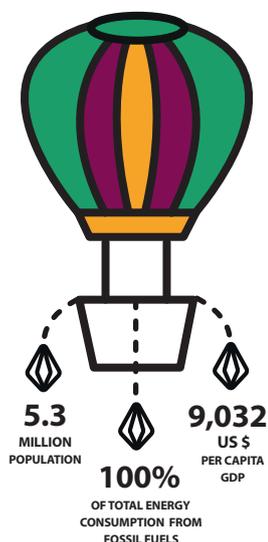


# TURKMENISTAN

## CLIMATE FACTS AND POLICY

### POLICIES AND PROCESSES

**80 MILLION tCO<sub>2</sub>e**  
**16 TONNES PER CAPITA**



Sources: latest national GHG inventory data (2010-2014) or estimates based on INDCs (2014-2015); population, energy and economic data (2012-2014) from the World Development Indicators of the World Bank <http://data.worldbank.org/indicator>

#### Turkmenistan 2030 socioeconomic transformation strategy

National climate change strategy (2012)  
National programme of actions on climate adaptation and mitigation (under development)  
Enhanced energy efficiency and resource savings in all key sectors  
Technological modernization  
Renewable energy systems in remote and sparsely populated areas  
Increased share of renewables in the energy mix  
Development of economic incentives  
Plans for a green economy

#### 2030 targets and INDC

##### Mitigation

Energy sector priority  
Continued promotion of new technologies  
Base year: 2000  
Unconditional 2030 target: growth rate of GHG emissions less than GDP growth rate; reduction of carbon- and energy-intensities of GDP; increase in emissions to the projected level of 135.8 million tonnes and stabilization trajectory  
Conditional 2030 target: zero growth in emissions, and possible reduction trajectory

##### Adaptation priorities

Most vulnerable sectors – water, health and agriculture  
Development of forest shelter belts to protect soils and infrastructure  
Construction of the “Golden Century” lake to support water sector adaptation

#### GHG inventory, projections

35 million tonnes of CO<sub>2</sub>-eqv in 1994  
60 million tonnes of CO<sub>2</sub>-eqv in 2004  
Current GHG emissions (estimate): 70-80 million tonnes of CO<sub>2</sub>-eqv/year; 16 tonnes per capita  
Historical time series and projections to be published in the third national communication to UNFCCC (end 2015)  
No advanced MRV and GHG emissions modelling systems established yet

### CLIMATE ACTIONS

Carbon intensity of GDP reduced by 53 per cent in 2012 compared to 2000  
Energy intensity of GDP reduced by 57 per cent in 2012 compared to 2000

#### Energy cooperation with European Union

Sustainable development policies on natural resources management  
Policy design for energy efficiency and renewable energy sources

#### INOGATE partnership

Energy Statistics Action Plan  
Introduction of renewable energy sources  
Capacity-building and awareness-raising

#### Adaptation projects

Climate change risks to farming systems  
Energy efficiency in the residential building

#### Regional actions

Proposed host for a regional climate change technology centre  
Hosts the Scientific Information Centre of the Interstate Sustainable Development Commission of Central Asia  
Contributes to rehabilitation of the Aral Sea region through reforestation and by diverting irrigation run-off from deserts and rivers to the newly built Golden Century Lake

