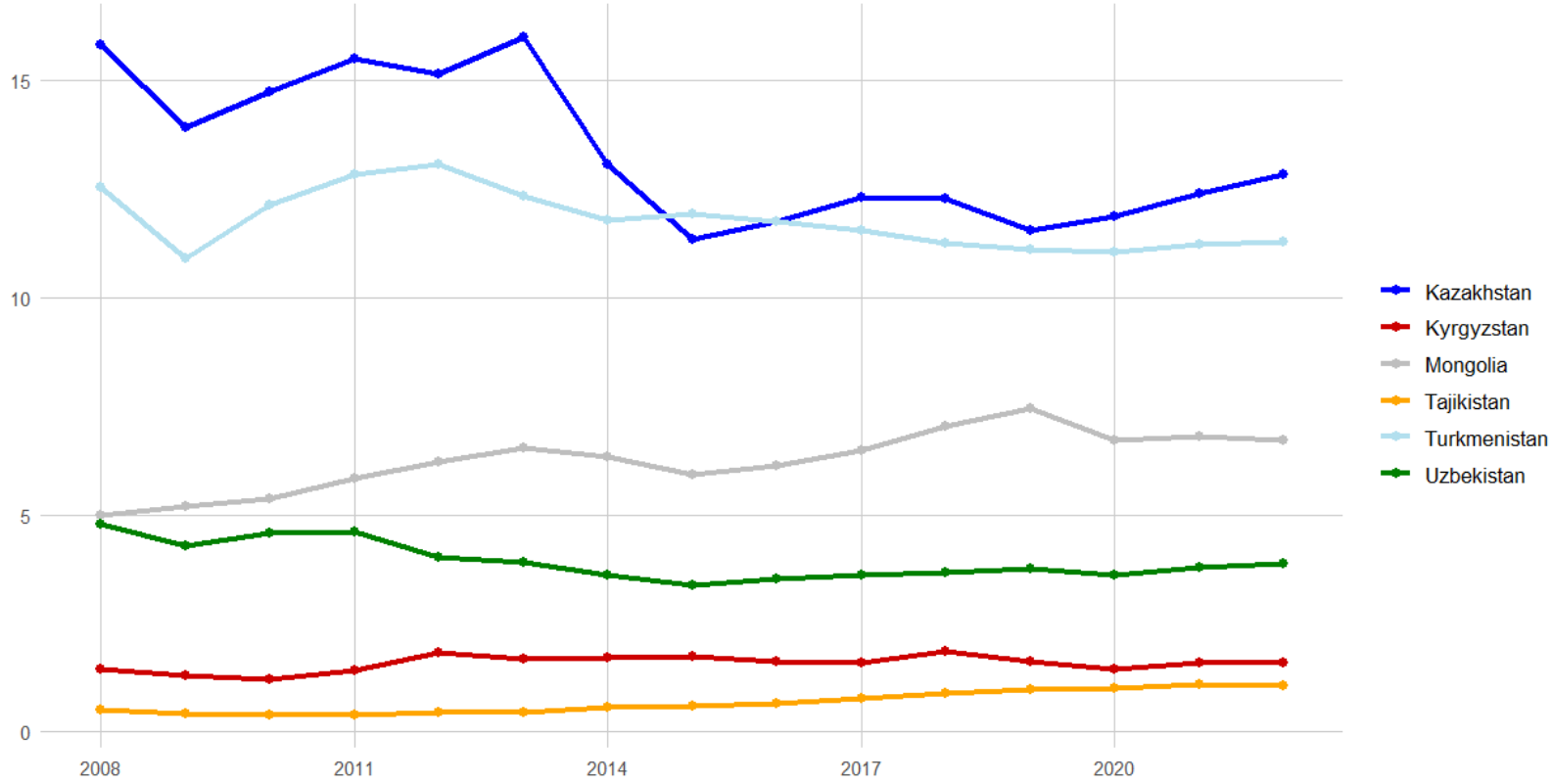


About the study

- The study aims to assess the political environment in Central Asia to determine how effectively current policies support the transition to more sustainable energy with lower emissions.

