

Concept Note
International Center for Green Technology and Investment
under the auspices of the United Nations

I. Situation analysis: The Republic of Kazakhstan has made substantial progress in policy and regulatory reform in support of its Green Economy Concept, including developing the Kazakh Emissions Trading Scheme (K-ETS) and policies to promote energy efficiency and renewable energy. Kazakhstan has committed to implementation of the agenda and integration of the principles of global agreements spearheaded by the United Nations, including the UN Framework Convention on Climate Change and subsequent agreements, the Millennium Declaration, and the Johannesburg Declaration on sustainable development. The Paris Agreement (COP21) was signed by the Government of Kazakhstan in August 2016. Kazakhstan is also preparing for the Astana EXPO-2017 World Specialized Exhibition with the theme “Future Energy.”

President Nursultan Nazarbayev called for interregional cooperation at the 66th Session of the UN General Assembly in September 2011. Later on, this idea was reflected in the text of the Astana Green Bridge Initiative, which led to the creation of **the Green Bridge Partnership Programme (GBPP)** for 2011-2020. The GBPP was approved in 2012 by all states at the United Nations Conference on Sustainable Development (Rio+20) as a cross-regional voluntary initiative on sustainable development, open to participation by all partners. The Green Bridge has grown into a partnership among the countries of Europe and Asia-Pacific regions, as well as public, private, nongovernmental, and international organizations.

Building upon these ideas and actions, at the 70th session of the General Assembly of the United Nations in 2015, President Nursultan Nazarbayev proposed to open the **International Centre for Green Technology and Investment under the auspices of the UN** in Astana (hereinafter referred to as “the Center”).

II. Proposed strategy:

The Center’s main objective is to assist in practical implementation of the transition to a green economy by providing a framework for necessary support for renewable energy, green technologies and sustainable development, as well as strengthening of international cooperation in the Green Bridge Partnership Programme. In particular, the Center will ensure international cooperation on transfer of green technologies.

The outcomes will be achieved through activities in various areas, including:

1. Transforming the energy sector
2. Sustainable urban development
3. Greening businesses
4. Adaptation technologies and best practices
5. Development of green finance
6. Developing renewable energy
7. Green capacity building

The overall mission of the Center is to contribute to global sustainable development through promoting green growth and principles of the Green Bridge. The Center will serve as a strategic center for long-term capacity development, innovation, and linkages with best practices and

sources of global experience and solutions as Kazakhstan and the whole region make the transition to a green economy.

III. Proposed activities:

1. Transforming the energy sector. This component is designed to promote a sustainable energy development strategy for the region, with the following objectives:

- to facilitate a transition to a more sustainable energy future and introduce renewable energy sources to reduce health-related and environmental impacts resulting from the production, delivery and consumption of energy;
- to implement well-balanced energy network systems across the region to optimise operating efficiencies and overall regional cooperation;
- to study and adopt best practices on exploration and use of new types of energy;
- to implement and sustain increased energy efficiency, in production and consumption.

Outcomes:

1. promoting regional harmonization in the overall legal, regulatory and policy framework, including the development of classification systems and guidelines;
2. promoting energy efficiency and conservation;
3. encouraging the greater use of natural gas as a "transitional" fuel to bridge the gap until new environmentally benign energy sources are developed and commercialised;
4. greening the coal-to-energy chain; and
5. addressing issues related to electric power network system interconnections.

2. Sustainable urban development. Rapid urbanization places growing stress on municipal infrastructure and the environment. Therefore the urban sector requires modernization and increased efficiency to sustainably deliver safe, healthy, and productive conditions for all segments of the population. Needed improvements cannot be carried out only at the expense of the government budget. Thus there is a need to attract private investments into projects designed to bring social, economic and ecological benefits. The Center will work with cities in the following areas for sustainable urban development:

- Consideration of the urban sector as one of the major sources influencing climate change;
- Promotion of integrated urban planning in transport and infrastructure, housing and public utilities, green districts, industry, and urban agriculture;
- Promotion of policy reform based on best world practices for ensuring a sustainably high standard of living for urban residents;
- Resource mobilization in cities to tap the potential for reduction of energy consumption and/or production of energy from waste;
- Engagement of citizens in improving urban life and the urban environment;
- Assistance in creation of institutional structures for implementation of low-carbon city plans.

