

The project of the RK Government / GEF-UNDP “**Sustainable cities for low-carbon urban development**”

Implementation period – 2015-2020

Executive partner:

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

Reporting period: 2018

I. Goal

The project provides assistance in identification, development and implementation of measures for mitigation of climate change corresponding to the national conditions (NAMA) in the urban sector. These measures, including investment in efficient infrastructure, as well as capacity building, awareness raising and technical assistance, will contribute to, along with improving the work of municipal services and quality of life of the population in large and small cities of Kazakhstan, the achievement of voluntarily adopted goals of the country to reduce greenhouse gases emissions.

The basis of the project is the approbation of support measures for low-carbon investment projects in municipal infrastructure that can be implemented through debt financing.

Within the framework of project it is planned to strengthen the capacity of municipal (regional) services in low-carbon municipal (regional) planning, develop targets for prioritizing municipal (regional) measures to reduce the impact on climate change (Component 1), and support in creating and strengthening institutional structures for supply of public-private investment and investment on ESCO model to specific infrastructure objects and provide technical assistance (Component 2); assist in financing urban projects through measures of their support (Component 3); implement pilot projects by investing in modernization and improvement of municipal infrastructure (Component 4); test the mechanism of trading with reduced emissions from performed municipal low-carbon projects (Component 5).

BASIC RESULTS

On first component – *«Low-carbon municipal planning, objectives and prioritization of measures in municipal infrastructure».*

Within the framework of this component, technical and methodological support is provided to 15 cities (regions) in collection, processing and analyzing data on municipal low-carbon planning. In selected cities, priority measures are identified in municipal sector that contribute to energy saving and energy efficiency of the selected cities.

- In 8 pilot cities: Astana, Pavlodar, Petropavlovsk, Kokshetau, Stepnogorsk, Kapshagay, Semey and Satpayev, an inventory of GHG on sectors of municipal economy was carried out according to the international methodology, as well as the analysis of the state of municipal economy and SWOT analysis of municipal opportunities for low-carbon development in all municipal sectors. The main municipal sectors that produce indirect GHG emissions in the cities are: heat and power supply of residential buildings (60%),

municipal transport (18.4%), and also municipal infrastructure - street lighting, pumping stations, heating and lighting of public / municipal buildings, etc. (6.8 %).

- On the basis of the conducted research, and taking into account Kazakhstan obligations under the Paris Climate Agreement, the objectives of reduction GHG emissions for these cities in the short-term (till 2020) and long-term (till 2030) perspectives are defined, priorities for achieving the goals and the amount of required investment are identified, economically viable low carbon municipal projects that can be financed through the attraction of borrowing are presented. The risk analysis of implementation of projects and initiatives is performed, as well as possibilities of attracting debt financing and co-financing for implementation of projects are estimated.
- In 6 pilot cities of Astana, Pavlodar, Petropavlovsk, Kokshetau, Stepnogorsk, Kapshagay, the extended meetings of working expert groups were held, where the results of calculations of GHG emissions and lists of investment projects recommended for implementation in the pilot cities were presented with estimation of their cost and payback period:
 - Regarding low-carbon initiatives in residential buildings - packages of projects on energy efficiency in common facilities and on heat regulation of buildings.
 - Regarding low-carbon initiatives in public buildings, packages of projects for their thermal modernization were presented.
 - Regarding the reduction of power consumption in the cities - projects on “Reduction of power and irrational water consumption on water and sewage stations”, “Modernization of street lighting systems based on LED lamps”.
 - Regarding low-carbon initiatives in transport sector: “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”.
- Proposals were made to include the lists of low-carbon projects to the Regional Development Plans / Sectoral Plans of the regions. Plans are currently being finalized in the regions and, after agreement in a due order, will be presented to the public (2019).
- For two pilot cities (Temirtau and Astana), the proposals of UNDP project on NU Development project were included in:
 - "Complex plan of measures for improving environmental situation in Temirtau city for 2018-2020," approved by the Deputy Akim of Karaganda region Shaidarov S.Zh.
 - "Complex plan-measures for improving environment of Astana city for 2017-2018", approved by the Deputy Akim of Astana city Aytmuhametov K.K.
- UNDP-GEF project participates in activity of working groups at Astana city Akimat to improve environmental situation in the city and development a “Low-carbon development strategy of Astana”. During the reporting period, the preliminary studies on inventory of GHG in municipal sector of Astana city, the results of implemented or planned for implementation NU projects in the city, as well as proposals to the “Roadmap for developing the Strategy of Astana Low Carbon Development ” were presented.
- In Petropavlovsk city, together with UNDP-GEF project on sustainable transport (CAST project), an in-depth analysis of transport system of Petropavlovsk city was completed during the reporting period, recommendations and Action Plan for its improvement were

developed to reduce GHG emissions in the long term perspective and improve the quality of services for population. The assessment of transport system of Petropavlovsk city has been carried out and studies have been made to calculate the necessary investments. Current situation with public transport in Petropavlovsk was analyzed: analysis of route network, analysis of carriers, transport management structure, an analysis of information system, etc. Recommendations have been worked out for the development of sustainable municipal mobility. All recommendations were discussed at 2 workshops and one workshop-conference and submitted to the Akimat of Petropavlovsk for further use.

