FACILITATIVE, MULTILATERAL CONSIDERATION OF PROGRESS

REPUBLIC OF KAZAKHSTAN

UNFCCC SB63 Belem, November 2025

National Circumstances

Territory: 2 724 900 km² (9th in the World)

Population: 20. 4 mln

GDP by method of Production:
134 251 904.8 million KZT, or $ 285 983.1 million

GDP per capita: 6.66 million KZT, or $ 14 188

Average temperatures:

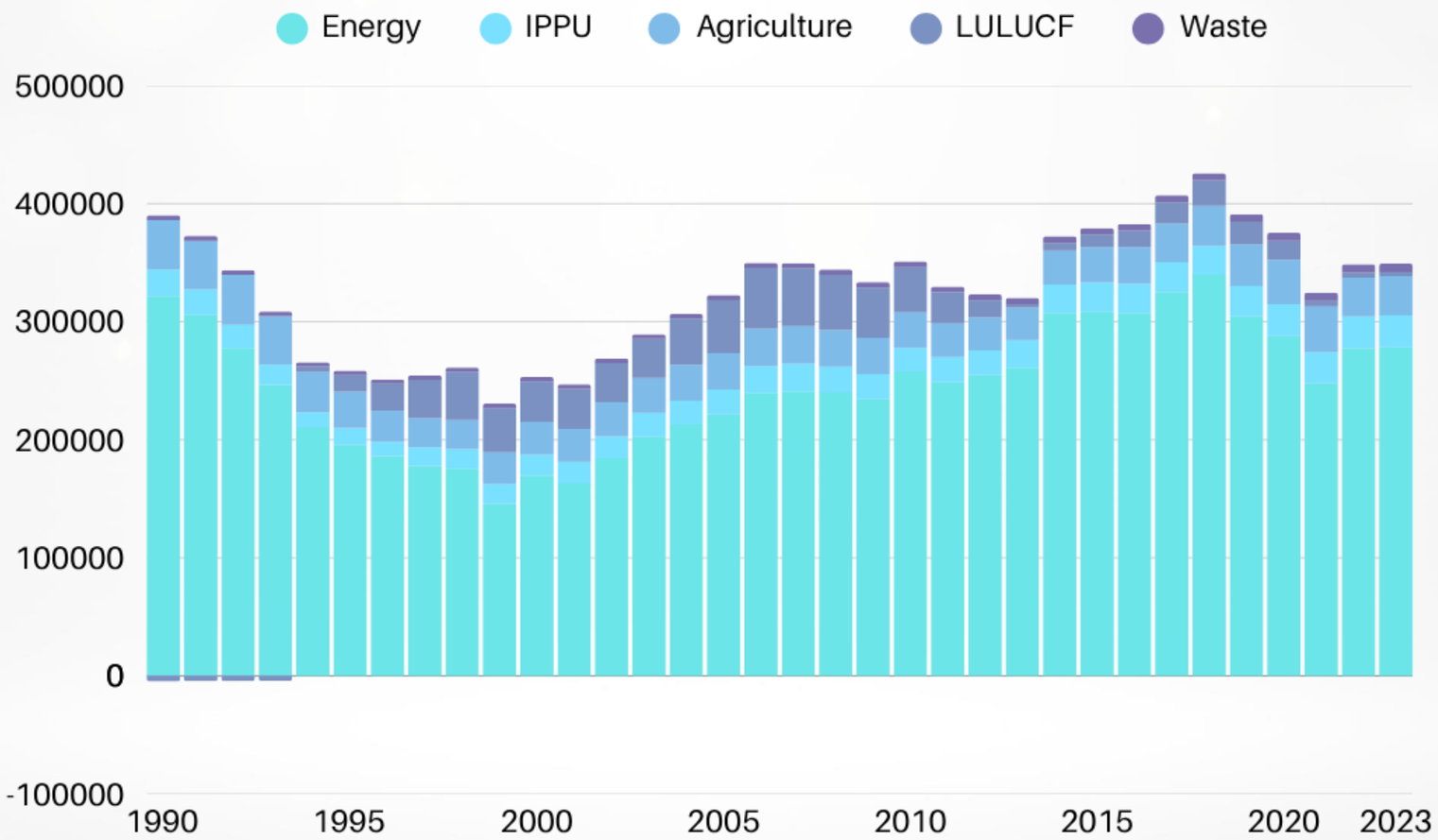
winter -11.3 (down to -40 °C)
summer +21.9 (up to +54 °C)

