



FINAL REPORT

**United Nations Development Programme
Kazakhstan**

Project Title: 00091328, UNDP-GEF Project “Nationally Appropriate Mitigation Actions for Low-carbon Urban Development”

Reporting Date: April 12, 2024



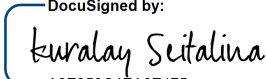
Reporting Period	January – April 21, 2024
Donor	GEF
Country	Kazakhstan
Project Title	Nationally Appropriate Mitigation Actions for Low-carbon Urban Development
Project ID (Quantum Award ID) Outputs (Quantum Project ID and Description) Strategic Plan and/or CPD Outcomes	00091328 00082364
Implementing Partner(s)	
Project Start Date	March, 2015
Project End Date	April 21, 2024
2024 Annual Work Plan Budget	USD 315, 881.54
Total resources required	
Revenue received	• Regular TRAC USD 60,000 • Other ○ Donor GEF USD 5,930,000 • Total USD 5,990, 000
Unfunded budget	-
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I. Executive summary

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, contribute to achieving the country's GHG emission reduction voluntary target while improving urban services and the quality of life of citizens in Kazakhstan's towns and cities. The project is the first effort in Kazakhstan to adopt a comprehensive approach to reduce GHG emissions in cities.

The Project achieved the following results:

- improved the capacity of municipalities to carry out integrated municipal planning, made targets and prioritize urban mitigation actions (Component 1);
- supported the creation and strengthening of institutional structures that will allow public and private sector investments in identified infrastructure and technical assistance (Component 2);
- provided facilitation of financing of urban NAMA through creation of a dedicated fund (Component 3);
- piloting of an urban NAMA through investments in modernization and upgrading of the urban infrastructure (Component 4).
- tested the mechanism for trading in reduced emissions from implemented urban low-carbon projects (Component 5). In 2021, one deal for the sale of GHG emissions reductions in the domestic carbon market was fully prepared, documents were finalized to release 2,498 tradable GHG emission reductions - carbon credits ready for sale. Unfortunately, there was no demand for emissions due to an excess of quotas issued by the state within the framework of regulation (the UTS RK system).

As a result of this project, the estimated direct emission reductions are 47,426 tCO₂e per year or over 1M tCO₂e for life-time of the projects.

II. Background

The project assists in the identification, design and implementation of nationally appropriate climate change mitigation (NAMA) measures in the urban sector. These measures, which include investing in efficient infrastructure, as well as capacity building, awareness raising and technical assistance, helped, along with improving urban services and improving the quality of life of people in cities and towns of Kazakhstan, to achieve the country's voluntary goals to reduce greenhouse gas emissions. According the reports by national Co₂ emissions expert, the estimated direct emission reductions are 47,426 tCO₂e per year or over 1M tCO₂e for life-time of the projects.

The basis of the project is the testing of support measures for investment low-carbon projects in urban infrastructure, which can be implemented through debt financing.

The project activities by component:

- strengthened the capacity of urban (regional) services in low-carbon urban (regional) planning, develop goals for prioritizing urban (regional) climate change mitigation measures (Component 1),
- supported the creation and strengthening of institutional structures to ensure public-private investing and investing under the ESCO model in specific infrastructure facilities and provide technical assistance (Component 2);

- assisted in financing urban projects through support measures (Component 3);
- implemented pilot projects by investing in the modernization and improvement of urban infrastructure (Component 4);
- tested the mechanism for trading in reduced emissions from implemented urban low-carbon projects (Component 5).

UNDAF Outcome (s): Environmental Sustainability. By 2015, communities, national and local authorities use more effective mechanisms and partnerships that promote environmental sustainability and enable them to prepare, respond and recover from natural and man-made disasters.

UNDP Strategic Plan Primary Outcome:

Outcome 1: Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded

Output 1.4. Scaled up action on climate change adaptation and mitigation across sectors, which is funded and implemented.

Expected CP Outcome (s): The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies.

Expected CPAP Output (s): Government and energy consumers are better equipped with knowledge, policies and pilot cases on energy efficiency in sectors with high carbon dioxide emission levels.

Implementing Partner: the Ministry of Industry and Construction of the Republic of Kazakhstan, «DAMU» Entrepreneurship Development Fund» JSC (Damu Fund).

III. Progress Review

Fill in the table with project indicators data:

Expected outputs	Output indicators	Data source	Baseline		Value for the previous year if different from baseline	Target for the reported year	Actual value for the reported year
			Value	Year			
Output 1 Enable participating municipalities to articulate their climate-related priorities, and identified and prioritized urban mitigation actions (urban NAMAs)	1.1 Number of municipalities for which urban GHG inventories, abatement costs curves and NAMA factsheets prepared and discussed with stakeholders	PIR	15		15	0	15
	1.2 Number of municipalities for which urban GHG reduction targets established and officially adopted by Akimats	PIR	15		15	0	15
Output 2 Put in place the enabling institutional framework to facilitate the implementation of urban mitigation	1.1 Technical assistance delivered according to ToR agreed with each akimat (signoff between UNDP and akimat)	PIR	15		15	0	15
	1.2 Bankable project documents prepared	PIR	15		The project provided support to additional 17 successful projects that were completed in 2023.	0	The project provided support to 50 successful projects that were completed in 2018-2023. (Annex 1)