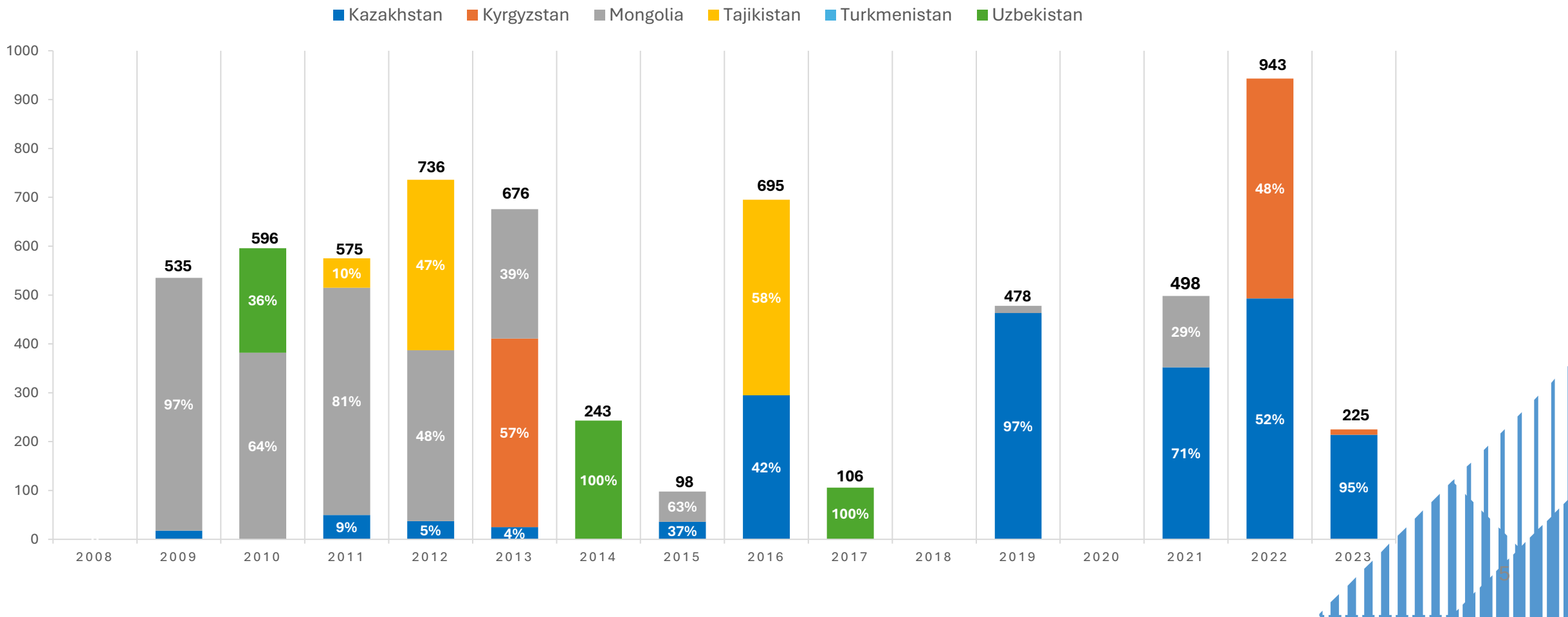
- The result of the study will be an analytical review that will detail the current situation and the policies adopted by the national states of the region, along with an evaluation and recommendations for aligning energy infrastructure investments with the goals of the Paris Agreement and the 2030 Agenda for Sustainable Development in Central Asia.

