



Project Information Document/ Identification/Concept Stage (PID)

Concept Stage | Date Prepared/Updated: 02-Dec-2021 | Report No: PIDC253520



BASIC INFORMATION

A. Basic Project Data

Project ID	Parent Project ID (if any)	Environmental and Social Risk Classification	Project Name
P177785		Moderate	Partnership for Market Implementation
Region	Country	Date PID Prepared	Estimated Date of Approval
EUROPE AND CENTRAL ASIA	Kazakhstan	02-Dec-2021	
Financing Instrument	Borrower(s)	Implementing Agency	
Investment Project Financing	Ministry of Ecology, Geology and Natural Resource	Zhasyl Damu of Ministry of Ecology, Geology and Natural Resources, Agency for leading carbon tax studies - to be identified/confirmed	

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PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	5.00
Total Financing	5.00
Financing Gap	0.00

DETAILS

Non-World Bank Group Financing

Trust Funds	5.00
Partnership for Market Implementation Facility	5.00

B. Introduction and Context

Country Context

Kazakhstan has been the economic success story of Central Asia, transitioning from lower-middle-income to upper-middle-income status in less than two decades. Since 2002, Gross Domestic Product (GDP) per capita has risen six-fold and Kazakhstan currently accounts for nearly two-thirds of the regional GDP, powered by an



abundance of oil, gas, and other minerals. A prominent feature among the government's strategic objectives is for Kazakhstan to join the Organization for Economic Co-operation and Development (OECD) ranks and be amongst the top thirty economies of the world by 2050. However, solid economic growth during 2017-2019 turned into an economic contraction in 2020 due to the COVID-19 pandemic, having a profound impact on lives, livelihoods, and the economy. The COVID-19 crisis has also put the challenges of the narrow, energy- and carbon-intensive, and state-led economic structures, which are currently in place, into a sharper focus and provided an impetus for reforms.

Kazakhstan is a mineral and fossil rich middle income country of 18.5 million people, strategically located Central Asian country with Russia to the north and China to its south-east. Kazakhstan's huge production of fossil fuels and significant heavy industrial sector drives its rising greenhouse gas emissions. It is the largest per-capita greenhouse gas emitter (GHG) in Europe and Central Asia, and the 21st largest emitter globally. Although the emissions intensity of GDP has declined in recent year as the services sector has grown in importance, in absolute terms emissions have been growing with the economy. In some years, emissions are partially offset by Land-Use, Land-use change and Forestry (LULUCF). Net GHG emissions (including LULUCF) amounted to 386.3 million tons of CO₂eq in 1990 and 401.9 million tons of CO₂eq in 2018, representing a 4.05 percent increase. GHG emissions increased significantly over 2009-2018, rising by 41.8 percent from 283.5 million tons of CO₂eq in 2009. A bulk of the increase in emissions is attributable to energy industries, transport, and residential energy use. The transport sector, for example, showed an average annual growth rate of 4-5% from 2011 to 2018.

Kazakhstan has signed on to ambitious Nationally Determined Contribution (NDC) targets under the Paris Agreement - to reduce GHG emissions from the benchmark 1990 level by 15 percent (unconditionally) and 25 percent (conditional upon international support) by 2030. In addition, Kazakhstan's President has also set a national target of becoming carbon-neutral by 2060, and of ranking among the top 30 developed countries by 2050. The country's cold climate, energy inefficient building stock, its legacy of predominantly coal-fired heating, power generation, and heavy industry base, as well as its abundant fossil reserves, particularly coal, pose significant challenges in meeting not just its NDC targets, and the target of carbon neutrality, but also of remaining a competitive economy in an increasingly decarbonization driven global policy environment.

Energy production and consumption are responsible for 84 percent of Kazakhstan's GHG emissions. Thus, achieving a low carbon path to development will require strong actions, starting with reducing its reliance on coal for power and heating. In power generation, renewables will need to expand significantly from their current share of 3% to closer to 15% by 2030. As this occurs, power grid flexibility is a near and medium term concern. Addressing this will require the continued use of coal and gas-based generation infrastructure for grid stability, even as more renewables are absorbed in the generation mix. Over time, the country's ageing coal generation capacity will have decreasing plant utilization, and coal plants will begin to be shut down. However, the phase out of coal will take time, and be possible only when appropriate green alternatives in energy storage combined with a scale-up of wind and solar generation enable a more resilient and flexible power grid in Kazakhstan. In the long run, beyond 2030, nuclear generation could also play a role in the power generation mix. Heating, currently predominantly fueled by coal, will need to switch to natural gas, and finally adopt a combination of greener technologies that include combined heat and power (CHP), blue and then green



hydrogen as an energy storage medium, geothermal resource use, and electrification. Furthermore, enhanced energy efficiency across key sectors, adoption of new technologies for lowering the carbon footprint of industries, and diversification of the economic and industrial base towards green manufacturing and services will also be a key component of any successful roadmap for lowering the carbon footprint of the economy and decoupling growth from emissions.

