

Project of the Government of RK/GEF-UNDP "Low-Carbon Urban Development – Sustainable Cities"

Implementation period – 2015-2020.

Implementing Entity:

Ministry for Investments and Development of the Republic of Kazakhstan (MID of RK)

Reporting period: 2017

I. Purpose

The Project supports the identification, design, and implementation of Nationally Appropriate Mitigation Actions (NAMAs) in the urban sector. NAMAs, consisting of investments in infrastructure supported by capacity building, awareness raising and technical assistance, will contribute to achieving the country's GHG emission reduction voluntary target while improving urban services and the quality of life of citizens in Kazakh towns and cities.

The basis of the project is approbation of support measures for investment carbon projects in urban infrastructure that can be implemented through loan financing.

The Project will improve the capacity of municipalities to carry out integrated municipal planning, make targets and prioritize urban mitigation actions (Component 1), support the creation and strengthening of institutional structures that will allow public and private sector investments in accordance with the ESCO model in identified infrastructure and technical assistance (Component 2), provide facilitation of financing of urban projects support measures (Component 3), piloting of an urban projects through investments in modernization and upgrading of the urban infrastructure (Component 4); test mechanism of trade of reduced emissions from implemented urban low-carbon projects (component 5).

MAIN FINDINGS

Component 1- *"Integrated municipal planning, targets and prioritization for urban mitigation actions"*.

Under this Component, technical training and methodological support will be provided to 15 city municipalities, as well as assistance with data collection, processing and analysis on planning for urban mitigation actions. Selected cities identify priority measures in the urban sector that contribute to energy saving and energy efficiency increase.

- For representatives of 15 municipalities the inception workshop "Basics of low-carbon urban planning" was held, which presented the methodology, approaches and practices for low-carbon urban planning, identification of low-carbon projects in urban sectors (heat, electricity and water supply, buildings, utilities, urban transport, waste management, etc.). At the seminar held in Astana international and local experts had presented and made recommendations on the improvement of normative legal acts, selection of key landmarks for the modernization of buildings and communal infrastructures at the optimal financial package.
- In 5 pilot cities: Aktobe, Oral, Shymkent, Kostanay and Temirtau an inventory of greenhouse gases was carried out by sectors of the urban economy according to the international methodology as well as the analysis of the state of urban economy and the SWOT-analysis of municipal opportunities for low-carbon development in all urban

sectors. The main urban sectors forming indirect greenhouse gas emissions in cities are: heat and electricity supply of residential buildings (60%), urban transport (18.4%), as well as municipal facility-street lighting, operation of pumping stations, heating and lighting of budget/city buildings, etc. (6.8%).

- On the basis of the conducted researches and taking into account the obligations of Kazakhstan under the Paris climate agreement there were defined the goals of reduction of emissions of GHG in short-term (till 2020) and long-term (till 2030) perspectives for these five cities, also there were defined priorities for achievement of goals and scope of required investments, presented economically-grounded low-carbon urban projects which can be financed by attraction of the borrowed investments. The analysis of risks of projects and initiatives implementation is carried out and the opportunities for attraction of debt financing and co-financing for implementation of projects are estimated.
- The results of the studies presented in these cities at the expanded meetings of working expert groups; the city plans elaborated in accordance with recommendations.
- For 2 pilot cities: Taraz and Lisakovsk there was conducted an analysis of Sustainable Energy Action Plan (SEAPs) developed under the Covenant of Mayors East and updated the investment portfolio, including: expected benefits for the population and the environment.
- Upon the completion of research works in the regions, in Astana there was held the final round table conference "Identification of low-carbon projects and assessment of required investments in the sectors of urban economy: energy, public transport, buildings, urban waste" with the participation of representatives of city administrations, where all the findings of research conducted in 7 pilot cities were presented.
- The experts presented the list of investment projects recommended for implementation in pilot cities with an estimation of their cost and payback period: in the part of low-carbon initiatives in residential buildings – packages of projects on energy saving of common areas ("Warm and light entrance hall"), on energy saving in apartments ("Warm windows and fresh air"), on thermal regulation of apartment buildings ("Installation of metering devices (heat meters), automated heat points and balancing valves").
- In the part of low-carbon initiatives in public buildings there were presented packages of projects on their thermal modernization as well as investment project "Transfer of heating, cooling and hot water to heat pumps".
- In terms of reduction of electricity consumption in cities – projects on "Reduction of electricity consumption and irrational water consumption at plumbing and sewage stations", "Modernization of the street lighting system on the basis of LED lamps", "Construction of a plant for processing of MAH and sludge precipitation in electrical and thermal energy".
- In the part of low-carbon initiatives in the transport sector: "Introduction of effective systems of public transport and transport flows management in the cities", "Transition to sustainable modes of transport, introduction of bicycle lanes and culture", "Raising of technological level of vehicles and their maintenance", "Transfer of vehicles from liquid fuel to LPG (liquefied petroleum gas-propane butane) or LNG (liquefied natural gas)", "Transfer of urban transport to natural gas".
- During the reporting period in 13 pilot cities local the consultants provided support to the UNDP-GEF project team, maintained communication with Akimats, gathered necessary information for inventory and calculation of investments, facilitated the rapid movement of correspondence and other project materials, led the arrangement of

workshops and meetings in these cities, spoke in the media and coordinated the work of the established work expert groups.