Regional energy dynamics: CO2 emissions, tonnes per capita

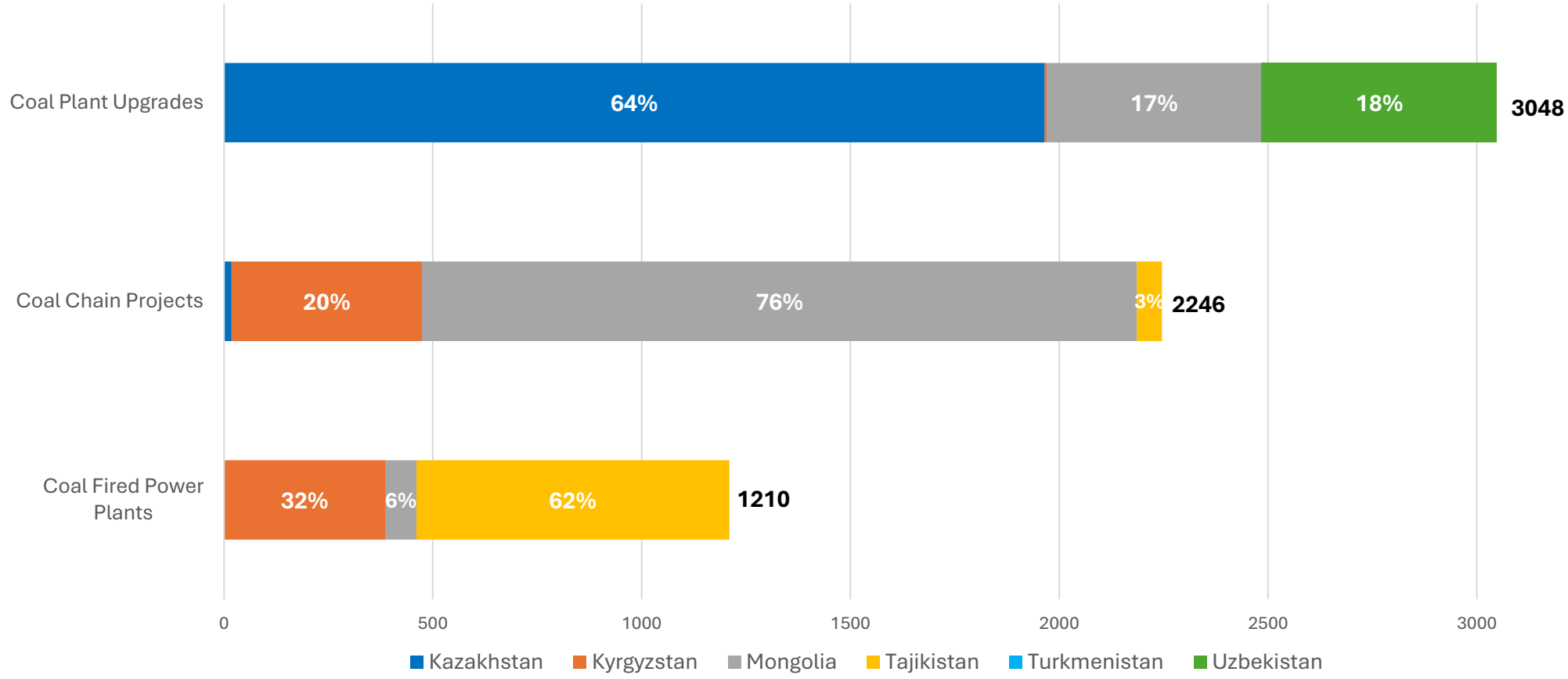


Source: Emissions Database for Global Atmospheric Research

Total investment in coal infrastructure projects for 16 years by countries, mln. USD

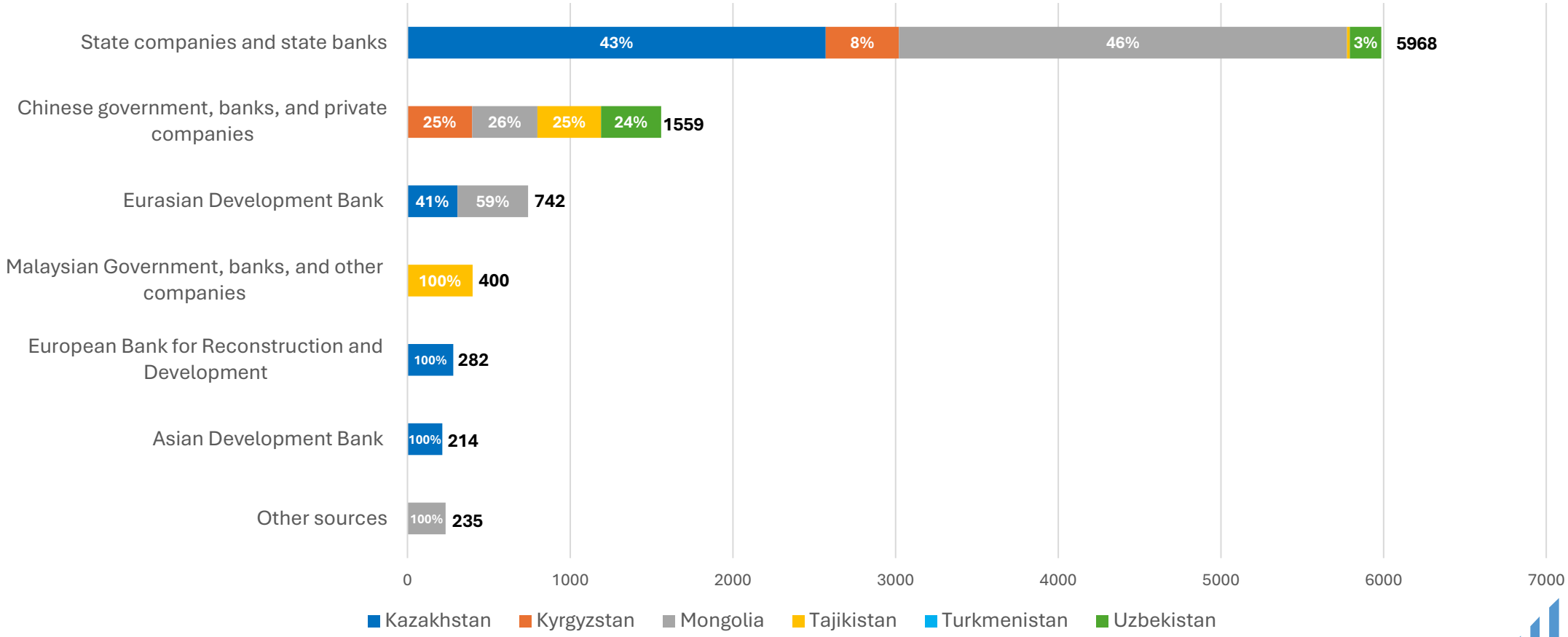


Total investment in coal infrastructure projects for 16 years by countries and clusters, mln. USD



