

# CLIMATE CHANGE & DISASTER RISK REDUCTION SNAPSHOT

## Turkmenistan



Empowered lives.  
Resilient nations.

### Key Facts

In 2011,  
every citizen of Turkmenistan  
emitted on average **12.2 tCO<sub>2</sub>**  
which is higher **↑** than the  
world average of **4.98 tCO<sub>2</sub>**

	Population:	5.3 million
	Surface Area:	469,930 km <sup>2</sup>
	Capital City:	Ashgabat
	GDP (2014):	\$ 47.9 billion
	GDP p.C.(2014):	\$ 9,032
	HDI (2014):	0.688 (109)

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

#### Mitigation:

**Type:** Economy wide, programs and projects; unconditional and conditional

↓ **Unconditional:** Stabilization or beginning of reducing GHG emissions by 2030 will allow to enter the trajectory of low-carbon development, compatible with long-term global goal - not exceeding the **2°C** global goal. The necessary project proposals and measures were designed and will be implemented primarily with the state budget.

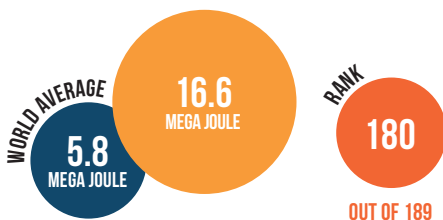
↓ **Conditional:** At a certain international support, could achieve **0 growth** in emissions and even their **decrease** until 2030

**Adaption:** Adaptation to climate change is a major focus of the National Strategy of Turkmenistan on Climate Change. The Strategy will be implemented through a NAPA which in future should become an integral part of national programs and plans for socio-economic development.

\* Turkmenistan is a non-Annex I Party to the UNFCCC.

### Energy Consumption and Intensity

Energy intensity in 2012  
in mega joule per 2011 PPP:



2012

405 petajoules of  
the cumulative energy  
consumption was

## AVOIDED

2011

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

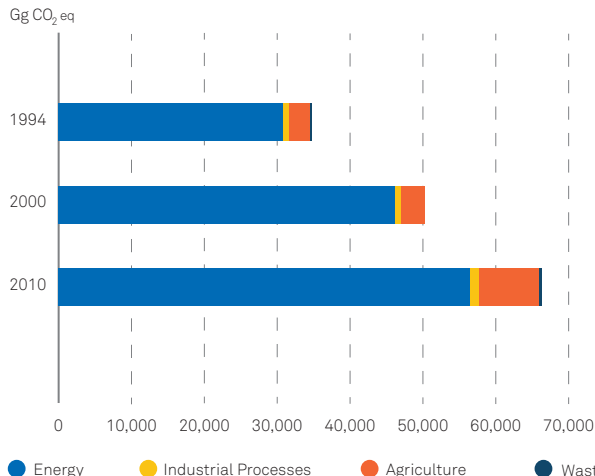
**-5.93 %**

World Average:

**-1.74 %**

# CLIMATE CHANGE MITIGATION

## GHG Emission by Sector over Time<sup>1</sup>



Oil reserves:  
**600** million barrels

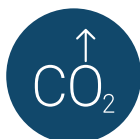


Gas reserves:  
**9,967** billion standard m<sup>3</sup>

<sup>1</sup> GHG emission data by Type and by Sector have been derived from the UNFCCC GHG emission profile for Turkmenistan (for the year 1994) and from Turkmenistan's 3rd National Communication to the UNFCCC (for the years 2000 and 2010)



In 2010, the **Energy Sector** accounted for **85%** of the total GHG emissions.

