



 Existing Targets for Key Economic Sectors Complemented by Targets for Transition to Green Economy

Additional targets

Sector	Target Description	2020	2030	2050
Water Resources	* Eliminate the shortage of water resources at the national level	Provide water to population by 2020	Provide water to agriculture by 2020	Solve the problem of water supply once and for all
	* Eliminate the shortage of water resources at the basins' level	Fastest possible covering of deficiency in basins (by 2025)	By 2030 no deficiency in each basin	
Agriculture	* Labour productivity in agriculture	3-4times increase		
	* Wheat yield (KZT / ha)	1.4	2.0	2.0
	* Costs of irrigation water (m <sup>3</sup> /KZT)	450	330	250
Energy Efficiency	* Reducing energy consumption of GDP, compared with the level of 2010	25% (10% by 2015)	30%	50%
Electric Utility Industry	* Share in electricity generation: alternative sources	Solar and wind: at least 3% by 2017	-30%	50%
	* gas-fired power station	20% <sup>2</sup>	25% <sup>2</sup>	30%
	* gasification of regions	Akmola and Karganda regions	Northern and eastern regions	
	* Decrease from the current level of CO <sub>2</sub> emissions in the electric utility industry	Level of 2012	-15%	-40%
Air Pollution	* Emissions of SO <sub>x</sub> , NO <sub>x</sub> in the environment		European level of emissions	
Waste Disposal	* Provide solid municipal waste disposal to population		100%	100%
	* Sanitary storage of waste		-95%	100%
	* Share of recycled waste		40%	50%

1 solar electric generating station, wind-driven electric power station, hydroelectric power station, atomic power station;  
 2 with transfer of the largest cities' CHP to gas  
 SOURCE: analysis of Working Group data



## Energy efficiency improvement will decrease power consumption by 30-40% in 2050 vs. assuming unchanged energy intensity by sectors

### Scenarios under consideration

#### \* "Frozen"

- \* Theoretical scenario
- \* No energy efficiency measures
- \* Energy intensity per unit of output in each economy sector remains at today's level
- \* GDP energy intensity shifts due to GDP structure change

#### \* BAU

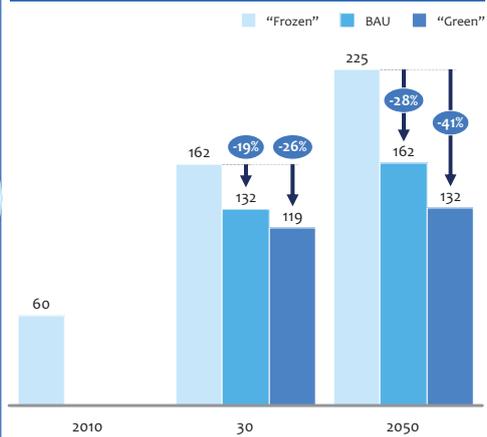
- \* Most probable power consumption scenario
- \* Changes in energy efficiency are achieved through natural replacement of stock, production capacities, transport fleet
- \* Assumes no new policies

#### \* "Green"

- \* Scenario including implementation of additional energy efficiency measures vs. BAU
- \* Energy efficiency measures are profitable through green strategy implementation (larger number of policies is enforced, additional policies are developed)

### Power consumption by scenario

Mln toe p.a.