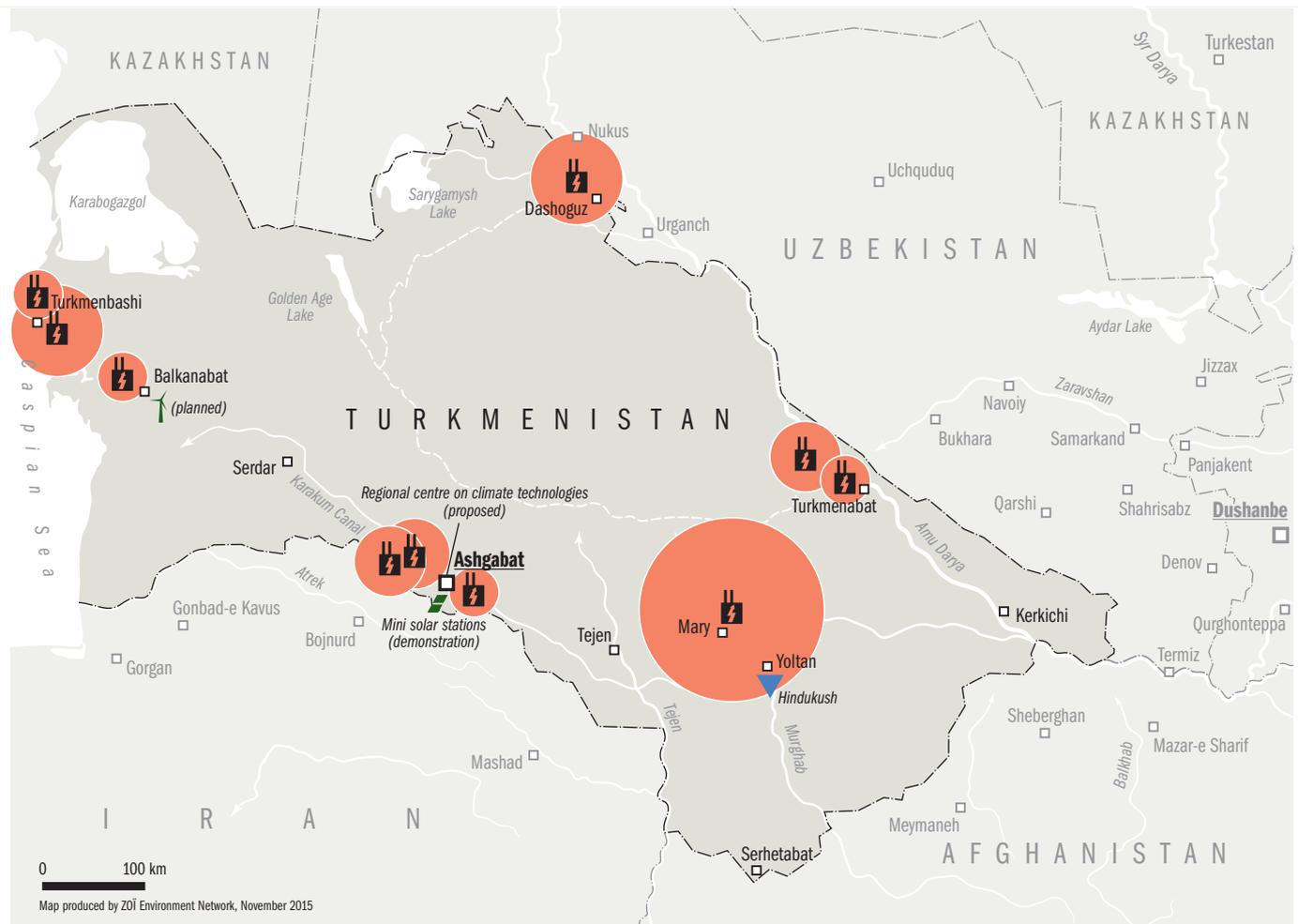
### CLIMATE FINANCE

#### Adaptation Fund US \$3 million

Addressing climate change risks to farming systems at the national and local levels

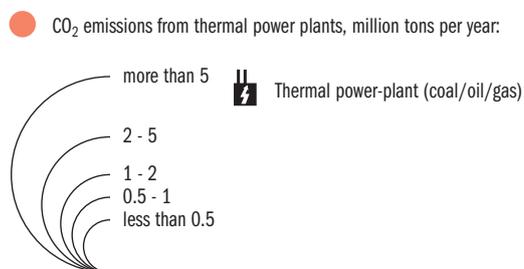
#### UNDP-GEF projects US \$10 million

Improving energy efficiency in the residential building sector  
Energy efficiency and renewable energy in water resources management

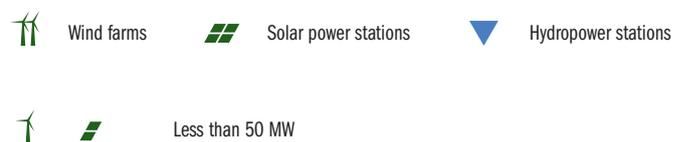


## Energy and emissions

### Fossil fuel energy installations and carbon emissions



### Renewable energy installations and plans



## Policies and institutions

The interest in climate change extends to the highest level of government: the President of Turkmenistan has proposed a regional climate change technology centre, which Turkmenistan is ready to host. The 2012 national climate change strategy calls for measures on enhancing energy efficiency in all key sectors of the economy, for technological modernization and for the introduction of renewable energy systems in remote and sparsely populated areas. The strategy also seeks to increase the share of renewables in the energy mix and to develop economic incentives. A national programme of action based on the 2012 strategy is being developed, and will be incorporated into the broader plans for a green economy.

The Ministry of Nature Protection develops official climate policy positions in consultation with the Ministry of Foreign Affairs and the Cabinet of Ministers. The Ministry for the Economy adopts budgets, sets standards and manages relations with donors. The inter-agency group of experts under the Ministry of Nature

Protection coordinates activities of all concerned ministries with regard to climate policy development and implementation.

Energy prices, especially for natural gas, remain subsidized and low because of long-standing domestic socioeconomic policies and social support packages. Abundant natural gas reserves and rapidly growing power production capacities using natural gas make renewable energy such as solar and wind a distant prospect: less than 1 per cent of these renewables is projected for the country's energy mix by 2030. In spite of low energy prices, the country's leadership is interested in improving energy efficiency and in adopting new technologies. In the transport sector, for example, only modern and fuel-efficient cars may be imported, and in the water sector the energy efficiency of pumps will be improved.

