



Seventh International Forum on Energy for Sustainable Development

Promoting Energy Efficiency in Kazakhstan

18 - 21 October 2016, Baku, Azerbaijan

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CHALLENGES and KAZAKHSTAN'S POLITICAL VECTOR ON TRANSITION TO "GREEN ECONOMY"



0,88 t.o.e/\$1000

Power intensity GDP (2005 prices)

Empowered lives. Resilient nations.

5 085 kw*hr.

Electricity consumption per capita

>1%

Renewable energy share

73% energy

coal generated

up to 35%

Heat losses in grids

97 mln.t.CO₂

reduction at 25% by2030

up to32%

Non-production water losses

1992 2011 2012 2016 2017

Kazakhstan accepted obligations on realization of program and principles integration of Global Conventions (Rio de Janeiro)

Kazakhstan stated the idea on inter-region partnership at the 66th session of the UN General Assembly. The idea is mentioned in the text of Astana Initiative "Green bridge"

"Green bridge"
partnership program for
2011-2020 was approved
by all the states at the
UN Conference on
sustainable development
(Rio + 20)

Approval of the Paris Agreement by lower Chamber of Parliament (October 12). RK goals to the Paris Agreement

INDC – 15% absolutely (58 mln. t. CO₂ equiv.) and 25% if support is given (97 mln. t. CO_{2 equiv}.) by 2030 Republic of
Kazakhstan is
preparing to host the
International
Specialized Exhibition
Astana EXPO-2017
with the theme
"Energy of the Future"

UNDP support of Kazakhstan Government on transition to "Green Economy"



Resilient nations.

Sustainable cities for low-carbon development (2015-2019)

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Projects

related to EE

issues

Energy efficient lighting (2012-2017)

Energy efficiency of housing utilities in small towns (2013-2014.)

Support of Kazakhstan in its transition to Green Economy model (2015-2018)

Energy efficient design and construction (2011-2015)

Development of wind energy (2004-2011)

Energy efficiency in public heat supply (2007-2013)

Through realization of Pilot projects the UNDP identifies institutional, legal, economic, social, and other barriers which prevent from implementation of steps on transition to "Green economy".

Based on the gained Pilot projects experience the UNDP offers its recommendations to the Government of Kazakhstan in order to eliminate the identified barriers.



Pilot projects experience of UNDP-GEF and partners



Installation of automated heating units in buildings



Regulating of heat supply depending on air temperature outside

Investments per one building from \$10 000

Pay-back period from 3 to 5 yeras

Energy saving and <u>CO2 reduction</u> up to 35%

Where: institutions connected to central heating

Modernization of existing boiler-rooms to EE modern types



Increase of performance index of the fuel burnt

Investments per one school from \$15 000

Pay-back period from 4 to 6 years

Energy saving and <u>CO2 reduction</u> up to 50%

Where: institutions with no connection to central heating

Modernization of street lighting systems



Replacement of mercury containing lamps with LED with automated dimming function

Investments per one street lighting fixture from \$600

Pay-back period from 2 to 3 years

Energy saving and <u>CO2 reduction</u> up to 30%

Where: street lighting in cities

Modernization of indoor lighting systems



Replacement of mercury containing lamps with LED

Investments per one school from \$15 000

Pay-back period from 5 to 6 years

Energy saving and CO2 reduction up to 60%

Where: indoor lighting of all the public buildings

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Transition to sustainable
urban transport



Streets reconstruction in terms of bicycle-pedestrian infrastructure

Investments per km \$300 000 - \$900 000

Pay-back period from __ to__ years

Increase of non-motor transportation, decrease of road accidents

Where: cities

Participation in passing the new Law on energy saving and energy efficiency.

Housing and utilities sector was included into the Law, added a new measure of energy saving – "thermal modernization of buildings".

New sites cannot be put into operation without heat meters and automated heating units.

"Energy manager" is included as a part of systematic energy efficiency measures.

The first ESCO company formed.

Assistance in developing a system for LED products quality control through creating testing laboratories.

Promotion of ESCO – market subject as a mechanism for realization of energy efficiency measures and technologies.