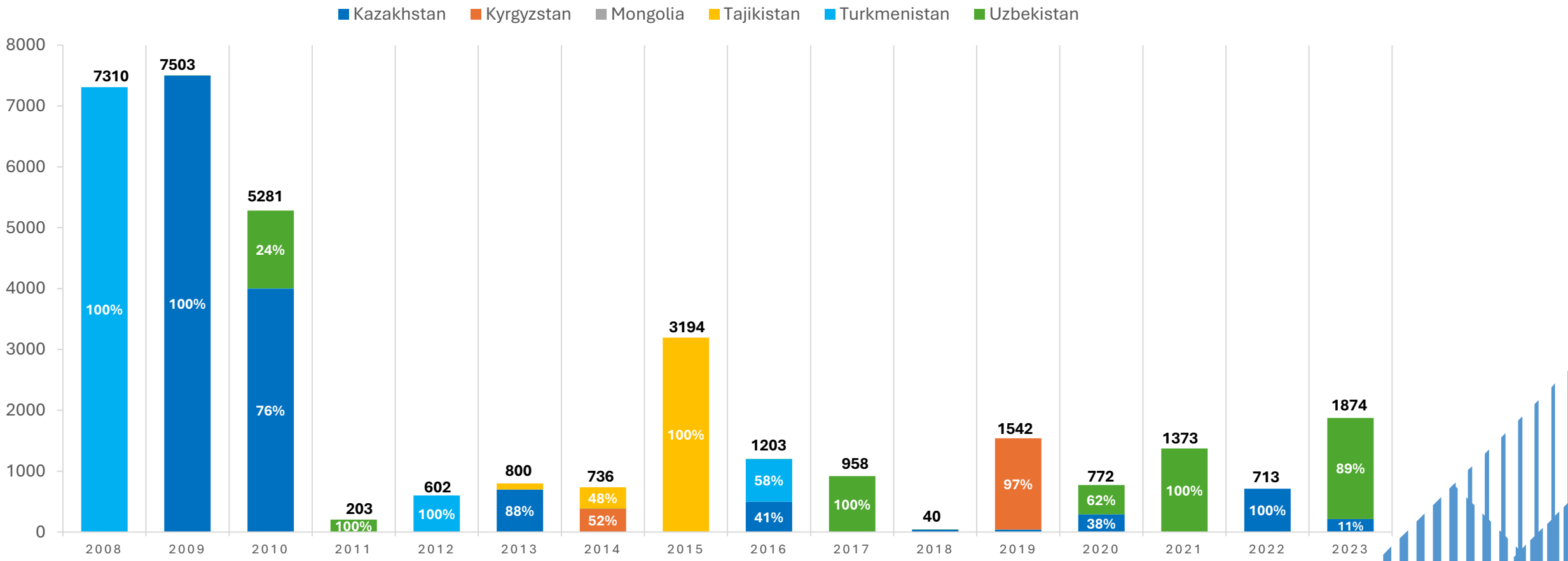
Note: The Coal Chain Projects include Coal Mining, Coal Transportation, and Coal Processing

Total investment in coal infrastructure projects for 16 years by donors and countries, mln. USD

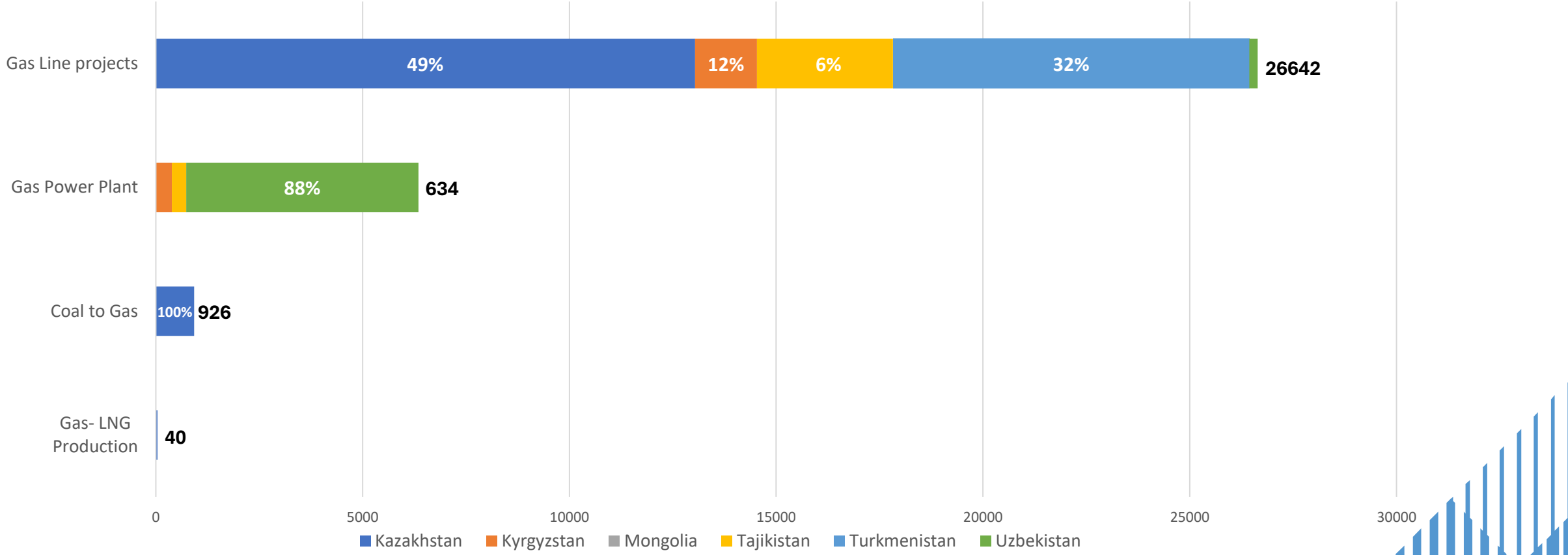


Note: Other sources include funding from such agencies as UNDP, Green Climate Fund, Japan agencies and funds, etc.