Natural landscapes:

deserts - 44% of the area;
semi-deserts - 14%;
steppes - 26%;
forests -5%

National GHG Inventory

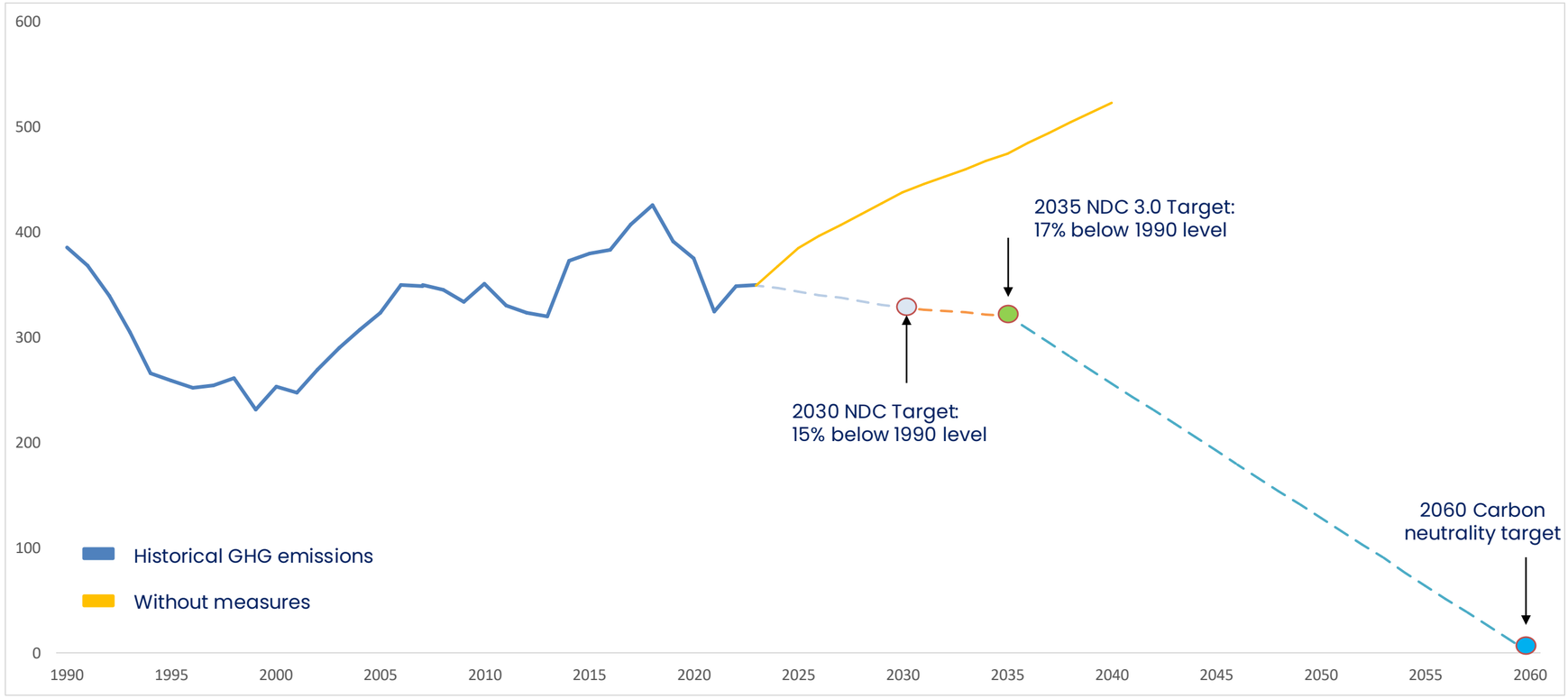
National inventory period: 1990–2023



NDC Description

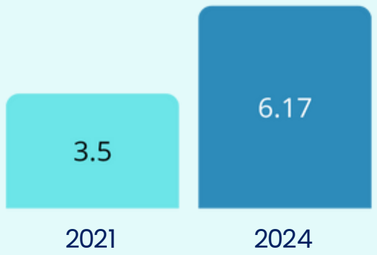
Unconditional target	Reduction of GHG emissions by 15% by the end of 2030 relative to 1990 base year
Conditional target	Reduction of GHG emissions by 25% by the end of 2030 relative to 1990 base year, subject to significant international support
Base year	1990
Base year emissions	385 440.4 t CO2eq.
Emissions coverage	carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O),hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF6)
Type of the target indicator	Single-year, 2030
General description of the target	Economy-wide absolute reduction

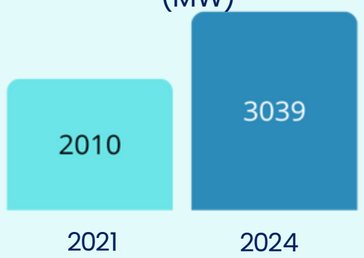
- NDC 3.0 sets a target to reduce GHG emissions by 17% by the end of 2035 relative to 1990 base tear

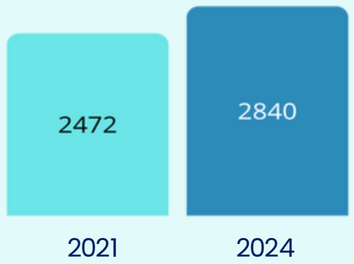


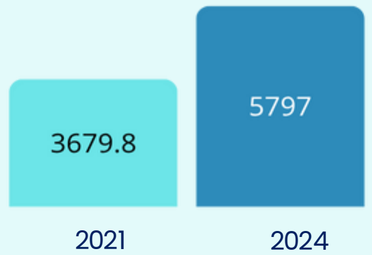
Progress towards the implementation of NDC