Assistance in development of normative-legal documents: SNiP, SanPin.

Developed new construction norms and regulations for improving municipal roads.

Social propaganda of bicycle-pedestrian movement on streets and in media.

gef

Sustainable city



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Barriers

Deterioration of public infrastructure in municipal sector requires modernization, reduction of energy losses, and introduction of modern energy saving technologies

Poorly developed market of ESCO companies

Planning of municipal facilities often doesn't take into account peculiarities of linked facilities

Plans

Promotion of standards of complex interconnected municipal planning when planning one sector of municipal facilities is inseparably linked with others directly or with close sectors (transport and infrastructure, housing and utilities, green districts, industry, municipal agriculture)

Assistance in creation of institutional structures for realization of municipal low-carbon plans

Promotion of changes in normative-legal documents using the best world practices for people's comfort living

Involvement of population into processes related to improvement of urban environment

Study and promotion of issues related to attraction of investments into sectors of municipal facilities that have potential for decrease of energy consumption and/or energy generation from urban wastes



Green economy in water sector



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Barriers

Limited access to new "green" technologies in water sector

Unaccomplished economic tools in sector of water supply and sanitation

Inefficient management of water infrastructure



Results/plans

Developed and described 18 models of green economy in water sector

Developed the Program on monitoring, improvement and conservation of favorable environment in Ili-Balkhash basin with consideration of Green Economy principles

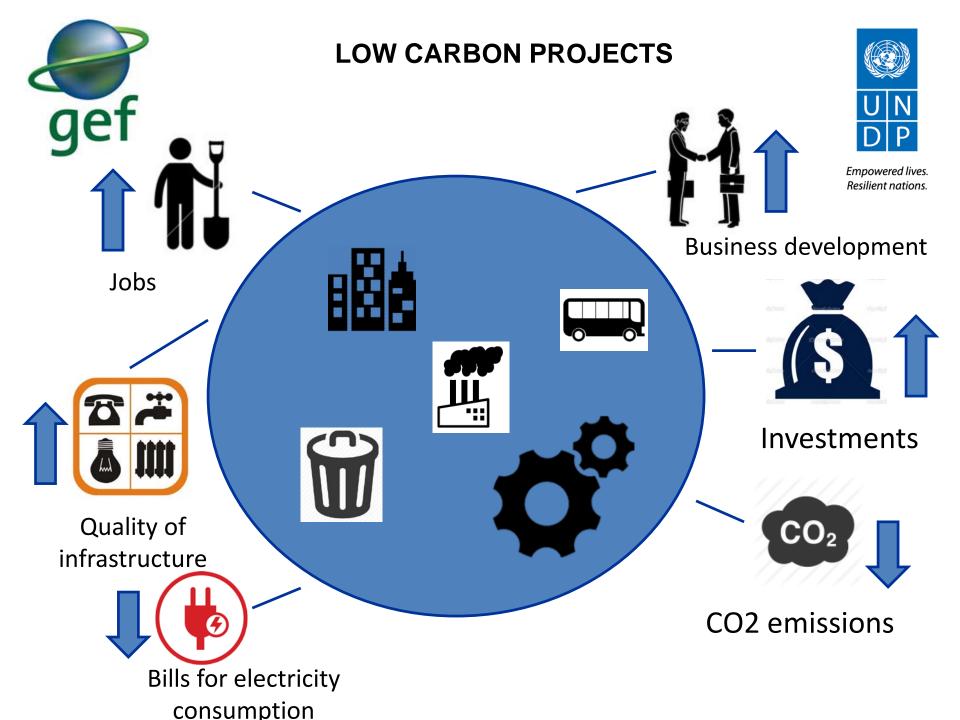


Designed the business-model on management of hydraulic facilities to increase its financial attractiveness



Given assistance in introduction of international water legislation (Water and Health Protocol, Protocol on Strategic Environmental Assessment)

Offered precise mechanisms to improve economic tools in water sector (pricing, subsidies, etc.)







THANK YOU FOR YOUR ATTENTION

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