Outcomes:

1. Definition of priority areas in regard with climate change and assessment of financial resources for implementation of various projects in cities;
2. Development and creation of financial tools and models for investments, and de-risking mechanisms for private investors in energy and resource conservation, reduction of power losses, and development of renewable energy resources;

3. Development of recommendations to local and municipal authorities on pilot projects to deploy and test advanced technologies and innovative solutions in energy efficiency and urban planning, and to increase public awareness;
4. Development of a monitoring system for GHG emissions in low-carbon city projects.

3. Greening businesses. The promotion of green technologies and sustainable business for large and small- and medium-sized enterprises (SMEs), including startups, has the potential to contribute to the mitigation of climate change, while simultaneously strengthening the comparative advantage and competitiveness of the industrial sector in developing and emerging economies.

Corporate sustainability strategies can aim to take advantage of sustainable revenue opportunities, while protecting the value of business against increasing energy costs, the costs of meeting regulatory requirements, changes in the way customers perceive brands and products, and the volatile price of resources.

Outcomes:

1. Promoting innovation & technology transfer. This method of sustainable corporate practices focuses inward on a company's ability to change its products and services towards less waste production and more sustainable best practices.
2. Establishing collaboration. The formation of networks with similar or partner companies facilitates knowledge sharing and propels innovation.
3. Process improvement. Continuous monitoring, evaluation, and improvement of processes are essential to waste reduction. Employee awareness of company-wide sustainability plans further aids the integration of new and improved processes.
4. Greening the supply chain. Sustainable procurement is important for any sustainability strategy as a company's impact on the environment includes not only the results of direct consumption, but effects all the way up and down the supply chain.

4. Adaptation technologies and best practices. This component is intended to define, assess and select the best practices in climate change adaptation, in the context of national priorities and strategy in this area.

Outcomes:

1. Development of a database of technologies for climate change adaptation and best practices. Climate change is already occurring, and it is becoming ever more obvious that each country will face a certain set of adaptation problems. Over the past few years Kazakhstan has endured floods and fires, and lost a considerable part of its agricultural harvests because of early snow, abundance of rains and other extreme hydrologic and meteorological phenomena. Best adaptation technologies for respective regions shall be identified, taking account of specific regional conditions of extreme weather conditions and associated decreases in productivity caused by climate change. The Center will provide ready-to-use, maximally convenient short-term and long-term adaptation solutions. The database will represent a wide choice of technologies piloted on different UNDP projects and other international organizations.
2. Adaptation technology transfer. In Kazakhstan, the national system will be established for technology transfer on climate change adaptation in agriculture, water management, and

emergency prevention and response. The system will include financial and legal incentives for transfer and implementation of adaptation technologies.

3. Scale-up of application of the best practices. The Center will develop mechanisms for transfer of adaptation technologies to the countries of the region and globally. These activities can be provided through technical or other assistance of the Center to other countries.

5. Development of green finance. Transition to a green economy requires considerable resources. In this regard, there is a need for implementation of innovative funding mechanisms. Green finance is a broad set of financial instruments and services (loans, bonds, shares, funds, etc.) as well as methods for financing technological processes, projects and entities in the field of environmental protection.

This component will support the development of green financing through stimulation of growth of innovative products and mechanisms, such as debt financing, in particular green lending for projects. This type of lending makes it possible to deliver low interest rates for energy-efficiency projects, with other favorable lending terms.

Outcomes:

1. Development of diversified green financial instruments. Currently most green projects are funded by commercial banks under standard credit agreements. This pattern can be changed by integrating the use of green credit, green bonds, green funds, refinancing and other tools. This diversification allows for the securitization of long-term and stable funding, reducing the risk of investing in projects with a long payback.
2. Establishment of early-warning and risk-sharing mechanisms. Green finance can make up for deficiencies in investors' ability to judge and analyze environmental risks. Stress tests and risk analyses can guide investors to allocate more resources to green and low-carbon industries, instead of carbon-intensive industries.
3. Introduction of policy incentives. Green transportation, green buildings and renewable energy projects all require major financing, which still comes mainly from bank credit and bonds. Government can encourage banks to grant more credit and lower the financing costs for green projects by effectively institutionalizing subsidized credit for green projects. Government can also greatly stimulate investment enthusiasm and encourage funding for green projects by providing tax incentives or credit enhancement measures.
4. Definition of standards and monitoring of implementation of green projects. Green finance will encourage enterprises to fully disclose relevant environmental information of their own accord, thereby reducing the identifying costs for investors and improving the ability of the capital markets to distinguish green and brown enterprises.