The role of civil society is growing, and NGOs are increasingly consulted and invited to climate change events.



## Impacts of climate change

-  Rivers with intense water use and increased stress from climatic and hydrological changes
-  Densely populated and agriculturally important areas with increased environmental stress and projected impacts of climate change
-  Risk of flooding due to storm surges and sea level fluctuations
-  Increased heat stress and impacts on human health

## Turkmenistan 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:** The President, the Cabinet of Ministers and Ministry for Nature Protection

UNFCCC focal point: Ministry for Nature Protection

GHG inventory and projections: project-based team in the Ministry for Nature Protection

GCF focal point: Ministry for Nature Protection

## Climate actions

Turkmenistan's emissions profile is similar to other energy-rich countries, especially those rich in natural gas, and methane constitutes about 50 per cent of total GHG emissions. Energy-related GHG emissions contribute an estimated 50-65 million tonnes of CO<sub>2</sub>-eqv per year or 70 per cent of the total.

The lion's share (93 per cent) of Turkmenistan forests is sparse desert saxaul with limited carbon sequestration potential, but with significant climate resiliency functions for protecting people and infrastructure from weather extremes, providing valuable shelter for biodiversity and serving as grazing grounds for agricultural animals.

A team within the Ministry of Nature Protection compiles the Turkmenistan GHG emissions inventory, primarily as a project-based GEF activity, normally supported via UNEP. Much of the statistical data in Turkmenistan is restricted, and keeping the GHG inventory and other climate change information easily available domestically can be a challenge even though the information is published on websites of international organizations.

The EU sustainable development project focuses on natural resources management and the energy sector. One component supports policy design for energy efficiency and renewable energy sources at the national and provincial levels. As part of this component, strategic environmental assessment, environmental impact assessment and air quality regulations and legal instruments will be reviewed and possibly revised in line with modern approaches.

The INOGATE partnership has helped develop an energy statistics action plan, and is assisting in the set-up of the necessary policy, regulatory and institutional mechanisms to enable the introduction of renewable energy sources to the energy mix. These efforts are in addition to supporting the development of capacity-building and awareness-raising activities related to energy efficiency.

In its INDC, Turkmenistan maintains that the stabilization of GHG emissions or the beginning of reductions by 2030 will allow the country to pursue low-carbon development, compatible with the long-term global goal of not exceeding the 2-degree temperature increase.

## Climate finance

Most of the funding on climate actions in Turkmenistan comes from the state budget. Some funds come from GEF and the Adaptation Fund and cover activities on adaptation technologies for reliable drinking water supply, animal husbandry, efficient irrigation systems and energy efficiency in residential buildings and water supply systems.

## Sources of information for the scorecard

Turkmenistan's strategies and legislation

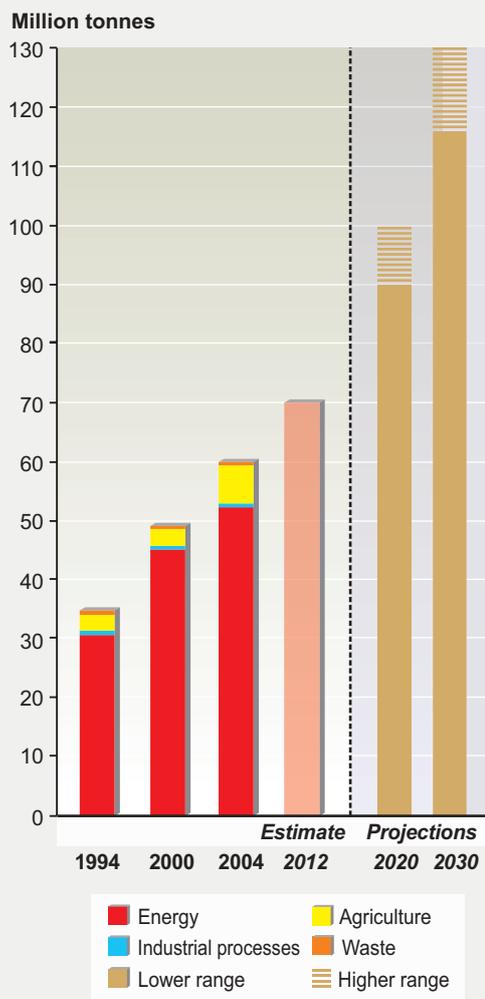
National climate-related assessments and reports: the second national communication to UNFCCC (2010); INDC (2015)

Zoï expertise and interviews with stakeholders in Turkmenistan



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## Greenhouse gas emissions and projections for Turkmenistan



Estimate and projections are based on Turkmenistan's INDC