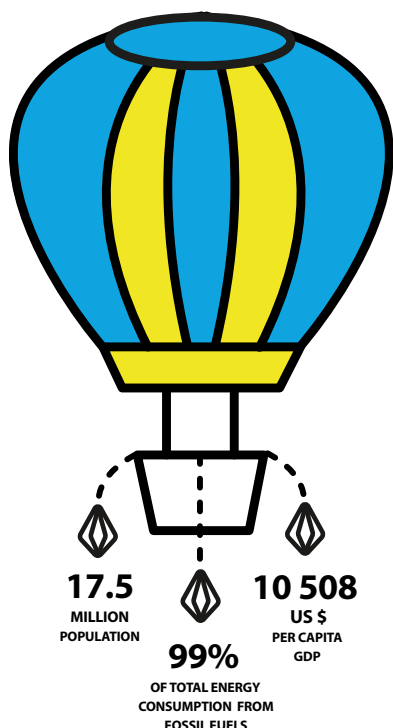


KAZAKHSTAN

CLIMATE FACTS AND POLICY

POLICIES AND PROCESSES

339 MILLION tCO₂e
19 TONNES PER CAPITA



Kazakhstan 2050 strategy

Green Economy concept
Ecological code with climate provisions
Laws and programmes on energy savings, renewables, emissions trading
Industrial development, housing modernization and climate mitigation programmes
Energy labelling, audits and certification, special fixed tariffs for renewable energy

2020 targets

Pledge to keep GHG emissions in 2020 at 15 per cent below 1990 level
Maintain GHG emissions in power sector at 2012 level
Increase the share of solar, wind, biogas and small hydro to 3 per cent.
Reduce GDP energy intensity by 25 per cent

2030 targets and INDC

Mitigation

Base year: 1990
Unconditional 2030 target: 15 per cent economy-wide reduction compared to base year
Conditional 2030 target: 25 per cent economy-wide reduction compared to base year
Reduce GHG emissions in power sector by 15 per cent compared to the 2012 level
Increase share of renewable energy to 30 per cent, including alternative energies 10 per cent
Reduce GDP energy intensity by 30 per cent

Adaptation priorities

Water security, water use efficiency
Food security, agricultural growth

1990-2014 GHG inventory of all sectors & gases

Established GHG inventory process and cadastre
Evolving MRV and GHG emissions modelling systems
UNFCCC expert review of GHG inventory
Third-sixth national communication to UNFCCC in 2013, as Annex 1 party to Kyoto Protocol
Biennial emissions reporting to the UNFCCC since 2014
National Inventory Report submitted to the UNFCCC in 2016

CLIMATE ACTIONS

Total GHG emissions in 2014 at 20 per cent below 1990 level

Growing carbon sequestration by forests and grasslands
Countrywide gasification and switch to natural gas

Pioneer in emissions trading since 2013

170 enterprises in power, oil-gas, manufacturing, 150 million tonnes of CO₂
32 000 tonnes of CO₂ traded in 2014 at EUR 1.5 per tonne of CO₂
National allocation plan for GHG emissions quotas approved for 2016-2020
National emissions trading system put on hold as of 2016

Expo-2017 in Astana: Future Energy

Current installed capacity: wind 61 MW, solar 55.5 MW, small hydro 117 MW, biogas 0.8 MW
Rapid growth in renewable energy projects