Total investment in gas infrastructure projects for 16 years by countries, mln. USD

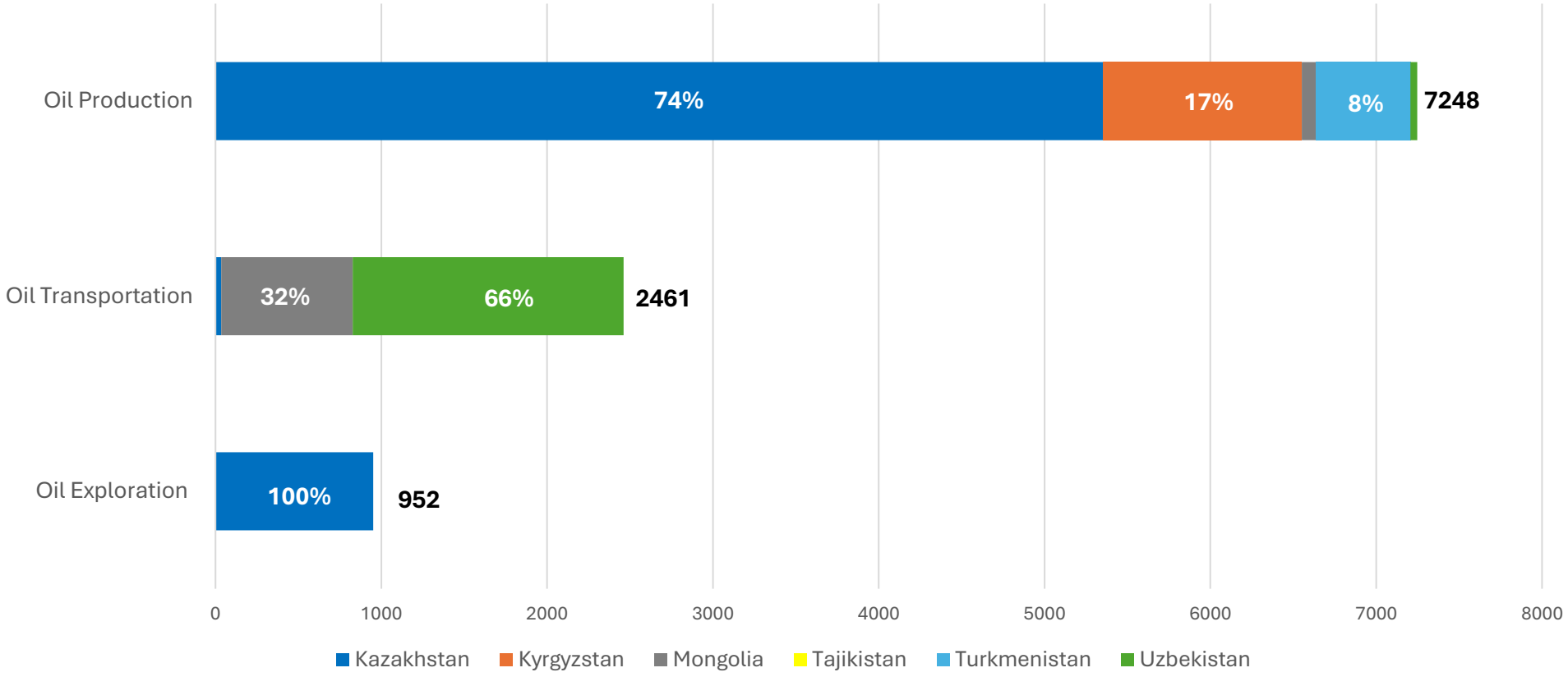


Total investment in gas infrastructure projects for 16 years by countries and clusters, mln. USD



Note: Gas – LNG Production was 100% for Kazakhstan

Total investment in oil infrastructure projects for 16 years by donors and countries, mln. USD