SOURCE: team analysis

2

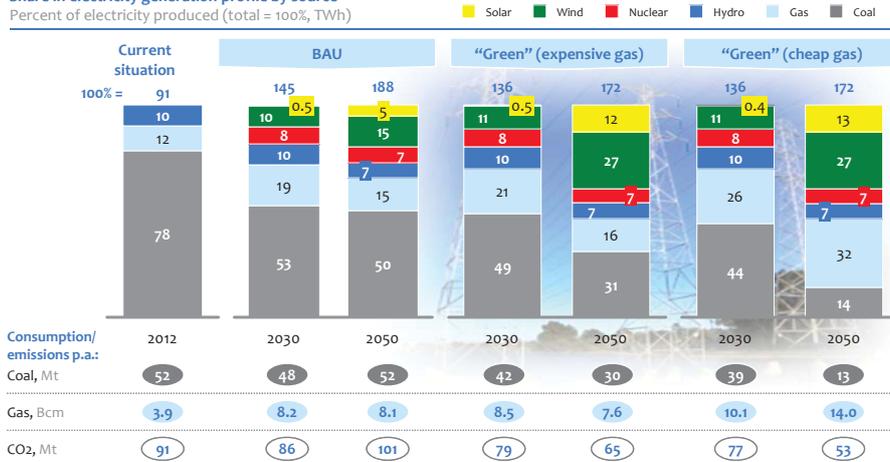


## By 2030, the share coal plants in electricity generation will be ~50%, and will further decrease in "Green" scenarios due to natural capacity decommissioning

PRELIMINARY

### Share in electricity generation profile by source

Percent of electricity produced (total = 100%, TWh)

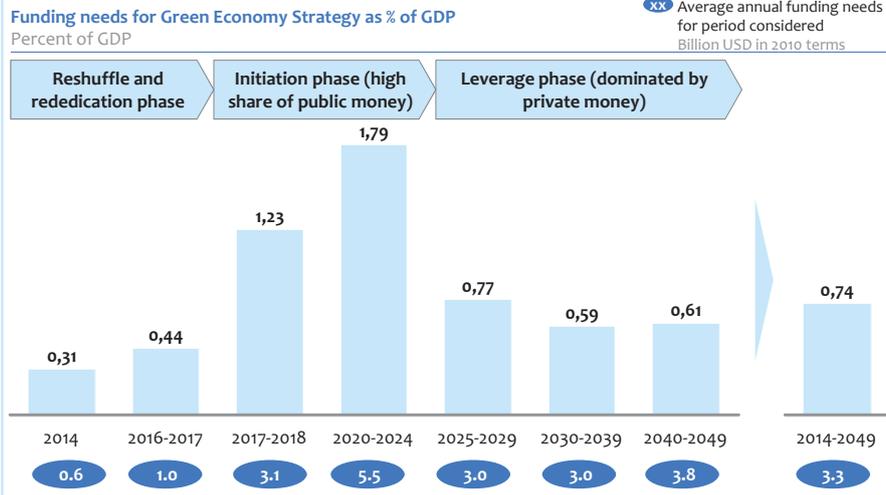


SOURCE: team analysis

3



Funding needs for the Green Economy Strategy always remain below 2% of GDP and average 0.7% of GDP for the period 2010 to 2049



SOURCE: DIW; Team analysis

4

## EXPO Objectives

- To promote energy best practices
- To foster research and technological development of clean energy
- To exchange knowledge
- To educate and raise awareness
- To contribute to education through art, culture and entertainment
- To create a platform for expertise transfer
- To showcase Kazakhstan as a leading country in the energy field

A single goal:

- To bring to public awareness the need to recognize our major energy options and to make the right choice among them



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# Socio-Economic Legacy

## Our aspiration:

To host an exceptional event that creates a positive and **lasting socio-economic legacy** for Astana, Kazakhstan, and the world.

## What we aim to achieve

### Global impact



Showcase and accelerate **global energy innovation**

### National/regional impact



Boost Kazakhstan's **transition** towards a **green economy** and foster sustainable development throughout the region

### Local impact



Create **benefits for Astana citizens** through local infrastructure improvements and the creation of new social and economic opportunities



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## Green Bridge Partnership Programme

- is a practical and voluntary mechanism for greening the economy through support of green business and policy reforms

### Why the Kazakhstan Initiative?

- For many countries it is difficult to transit to green economy
- Inefficiency of current fragmentary, short-term and isolated actions
- Lack of practical mechanisms on the international level to support such transition