- In Petropavlovsk in conjunction with the UNDP-GEF project on Sustainable Transport (project CAST) an in-depth analysis of the Petropavlovsk transport system was initiated to develop recommendations and an action plan for its improvement to reduce GHG emissions in long-term perspective and improving the quality of services for the population. It is planned to assess the transport system of Petropavlovsk and carry out studies on the calculation of necessary investments. An introductory report was prepared outlining the current situation with public transport in Petropavlovsk: analysis of the route network, analysis of carriers, transport management structure, information system analysis, etc. The initial recommendations were given.
- There was carried out the analysis of applicability of the standard ST RK ISO 37120 "Sustainable development of communities. Indicators for city services and quality of life" for the conditions of the RK based on the availability of statistical information. Recommendations for Akimats were prepared. For the next year, it is planned to assist at least three Akimats in approbation of the application of this standard taking into account the recommendations of the project.
- The main results as well as the methodology and process of development of the completed UNDP-GEF project "Low-Carbon Development Strategies for Sustainable Development of a Small Community (rural community)" was presented to the target groups in Taraz, Semey and Astana at the round tables and seminars with coverage of more than 120 people. The strategy describes practical examples to illustrate the various elements of low-carbon development for a small community on the example of Arnasay aul, Arshalinskiy region of Akmola oblast. There was widely covered the role of volunteers who helped in calculation of "Carbon footprint" from households, subsidiary farming, livestock, crop production, agricultural machinery, personal transport, energy-consuming technologies, production and consumption wastes.

Component 2 – *"Creation of an institutional framework for urban infrastructure projects"*.

The component is aimed at assisting in the construction/change of the organizational scheme of attracting investments into the city infrastructure, including in the objects of budget sphere/community property (through public-private partnership), as well as in objects of a multi-apartment housing stock (through ESCO model).

- 5 typical solutions were developed for the implementation of low-carbon urban projects (heating of buildings – smart automated heat points; water supply – pumps with VfD; lighting – replacement of lamps by LED; waste management – collection and primary sorting of household waste; heat supply – modernization of boiler equipment) with the use of public-private partnership mechanism. The potential of energy saving from the implementation of these projects in the reduction of energy consumption is: heating - at least 15%, lightning - at least 45% in all municipal buildings of the RK cities.
- Each typical solution of PPP project contains the concept of the project; draft agreement, draft bid documentation. The concept of the project is based on an example of a specific object, which was proposed by the municipality for the development and includes an example of the project description starting with the calculation of the baseline, marketing analysis, institutional scheme at each stage of implementation (pre-investment, investment, post investment periods), conditions of payment, risks and liabilities of the parties, etc. The draft agreement was drawn up on the basis of the applied forms of PPP agreements where the conditions and obligations of the parties

were developed taking into account the specifics of the project – Energy Saving.

- The prepared model decisions were submitted to Akimats of pilot cities and representatives of SMB for use in the process of their work. The documentation is also posted on the web portal of the project www.eep.kz.
- The overcome the institutional barriers that arise in the promotion of energy-efficient technologies in residential buildings under the ESCO model is carried out in the implementation of a separate project of UNDP and the Government "Improvement of housing relations system to leverage investments and development of small and medium enterprises for housing sector".
- This project will help to lay the foundation of private business relations and owners of residential real estate through the adapted legal framework of housing relations with the application of the best practices on delimitation of responsibilities of the parties, implementation of minimum standards of maintenance, housing management, conditions for business participation, financial schemes to attract investments for modernization, awareness-raising of owners and business in management issues. As part of this work, proposals and additions to housing legislation have been made, participation in the Working Group under the Ministry of Investment and Development. Completion of works - 2018.

Component 3 - *"Development of the financial system of urban infrastructure projects"*.

This component aims to create a system that will attract investments from the private and banking sectors in energy saving projects.