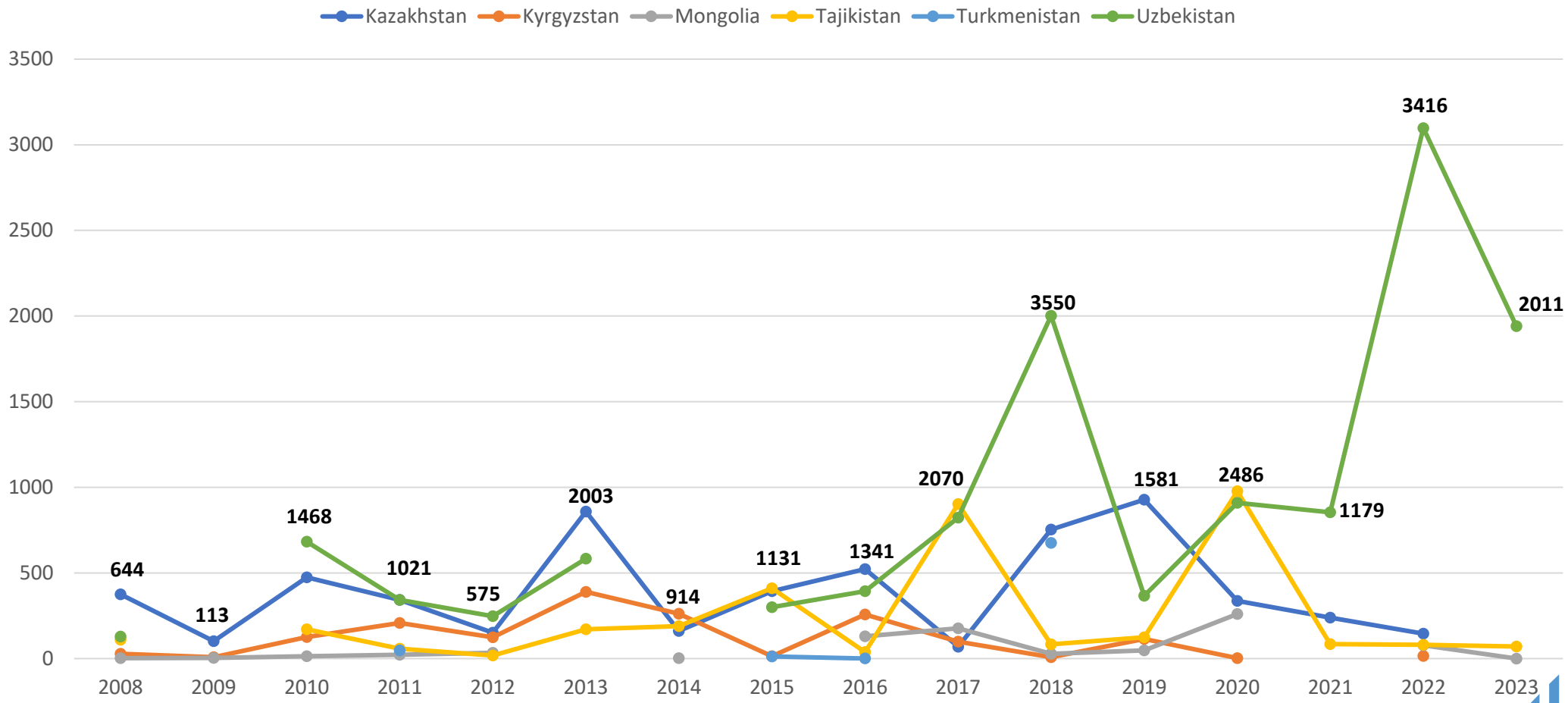
Key challenges: carbon-intensive energy projects

- Carbon-intensive energy projects continue to play a significant role in the Central Asian region. Key clusters of such infrastructure include oil production (Kazakhstan), gas transmission facilities (Kazakhstan, Turkmenistan, and Uzbekistan), and coal-related projects (Mongolia).

- State-owned companies, banks, and various Chinese entities still prioritize carbon-intensive energy sources, while multilateral development banks (MDBs) are increasingly investing less in these projects.

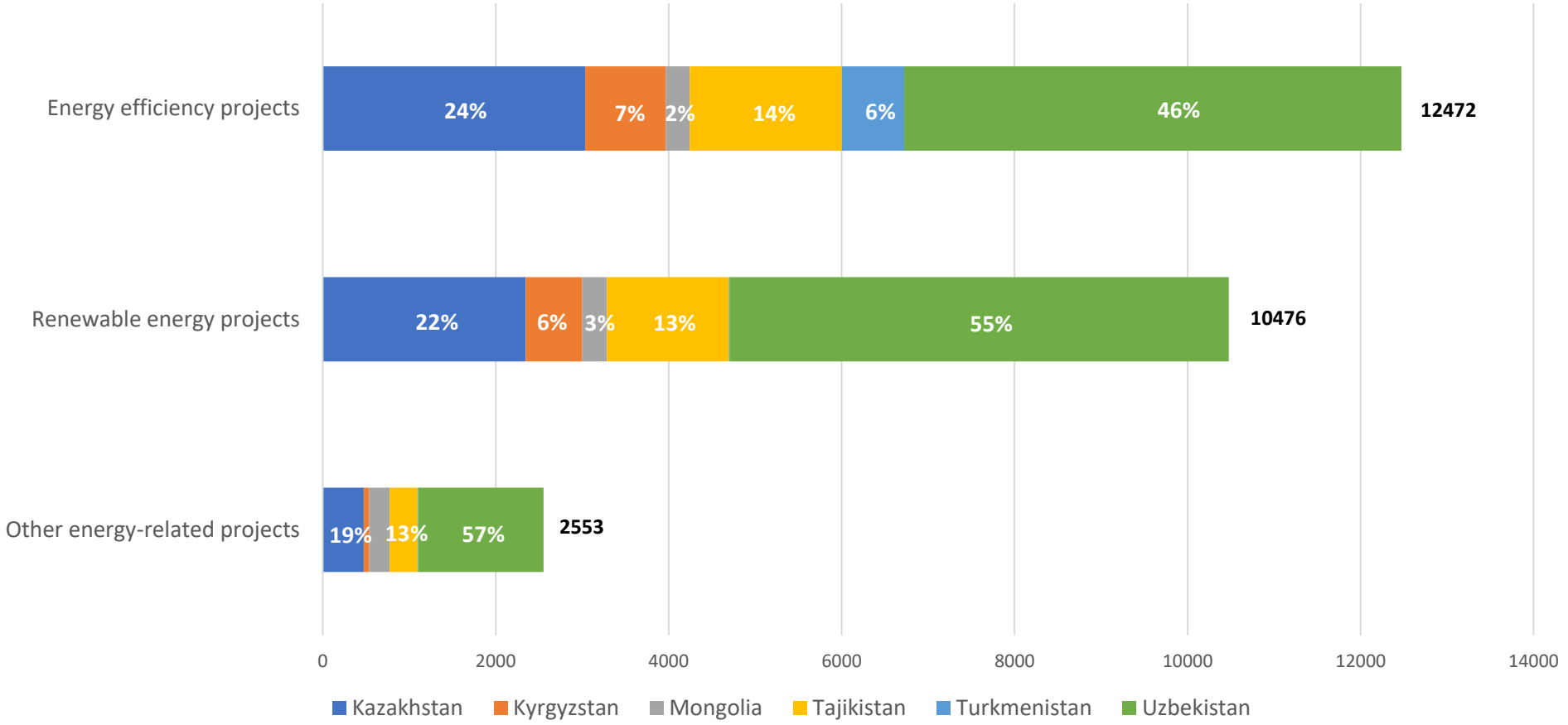
- The presence of carbon-intensive energy infrastructure is substantial, with the entire Central Asian region seeing considerable investment, particularly in coal projects. Notably, investment trends in gas infrastructure have fluctuated over the past 16 years.