Kazakhstan has indicated its desire to continue to strengthen its capacity to pursue lower carbon growth and effective adaptation. While government thinking on meeting interim and final emission targets is still evolving, its Low Emissions Development Strategy for power generation, being developed in collaboration with USAID, is aimed at charting a short-, medium-, and long-term path to decarbonizing the power sector – in line with its 2060 target of carbon neutrality. The government is already implementing plans to transition urban center coal-fired district heating by adding gas-fired combined heat and power (CHP) facilities in Nur-Sultan and Almaty. Since 2016, it has also significantly changed its power generation fuel mix by switching approximately 11 percent of its power generation from coal to natural gas. The country's long term decarbonization strategy is being prepared with support from GIZ, and an Emissions Trading Scheme (ETS) was established in 2013 and has been improved with support from the Program for Market Readiness through the World Bank. Current discussions with the World Bank around the Development Policy Operation, scheduled for FY2022 delivery, also follow similar themes of green growth, and include prior actions in areas of renewable energy, energy efficiency, and a new environment code that includes the ETS.

Kazakhstan already regulates its GHG emissions through the national Emission Trading Scheme (ETS) which is enshrined in its Environment Code. The ETS is the country's main instrument to regulate domestic CO₂ emissions and to drive the development of low-carbon technologies. The Department of Climate Policy and Green Technologies of the Ministry of Ecology, Geology and Natural Resources (MEGNR) is in charge of regulating the ETS which is operated by Zhasyl Damu Joint Stock Company under MEGNR. The ETS has been in operation since 2013 and covers power and industrial facilities emitting more than 20,000 tCO₂ per year representing approximately 43 percent of national GHG emissions. However, transport, agriculture, and service industries are not regulated under the ETS nor are power and industrial facilities emitting less than 20,000 tCO₂-eq. per year. Currently, ETS only covers CO₂, other GHGs, especially methane is yet to be included.

The carbon budget for the ETS is set in the National Allocation Plan (NAP), which is approved by the Government of the Republic of Kazakhstan. The 4th NAP for 2021 was approved in January 2021 at 169.2 MtCO₂ (plus a reserve of 11.5 MtCO₂). It does not reduce emissions compared to the previous NAP period (2018-20) that had an average annual cap of 162 MtCO₂ (plus a reserve of 11.8 MtCO₂). However, for the first time the 4th NAP fully applies a benchmarking approach to allocate allowances for all ETS installations. The 5th NAP covering 2022-2025 is expected to be approved by December 2021. Annual quotas are currently distributed free of charge. It is expected that a carbon quota auction will be introduced at a level of 3 percent of total allowances for 2023-25 and 10 percent for 2026-30, and methane will be added in the ETS from 2026. There is no carbon tax in Kazakhstan yet, but the government is considering introducing carbon tax in the near future for emitters not covered under the ETS in order to meet its NDC targets.



The President of the Republic of Kazakhstan pledged to achieve carbon neutrality by 2060 at the "Climate Ambition Summit" on December 12, 2020. This will require significant effort to decarbonize major sectors of the economy in the coming decades and a Doctrine for low carbon development is being prepared by the government with scenarios to achieve this. The draft NDC update (under on-line public consultation) has an accompanying draft "Implementation Roadmap for the Updated NDC of the Republic of Kazakhstan" (Roadmap) which is under broader consultation too by MEGNR. This draft Roadmap indicates that Kazakhstan's NDC targets are achievable but only through significantly strengthened actions including: tightening the ETS cap and improving the regulation, allowance allocation, trade, monitoring, reporting and verification (MRV) of GHG emissions under the ETS; introducing carbon taxes in the non-ETS sectors such as transport and emitters not covered under the ETS; facilitating renewable energy development; improving energy efficiency; and applying circular economy approaches for waste management.

Sectoral and Institutional Context

Carbon pricing can play a key role in supporting Kazakhstan to meet its NDC targets by 2030 and carbon neutrality goal by 2060. As a grant-receiving technical partner for the Partnership for Market Readiness (PMR) program, Kazakhstan conducted an extensive modeling exercise to inform the development of the 4th National Allocation Plan (NAP) for its ETS and an implementation roadmap for its updated NDC. Risks of NDC non-compliance and measures to eliminate them were identified. Study results show that the unconditional NDC target is very ambitious, and Kazakhstan will need to reduce GHG emissions levels by 20 percent over 2021-2030. Expanding the coverage of the ETS and implementing stricter regulation of GHG emissions through the ETS alone will not enable the country to meet its NDC targets. Meeting this goal will also require strong political will for deep infrastructural transformation, mobilization, and targeted use of significant investment resources, as well as human capacity building and a plan for a just transition for affected sectors.

