

Main sectoral focus areas in NDCs and National Climate Change Response Strategies?

Kazakhstan NDC 2020

Commitments:

to reduce its emissions to 15-25 percent below 1990 levels by 2030.

- 1 15 percent reduction is unconditional
- 2 Deeper cuts of 25 percent are subject to international support

Sectoral focus areas

Adaptation: Agriculture, Water Resources, Forestry, DRR

Mitigation: Energy, Agriculture, Heating, Industry, Waste management, Transport

National strategies

Concept on Transition to Green Economy until 2050

National Development Plan 2025

Long-term Strategy "Kazakhstan - 2050"

Carbon neutrality Doctrine - 2060 (under consideration)

Action is needed across 4 key areas

Decarbonizing the
energy system

Agriculture, water
and rangelands

Just Transition

Enabling environment

➤ Without action soon, there is a real risk of not meeting the 2030 NDC target.

Key prognosis on environment-induced changes and pressing vulnerability points?

- Average annual temperatures have risen by around 1 degree Celsius compared to 1971–2000.
- Flooding alone is expected to reduce GDP by 1.3 percent by 2060 and 3.8 percent by 2100 if climate change is not addressed
- Considering climate-induced changes in groundwater flow of 10 to 20 percent and anthropogenic reductions in transboundary flow up to 50 percent, demand for water is projected to exceed water availability by 2025 to 2030

Climate impacts if not addressed could undermine development, particularly in water sensitive sectors

Climate change will impact 3 key areas:



Water

With greater rainfall volatility, increased droughts and less glacial melt, water availability becomes a concern over time, with important flow-on effects for agriculture.



Agriculture

Drought and changing rainfall patterns could severely impact agricultural production. Increased land degradation will undermine livestock productivity.



Infrastructure

An increase in the number and severity of floods and mudflows will impact infrastructure.

Example impacts of climate change

Flooding

3.8%

Reduction in GDP in 2080 from flooding under RCP8.5

Agriculture

20-50%

Reduction in Spring wheat yields by 2050

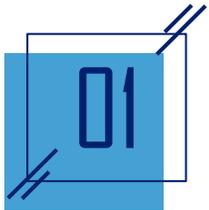
Climate finance (role of external support and activities to boost internal (domestic) resources to finance climate actions and the role of private finance/investment)?

- **Achieving Kazakhstan's mitigation climate commitments and building resilience to the impacts of climate change will require substantial policy reforms and significant investments in key sectors.**
- **Mobilizing private capital will be important as public resources are scarce.** Green growth involves innovative, non-traditional investments that may not be well understood by lenders. Some projects are large with long-term returns, others are diffuse and lack scale, and many are perceived to have high or uncertain risks. Lending institutions need not actively direct bank credit to decarbonize the economy but should ensure sufficient attention is given to climate-related risks
- **At present, private enterprise is constrained by dominant SOEs and high levels of regulation.**
- **Plus, a lack of climate policy is undermining incentive for firms to take action.**
- **As a result, it is of little wonder that the private sector is not yet ready to lead the green transition.**

Private sector pioneers in low-carbon development

The Low-Carbon Development Programme of KazMunayGas was approved on **November 4, 2021**.

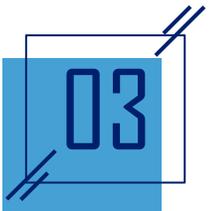
The main purpose of the Programme is to define KMG's climate ambitions and structure principal approaches and measures to reduce the Company's carbon footprint, including, but not limited to:



Analysis of the existing potential and defining the KMG's climate goals.



Defining key directions of the Company's development in terms of decarbonization and measures to achieve the set goals.