- In Astana, Pavlodar, Temirtau and Stepnogorsk, round tables were held to discuss the introduction of Standard ST RK ISO 37120 "Sustainable development of communities. Indicators of municipal services and quality of life." The indicators in the Standard are selected so as to simplify reporting as much as possible and make it as economical as possible and are designed to assist Akimat in managing and assessing the performance of municipal services and quality of life, including aspects of GHG emissions and energy consumption. The project developed "Road maps for introduction of the standard to the work of Akimats". Presently, Roadmaps are under consideration of Akimats of the pilot cities.

On second component – «*Creation of organizational framework for municipal infrastructure projects*».

The component is targeted to assisting in building / changing organizational scheme for attracting investments to municipal infrastructure, including public sector objects / municipal property (through public-private partnership), as well as multi-family residential facilities (through the ESCO model).

- Technical assistance was organized to support the preparation of 10 PPP projects in Aksu, Atbasar and Satpayev, Aktobe, Kokshetau, Kostanay and Stepnogorsk, Kyzylorda cities. Support is to:
 - select object of modernization in cooperation with Akimats and potential business structures (BS) that are ready to act as a private partner in an energy saving project;
 - conduct an energy survey of the object to determine the basic indicators of energy consumption;
 - demonstrate benefits for Akimats and business;
 - consult Akimats and business on adaptation of standard solutions of PPP projects,
 - provides consultations on agreement procedures of PPP project,
 - conduct tender procedures, etc. up to the moment of conclusion contract between Akimats and business.
- Technical assistance is provided to the projects on different aspects:
 - street lighting (3 PPP projects in Aksu, Atbasar and Satpayev cities),
 - heat supply system (2 PPP project in Temirtau and Kostanai cities);
 - indoor lighting (3 PPP projects in Aktobe, Kokshetau and Stepnogorsk cities);
 - water supply (1 PPP project in Satpayev city);
 - boiler equipment (1 PPP project in Kyzylorda city) - PPP service contract on modernization and service of boiler equipment, the contract is concluded, assistance is provided in technical survey.
- Deadline for completion of works - 2019, upon its results regional workshops will be held for representatives of Akimats and business to present recommendations on how to use a set of available technical documentation during the implementation of investment projects aimed at energy saving.
- According to the results of work, approved PPP projects in 2019 will be reviewed by the Project Steering Committee for the receipt of financial support measures.

On third component - «*Development of financing system for municipal infrastructure projects*».

This component is focused on creating a system that will allow attracting investments from private and banking sectors into energy saving projects.

- Upon the results of 2018, 6 meetings of the project steering committee (PSC) were held, where 75 proposals from business were reviewed, 67 (89%) out of which received a positive conclusion for obtaining preferential credit conditions. The total cost of the supported investment proposals amounted to \$ 33.3 million, including with bank loan of \$ 14.1 million, which reduced 47.3 million tons of CO2 equivalents per year or 94.6 million tons of CO2 equivalents for the projects life cycle. The size of the support amount required for financing a subsidy from UNDP-GEF for creating preferential conditions amounted to \$ 2.4 million to reduce the bank rate and \$ 0.3 million for guarantee, or \$ 1 of UNDP-GEF attracted \$ 14 US of investments in green technology and a decrease of 1 ton of CO2 required \$ 0.8 US of subsidies;
- Out of projects approved by PSC, 13 (19%) projects received a positive conclusion from the bank for financing, including first payments of financial support for 2 projects were made, 52 (78%) project are under consideration in banks (procedures for consideration of applications by structural divisions) reply on 9 applications out of them is expected to be received before the end of December 2018, 2 (3%) project refused from financing due to getting cheaper government funding;
- Thus, in 2018, work was carried out to reserve available funds at project disposal - \$ 2.7 million or 90%. To achieve these indicators, activity was done to highlight the beginning of work in the media, more than 15 field workshops were held with Akimats business representatives, and work was done to provide consultations on more than 500 questions on the existing tool. To respond to the incoming cases from the regions and adapt the rules for submitting and reviewing projects, adjustments were made to the rules, agreed with the participants (line ministry and DAMU Fund) and reviewed by the PSC.
- In order to continue the work started after disbursement of the existing UNDP-GEF funds, work is in progress to develop a diversification strategy for sustainable operation of mechanism implementation model without participation of UNDP-GEF funds, including new project ideas initiated as a part of associated grant tool, GEF-7, European Union and Budget Financing.