Power & Energy

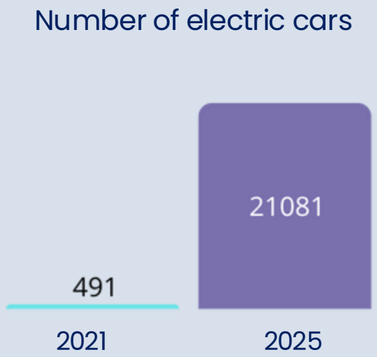


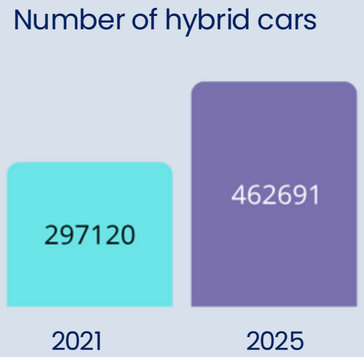


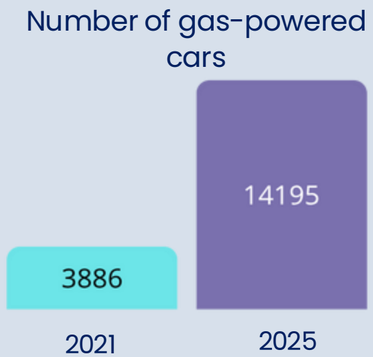




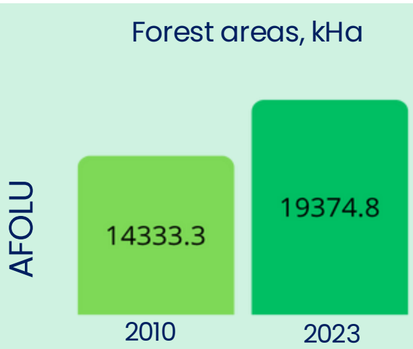
Transport

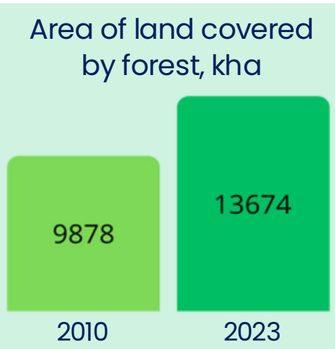




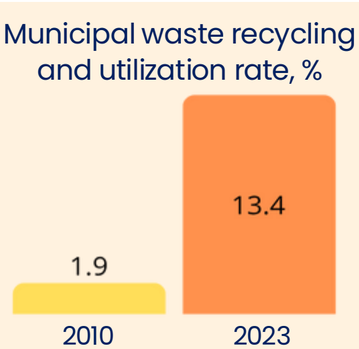


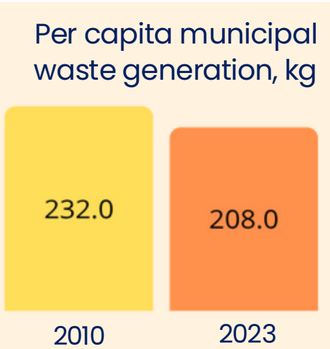
AFOLU



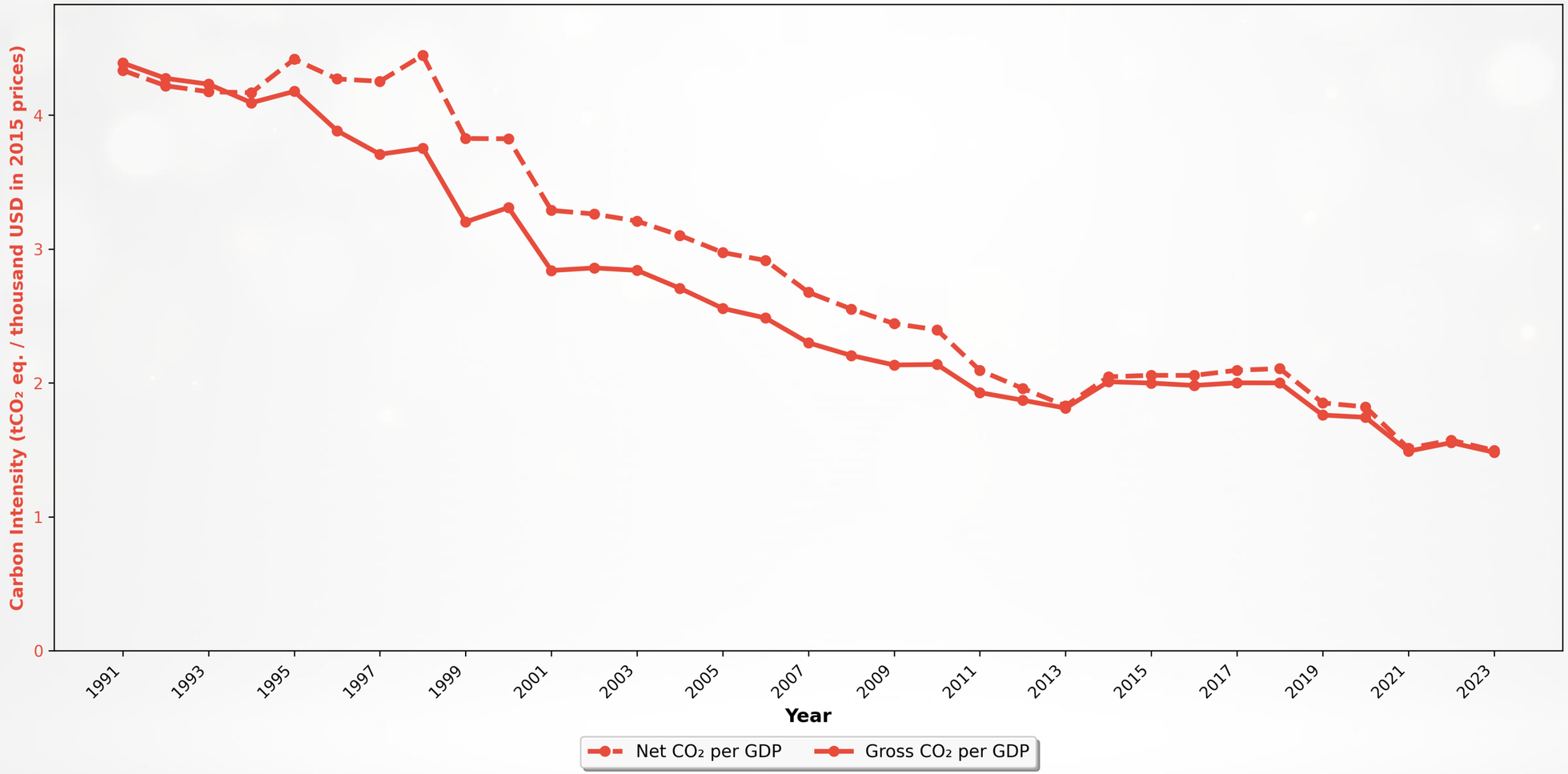


WASTE





Carbon Intensity vs GDP (1991-2023)



Policies and Measures

Increasing the share of renewable energy sources in electricity generation and construction of nuclear power