	1.3 Public service contracts signed / tariffs agreed	PIR	up to 15, depending on needs		The project provided support to additional 17 successful projects that were completed in 2023.	0	The project provided support to 50 successful projects that were completed in 2018-2023
Output 3 New and additional financing for urban NAMAs levered	1.1 Financing leveraged to urban NAMA projects enabled by the Pilot NAMA financial mechanism (USD)	PIR	45 mln. USD		USD 3,3 M total project cost for 17 projects, including USD 3 M of loan funds.	0	USD 3,3 M total project cost for 17 projects, including USD 3 M of loan funds.
	1.2 Diversification strategy developed	PIR	strategy developed		The draft strategy was presented to the Beneficiary.	0	0
	1.3 Direct lifetime GHG emission reductions from NAMA fund	PIR	275,000 t CO2		The preliminary emissions reductions are 4 878 tCO2 per year or 111 476 tCO2 for the lifetime for 17 projects that were completed in 2023.	0	As a result of this project, the estimated direct emission reductions are 47,426 tCO2 per year or 1,108,652 tCO2 for life-time of the projects according the calculations verified by the national expert

Output 4 Identify and finance a pilot urban mitigation action to demonstrate the feasibility of urban emission reduction for future replication	1.1 Direct annual/lifetime GHG emission reductions from pilot urban mitigation action	PIR Report by Aiman Shopayeva	4,750 tCO ₂ /95,000 tCO ₂		The pilot modernization of the 5 buildings in Astana annual effect is estimated at 604 tCO ₂ /year or 12 358 tCO ₂ life-time. The residential building modernization in Temirtau effect is 202.7 tCO ₂ / 4,054 tCO ₂ life-time, so the building modernization result is 806,7 tCO ₂ /year / 16,412 tCO ₂ life-time reduction.	0	The pilot modernization of the 5 buildings in Astana annual effect is estimated at 604 tCO ₂ /year or 12 358 tCO ₂ life-time. The residential building modernization in Temirtau effect is 202.7 tCO ₂ / 4,054 tCO ₂ life-time, so the building modernization result is 806,7 tCO ₂ /year / 16,412 tCO ₂ life-time reduction.
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	1.2 Status of pilot urban mitigation action demonstrating comprehensive modernization of urban district	PIR	9		The pilot urban mitigation action demonstrates that the pilot project is implemented: status of level 9, and monitoring is going on level 9.	0	The pilot urban mitigation action demonstrates that the pilot project is implemented: status of level 9, and monitoring is going on level 9.
Output 5 GHG emission reductions of implemented urban NAMAs are systematically monitored, verified and reported	1.1 NAMA MRV process allows certified emission reduction credits to be imported into the domestic Emission Trading Scheme	PIR	1 transaction with domestic urban carbon credit project registration, certification and transfer of the resulting emission reduction in ETS concluded		The documents were finalized to issue 2,498 tradable GHG emission reduction units. The sales order was placed with the broker. The units are still waiting for the buyer	0	0

	1.2 MRV system for urban NAMA set up and operational in cities	PIR	4		MRV system concept for Kazakhstan was designed with help of an external consultant. 4 trainings were organized for 4 regional authorities.	0	0
Output 6 Kazakh cities and towns are aware of, and have access to, information and guidance on urban NAMAs	1.1 Awareness index to be defined in inception workshop incorporating knowledge and 'use of knowledge' factors at city/town level	PIR	N/a		The survey was filled in by 343 individuals. It appears, that the end-of-project target is reached.	0	0

	1.2 Number of people reached out by awareness raising campaign (gender disintegrated)	PIR	N/a		The coverage reached 11,853 individuals (including 6,767 women), above end of project target, with additional efforts in 2022. To continue awareness raising, in May 2022 the Project provided a training on green projects and energy efficiency and FSM	N/a	0
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*Below are the targets agreed on the latest Extension Period of the UNDP-GEF NAMA Project
30 April 2023 - 21 April 2024*

Indicator	Target (at EOP)	End of Project
No. of new FSM project applications received and approved	16	17
No. of new installed and operational FSM projects under the new FSM	16	17
Total cumulative amount of financial support commitments and payments to approved new NAMA FSM projects and related Damu commission	USD 1.3 M	USD 1.3 M
No. of FSM projects verified with the GHG emissions reductions from new NAMA FSM projects	16	17
No. of disseminated electronic publications of the lessons learned and best practices of the NAMA Project.	4	4

Component 1: INTEGRATED MUNICIPAL PLANNING, TARGETS AND PRIORITIZATION FOR URBAN MITIGATION ACTIONS.

Under this component, 15 cities (regions) were supported in the collection, processing and analysis of data related to low carbon urban planning. In selected cities, priority actions in the urban sector are identified that promote energy conservation and energy efficiency.

Within the activities under component 1:

- In 15 pilot cities, an inventory of greenhouse gases was carried out by utility sector using international methodology. For pilot cities, investment plans have been developed to modernize low-carbon cities.
- The identified activities were included in the officially approved regional plans and programs.
- Limited capacity of the municipalities is explained by the complete novelty of requirements to monitor the emissions and absence of relevant by-laws and regulatory base, budgets and competencies.
- Regional investment plans will be financed from the budget, as well as from the private sector through a public-private partnership (PPP) or ESCO.