On forth component: *Implementation of a complex pilot project on municipal infrastructure to demonstrate economic viability of reducing municipal GHG emissions for future replication.*

As part of the component, it is planned to implement 1 pilot municipal project - to carry out a complex modernization of a micro-district in Astana (selected on a competitive basis), including modernization of buildings, structures, engineering networks, waste management systems and transport infrastructure. In this component, it is proposed to test the combined financing of a low-carbon project.

Houses at the following addresses: Pushkin Str., 7 ; 1; 3; 3/1; 3/2 Zhubanov Str., Astana, md. Tselinny were selected as a pilot area.

- During this period, 8 common meetings were held, one meeting - for the owners of all five houses with participation of Akim of Baikonur district of Astana, Mr. Kanalimov E.E., and in each house separately with participation of experts of UNDP project. Meetings were held twice in two houses.
- According to the results of the meetings in the pilot houses, the quorum could not be met. In accordance with the Law of the RK “About Housing Relations”, after comon meetings (in the absence of a quorum), written interviews were conducted with

participation of experts from the UNDP-GEF project and UN volunteers, as well as AAOs representatives in all 5 pilot houses.

- At present, the consent of tenants of 3 residential buildings for participation in the project has been received: Pushkin Str.7, Zhubanov Str.1 and 3/2. Work is going on to receive the consent of residents in the houses: 3 and 3/1 Zhubanov Str.
- A study tour was organized and conducted in Minsk, Belarus, to introduce the experience of complex modernization of apartment buildings of the old building series No. 1-464 for decision makers, including representatives of apartment owners and Service Company of AAO Luch-7.
- In the reporting period, work was completed on a Master Plan for complex modernization of city quarter with improving energy efficiency of pilot buildings. According to the Master Plan for Project implementation it is planned to:
 - Insulation of exterior walls,
 - Insulation of cellar ceiling,
 - Installation of wind porches and replacement of windows in the entrance halls, semi-basement,
 - Installation of AHP, balancing,
 - Insulation and waterproofing of roof,
 - Insulation of distribution pipeline in the basement,
 - Minor repair of enclosure,
 - Preparation of design and estimate documentation as well as tender documents to leverage investments on ESCO model.
- Architectural and planning assignments were received for a major repair with thermal modernization of three residential buildings.
- In the reporting period, the following types of work were carried out in the pilot houses:
 - *Replaced lighting in common facilities - installed LED lighting with sound sensors,*
 - *Replaced outside lighting with installation of efficient LED fixtures,*
 - *Insulated ceiling of basement in three buildings,*
 - *Replaced windows in common facilities (entrance halls) and semi-basement,*
 - *The development of design and estimate documentation for major repair of three residential buildings has been started.*
- According to the preliminary plan, developed jointly with Akimat representatives, it was planned that roof repair with insulation, installation of drainage system and restoration of perimeter walls around the buildings would be implemented at the expense of apartment owners under "Housing and Utilities Modernization Program -2020" on a repayment basis - meetings with authorized Akimat organization on modernization of residential buildings under this Program Orken Kala LLP were held.
- It was agreed that the design and estimate documentation would be developed at the expense of UNDP Project and the albums on roof and engineering systems repair given to Orken Kala LLP for work production. The Project will also assist in holding common meetings with tenants repeatedly according to the procedures of Orken Kala LLP. (2019).
- The Akimat of Astana city replaces engineering infrastructure and landscape of the territory, as well as SDW site. The district Akimat has begun work with responsible institutions to include the costs for these works in the district budget of 2019.

On fifth component: *Monitoring, testing and dissemination of knowledge and practices.*