- During the reporting period the development of mechanisms to support the implementation of low-carbon urban projects was continued. From the presented models the partners of the project supported 2 models from 3 offered (Model of subsidizing the interest rate of the bank, Model of providing the guarantee). These models were approved by the PMC's decision. The project team developed and agreed with all the parties involved the Rules of subsidizing and guaranteeing low-carbon urban projects, developed an algorithm for the implementation of models as well as draft subsidy and guarantee agreements.
- These support mechanisms are to subsidize the interest rate on commercial credit in the amount of 10% of the nominal rate (no more than 19%) and guarantee to the bank in the amount of 50% of the loan amount. Projects aimed at energy saving in urban heat supply, water supply, public and residential buildings; urban sewage and sewage treatment systems; indoor and outdoor lighting can be supported.
- Between the line ministry (MID of RK) and the executive partner (JSC "Damu Foundation"), the Agreement on Cooperation on the implementation of the mechanism of stimulating investments in energy saving of the city infrastructure of the Republic of Kazakhstan was signed within the framework of UNDP-GEF project.
- The evaluation of the activity of the executive partner - "DAMU" Entrepreneurship Development Fund" JSC" under the procedure of the Harmonized Approach to Cash Transfers (HACT), where after the receipt of the high estimation and low level of risk from hired Independent consultants the approved support models can be tested using a UNDP-GEF grant.
- The investment support system was launched into the test phase in October 2017. This mechanism provides that each quarter will be announced a bid to support low-carbon urban projects. At the end of each quarter applications will be evaluated by the expert Commission and decisions on support measures will be taken. The first 2 bid

applications were submitted at the end of November 2017.

- It is expected that from the financial participation of the UNDP supported GEF financed project in the implementation of the mechanism, in the amount of USD 3 million, there will be attracted investment in low-carbon projects from the banking and private sector at least in the ratio of 1:5 or at least USD 15 million directly.
- One of the ultimate goals of implementing Component 3 in the future is to transform the selected support mechanism of ES projects into existing support system which shall be implemented for example through the state program "Business road map-2020". The project has already begun consultations with key groups to ensure continuity of the established support mechanism and its inclusion in any of the state programs.

Component 4 – *“Implementation of a comprehensive pilot urban infrastructure project to demonstrate the economic feasibility of reducing urban GHG emissions for future replication. The project provides about USD 700 thousand for the implementation of this component, which includes technical assistance in participating in the project implementation”.*

Within the framework of the component, it is planned to implement one pilot urban project – to carry out a complex modernization of the block of one of the pilot cities, including modernization of buildings, structures, engineering networks, waste management systems and transport infrastructure. This component is intended to test the combined financing of the low-carbon project.

- Within the framework of the bid to select the pilot territory of UNDP-GEF project, in the end of 2016, there were received 6 applications from the following cities: Astana, Semey, Aktobe, Taraz, Kostanay, Kapshagay. The Expert commission and the PMC approved the application from Akimat of Astana with the offer of modernization of the city block consisting of 5 apartment houses in the area of intersection of Zhubanova and Pushkin streets and reserve quarter in the intersection of Zhenis Street and Bogenbai av.
- In the proposed city block (main) Akimat has already carried out the replacement of supplying heat networks in 2017 and planned work of landscaping of the quarter, modernization of the yard lighting. Within the framework of the UNDP-GEF project it is planned to carry out a comprehensive modernization of the residential area (block), including thermal modernization of buildings, structures, engineering networks, waste management systems and transport infrastructure. It is also planned to test the combined financing of the low-carbon project using the GEF grant.
- To establish contact with the residents within the Project there were held several meetings with the Chairman of cooperative of apartment owners, discussed the conditions of the Project. Also jointly with representatives of the Akimat of Astana and the Ministry of Investment and Regional Development, an extended meeting with the activists of the pilot houses was held to agree on the conditions of participation in the project, to ascertain the needs of the residents, etc.
- Currently the Council of owners of each apartment building and Working Group for the project implementation from the owners of apartments is being formed.
- The first stage of implementation of the pilot project is planned to be the preparation of master plan on complex low-carbon modernization of the city block, including: assessment of the baseline for energy consumption (thermal, electric) and water,

assessment of the actual state of objects (buildings), yard area and their needs for low-carbon modernization; concept of such modernization with preparation of necessary consolidated calculations on the cost of necessary measures. A local engineering company and an international consultant have been hired for this purpose. All work on the development of a master plan is expected to be completed in Q1 2018.