The following main barriers were identified by the Project:

- In some cities, especially small and single-industry towns, the process of approving investment plans and GHG targets is rather difficult due to the lack of funds in Akimats to implement these plans.
- It has to be noted that the emission inventories and carbon abatement are not properly institutionalized, while it is required by the adopted (January 2021) Ecological Code.
- Due to COVID-19 related complexities, local administrations often did not want to attract extra-budgetary funds to projects to reduce emissions (in particular PPP projects) in order not to increase the debt burden on budgets.
- Implementation of low-carbon urban projects in the housing sector has become even more problematic due to the complicated economic situation in the country caused by COVID-19. Part of the population become unemployed. Therefore, the population is reluctant to approve the implementation of energy efficiency measures (for example, modernization of heating systems, roof insulation, repairs of engineering networks), preferring to postpone these works to a later time, when the situation improves.
- Another barrier that makes it difficult for Akimats to plan and commit to reduce CO₂ emissions is the fact that local administrations do not keep records of GHG emissions (only at the country level such data are available). Local administrations are required to keep records of pollutants in their regions and develop low-carbon strategies after the adoption of the Environmental Code. Earlier, the UNDP-GEF Project provided appropriate recommendations. After the adoption of the Ecological Code at the end of 2020, and Akimats still do not have capacities and budgets to catch up with the new requirements. It will take time for the system to start working.

Component 2 - INSTITUTIONAL FRAMEWORK FOR URBAN NAMAs.

The focus of this component was promoting the creation / transformation of an institutional framework for attracting investment in urban infrastructure, including public sector facilities and communal property (through public-private partnerships or fiduciary management), as well as to the sector of multi-apartment buildings (according to ESCO models).

By the end of the project, all 15 pilot Akimats were provided with technical assistance to develop the institutional framework, and project documentation for bank financing should be prepared.

The works completed within the component:

- A technical support in establishing the institutional framework for urban infrastructure projects was provided to 47 cities, including 15 previously approved pilot cities.

- As part of the above support - support to the cities: Aksu, Atbasar, Satpayev, Aktobe, Kokshetau, Kostanay and Stepnogorsk, Kyzylorda consisted in accompanying the preparation of 10 PPP projects, including:
 - selection of a modernization object together with Akimats and potential business structures, which are ready to act as a private partner in the energy saving project;
 - conducting an energy survey of the facility to determine the basic indicators of energy consumption;
 - demonstration of benefits for Akimats and business;
 - consulting support of Akimats and businesses on the adaptation of standard solutions for PPP projects,
 - consulting support of the process of agreement procedures of the PPP project.
- Results of the above works made possible implementing energy service contracts under the PPP mechanism and identified hidden barriers to implementation and opportunities and gaps in new PPP legislation.
- The end-result of this work is a model package of documents for energy-saving PPP projects, which are available for each user and subsequent use.

Component 3 - FINANCING FOR URBAN NAMAs.

The component was aimed at creating a system that allows attracting investments in energy saving projects from private organizations and banks.

Considering the risks of a decrease in entrepreneurial activity in general and in energy efficiency, the UNDP-GEF Project in partnership with the DAMU Fund developed and implemented a financial incentive measure for low-carbon urban projects in the form of financial support to the loan principal of up to 40%, which meets the conditions and expectations of the business. Based on final recommendations of the FSM review in March 2022, necessary adjustments were made, including improving the procedures for selecting projects for support and subsequent monitoring with 2 independent Technical Experts to make eligibility approval and terminal validation of the projects and supporting them in a more transparent way and to make sure the quality of the process.

The Project contributed to development and deployment of a tailored version of the social and environmental screening procedure (SESP) to be applied to small-scale projects in energy efficiency and renewables in the conditions of Kazakhstan.

Jointly with another the UNDP-GEF “Derisking Renewable Energy Investment” (DREI) Project, the team prepared a wide-scale training program for the NGOs involved in monitoring and evaluation with a special focus on energy efficiency and renewable energy so that in the future similar projects may have a broad base of trained experts in the area of monitoring and evaluation to ensure good quality of their organization. The training was launched in the period of Feb. 06 till Mar. 26, 2024. The training was provided by Foundation for Information Support for Society Development (Kazakhstan, Oskemen). The training comprised 50 hours of studies, about 50% online (12 sessions) and the rest – as homework,

discussions in small groups and individual consultations. The training was attended by 37 participants, 32 of them (including 6 representatives of UNDP) met requirements to receive certificates of successful completion of the training. As a result the number of potential participants of the boards of the UNDP and other projects, as well as project evaluations was significantly increased in Kazakhstan.

Over the implementation course, the project team arranged numerous communication activities, articles and presentations, publications in social networks, e.g. communication material covering NAMA Project support for installing a biomass-fired boiler for Beskol School at North Kazakhstan Region, city lighting project in Atyrau city ([Annex 2](#)).

On April 18-19, 2024, the project team held a final closure event in Zerenda, Akmola Oblast, for stakeholders and beneficiaries.

FSM implementation under Component 3

The NAMA Project finalized support activities in the framework of the updated FSM ([Annex 3](#)). FSM reworking followed FSM independent review in 2020-2022, and this separated the financially supported projects into batch 1 and batch 2:

- 33 projects in 2018-2020, supported via interest rate subsidy (10% p/a);
- 17 projects in 2022-2024, supported by loan principal subsidy (40% of the loan principal after verification of the project's physical implementation by Technical Expert 2, while independent Technical Expert 1 was doing the preliminary evaluation of applications).

All completed supported energy efficiency projects were verified by Technical Expert 2 to get the financial support, remaining payments are in progress. DAMU representatives participated in the monitoring visits as observers, and the NAMA Project representatives were also present. UNDP Kazakhstan Country office representatives were also taking part in the monitoring visits from time to time.

