

# CLIMATE CHANGE & DISASTER RISK REDUCTION SNAPSHOT

## Kazakhstan



Empowered lives.  
Resilient nations.

### Key Facts

In 2011,  
every citizen of Kazakhstan  
emitted on average **15.8 tCO<sub>2</sub>**  
which is higher **↑** than the  
world average of **4.98 tCO<sub>2</sub>**



Population: 17.73 million



Surface Area: 2,699,700 km<sup>2</sup>



Capital City: Astana



GDP (2014): \$ 212 billion



GDP p.C.(2014): \$ 12,276



HDI (2014): 0.788 (56)

### Intended Nationally Determined Contribution (INDC)\*

#### Mitigation:

**Type:** Economy wide, absolute,  
unconditional and conditional

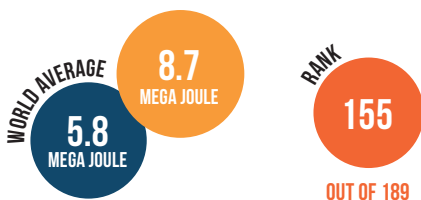
↓ **Unconditional:** A **15%** reduction  
by 2030 compared to the  
base year

↓ **Conditional:** A **25%** reduction in  
GHG emissions by 2030 compared  
to the base year, subject to  
additional international investments,  
access to low carbon technologies  
transfer mechanism, the GCF and  
flexible mechanisms

\* The Republic of Kazakhstan is a non-Annex I Party to the UNFCCC  
and an Annex I Party for the purposes of the Kyoto Protocol.

### Energy Consumption and Intensity

Energy intensity in 2012  
in mega joule per 2011 PPP:



2012

Between 2011  
and 2012, energy  
consumption  
increased by **732  
petajoules**

2011

**Decrease** in primary  
energy intensity in **2012**  
compared to **2010**:

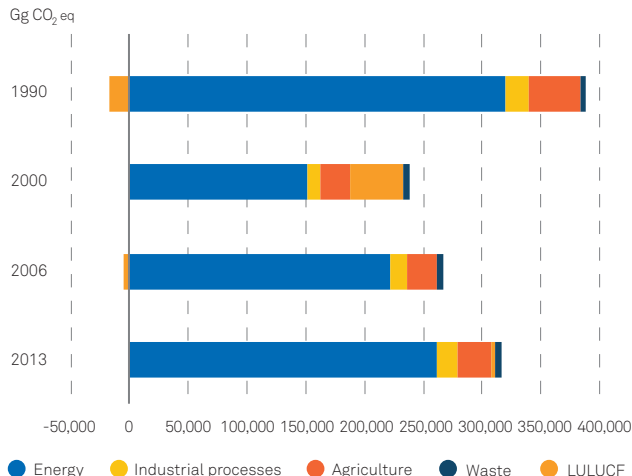
**-2.05 %**

World Average:

**-1.74 %**

# CLIMATE CHANGE MITIGATION

## GHG Emission by Sector over Time



Coal reserves:  
**33,600** million tonnes



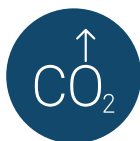
Oil reserves:  
**30,000** million barrels



Gas reserves:  
**2,407** billion standard m<sup>3</sup>



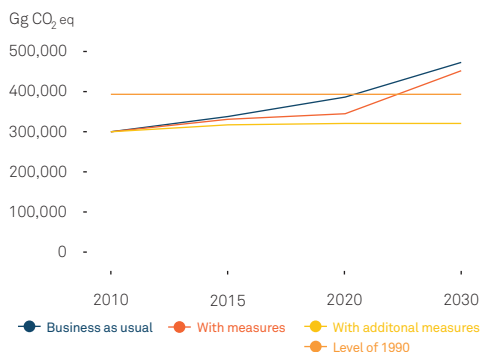
In 2013, the **Energy sector** accounted for over **80 %** of the total GHG emissions.



**One tonne** of total supplied energy causes **3 tonnes CO<sub>2</sub>** emissions.

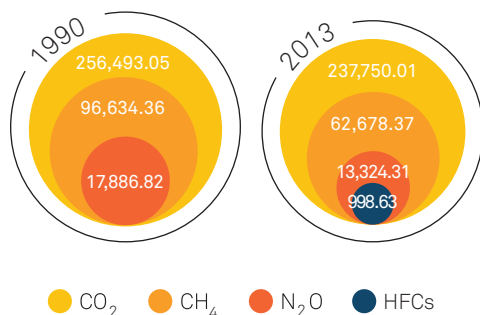
Compared to **1.96 world average** and **2.36 regional average**.

## GHG Emissions Scenarios<sup>1</sup>



<sup>1</sup> Without LULUCF.

## GHG Emissions by Type<sup>2</sup>



<sup>2</sup> HFC data for 1990 is not available.