The PMR study highlighted the importance of introducing carbon taxes for emitters not covered by the ETS as one instrument to achieve this. 57 percent of national GHG emissions are emitted without limits and continue to grow. The draft Roadmap proposes that GHG emissions from unregulated sectors and emitters are constrained by carbon taxes on the consumption of various energy carriers from the second half of 2021, and from 2023 that other carbon taxes are introduced. Modeling was used to calculate an indicative, effective carbon price and carbon tax levels but showed that their introduction would also lead to higher energy prices. While implementation of the proposed policies and decarbonization measures are targeted at increasing modernization and competitiveness of industry, GDP growth, and foster investments in green technologies, higher energy prices would also adversely impact poor and vulnerable households, and appropriate measures must be devised to minimize such externalities. There would likely also be job losses, and related loss of income. A strong focus on skill diversification, retraining, and growth of new and greener industries should be a part of the overall package of measures that the government considers. This is very much in line with principles of a Just Transition strategy that the Bank group has tested and developed a menu for in other geographies.

From January 1, 2023 of the "Carbon Border Adjustment Mechanism" (CBAM) in the European Union and other countries will make it more difficult for manufactured goods and products produced energy-inefficiently



to find export markets. The study showed that it will also be necessary to introduce a carbon import duty to protect domestic producers from dumping of imports from other countries where GHG emissions are not regulated or are weakly regulated. In the absence of such a duty, dumping will lead to a curtailment of domestic production, job losses, a decrease in budget and household income, and an increase in the social burden on the state's budget. Without the introduction of an export carbon duty from 2023, Kazakhstan exporters will lose a significant part of the marginal income at the border with the EU and other countries, and accordingly, the state budget will lose tax revenues from exports, which will significantly worsen the economic situation in the country.

In other words, it will become increasingly difficult over time, for Kazakhstan to ignore the effects of global decarbonization, and hence preparing its economy for a greener future is at the heart of remaining competitive and attaining the national goal of becoming a high ranking developed economy. The implementation of the draft NDC Roadmap over 2021-2030 will lay the foundation for deep decarbonization of the national economy over the longer term. The draft Roadmap proposes sectoral goals and decarbonization measures that ensure the controlled transformation of the national economy in compliance with the principle of "just transition" and all national development interests. If efforts are not made in a timely manner, the competitiveness and marginal income of Kazakhstani exporters could decrease significantly in the medium term, leading to a decrease in tax revenues to the state budget and a reduction in investment in the economy. The Government needs to find compromise (balanced) solutions that support green projects in various sectors of the economy and allow existing "brown" companies to adapt to the anticipated changes in environment by 2030.

The Republic of Kazakhstan is actively involved in the international process of combating climate change. This Partnership for Market Implementation (PMI) support is fully aligned with Strategy Kazakhstan 2050, the National Development Plan 2025, and the government's concept to Transition to Green Economy by 2050 to advance environmental sustainability and address climate change. A low-carbon development Doctrine for the country is being prepared, which MEGNR plans to adopt in 2021. The new Environmental Code of Kazakhstan that went into effect on July 1, 2021 addresses state regulation of greenhouse gas emissions. Rules for monitoring and control of GHG inventory, carbon quota allocation, quota trading, and implementing emission reduction projects, etc. are in place either through a Government decree or an order of the Minister of MEGNR.

Relationship to CPF

The proposed project is aligned with and directly contributes to the Country Partnership Framework FY2020-2025, which was discussed by the World Bank Board on December 12, 2019. Namely, project objectives are a part of the Focus Area 3 (Securing Sustainable, Resilient, and Low Carbon Growth), and Objective 7 of Preserving and Restoring Natural Capital. Explicit carbon pricing instruments, such as an ETS and carbon taxes provide an incentive for sectors to move towards decarbonization by adopting low-carbon technologies. While an ETS provides an emission certainty to industry, taxes provide a price certainty necessary for enterprises to shift practices. These price signals can therefore support Kazakhstan's energy sector transformation and green transition.



C. Project Development Objective(s)

Proposed Development Objective(s)

To strengthen the operation of Kazakhstan's Emission Trading Scheme and explore the development of a carbon tax for meeting the updated NDC targets by 2030 and carbon neutrality by 2060.