Each supported project compliance conclusion was confirmed only by Technical Expert 2, as an independent evaluator, without any external influence. DAMU completed its own part of monitoring, verifying if each project is financially sound (it is done in a simple way - loan repayment and timeliness of other obligatory payments is monitored), and DAMU was making sure if the funds were borrowed in the agreed amount and used to the purpose (by documents confirming payments for the eligible items). DAMU monitoring followed the monitoring of Technical Expert 2.

Component 4: IMPLEMENTATION OF PILOT URBAN NAMA.

Under this component, one pilot project was completed: a comprehensive low-carbon modernization of a residential area in Astana city. Five residential buildings in a residential quarter of Astana city, Baikonyr district at Pushkina and Zhubanova streets were selected on a competitive basis for energy efficiency

modernization, including their heating networks. This component tested the blended financing of a low carbon urban project.

Reducing energy consumption by modernizing the district will not only bring economic and environmental benefits, but will also help to improve the comfort and quality of life of local residents and reduce greenhouse gas emissions into the environment.

At the completion of the 4th component, the verified analysis by the national expert Ms. Aiman Shopayeva has shown that there is potential for energy savings averaging 30 to 35% per year. As a result of the implementation of measures to improve the energy efficiency of pilot buildings, annual heat consumption was reduced by 31.3%, annual electricity consumption for the needs of single-family houses was reduced by 71%, greenhouse gas emissions were reduced by 604 tCO₂/year and cash savings for utilities amounted to approximately 2.9 million tenge/year.

Based on the life cycle of the installed equipment and the activities carried out in the pilot quarter, the reduction in greenhouse gas emissions reached approximately 12.4 thousand tCO₂ (see table below).

#	Energy efficient measures	Reduction of GHG emissions, tCO ₂		
		per year	for implementation period	for life-time
1	Energy-efficient measures to reduce the consumption of thermal energy	424	934	4 240
2	Energy-efficient measures: to reduce the consumption of electricity (ODN)	21	105	168
3	Replacement of the pipes in the block's internal heating networks	159	1 088	7 950
	TOTAL	604	2 127	12 358

As a result, the following works were completed and commissioned at 5 residential buildings:

- Sealing and insulation of seams between wall panels;
- Wall painting;
- Restoration of the area along the perimeter of buildings;
- Restoration of cornice slabs over entrances and arrangement with gutters;
- Replacement of external entrance doors;
- Creation of unheated spaces on balconies (installation of balcony structures and ebbs);
- Modernization of heating systems, hot and cold water supply with replacement of pipelines;
- Roofs insulation was done at the expense of the Akimat.
- Installation of a weather-compensated automated substations.

Based on the Memorandum signed between UNDP and the City Akimat in 2017, the City Akimat has repaired the roofs of the pilot residential buildings (according to the regional development program, the residents shared the costs), as well as renovated the yard of the quarter and the district heating pipelines.

The UNDP-GEF Project developed and handed over to the Akimat design and cost estimates for the insulation and modernization of the roofs at the pilot residential buildings. A single apartment's refund is 325,785 tenge for the entire period or an average of 3,880 tenge per apartment every month (for 7 years).

A residential building at Zhubanov st. 1 decided not to participate in the Regional Development Program for the repair of the roof. Residents finally agreed in 2021, and so the 5th building got a new roof a year later than the others. The City Akimat of Astana has also completed works on the improvement of the courtyard and the territory of the pilot quarter, as well as the repair of the intra-quarter sewerage networks.

The Project faced the following main obstacles during the pilot implementation of the city's residential complex modernization project:

- owners of apartments in multi-apartment residential buildings still consider energy saving measures to be secondary, as the heating is a fairly cheap service in Astana
 - in the context of a worsening economic situation in the country (exchange rate fluctuations, COVID-19 restrictions), apartment owners disagreed to pay for the repairs of common property by instalments, even if these are interest-free loans (under the regional development program).
- Considering that the modernized residential buildings are 40-50 years old and are mainly populated by elderly, this becomes a serious risk to the proposed model of co-financing of energy efficient repairs. A lot of government support is required in the form of grants.
- private companies (ESCOs) are not willing to take risks and conclude contracts for energy efficient modernization of utilities (for example, smart heating or lighting systems) with condominium authorities, especially in the context of the reform of the housing relations system (transition from cooperatives of apartment owners to organizations for managing common property).

Considering the above, as a result of consultations and discussions at the PSC meeting (Minutes No. 16 of May 13, 2019), it was decided to abandon the idea of the ESCO mechanism in this pilot quarter in Astana and test this scheme in the city of Temirtau to demonstrate the possibility of attracting private business funds (ESCO) through financing by a commercial bank. In this project (pilot residential building in Temirtau), the following activities were implemented through the ESCO mechanism:

- Installation of an automated heating point;
- Installation of balancing valves;
- Thermal insulation of pipelines of the heating system, hot water supply;
- Replacement of lighting for common areas (entrances).

As a result of the heat consumption reduction measures, the apartments have become more comfortable. As a result of energy monitoring, a significant actual decrease in heat consumption of 349 Gcal (55% of the baseline - prior to the modernization) was recorded. The investment payback period was 3 years. Refund from one apartment is 4,272 tenge per year. The residential building modernization in Temirtau effect is 202.7 tCO₂ / 4,054 tCO₂ life-time, so the building modernization result for both Astana and Temirtau buildings is 806,7 tCO₂ /year / 16,412 tCO₂ life-time reduction.