6. Development of renewable energy. Dependable and affordable energy supplies are crucial to economic growth in both developed and developing countries — to power homes, connect communities, provide safe water and promote economic and human development. Switching to renewable energy sources will reduce air pollution, improving health and quality of life for millions around the world. It will also strengthen energy security, which will boost economic growth and help reduce poverty. This component will promote renewable energy on many fronts – from removing barriers and building capacity to direct financing of projects in renewable energy technologies.

Outcomes:

1. Removing barriers: Developing countries face many policy, regulatory and technical hurdles to adopt renewable energy technologies. The Center will help remove barriers, and transform energy markets, such as through renewable feed-in tariffs and independent power producers.
2. Capacity building: The Center will help countries build technical and institutional capacity by organizing workshops and by training government officials, local engineers and other technical staff.
3. National policy: The Center will help develop national policies needed to support the renewable energy market, including national strategies, roadmaps and action plans.
4. Demonstration projects: Countries need to test new technologies and prepare the marketplace before fully embracing renewable energy. This process helps convince stakeholders that renewable energy is a viable approach, and pave the way toward commercialization.
5. Public acceptance: The Center will help countries develop standards, testing and certification of renewable energy technologies. It also will support activities that help build community trust in renewable energy technologies, such as distribution of promotional material and production of audiovisual tools.

7. Green capacity building. The Center will deliver support for collaboration among countries in relation to green technology, R&D and policy development. The Center will establish cooperation and exchange programs with the following institutions:

- existing national and international centers of technologies, such as the International Environmental Technology Centre of the United Nations Environment Programme (UNEP), the Asian and Pacific Centre for Transfer of Technology of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), the International Centre for Science and High Technology (ICS-UNIDO) of the United Nations Industrial Development Organization (UNIDO), the Shanghai “Co-way”, the UNIDO Centre for South-South Industrial Cooperation;
- networks of clean technologies, for example, the National Cleaner Production Centres (NCPCs) Network;
- financial institutions for support of innovations, for example, the Clean Technology Fund and the Strategic Climate Fund of the World Bank, Eco-Patent Commons (WBCSD - an initiative for free use of ecological inventions), and the UNIDO Investment and Technology Promotion Offices Network.

Outcomes:

1. To support planning and establishment of national green technology R&D policies
2. Creation of new workplaces, including workplaces for highly skilled specialists in the new innovative "green" areas;
3. Capacity building and professional training in skills and competencies needed for green workplaces;
4. To establish a system of international cooperation in the field of green technology, technology transfer, and diffusion
5. To analyze green technology trends and development levels, and management of the statistical data
6. To conduct green technology forecasts.

IV. Regional focus

Activity of the Center will be focused on implementation of the above-mentioned measures, primarily in the countries of Central Asia (the Republic of Kazakhstan, the Republic of Uzbekistan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan), Iran, Afghanistan, Mongolia and Azerbaijan.

At the same time, the Center will also cooperate with industrially developed countries of OECD, the European Union, the USA, the Russian Federation, China, India and the countries of Latin America.

V. UN support and the Center's structure

The UN will support the Center with consultative and technical assistance, appropriately matching capacity with need. This support is to be provided jointly, with three main agencies in the lead: UNDP, UNECE and UNESCAP. All other UN agencies (UNEP, UNESCO, FAO, etc) will also join in according to their expertise. Based on the respective core areas of experience and expertise, the following coordination of the activities is envisaged (to be confirmed by the UN agencies):

- UNECE - Transforming energy sector
- UNDP, UNESCAP - Sustainable urban development
- UNESCAP - Greening businesses
- UNDP - Adaptation technologies and best practices
- UNEP, UNIDO, UNDP - Development of green finance
- UNDP, UNEP, UNECE, UNESCAP - Developing renewable energy
- UNDP, UNECE, UNESCAP, UNEP - Green capacity building.

Project on Center establishment will also be discussed at a panel discussion on the Sustainable Energy For All site.

Administration of the Center will be subject to the UN standard operational procedures.

The Government of Kazakhstan's contribution is defined as financial provision of opening and functioning of the Center as well as providing one of the EXPO-2017 premises/pavilions to locate the Center.

It is envisaged that the Center will mobilize additional resources from international funds and institutions.

On behalf of the Government of Kazakhstan, the Ministry of Energy shall coordinate the Center. The other government agencies, such as the Ministry of Foreign Affairs and the Ministry for Investment and Development et al., will take the lead in specific matters as appropriate.

VI. Role of donors and partners

Resources of global funds and international financial institutions, such as the Green Climate Fund, the European Investment Bank, EBRD, the World Bank, GEF, etc. will be mobilized for technical assistance and financing large investment projects.