# CLIMATE CHANGE ADAPTATION & DISASTER RISK REDUCTION



## MOST SIGNIFICANT HAZARDS

- Earthquakes
- Floods
- Heat and cold waves
- Droughts
- Mudflows



Flooding, 2015 in Almaty, East Kazakhstan, Karaganda and Akmola oblasts:  
Caused **US\$ 800 million** damage in East Kazakhstan Oblast, **US\$ 8-9 billion** damage in Almaty, Karaganda Oblast and about the same amount in Akmola Oblast.

## Priority Areas of UNDP Intervention for 2015–2030 in DRR

● Priorities for Kazakhstan



## INFORM 2016

Global risk assessment for humanitarian crises and disasters

	Hazard & Exposure	Vulnerability	Lack of Coping Capacities	Country Rating
Global average	3.3	3.6	4.7	71 out of 191
Regional average	3.6	2.9	4.4	16 out of 18
Country	5.1 ▲	2.4	5.3 ▲	

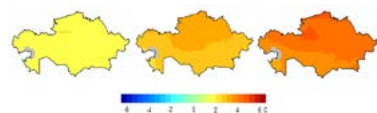


The average annual ground air temperature is projected to increase in the range from **2.9** to **4.8°C** by 2085 compared to baseline of 1961-1990. The average annual precipitation is projected to increase by **9.9%** with the range of **4.1** to **18.3%** by 2085.



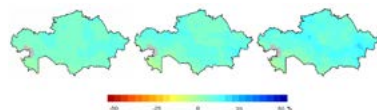
Predicted changes in ground air temperature (°C) within the territory of the Republic of Kazakhstan<sup>3</sup>

By 2030 By 2050 By 2085



Predicted changes in precipitation amount (%) within the territory of the Republic of Kazakhstan<sup>3</sup>

By 2030 By 2050 By 2085



<sup>3</sup> assuming a change of CO<sub>2</sub> concentration under A1B scenario (please see IPCC AR) with respect to group of various atmosphere-ocean general circulation models, compared to base period of 1961-1990.  
Source: III-VI National Communication to UNFCCC (2013), A1B Scenario

# FURTHER INFORMATION

## References<sup>4</sup>

Central Intelligence Agency, 2014: the World Factbook.

Government of the Republic of Kazakhstan, 2015: Intended Nationally Determined Contribution (INDC).

Government of the Republic of Kazakhstan, 2015: Second Biennial Report of the Republic of Kazakhstan to the UNFCCC.

Government of the Republic of Kazakhstan, 2013: III-VI National Communication of the Republic of Kazakhstan to the UNFCCC.

IEA Energy Atlas, 2012. "CO<sub>2</sub> Emissions from Fuel Combustion".

International Energy Agency (IEA) and the World Bank, 2015. "Sustainable Energy for All 2015 – Progress Toward Sustainable Energy", June. World Bank.

National Statistics Agency of the Republic of Kazakhstan.

UNDP Human Development Reports, 2014: Data Catalog.

UNDP CO Kazakhstan website.

World Bank, 2014: Data Catalog.

Website of 2050 program of the Republic of Kazakhstan.

Website of the Ministry for Investments and Development of the Republic of Kazakhstan.

Website of the Academy of Public Administration under the President of the Republic of Kazakhstan.

Website of the JSC "Baiterek National Management Holding".

World Energy Council, 2013. "World Energy Resources: Coal".

## Policies and Strategies

The program for the development of agro-industrial complex in the Republic of Kazakhstan for 2013 - 2020 (Agribusiness - 2020)

Strategic Plan of the Ministry of Agriculture for 2014 - 2018

The concept of the transition to a green economy of the Republic of Kazakhstan

Plan of the Nation - 100 Concrete Steps

Strategy "Kazakhstan - 2050" new political course of established state

Strategy Plan of the Committee for Emergency Situations 2016-2019

State program of infrastructure development "Nurly Zhol" for 2015 - 2019

## UNDP's Climate Change and DRR related interventions

De-risking Renewable Energy Investment in Kazakhstan (under development)

Mitigation Actions for Low-carbon Urban Development

Promotion of Energy-Efficient Lighting in Kazakhstan

Energy-Efficient Design and Construction of Residential Buildings

City of Almaty sustainable transport

Development of Kazakhstan's National Communication to the UNFCCC and Biennial Report

Vulnerability of wheat sector to climate change

Climate Risk Management, 2010 - 2015

Strengthening National Capacity for Risk Assessment, Prevention, and Response to Natural Disasters, 2013-2015

DIPECHO, VI, VII, VIII, 2010 - 2015

CACILM CPP: Sustainable Rangeland Management for Rural Livelihood and Environmental Integrity (this project is an integral part of CACILM CPP that was approved by GEF Council in August 2006), 2009 -2012



For more information, visit:  
<http://www.eurasia.undp.org/>

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<sup>4</sup> The links to the references are available in the web-version of the snapshot at <http://www.eurasia.undp.org/>