Key Results

Key results of this project are expected to include the following with specific indicators to be detailed during preparation of the PMI full proposal:

1. Improved MRV for the ETS and support provided on Kazakhstan's ETS to enter international carbon markets
2. Improved distribution of carbon units through improved benchmarks and launching auctions
3. Upgraded information technology infrastructure for domestic offset program
4. Pilot carbon tax designed
5. TA provided to selected large emitters for adopting BATs to jointly reduce GHG and pollution
6. Support provided in preparing Kazakhstan for participation in international cooperation mechanisms to purchase additional "carbon units" to achieve its NDC targets.

D. Preliminary Description

Activities/Components

The project is expected to support the following areas, which will be detailed and adjusted during preparation of the PMI Program itself following PMI's Guidance Note and Template:

- a. **Improvement of the MRV system.** Training of operators of installations, training of verifiers in the process of validation and verification of greenhouse gases, training of regulatory authorities for greenhouse gas inventory (in terms of checking reports on greenhouse gas inventory, etc.). Support in the development of national methodologies for calculating GHG emissions and sequestration/removals, preparation of specific proposals for improving the MRV system of the ETS, including reporting forms on GHG emissions, piloting the use of digital MRV system, publicly disclosing emission data, etc. Support in aligning the Kazakhstan's ETS with the EU ETS where appropriate and feasible to reduce the risks to the country's economy that will arise due to the introduction of CBAM.
- b. **Improvement of the system of distribution of carbon units.** Development of a methodology for calculating benchmarks, development of benchmarks for certain types of products. Such a comprehensive work is necessary in order to improve, enhance, tighten (if necessary) the current benchmarks of the ETS. In addition, if a decision is made to expand the coverage of ETS to new



sectors and / or to new types of GHGs, it will be necessary to analyze and calculate benchmarks for new types of products.

- c. **Improving the potential for launching the initial sale of carbon units (auctions).** Enhancement of the draft Rules for trading carbon units, development of proposals for amendments and additions to the national exchange legislation for the possibility of holding primary auctions in the most suitable format (with the provision of mechanisms for stabilizing the carbon market, managing the reserve of the National Allocation Plan, etc.).
- d. **Support the infrastructure necessary for the operation of the domestic offset program** through establishing rules for the approval and creation of offset units, the trade in offset units, and the operation of the unit registry, including the technical upgrades to the registry’s software and improvements in the current regulatory documentation.
- e. **Explore carbon tax options in non-ETS-regulated sectors and emitters and design/ implement carbon taxes, including assessment of their economic and social impacts.** Advisory support for the design of carbon taxes, development of a concept of carbon tax as appropriate, and piloting, testing and implementation of carbon taxes. This activity will require extensive consultation with Ministry of National Economy and Ministry of Finance on how to initiate and implement it.
- f. **Provide technical assistance to selected emitters** (among the top largest 50 emitters that account for 80% of emissions in Kazakhstan) for implementing the prioritized sectoral decarbonization measures and Best Available Techniques with joint GHG and environmental pollution reduction benefits.
- g. **Activities supporting participation in international carbon markets.** Support Kazakhstan in preparing for participation in international cooperation mechanisms to purchase additional "carbon units" to achieve its NDC targets. Support on Kazakhstan's ETS to enter international carbon markets to increase the liquidity of carbon trading, create additional opportunities for carbon market entities to achieve commitments to reduce greenhouse gas emissions, etc.

Environmental and Social Standards Relevance

E. Relevant Standards

ESS Standards		Relevance
ESS 1	Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 10	Stakeholder Engagement and Information Disclosure	Relevant
ESS 2	Labor and Working Conditions	Relevant
ESS 3	Resource Efficiency and Pollution Prevention and Management	Not Currently Relevant
ESS 4	Community Health and Safety	Not Currently Relevant
ESS 5	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Currently Relevant



ESS 6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently Relevant
ESS 7	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
ESS 8	Cultural Heritage	Not Currently Relevant
ESS 9	Financial Intermediaries	Not Currently Relevant

Legal Operational Policies

Safeguard Policies	Triggered	Explanation (Optional)
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Projects on International Waterways OP 7.50

No

Projects in Disputed Areas OP 7.60

No

Summary of Screening of Environmental and Social Risks and Impacts

Sexual Exploitation, and Abuse (SEA) and workplace Sexual Harassment (SH) risks ; impact on poor and vulnerable households; job losses and related loss of income

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Implementing Agencies

Implementing Agency :	Zhasyl Damu of Ministry of Ecology, Geology and Natural Resources		
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