Component 5: MONITORING, VERIFICATION AND KNOWLEDGE MANAGEMENT.

By the end of the project, this Component must have completed at least one sale of GHG emission reductions in the domestic carbon market; a mechanism for reporting and checking units of greenhouse gas emissions has been developed; and increased awareness of low-carbon urban development by 50%. In 2021, one deal for the sale of GHG emissions reductions in the domestic carbon market was fully prepared, documents were finalized to release 2,498 tradable GHG emission reductions - carbon credits ready for sale. Unfortunately, there was no demand for emissions due to an excess of quotas issued by the state within the framework of regulation (the UTS RK system).

When preparing this transaction, UNDP-GEF Project has tested the monitoring, reporting and verification (MRV) process at the 5 facilities in Pavlodar region by an accredited company. Corresponding validation and verification of outliers was carried out. The Project supported the validation and later verification of the CO2 reduction.

4 trainings were organized for 4 regional authorities. Road maps for standard ST RK ISO 37120 in 3 pilot cities implementation were prepared for Nur-Sultan, Temirtau and Stepnogorsk (per capita emissions monitoring as an indicator).

During the implementation of the project in 2020-2021, Protocols of Performance Assessment (MRV system) were prepared for the implementation of the following types of low-carbon projects:

- Buildings and constructions,
- Street lighting,
- Boiler plants,
- Pumping units.

IV. Project Risks and Issues

a. Updated project risks and actions

N/A

b. Updated project issues and actions

Project issue 1: The project may not return financial support on 3 incomplete projects (namely, 1 project of AgroProfi and 2 projects of Sapro-NAT) in the amount of \$37 000.

Cause: The return mechanism is not regulated in approved “Rules for providing financial support for the implementation of a mechanism for stimulating investments in energy efficiency of urban infrastructure of the Republic of Kazakhstan within the framework of the Joint project of the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan and the United Nations Development Program “Sustainable Cities for Low-Carbon Development” agreed with DAMU on September 13, 2022. The loans with the bank have been paid in full by both applicants and there is no basis for a return claim from perspective of DAMU and the banks.

Impact: The 3 incomplete projects might not return the financial support provided.

Actions taken: The project team worked with the project beneficiaries (AgroProfi and Sapro-NAT) on timely refund, the PB meetings on this issue were held in September 5 and December 28, 2023, the claim letters were sent by DAMU to the beneficiaries with bank requisites based on the Project Board minutes.

V. Gender Related Activities

To evaluate gender impact, the project hired an independent expert in 2023.

Overview of the report:

1) Changes in the lives of beneficiaries after the implementation of the projects. For example, the results of the project significantly improved the situation of the beneficiaries, we are talking about individual entrepreneur “Parus”. Thanks to the implementation of the project, the temperature in the rooms during the heating season has become stable, as well as the hot water supply - all these are extremely important in terms of the hygiene of children, especially girls. Also, all boiler houses used to be on the balance sheet of the health or education departments; accordingly, the management of boiler houses was carried out by school directors or chief doctors, i.e. they were engaged in non-core activities. Now this non-core function has been removed from them, which helps them focus on their immediate work. Statistically, workers in the field of school education are predominantly women, who, in addition to professional concerns, bear an uneven burden of caring responsibilities and unpaid work at home. Such projects opens up new opportunities for women.

2) The overwhelming number of company management that have chosen to participate in the program, developed applications and implemented projects in the field of low-carbon urban development were men.

- It is recommended to conduct gender analysis during project inception or even earlier and develop a gender strategy to address gender gaps such as representation and engagement of women-led companies.
- It is recommended to include baseline and target indicators disaggregated by gender. It is also recommended to collect gender-disaggregated data on vulnerable groups: people with disabilities, their socio-economic status, age, etc.
- It is recommended to apply conditionality of the funding, i.e. to encourage companies to hire women employees and to strengthen gender-sensitive hiring practices. It is also recommended to hold seminars for contractors on the importance of promoting gender equality in companies.
- It is recommended to include in future projects and programs activities aimed at overcoming stereotypes regarding the participation of women in business and as employees in the field of energy efficiency (training, case studies, publications, etc.).

3) The current practice of decision-making in the project demonstrated inconsistency in the organization of stakeholder discussions, especially with beneficiaries.

- For future similar projects, set up consistency in communication with beneficiaries and stakeholders and consider gender balance to ensure their opinion and participation in the initiation, implementation, monitoring, and evaluation of the project.
- Include a condition for mandatory collection of feedback, recommendations, and feedback from the beneficiaries and stakeholders considering gender disaggregation (e.g. immediately after the launch of the project, one year after the launch of the project, etc.).
- In addition, the lack of gender-sensitive approaches in local executive and central government authorities also affects the quality of decisions made. For example, the choice of beneficiaries could have prioritized areas where there is an increased risk for women due to poor lighting. This data can be used based on statistics of law enforcement agencies by level of violence. In addition, beneficiaries could have been crisis centers, targeting the most vulnerable categories of women, etc.