CLIMATE FINANCE

US \$100 billion investment in greening the energy sector by 2050

Expecting 10 GW of installed capacity of green energy by 2030, and 33 GW by 2050

Climate Investment Funds US \$200 million

Renewables, modernizing district heating, waste management, railways

UNDP-GEF

Promoting renewable energy investment
NAMA for low carbon urban development

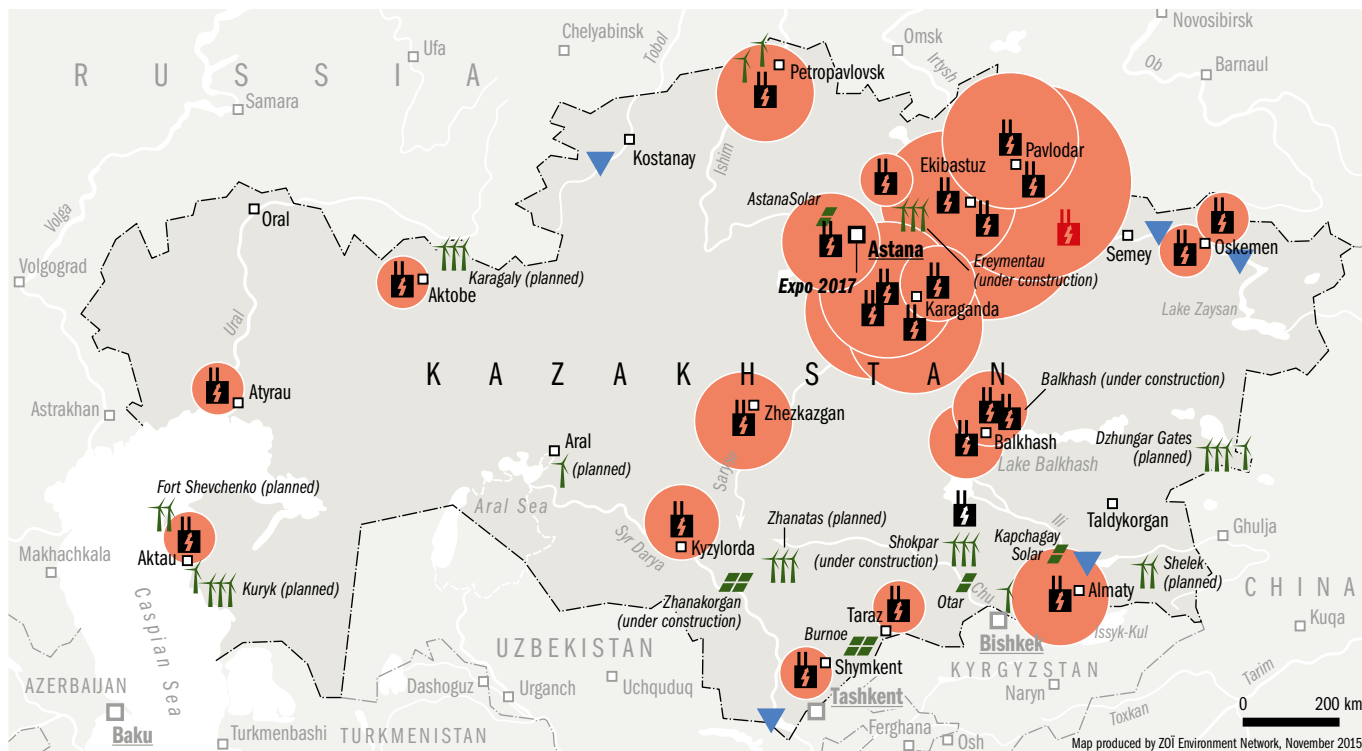
EBRD

US \$80 million support to Yereymentau wind project
Burnoye solar plant phase II
Kulan solar plant (pending approval)

Incentives for renewables and energy savings

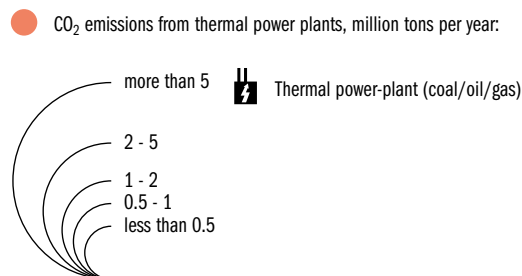
Subsidies for renewable energy
Tax rebates for energy efficiency

Sources: 2016 national inventory report submitted to UNFCCC; latest population, energy and economic data from the World Development Indicators of the World Bank
<http://data.worldbank.org/indicator>

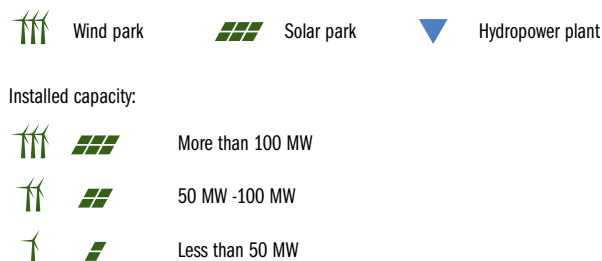


Energy and emissions

Fossil fuel energy installations and carbon emissions



Renewable energy installations and plans



Policies and institutions

The Kazakhstan 2050 strategy and the Green Economy concept are guiding Kazakhstan's transition to a green economy. Launched in 2013, these initiatives take a long-term (until 2050) strategic approach to promoting best available technologies, introducing new financial mechanisms and incentives, improving environmental performance in all key economic sectors and curbing greenhouse gas emissions. Unique among Central Asian countries, Kazakhstan has an ecological code based on comprehensive environmental and climate change legislation. The country introduced this code in 2010, and has updated it frequently since then to reflect regulations and targets for GHG emissions.