Dynamics of investment in carbon-neutral infrastructure projects for 16 years by countries, mln. USD



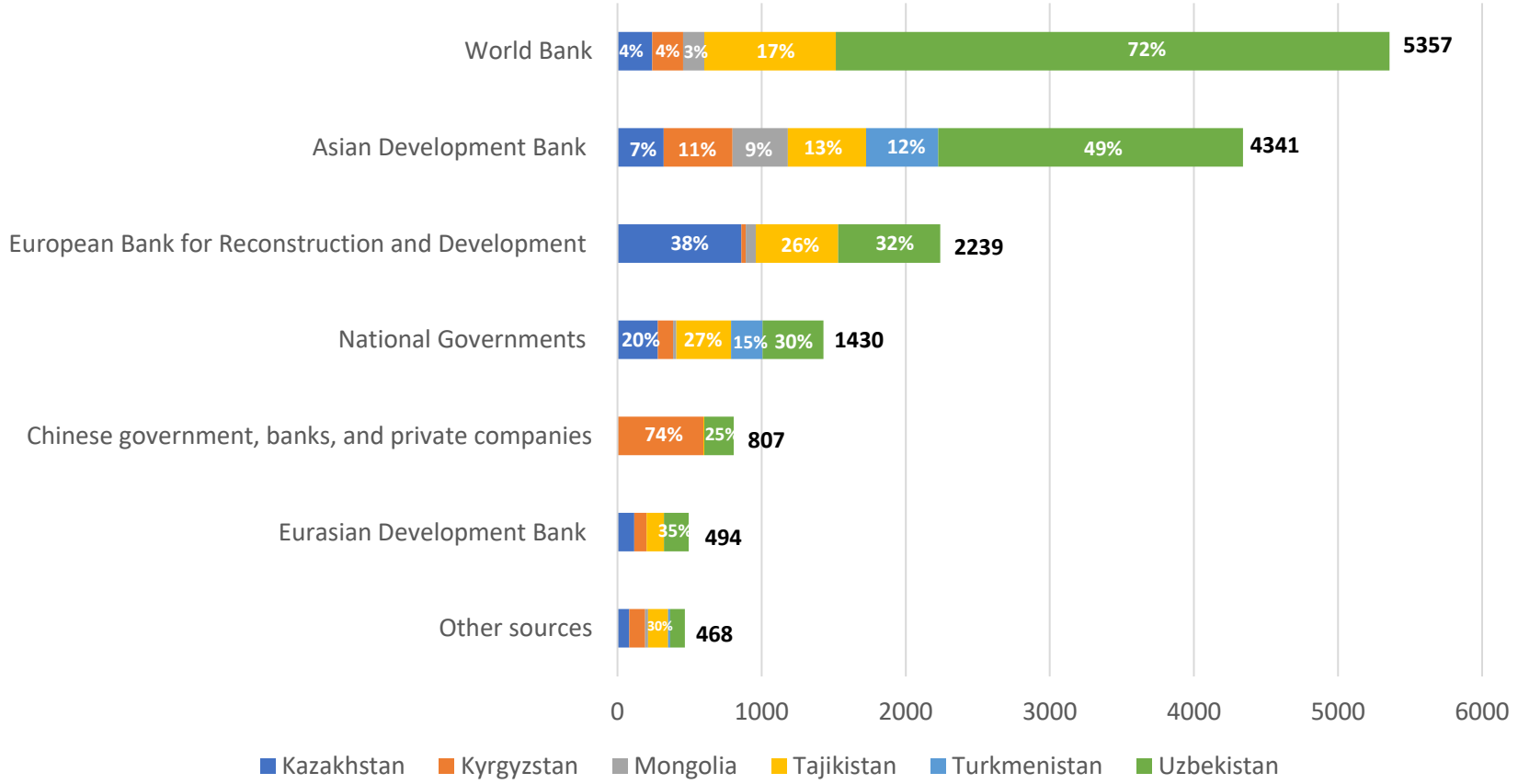
Note: Numbers in **bold** represent total investment in 6 CA countries for a particular year.