VI. Cross-Cutting Themes

Social inclusion

Social inclusion is the most important outcome of the NAMA Project: individuals that were involved – the beneficiaries of the activities (312 K people) were all from different social backgrounds, and the majority of them were the residents of the multi-apartment buildings in need of modernization, i.e. not the luxury type of residential property, schoolchildren in the schools in remote areas, users of municipal facilities, etc. All these beneficiaries were unlikely to be involved in any “green” activities other than supported by NAMA Project. For example, out of 60 000 buildings in need of modernization no more than 1% is modernized annually (extrapolating data known from the discussions with the Akimat of Almaty). This involvement created a strong demo effect, amplified by NAMA Project communication activities. Ordinary people learn about such energy efficiency modernization benefits and see examples of their peers who got these benefits, and get interested, which is important for their future involvement.

Social impact

Social impact of NAMA Project was mainly targeting SDG-1 – eradication of poverty: the 1st batch of 33 supported projects created 215 temporary jobs (rather, individuals employed directly when performing works and services to install energy efficiency improvements). The number of people performing works for 17 projects of the 2nd batch was not monitored, but as the projects are similar technically to the 1st batch, it may be safe to assume that around 111 individuals were engaged. However, it is fair to admit this effect is negligible per se. The more important outcome is that the energy service industry in Kazakhstan was supported in the difficult years of the economic turmoil. COVID and the war in Ukraine, inflation, hovering interest rates and exchange rate roller-coaster made life really hard for the small businesses. Survival and accumulating experience by the small companies involved will definitely contribute to creating and supporting more high-quality well-paid jobs in the green sector in future.

Improving governance and public control

Deep-dive monitoring and evaluation training of the representatives of the civil society, energy industry experts and public servants, jointly implemented with DREI Project, was specifically targeting improving governance and public control over the UNDP-led and other donor-funded projects, as well as public initiatives in Kazakhstan. On Mar. 26, 2024 31 training attendees got certificates confirming they completed 50-hour monitoring and evaluation training, and this will definitely contribute to transparency, accountability and good governance of the donor funded and public projects in Kazakhstan.

South-South and triangular co-operation

Most activities of the NAMA Project in the area of the South-South co-operation happened in 2022-2023, when the NAMA Project was actively sharing its experience of applying the financial support mechanism developed and instruments tested. The FSM was presented at several international meeting and forums and the Project contributed to several publications, including a meeting with the EU Decarbonization SECCA Project (covering all 5 Central Asian countries) on May 5, 2022, speaking at International Climate Congress "Shape a sustainable future" in Astana, organized by the EU and Ecojer Association (Jun. 2, 2022), Women Entrepreneurship International Congress organized by the Atameken with a presentation "Women, Communities and Energy in Kazakhstan" (Sep. 22, 2022) (this may also be regarded as a gender-focused activity), inputs to article published by UNDP Eurasia: <https://www.undp.org/eurasia/stories/people-friendly-city>, speaking at 4th and 5th International Energy Saving Forum (Astana, Nov. 11, 2022 and Nov. 10, 2023) and at 2nd and 3rd Almaty Energy Forum (Almaty, Nov. 14-16, 2022 and Nov. 06-08, 2023). In 2024 the NAMA Project focused on publications and sharing experience accumulated, which may also be beneficial to the interested parties in other countries. In April 2024 the Final Event of the Project will involve active participation of the similar projects from other countries, namely Bosnia and Herzegovina, Moldova, Uzbekistan and Ukraine.

The Project contributed to development and deployment of a tailored version of the social and environmental screening procedure (SESP) to be applied to small-scale projects in energy efficiency and renewables in the conditions of Kazakhstan.

VII. Lessons Learned

The following lessons were outlined in the Terminal Evaluation report by Mr. Roland Wong, international expert, and Mr. Askar Kaliyev, national expert.

Lesson #1: Changes were necessary in the FSM from interest rate subsidies to loan principal repayments. For 2018-2020 NAMA projects, there was an agreement between ESCOs and Damu that interest rates would be subsidized by 10% p/a. As such, Damu became an operator to transfer funds from UNDP-GEF NAMA Project to ESCOs to cover SME costs equivalent to a 10% p/a reduction of the interest rate of the ESCO's interest payments. The subsidy payments would be made every 3 months, making monitoring of these interest payments very cumbersome for UNDP since the monitoring was manual (while Damu's monitoring systems for these payments was automated). The UNDP system also has to track and monitor the holding of reserves of cash for future payments in tenge as well as funds spent. There were several instances where reserved funds were not fully utilized UNDP and the actual amounts spent were not aligned with Damu financial reports due to devaluation of the

exchange rates between the Kazakh tenge and the US dollar. Ironically, the COVID-19 pandemic provided an opportunity to review the FSM. This review resulted in the Project switching to a new and simpler FSM where the project proponent would undertake NAMA works with a commercial loan and get 40% of the principal reimbursed upon completion. Administration of this FSM would prove to be a lot simpler.

Lesson #2: Working with apartment residents was very beneficial in providing strong demonstrative effects on the benefits of heating and hot water system modernization efforts by the Project. The lack of trust of apartment residences was very strong. Overcoming this lack of trust was a 2-step process. Firstly, there were strong efforts by the NAMA Project personnel, MIC (and MIID) and the ESCOs along with technical and legal advisors who came well-prepared, to present all economic and technical aspects of the modernization effort, first to the most active residents willing to listen. This convinced a few single buildings in complexes of apartment buildings to undertake these modernization efforts, partially removing some of the mistrust in the process. Secondly, once residents of the other apartment buildings witnessed the benefits of modernization, many of them decided to implement modernization measures, and the barrier of the lack of trust was overcome.