Kazakhstan is the leading producer of uranium in the world, but has no active nuclear power plants. Responding to the global drops in oil and gas prices and the emergent domestic energy deficit, the country is considering adding nuclear power to its

energy mix. Reflecting the increased importance of energy as a key economic driver, in 2014 Kazakhstan moved climate-related matters (such as the development of a green economy and the reduction of carbon emissions) from the dissolved Ministry of Environment and Water Resources to the reformed Ministry of Energy. Responsibilities for the water and forestry sectors were assigned to other ministries, including the Ministry of Agriculture. KazAtomProm – the national nuclear company – also contributes to the development of renewable energy.




The Kazakhstan-led Green Bridge partnership, agreed at regional ministerial environmental conferences in 2010 and 2011, is intended to support green economic growth throughout Central Asia through international cooperation, support in technology transfer, exchange of knowledge and climate financing.







Impacts of climate change

-  Rivers with intense water use and increased stress from climatic and hydrological changes
-  Major food producing and populated areas: risk of extreme weather and crop losses
-  Caspian Sea: risk of flooding due to sea level fluctuation and changes in winter ice cover
-  Densely populated and agriculturally important areas with increased environmental stress and projected impacts of climate change
-  Forest- and bush fires
-  Severe drought impacts
-  Reduction of ice cover and risk of glacial lakes outburst floods

Kazakhstan scorecard

-  Country's share of global emissions
-  Country's emissions per capita
-  General climate action ambition

Mitigation commitment:

-  Emissions reduction
-  Decoupling from population growth
-  Decoupling from economic growth
-  Renewable energy prospects

-  **Adaptation action**

National climate policy actors

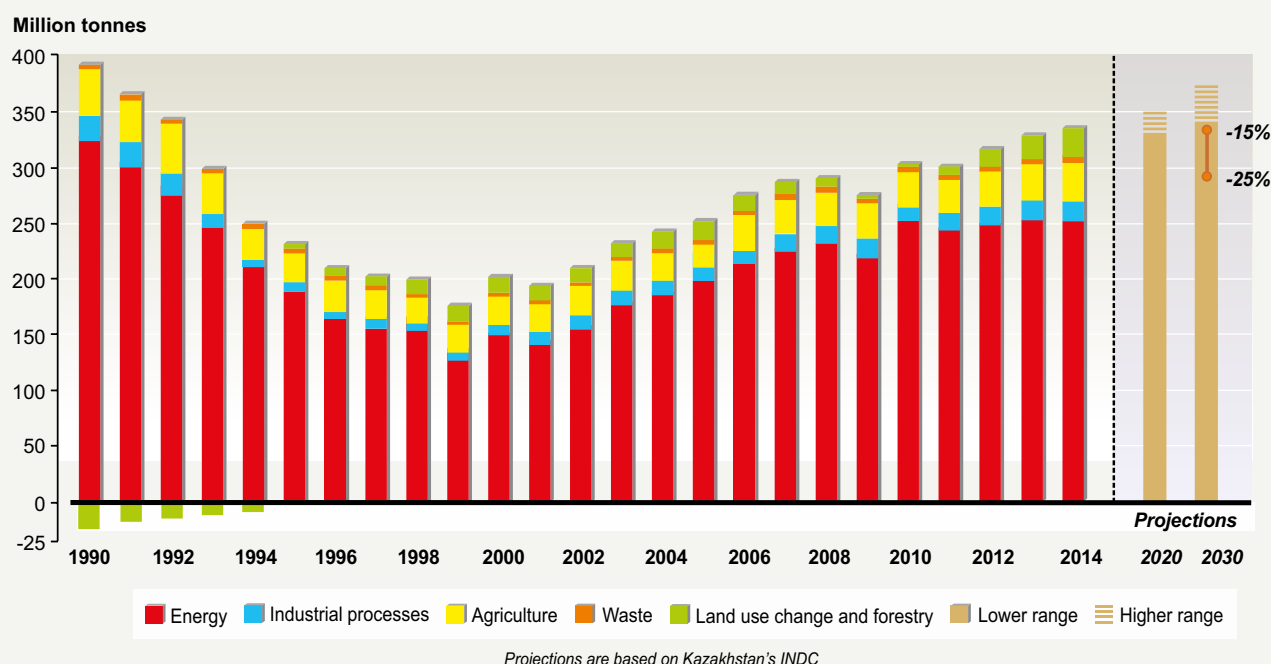
Policy leadership: Green Economy Council under the President, Ministry of Energy