- Concept for Transition to a Green Economy sets a target for renewable and alternative energy to reach 15% of the country's energy mix by 2030, 30% by 2040, and 50% by 2050;
- Decision on building a nuclear power plant was taken on 06 October 2024, following the results of the Referendum
- Construction of Kazakhstan's first nuclear power plant, with an electrical capacity of 1 200 MW, has begun on 08 August 2025

Increasing the share of natural gas in power generation

- Construction of the Saryarka main gas pipeline is completed;
- Water boilers of combined heat and power plants in Astana were converted to natural gas;
- Conversion of thermal power plants in Almaty from coal to gas is currently in progress

Ban on gas flaring and methane regulation

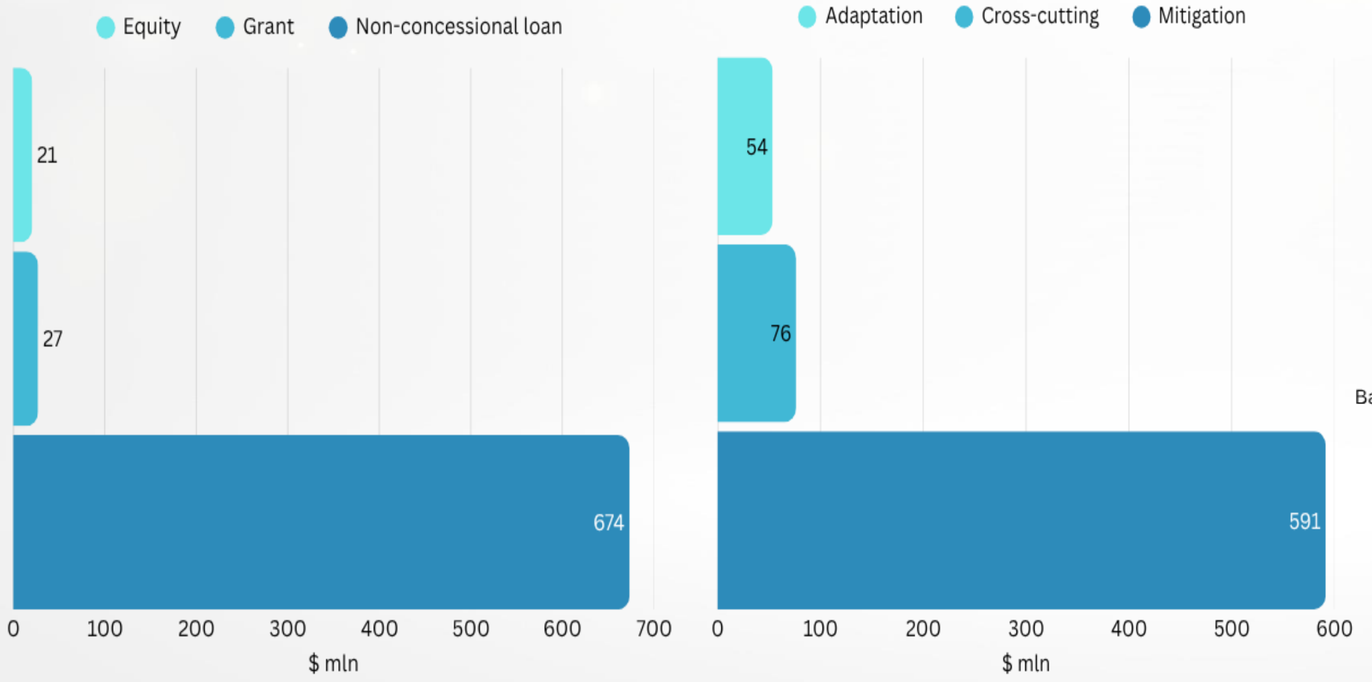
- Introduction of ban on gas flaring led to more than a 3.5 times decrease in annual flared gas volumes;
- Replacement of existing gas utilization programs with gas processing development programs;
- Regulation of methane emissions in oil & gas, and coal sectors in NDC 3.0. Reduction of fugitive methane emissions in the oil & gas sector by 42% by 2035