Lesson #3: When initiating a local effort to modernize an apartment building and its heating and hot water systems, the lobbying work should start with the consumers of heating and hot water systems. This lobbying work should then progress to the local Akimats and then to Oblast Akimats and other central agencies. Agroprom in Petropavlovsk started a modernization effort in 2018 from the Oblast Akimat, waiting for several changes in personnel and administration within these central agencies before getting project approval. Starting lobbying work with central agencies involves a lot of time and effort, and no guarantee of success.

Lesson #4: Use of video clips of various UNDP NAMA Project activities has been very useful in terms of spreading information on NAMA Project activities, mainly to donors and government. There have to be more efforts made to disseminate this information to the general public, especially to apartment residents.

Lesson #5: Boilers for heating systems with wood chips provide more heat but are more expensive whereas boilers for heating systems with straw do not heat as well but are cheaper. This is a conundrum for service providers in the Petropavlovsk region and regions where waste biomass is plentiful. Servicing this market more efficiently for biomass boilers will require unique approaches on which stakeholders to target for wood chip or straw boilers (the choice depends on the proximity to the sources of such wastes: straw-fired boilers are cheaper, but straw is more expensive to transport).

Oleg Khmelev CTA added one more **Lesson #6:** in future such projects as NAMA must be planned with a distinct and separated monitoring phase which would last at least 18 months after the projects are over: data for 1 full year should be collected and analyzed (additional 6 months must be allocated after the 12-month period is over), to have a good quality analysis of the full spectrum of outcomes, including GHG emission reductions, economical effects, social and gender impacts. This lesson is also reinforced by the recommendation from the Expert who evaluated GHG emission reductions volumes from the supported projects (see Annex 4). Such additional 18-month monitoring phase would not require much funding: 12-month period barely needs any funding at all, while the analytical 6-month period may be comparatively low cost, but having this additional source of knowledge must be of great value for the future strategy building.

VIII. Conclusions and Way Forward

The Project was completed in April 2024. Overall, there were 4 extensions, which were made twice in 2020, 2022 and 2023, respectively. The extension periods were ranging from 6 to 16 months, which were granted in total of 48 months by UNDP. The end date of the Project was extended to April 21, 2024 as a mitigation response to the low delivery and undergoing FSM review.

As a result of this project, the estimated direct emission reductions are 47,426 tCO₂ per year or 1,108,652 tCO₂ for life-time of the projects according the calculations verified by the national expert vs. the target 370,000 tCO₂ of direct emission reduction set for the Project.

1. The broader range of the outcomes of the Project must be analyzed with some reasonable delay to understand better the more distant consequences and correctness of assumptions:
 - If it helped strengthening the national decarbonization efforts through its efforts in changing regulatory environment?
 - If supporting ESCOs helped their survival, building knowledge base and uptake?
 - If financial support mechanism is taken over by any successor, is it useful, what modifications were suggested during its implementation, what features and solutions are worth international dissemination?
 - If momentum is built in emission reductions monitoring and reduction effort among municipalities?
 - If schemes such as PPP and trust management are still in use?
 - If financial schemes such as factoring and guarantees for ESCOs are used to improve accessibility of loans?
 - What are other expected and unexpected outcomes and impacts of NAMA Project?
2. Awareness level is low at all levels in Kazakhstan: knowledge base remaining after NAMA Project is completed should be re-used and disseminated.
3. The projects that were supported must be closely monitored for a year at least to understand the more distant consequences of support and to take them into account when designing new support and private sector investment mobilization schemes, especially having in mind reaching the UNDP USD 1 trillion Moonshot.
4. Finally, internationalizing the experiences and lessons learned may be very beneficial: UNDP Sustainable Finance Hub and UNDP SDG Finance Academy may be involved in analyzing more distant results of the NAMA Project, in a broader context, to capture knowledge and both positive and negative experiences.

IX. Financial Status

Activity	Approved budget USD	Initiation year 2015	1 st year expenses 2016	2 nd year expenses 2017	3 rd year expense 2018	4 th year expenses 2019	5 th year expense 2020	6 th year expense 2021	7 th year expense 2022	8 th year expense 2023
COMPONENT 1.	400,000	63,552.98	129,758.93	156,250.64	49,176.54	- 592.73	22.94			
COMPONENT 2.	700,000	35,788.06	64,350.82	160,816.00	139,952.45	125,248.54	101,391.11	33,378.69	1.59	
COMPONENT 3.	3,300,000	28,118.74	82,212.99	62,001.52	114,132.50	201,862.39	- 1,953.57	8,783.12	81,126.80	1,138,266.17
COMPONENT 4.	700,000		9,635.10	25,003.49	80,039.52	482,408.98	227,947.98	- 21,679.70	96,669.33	13,048.15
COMPONENT 5.	550,000	21,337.91	246,870.45	158,994.63	88,890.47	87,103.97	0.78			
COMPONENT 6.	280,000	71,389.18	14,791.97	51,734.46	68,602.38	72,617.47	58,981.26	- 269.48		
OTHER (amortization cost)			4,034.25	1,766.44	2,162.76	4,631.93	19,298.82	1,816.69	1,380.51	-8,407.96
SUB-TOTAL:	5,930,000	220,514.56	551,654.51	616,567.18	542,956.62	973,280.55	405,689.32	22,029.32	179,178.23	1,142,906.36