- Experts participate in the work of working group on the development of Environmental Code of the RK in a new edition. Specific proposals were made to improve the GHG trading system in Kazakhstan, a draft package of documents was prepared on introducing amendments and additions to the legislation on improving the GHG trading system to ensure the inclusion of reduced GHG emissions from municipal low carbon projects to the National GHG Trading System of the RK (ETS).
- An action plan and a roadmap for the parties involved in organization of trade with reduced GHG emissions from municipal projects on energy efficiency including necessary certification / validation / approval procedures, etc., and monitoring / evaluation and verification plan (MEV) to ensure reliability and accounting of GHG emission reductions for performed projects, including necessary user guide.
- 5 projects (educational institutions) that resulted in reduction of GHG emissions were selected. Projects were realized by Sapro-NAT LLP in Pavlodar region. The projects have replaced the lower-burning heating boilers to the upper-burning heating boilers (made in Kazakhstan), for significant fuel saving and improving efficiency of boiler equipment; equipment regulating the process of generating heat energy was installed, and pumping equipment was replaced to reduce energy costs for the production of heat energy. As a result, there was a significant reduction in GHG emissions, about 838 tons of CO₂ eq. per year or 12,570 tons of CO₂ eq. for the life cycle of projects.
- A project idea was developed to ensure the sale of these reduced GHG emissions in accordance with the requirements of the “Rules for the development of internal projects for the reduction of greenhouse Gases Emission”. The project idea was agreed with the authorized body (letter of the Ministry of Energy of the RK dated December 5 2018 № 19-06/34460).
- Terms of reference have been prepared for the procurement of services for validation of project documentation and monitoring plan for the internal small-scale project to reduce GHG emissions. Tender documentation is being prepared.
- In the end of the heating season, in spring of 2019, verification of the reduced volumes of GHG emissions will be carried out, which will be put up for sale on the commodity exchange.
- Standard methods and systems for calculating indirect GHG emissions have been developed to support the improvement of reporting quality when calculating GHG emissions from municipal services. Particular attention is paid to the national coefficients and specific nature of production and consumption of energy by the main sectors of municipal economy, taking into account energy consumption, consumption standards, growth of population and construction of new municipal and private facilities.
- Developed Monitoring, Reporting and Verification Requirements (MRV - Monitoring, Reporting & Verification) for performed projects in municipal economy for accounting of reduction GHG emissions and production of internal emission reduction units
- • Within the framework of the republican eco-festival “Smeste Yarche” in Petropavlovsk on August 27-29, 2018, the following events were organized and held:
 - Round table “Sustainability of a city during the implementation of low-carbon development strategy” to support the implementation of low-carbon initiatives

in cities and mechanisms to encourage investments in energy efficiency of municipal infrastructure of the Republic of Kazakhstan.

- methodical workshop "Practical possibilities of systemic integration of environmental education",
 - promotion among municipal public, managers of housing and utilities sector, representatives of AAOs, business, educational organizations, civil society to promote the best technologies in the sphere of energy efficiency, resources saving, formation of approaches for sustainable city development, separate collection of solid waste, introduction of green subsidies, active dissemination of systemic integration of environmental education in formation of ecological culture of the citizens of Petropavlovsk.
-
- During the reporting period, the Account on FB and the project portal www.eep.kz were updated continuously to promptly inform about the project work.
 - A number of infographics of the project on mechanism of subsidy, on housing and utilities issues, were published for demonstration to the key target groups and explanation of a principle of this mechanism, including:
 - Infographics on the pilot project for modernization of Transport Towers building,
 - Infographics of a pilot project for modernization of a boiler house in Karaganda,
 - Infographics on a pilot project for modernization of light-signal equipment in Almaty Airport,
 - Informational case "Encouraging investments in energy efficiency of municipal infrastructure of the Republic of Kazakhstan" in Russian and English.
 - Leaflet on the incentive mechanism for energy service municipal initiatives.
 - In May of the current year, within the framework of the Global Challenges Summit 2018 (AEF) event, a special session "City Life Quality Ratings in Kazakhstan" was organized and held with presentation of current project results.
 - In October, within the framework of the meeting of the World Petroleum Council, the UN Development Program jointly with the UN Economic Commission for Europe and the Women's Energy Club organized a session on the development of gender policy in energy sector. The preliminary results of a study on the theme: promoting clean and affordable energy for the empowerment of women and girls in Kazakhstan were presented.
 - "In November 2018, a media training was organized and held jointly with Kazmedia Media School for journalists from different cities of Kazakhstan on the theme: mechanism of green subsidies. Information on the results of the event was published on the portal www.eep.kz.
 - The project took an active part in organizing and conducting the First International Forum on Energy Saving together with the Ministry of Investments and Development of the RK. Within the framework of the Forum, a special session was held on the theme "Energy efficiency as a condition for building low-carbon cities", on which green investment support model and the results of the first projects on this initiative were presented.
 - A press conference was held at Almaty International Airport (IAA) building with participation of UNDP Deputy Resident Representative dedicated to the results of the

project on modernization of runway lighting equipment, supported by UNDP-GEF project on the green subsidy mechanism.

- A special press conference was organized and held on the project for replacement of lighting on Transport Tower building, supported by UNDP-GEF project on the green subsidy mechanism.
- The project experts took part in a special broadcast on Astana Radio “About the pilot project in Astana” (July, 2018).
- During the reporting period, the project continued active work with the media. The head and experts of the Project systematically gave interviews to television channels and print media, participated in press briefings, press conferences and television programs.

- All media references are displayed:
 - On Facebook page of the project:
<https://www.facebook.com/profile.php?id=100012843423706>,
 - On UNDP Facebook page: <https://www.facebook.com/UNDPKazakhstan/>
 - On the link of web portal «Energy efficiency+»: <http://sustainable.eep.kz/press-center/media-about-us/>