For long-term sustainable development and to attract additional resources as well as for joint implementation of green projects, the Center will engage the following national holding companies and development institutions: Sovereign Wealth Fund "Samruk-Kazyna", KazENERGY Association, National Holding "Bayterek", Autonomous Cluster Fund "AlmatyTechGarden", Fund for Entrepreneurship Development "Damu", Development Bank of Kazakhstan, etc.

According to the concept of the EXPO-2017 pavilions, one of thematic pavilions (preliminary called the "Energy Best Practice" area, encompassing 3000 m²) will be given to the

Center. The Center will also be admitted as a resident of the special economic zone administered by the Astana International Financial Center (AIFC). AIFC will develop green finance standards.

Cooperation with the following universities and research centers is envisaged: Nazarbayev University, Columbia University, Kazakh National Research Technical University, the Austrian Institute of Technology, Singapore-MIT Alliance for Research and Technology (SMART), and other centers within bilateral agreements.

The Center will also actively work with the nongovernmental sector – especially in joint green capacity-building activities and partnership with nongovernmental organizations and public associations such as the Coalition for a Green Economy and the G-Global communication platform.

VII. Legal framework

The Center will be established at the Ministerial conference “Addressing Sustainable Energy Challenges” in Astana in June 2017, in the framework of the opening of the EXPO-2017 international exhibition. The conference will lead to adoption of a declaration at the level of Ministers of Energy of member countries and international organizations, including the UN agencies, leading to establishment of the Center in the same way as the "Green Bridge" Partnership Program¹.

A formal agreement will be signed between the Government of the Republic of Kazakhstan and the UN Representative in the Republic of Kazakhstan for a project to deliver institutional support to the International Center for Green Technology and Investment.

The Secretariat of the Center will be established within this three-year project, financed through a tied grant mechanism. Further procedures for institutionalization of the Center will also be defined.

The Steering Committee will be established as the strategic coordination body of the Center, consisting of duly authorized representatives of member countries and the international organizations. The Steering Committee will perform general coordination of activities and strategic development of the Center.

The main functions of the Steering Committee will include:

- Defining strategic directions of the Center on sustainable development;
- Promotion and support of cooperation between member countries and between national institutes of member countries;
- Support for resource mobilization by key global and regional financial institutions and banks, including but not limited to, the Green Climate Fund, the Global Environment Facility, and other organizations;

¹ Kazakhstan initiated interregional cooperation toward promotion of green economies through the implementation of the "Green Bridge" partnership among the countries of Europe and the Asia-Pacific region. Kazakhstan launched the Astana "Green Bridge" Initiative (hereinafter AGBI) at the Conference of Environment Ministers of the Asia-Pacific region and received support in the main conference documents, along with a Ministerial Declaration and a Regional Plan of Implementation.

The Green Bridge Partnership Programme (GBPP) for 2011-2020, developed on the basis of the AGBI, was approved in 2002 by all states at the United Nations Conference on Sustainable Development (Rio+20) as a cross-regional voluntary initiative on sustainable development.

In October 2013, at the international conference on GBPP and international exhibition "preExpo-2017", the GBPP Charter was adopted and supported by representatives of several countries, including Finland, Germany, Latvia and Russia. The Charter defines the modalities for implementing the GBPP and contributes to creation of financial and technical incentives to start a "green growth" trajectory.

- Support for development of a knowledge management system for standards, principles, tools and practices of "green" projects.

The Steering committee will consist of 7 (seven) members, including the Chairman (an internationally acknowledged expert in the sphere of green technologies and energy), a representative of UN country office in Kazakhstan (co-chair), duly authorized representatives of the member-countries and the international organizations. For effective work of the Center and the Steering Committee, the secondment of experts from different UN agencies is also envisioned.

The structure of the Steering Committee will be based on balanced representation of the countries of the region, and also other countries and the international organizations.

Membership in the Steering Committee will be on a rotational basis for a period of one year. Rotation of members of the Steering Committee will be conducted based on recommendations of member countries and the international organizations.

Meetings of the Steering Committee will take place on a periodic basis, at least two times a year. Telecommunication tools (videoconference) will be used for more effective interaction of members of the Steering Committee.

The Secretariat of the Center will be responsible for the organization of meetings of the Steering Committee.