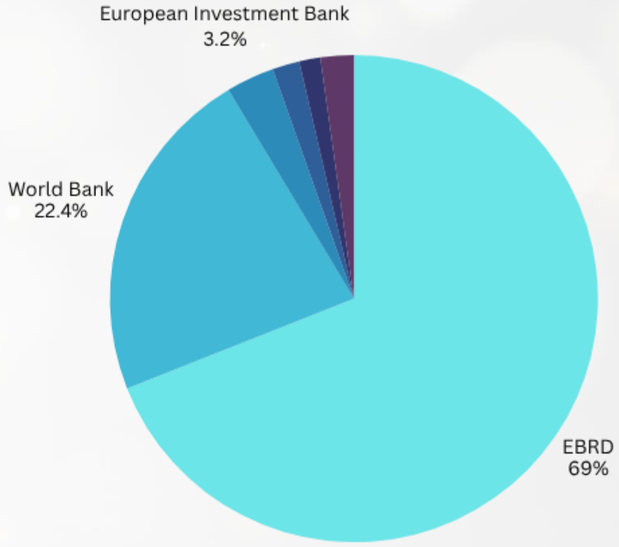
Introduction of best available techniques (BAT)

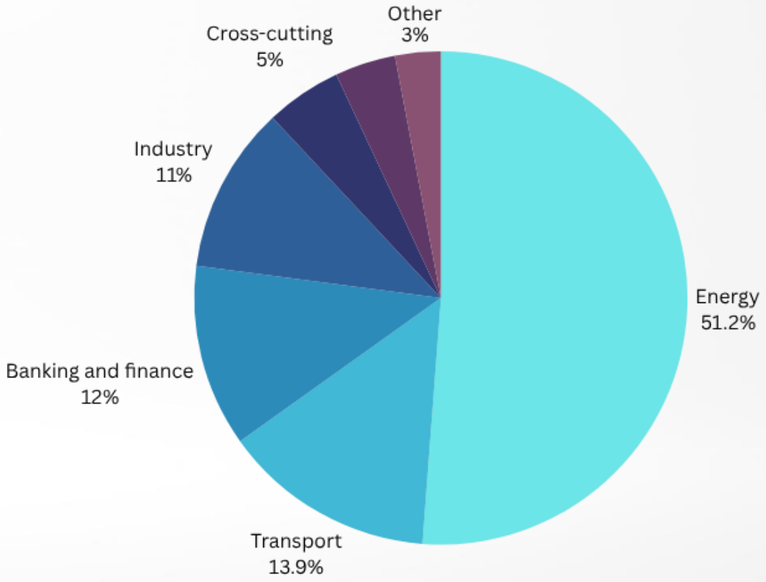
- Revised version of the Environmental Code promotes the adoption of BAT to modernize industries and enforce strict emission limits, while incentivizing renewable energy use and energy efficiency;
- Starting from January 1st 2025, Category I facilities are required to obtain comprehensive environmental permits based on the application of BAT