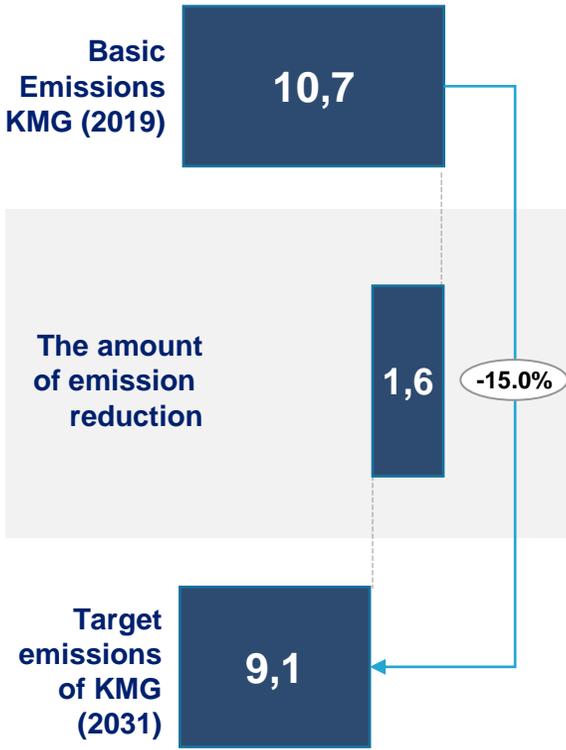


Raising the potential and awareness.

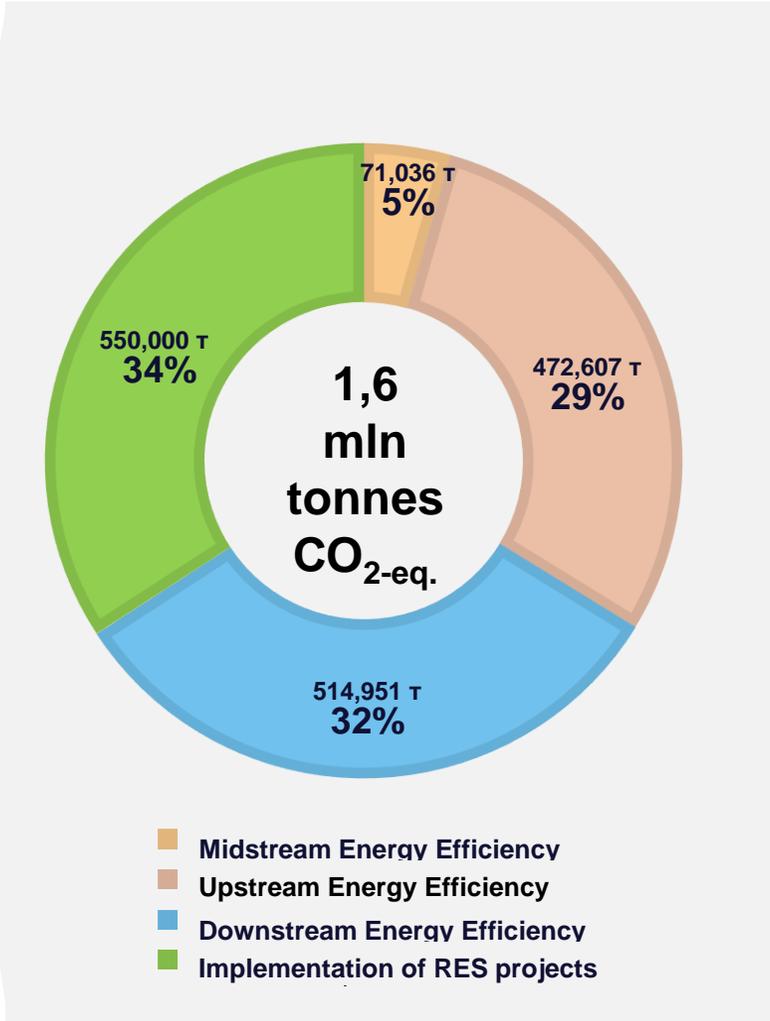


LOW-CARBON DEVELOPMENT PROGRAMME OF KMG 2022-2031

Goal



Key areas



Additional measures

- I. **Development of Hydrogen Energy:**
 - Establishment of a Hydrogen Competence Center for KMG capacity building
 - Pilot Project on Hydrogen Mobility
- II. **Introduction of Carbon Capture and Storage Technologies (CCS):**
 - Pilot project with an analysis of the potential to increase EOR
- III. **Implementation of Forest Carbon Projects:**
 - 2000 ha. (10-16 thousand tonnes of CO₂-eq. per year)
- IV. **Zero Routine Flaring by 2030:**
 - 29.8 thousand tons of CO₂-eq.
- V. **Implementation of LDAR to prevent methane leaks**