Component 5: *“Monitoring, verification and dissemination of knowledge and practices”.*

- A draft package of documents on amendments and additions to the legislation to improve the GHG trading system, ensuring the inclusion of reduced GHG emissions from urban low-carbon projects in the National GHG trading system of RK (ETS) has been prepared.
- The work on capacity building of public councils and involvement of the public to build sustainable cities in RK was continued, training seminars were held in six pilot regions. According to the results of the training, the trainees will support the promotion of low-carbon urban development projects based on knowledge of the legislative basis of access to environmental information.
- A survey was conducted to assess the baseline of the information awareness of target groups in low-carbon development issues. The general index of awareness of target groups in cities made 5.5 points out of 10 possible. Only 16 per cent of those surveyed are aware of the targets set in the urban development sectors, including environmental indicators. To increase stakeholder awareness of key programs, awareness of the potential for sustainable low-carbon development, it is necessary to reduce and remove barriers to stakeholder participation in local development of the city and the region, provide access to basic information to raise the awareness, use different forms and channels of information to raise the awareness of stakeholders about local development. These tasks will be solved under the project in the following years, including the period during the implementation of pilot initiatives through the implementation of the awareness-raising plan.
- 2 Centers of competence on sustainable urban development was created in Shymkent and Taraz. In Taraz based on the Centre of competence the work on propagation of knowledge with attraction of budgetary funds of Akimat of Zhambyl region is organized: 3 seminars on topical issues in the field of energy saving, condominium management and energy management in the housing stock were held. The first regional Conference on improving the functioning of urban infrastructure was held.
- Two issues of the "Sustainable Cities" project newsletter have been published which are available in electronic format on project website www.eep.kz.
- The FB account is updated on a permanent basis for timely information about the project work.
- The Sustainable Cities section on the UNDP-GEF Project Web portal, Energy Efficiency + (www.eep.kz) is regularly updated.
- Developed in 2016 the mobile application "CO2. Calculate your carbon footprint" which allows calculating the value of greenhouse gas emissions generated from households was supplemented by calculation algorithms for transport, as well as products and goods, and was presented as one of the exhibits on Exhibition Expo-2017 in Astana in the pavilion of international organizations.
- The infographics of the project on the ESCO mechanism for demonstration to key

target groups and explaining the principle of this mechanism was published. The flyer "Carbon footprint", graphic and informative memo, revealing the concept of "carbon footprint" is published.

- In June of this year within the framework of Astana Economic Forum (AEF-2017) the Project organized a special session "Smart and sustainable cities of the future" with participation of high segment: Heads of international agencies, Mayors of cities, International experts, etc., which signed a memorandum of understanding between the United Nations Development Program in the Republic of Kazakhstan and the Akimat of Astana. According to the results of the event, a statement was adopted to promote the openness, security, resilience and environmental sustainability of cities and towns within the framework of achieving sustainable development goals in Kazakhstan.
- In November 2017 the project took part in the International Exhibition of Expo-Housing and public utilities-2017 and became the organizer of the special side-event "Improvement of the management mechanisms of multi-apartment residential houses to increase the investment attractiveness of the sector and presentation of the country's housing survey of the Republic of Kazakhstan." The main objective is to raise stakeholder awareness and discuss international and national practices in the housing sector.
- The project continued to work with the media: Experts of the Project systematically give interviews to TV channels and print media, participate in press briefings, press conferences and television programs. All references in the media are displayed on the Facebook page of the project <https://www.facebook.com/profile.php?id=100012843423706>, and on the link <http://sustainable.eep.kz/press-center/media-about-us/> web portal of the project www.eep.kz.
- Published materials on the project in 2017:
 - Carbon footprint as a measure of human responsibility for climate change - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No.1, p. 6, 2017.
 - One Standard - One country - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes ", No.1, p. 10, 2017.
 - Green Quarter in the old district of Potsdam, the experience of Germany - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 1, p. 20, 2017.
 - Energy Efficiency is the basis for sustainable urban development. - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No.1, p. 26, 2017.
 - Energy Efficiency of Ukraine is an inspiring example for Kazakhstan. - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 1, p. 32, 2017.
 - Arnasay is a green valley. - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Waste", No. 1, p. 36, 2017.
 - Save the energy - preserve nature. - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No.1, p. 40, 2017.
 - Sustainable Cities – what is it? - Quarterly newspaper by UNDP News, No. 1 (1), p. 4, 2016
 - Energy-efficient infrastructure - the basis of carbon development of cities - quarterly news newspaper by UNDP News, No. 2 (2), p. 8, 2017

- Carbon footprint as a measure of human responsibility for climate change - quarterly newspaper by UNDP News, No. 3 (3), p. 8, 2017
- On climate and urban modernization from and to. - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 2, p. 6, 2017.
- Trade of greenhouse gases and the creation of sustainable cities. - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 2, p. 10, 2017.
- Energy saving is comfortable and profitable. - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 2, p. 16, 2017.
- Smart and sustainable cities of the future. - Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 2, p. 30, 2017.
- Low-carbon planning as a factor of attracting investments to the sustainable development of cities. Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 2, p. 32, 2017.
- Support for economically sound low-carbon urban projects. -Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 2, p. 47, 2017.
- The housing sector as an element of urban sustainability. -Quarterly Bulletin "Sustainable Cities: Energy. Transport. Housing sector. Wastes", No. 2, p. 50, 2017.