UNFCCC focal point: Ministry of Energy

GHG inventory and projections: Jasyll Damu

Climate technology network coordination: Nazarbaev University

Greenhouse gas emissions and projections for Kazakhstan



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Climate actions

Kazakhstan is a candidate for Annex 1 membership in the UNFCCC, and since 2009 has held special status as an Annex 1 Party for the purposes of the Kyoto Protocol. In August 2016 it signed (though has not yet ratified) the Paris Agreement. The Kazakh GHG inventory leads Central Asia in terms of quality and completeness, and the country's emissions modelling uses advanced tools. In 2014, the country published its first biannual update report as part of its special status reporting obligations, and submitted its national inventory report in 2016.

Kazakhstan's GHG emissions reached their highest level in 1990 at 357 million tonnes of CO₂-equivalent, and in 2014 were 20 per cent below that level. GHG emissions in the energy sector account for more than 85 per cent of total emissions. Under the Kyoto Protocol the country pledged to limit its emissions to near its 1990 levels. The Kazakhstan 2050 strategy and the Green Economy concept all aim for a countrywide reduction of GHG emissions of 15 per cent by 2020 and 25 per cent by 2050, compared to 1990. The Kazakh INDC reiterates a 15 per cent reduction as an unconditional target, and specifies a conditional target of a 25 per cent reduction using 1990 as the base year.

The country also has specific emissions targets for the power sector by 2020 and 2030, and has goals related to energy efficiency. During 2014-2015, Kazakhstan pioneered an emissions trading system (ETS) in the energy sector and on industrial installations emitting more than 20 000 tonnes per year. The ETS – currently on hold until 2018 – covers 150 million tonnes of CO₂ from 170 enterprises out of 270 million tonnes of CO₂ emissions in the energy and industry sectors, but does not include municipal or household energy consumption or the agriculture, waste and forestry sectors.

Kazakhstan's path to decarbonization contemplates low-carbon energy that includes both renewables and nuclear sources. A target for their share is set at 50 per cent by 2050. By 2020, the total installed capacity of solar power stations in Kazakhstan may reach 75-100 MW, and for wind power may exceed 1 000 MW, with an additional 500-700 MW of small-scale hydropower and biogas capacities. At the same time the rapid growth in domestic energy consumption and the new thermal power stations under construction make the transition from coal to cleaner energy challenging.

Climate finance

Kazakhstan is expected to receive US\$ 200 million from the Clean Technology Fund to modernize its district heating system, improve energy efficiency, and catalyze investments in renewable energy.

The EBRD is financing solar power plants, and a 50 MW wind power plant in Yereymentau, 100 km east of Astana – one of the first large-scale wind energy projects in Kazakhstan.

The national nuclear industry invests in wind, geothermal and solar applications, and implements these projects with foreign investors such as the French Atomic Energy and Alternative Energies Commission CEA.

National authorities are promoting the idea of energy certificates and energy labelling, together with the development of taxation tools to improve energy efficiency. Small-scale remote users of alternative energy sources with installed capacity up to 5 kWh not connected to the central grid may receive a governmental subsidy covering half of the tariff.

Sources of information for the scorecard

Kazakhstan 2050 strategy, Green Economy concept, EXPO- 2017 process, Green Bridge Initiative

National climate-related assessments and reports: National inventory report (2016), INDC (2015), Biannual emissions report 2014, Third-sixth national communications to UNFCCC 2013, Climate mitigation programme

Zoi expertise, intelligence and interviews with stakeholders in Kazakhstan.



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