Financial Support Received

- $610 billion of total investment is required to achieve carbon neutrality by 2060, where 96.2% of the estimated amount should come from the Private sector
- 93.4% of the resources received by Kazakhstan under development programs are non-concessional loans, accompanied by limited amounts of technical assistance in the form of grants
- For the reporting period 2000 – 2022, Funding commitments for Kazakhstan amounted to $ 721.3 million from 19 donors and for 155 individual projects







Financial Support Needs

Transport	Forestry	Agriculture	Water and sanitation	Industry	Energy
					
1.Electric vehicles; 2. Public transport; 3. Railways electrification	1. Afforestation; 2. Reforestation; 3. Agroforestry – tree belts; 4. Anti-erosion forests	1. Organic agriculture; 2. Hydroponics; 3. Modern animal feed; 4. Fish farming; 5. Precision farming; 6. Technologies for preventing Methane emissions	1. Modern Irrigation; 2. Digitalization of Natural Water Systems and Irrigation, Flood Prediction; 3. Hydraulic Structures; 4. Water Conservation in the Residential Sector; 5. Water Treatment and Reduction of Bottled Water Use	1. Replacement of industrial gases; 2. Power grid modernization; 3. Thermal insulation modernization; 4. Waste heat utilization; 5. Waste recycling; 6. Packaging reduction	1. Residential Sector Energy Efficiency; 2. Large-scale Renewables; 3. Energy transmission – District Heating; 4. Energy transmission- Grids; 5. Small-scale Renewables ; 6. Enabling Technologies (Demand Response, Smart Grids, Energy Storage, Electric Vehicle Charging Stations, Hydrogen Production); 7. Oil & Gas – Methane Capture; 8. Carbon Capture, Utilization and Storage; 9. Transition Energy Technologies – Natural Gas and Nuclear

Technology Transfer Needs

Transport

1. Development of public transport systems;

2. Urban planning;

3. Transition to transport using alternative and renewable energy sources

Agriculture

1. Carbon-efficient and advanced farming technologies;

2. Development of climate-resistant agricultural crops;

3. Promotion of organic farming;

4. Introduction of smart greenhouse systems;

5. Technologies to enhance soil productivity

Water and sanitation

1. Biological methods for cleaning rivers and lakes;

2. Modern localized water supply and treatment technologies;

3. Water management through integrated databases and platforms;

4. Water-free irrigation technologies;

5. River restoration and soil property recovery

Industry

1. Upgrading equipment and restructuring production to separate manufacturing processes;

2. Upgrading equipment from low-carbon to zero-carbon technologies;

3. Innovative low-carbon developments;

4. Decarbonisation technologies

Energy

1. Transition away from coal;

2. Modernization and upgrade of electricity and heat distribution systems;

3. Transition from the current centralized energy system model to smart grids with flexible operation of energy sources;

4. Energy storage systems;

5. Green hydrogen production;

6. Affordable preferential lending and subsidies for renewable energy sources;

7. Renewable energy service technology centers;

8. Development of cooperatives and associations of renewable energy users;

8. Carbon capture and storage technologies;

9. Thermal modernization of buildings and new heating technologies

Capacity-Building Needs

Limited capacity to plan nature-based solutions for climate change mitigation and adaptation	Limited capacity for landscape carbon sequestration when planning for forest restoration and wildfire reduction	Strengthen capacity to scale up climate finance	Integrate climate goals into land legislation and strategies
1. Analytical information; 2. Training for specialists and study tours; 3. Pilot projects	1. Assess the potential for sequestration; 2. Implement promising solutions on a pilot basis; 3. 2003 Forest Code needs to be updated to enhance the role of forests in maintaining climate stability	1. Educational trainings to evaluate low-carbon proposals and develop high-quality projects; 2. Support for innovation, research and development of low-carbon technologies	1. Include climate-related provisions in the Land Code (2003) and the Law on Pastures (2017); 2. Increase human resource capacity; 3. Increase information and analytical support

THANK YOU!

RAQMET!