Ministry of Energy

Donors:



Partners:



International Center for development of green technologies and investment projects						
Transforming energy sector	Sustainable urban development	Greening businesses	Adaptation technologies and best practices	Development of Green finance	Developing renewable energy	Green capacity building
UNECE	UNDP UNESCAP	UNESCAP UNIDO	UNDP	UNDP, UNEP, UNIDO	UNDP UNEP UNECE UNESCAP	UNDP UNECE UNESCAP UNEP

Administering the Center will be subject to the UN standard operational procedures and will be based on experience and competences of the UN agencies: UNDP, UNECE, UNESCAP, UNESCO, UNEP, and others.

UNDP in Kazakhstan

UNDP, being a long-term partner of Kazakhstan, assisted in development of the Concept on transition of Kazakhstan to green economy. UNDP's new agenda is aimed at achieving Sustainable Development Goals, and support of Kazakhstan for transition to green economy, through strategic partnership with key national and international financial institutions including Green Climate Fund.

UNDP has accepted a new program document with a strategy for Kazakhstan. This program is for the period of 2016 till 2020. More than 50% of new projects will be in the sphere of green economy. According to the accepted portfolio across Kazakhstan, there are about 30% of projects in the sphere of ecology and environment protection. All of them are aimed at sustainable energy and environmental management.

For now, UNDP jointly with the Government of Kazakhstan, private sector and NGOs, has accomplished around 190 projects for the total amount of more than 200 million US dollars, promoting social, economic and ecological improvements in the country including the following projects:

- a) UNDP-GEF Enabling Activity: This project has been approved recently and will support the preparation of the national GHG inventory and 4th National Communication to UNFCCC. The project, implemented by the national institute KazNIEK, will be an important source of baseline data, analysis, as well as technical skills and knowledge for development of urban inventories, NAMAs and MRVs.
- b) UNDP-GEF "Removing Barriers to Energy Efficiency in Municipal Heat and Hot Water Supply": The project has been completed, and its results and lessons learned are essential for the success of the proposed project. First, it facilitated the development and adoption of the revised Law on Energy Saving, including specific provisions to stimulate energy efficiency in municipal heating sector, such as differentiated heat tariff, ESCO modality and EE requirements for district-heating systems. It also supported the establishment of the first ESCO in Kazakhstan, which is now acting as the main implementing partner and the source of private co-financing for the publicly funded NMP. The project also successfully piloted tripartite partnership agreements among municipalities, the private sector, and associations of apartment owners for financing and implementing EE retrofit projects in the residential sector.
- c) UNDP-GEF "Energy-Efficient Design and Construction of Residential Buildings": This ongoing project supports the introduction and enforcement of EE building codes, and works with publicly funded construction programs to integrate energy efficiency considerations into the design of new residential buildings. Bearing in mind that improvement of energy efficiency in building stock offers large and cost-effective GHG emission reduction opportunities in urban sector, this UNDP-GEF project will provide essential analytical data and hands-on experience for the design of prospective NAMAs in urban building sector.
- d) UNDP-GEF "City of Almaty Sustainable Transport (CAST)" project focuses on promoting sustainable urban transport in Kazakhstan's largest city - Almaty. Project experience with GHG accounting and monitoring systems for urban transport, as well as with the design and implementation of pilot sustainable urban transport solutions and their respective MRVs, will be essential for developing urban NAMAs in transport sector in Almaty and other Kazakhstani cities.
- e) UNDP-GEF "Promoting of Energy Efficient Lighting": This ongoing project works with the Ministry of Industry and Energy to set up a comprehensive policy framework for phasing-out inefficient lighting in Kazakhstan, and to develop and implement advanced EE solutions for public lighting, such as LED, in cooperation with the municipality of Almaty. As in the case of

CAST, this project will provide important baseline data, GHG accounting tools and methodologies, as well as technical knowledge from pilot projects for the design, costing and implementation of urban NAMAs in the lighting sector.

In 2017 UNDP will launch new projects to increase energy efficiency and to develop renewable energy resources. In particular, jointly with the Ministry for Investments and Development and the Ministry of Energy, new projects will be started on creation of a national system of standardization and certification of energy consumption of industrial transformers, refrigerators and motors, and also a project on de-risking investments and development of financial models for development of large- and small-scale renewable energy sources.

Another relevant ongoing initiative in the urban sector is led by the EBRD, which has approved the use of financing from the Clean Technology Fund, combined with a loan, to upgrade district heating in the city of Almaty.

Thus, considering its rich experience on green projects, and in particular on the tied grants of the Government of Kazakhstan, UNDP already in practice supports the initiatives of Kazakhstan and renders assistance in their implementation, and stands ready to undertake project implementation on institutional support of the International Center for Green Technology and Investment in Astana.