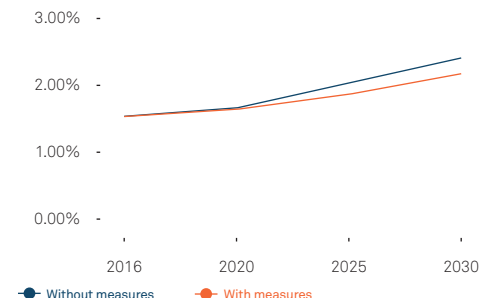


**One tonne** of total supplied energy causes **2.51 tonnes CO<sub>2</sub>** emissions.

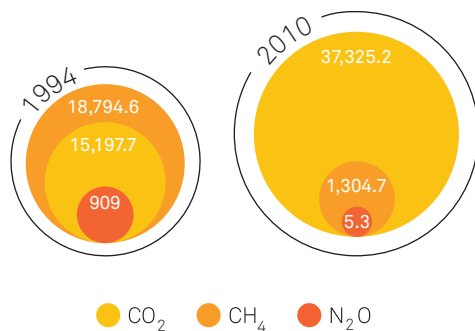
Compared to **1.96 world average** and **2.36 regional average**.

## GHG Emissions Scenarios

increase in % compared to 2007

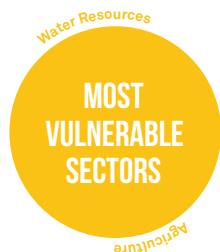


## GHG Emissions by Type<sup>2</sup>



<sup>2</sup> HFC data is not available

# CLIMATE CHANGE ADAPTATION & DISASTER RISK REDUCTION



## MOST SIGNIFICANT HAZARDS

-  Earthquakes
-  Droughts
-  Floods
-  Mudflows

## Examples of the most significant disasters:



Ashgabat earthquake of 1948:  
Magnitude **7.3**.  
Casualties **10%** of the population of the country, around **110,000** people.

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

● Priorities for Turkmenistan



## 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	96 out of 191
Regional average	3.6	2.9	4.4	9 out of 18
Country	2.8	2.4	6.5 ▲	



The air **temperature** in Turkmenistan will steadily increase in **2020–2100**. By **2100** in an averaged scenario the mean annual **temperature** will increase by **5.35 °C** compared to **1961–1990**. The amount of annual **precipitation** is projected to drop sharply after **2030–2040**.



Annual mean temperature in °C

2030

2070



Annual precipitation in mm

2030

2070



Source: Third National Communication to the UNFCCC (2015), A1B scenario

# FURTHER INFORMATION

## References<sup>3</sup>

Central Intelligence Agency, 2014: the World Factbook.

Government of Turkmenistan, 2015. Intended Nationally Determined Contribution (INDC).

Government of Turkmenistan, 2015: Third National Communication of Turkmenistan under the UNFCCC.

IEA Energy Atlas, 2012. "CO2 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.

UNDP Human Development Reports, 2014: Data Catalog.

World Bank, 2014: Data Catalog.

## Policies and Strategies

National Climate Change Strategy

National Economic Programme of Action for Adaptation and Mitigation (not yet approved)

State Plan for Emergency Situations

National Programme for Rational Use of Water Resources

National Forestry Programme

Biodiversity Strategy and Action Plan (not yet approved)

## UNDP's Climate Change and DRR related interventions

Energy Efficiency and Renewable Energy for Sustainable Water Management

Energy Efficiency in Residential Buildings

Addressing climate change risks to farming systems in Turkmenistan at national and community level

Supporting Climate Resilient Livelihoods in Agricultural Communities in Drought-prone Areas of Turkmenistan

Assisting the Main Department of the Ministry of Defense for Civil Defense and Emergency Situations and its key stakeholders to develop their three year strategic plan of action on Disaster Risk Reduction both for humanitarian and natural disasters



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

United Nations Development Programme  
Istanbul Regional Hub for Europe and CIS  
Key Plaza, Istiklal Sk. No: 11  
Şişli, 34381, Istanbul, Turkey

*Empowered lives.  
Resilient nations.*

October, 2016

<sup>3</sup> The links to the references are available in the web-version of the snapshot at <http://www.eurasia.undp.org/>