Total investment in carbon-neutral energy infrastructure projects for 16 years by countries and clusters, mln. USD



Note: Other energy-related projects include such projects as modernization of energy equipment, grid optimization, etc.

Total investment in carbon-neutral energy infrastructure projects for 16 years by donors and countries, mln. USD



Note: Other sources include funding from such agencies as UNDP, Green Climate Fund, Japan agencies and funds, etc.

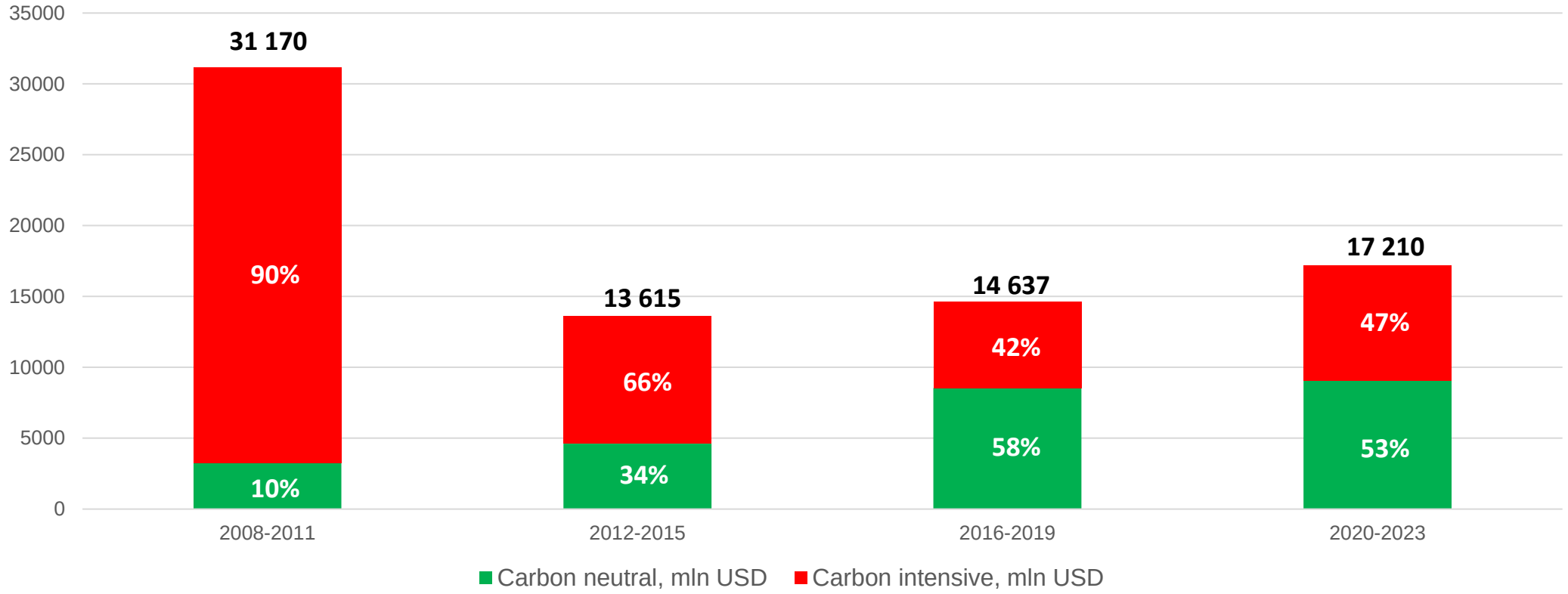
Key findings: carbon-neutral energy projects

- Among the types of carbon-neutral energy infrastructure investment projects, energy efficiency projects hold a significant share. However, investments in renewable infrastructure have seen a sharp increase in recent years. Kazakhstan and Uzbekistan are notable as the primary recipients of these investments.

- The distribution of investments by donors and countries highlights Uzbekistan as a major beneficiary and Mongolia as a minor recipient. Multilateral Development Banks (MDBs), national governments, and Chinese entities have made substantial investments in energy-efficiency projects.

- Over the past 16 years, energy infrastructure investment trends across six countries have shown fluctuating patterns. Uzbekistan has emerged as a leader in attracting investments in carbon-neutral projects, while Mongolia has consistently received a negligible amount of funding.

Putting all together: investment trend dynamics in Central Asia region, mln. USD



Note: For the period 2008-2023, total amount of investments in carbon intensive and carbon neutral energy infrastructure projects constituted **51 131 mln. USD** (or **67%** of the total) and **25 501 mln. USD** (or **33%** of the total), respectively.

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Thank you!

Questions?