** the financial status for 9th year of expenses: as the project closes in 2Q 2024, the accurate final expenses for 2024 will be defined after 2Q CDRs issuance at the stage of the financial closure.*

X. Annex 1

	<i>Project</i>	<i>Applicant</i>	<i>Bank</i>	<i>Date of conclusion of the agreement with the bank</i>	<i>Investment amount, tenge</i>	<i>Loan amount, tenge</i>	<i>Date of approval of the Project Board</i>	<i>Amount of financial support, tenge</i>	<i>Amount of financial support, US dollars</i>
1	Energy modernization of the production base (air-to-air heat pumps and walls thermal insulation)	NPF Ergonomics LLP	Halyk Bank of Kazakhstan	03.02.2023	65 917 920	65 917 920	28.10.2022	26 129 192	55 140
2	Introduction of an innovative energy-efficient ventilation system with heat recovery	LLP "Company "Digital WORLD"	Halyk Bank of Kazakhstan	24.01.2023	41 394 739	41 394 739	21.12.2022	16 557 896	34 942
3	Replacing the stained glass windows of the dome of a mall with heat-saving double-glazed windows	LLP "Avesta-Karaganda"	Halyk Bank of Kazakhstan	12.05.2023	169 584 875	169 584 875	15.02.2023, 16.06.2023	68 004 000	143 508
4	Reconstruction of the air conditioning system and replacement of existing equipment with an innovative air conditioning system based on VRF technologies	Optima Trade LLP	Halyk Bank of Kazakhstan	16.03.2023	107 889 700	107 889 700	15.02.2023	43 155 880	91 071
5	Installation of an autonomous	Beskolskaya School-College LLP	Halyk Bank of Kazakhstan	24.04.2023	92 000 000	73 600 000	15.02.2023	29 200 000	61 620

	<i>Project</i>	<i>Applicant</i>	<i>Bank</i>	<i>Date of conclusion of the agreement with the bank</i>	<i>Investment amount, tenge</i>	<i>Loan amount, tenge</i>	<i>Date of approval of the Project Board</i>	<i>Amount of financial support, tenge</i>	<i>Amount of financial support, US dollars</i>
	modular boiler house using wood chips								
6	Installing automated heating stations at Kostanay Branch of Kazakhtelecom JSC, Kostanay	Ecoservice-2030 LLP	Bank Center Credit	29.06.2023	10 078 000	7 500 000	16.06.2023	3 000 000	6 331
7	Installing automated heating station for IP Otasheva, Kostanay	Ecoservice-2030 LLP	Bank Center Credit	24.02.2023	2 773 674	1 850 000	15.02.2023	733 551	1 548
8	Implementation of the "VOLNA BOILER" weather control software package in 5 gas boiler houses in Kostanay for the purpose of energy saving	Ecoservice-2030 LLP	Bank Center Credit	29.09.2023	33 038 120	22 250 000	05.09.2023	8 800 000	19 251
9	Installation of three-chamber double-glazed windows instead of single-chamber ones, Astana	ASIA PARK LLP	Bereke Bank	12.05.2023	270 965 282	270 965 282	15.02.2023, 16.06.2023	90 000 000	189 926
10	Installation of energy-saving triple-glazed windows in a hotel building, Astana	JSC "AkmolaTourist"	First Heartland Jusan Bank	05.05.2023	62 314 340	62 314 340	15.02.2023	24 925 736	52 600

	<i>Project</i>	<i>Applicant</i>	<i>Bank</i>	<i>Date of conclusion of the agreement with the bank</i>	<i>Investment amount, tenge</i>	<i>Loan amount, tenge</i>	<i>Date of approval of the Project Board</i>	<i>Amount of financial support, tenge</i>	<i>Amount of financial support, US dollars</i>
11	Modernization of a commercial building Pavlodar, Kataeva, 18 - replacement of windows	IP Gain Technology	Bank Center Credit	08.09.2023	16 009 200	12 523 200	07.08.2023	3 672 162	8 033
12	Modernization of a commercial building Pavlodar, Kataeva, 18 - replacement of lighting	IP Gain Technology	Bank Center Credit	26.09.2023	5 628 700	3 503 700	07.08.2023	1 256 905	2 750
13	Modernization of a commercial building Pavlodar, Kataeva, 18 - roof replacement	IP Gain Technology	Bank Center Credit	19.09.2023	10 483 700	8 535 700	07.08.2023	3 414 280	7 469
14	Modernization of a commercial building Pavlodar, Kataeva, 18 - thermal modernization of the building	IP Gain Technology	Bank Center Credit	27.09.2023	45 242 550	22 866 550	07.08.2023	13 906 177	30 775
15	Modernization of a commercial building Pavlodar, Kataeva, 18 - installation of automated heating station	IP Gain Technology	Bank Center Credit	26.09.2023	16 179 500	13 319 500	07.08.2023	6 237 313	13 804
16	Transformer replacement, Pavlodar	JSC Kaustik	Bank Center Credit	27.06.2023	135 475 180	135 475 180	31.03.2023	54 190 072	118 544

	<i>Project</i>	<i>Applicant</i>	<i>Bank</i>	<i>Date of conclusion of the agreement with the bank</i>	<i>Investment amount, tenge</i>	<i>Loan amount, tenge</i>	<i>Date of approval of the Project Board</i>	<i>Amount of financial support, tenge</i>	<i>Amount of financial support, US dollars</i>
17	Construction of street lighting in Atyrau (1st part of project)	JSC Batys Transit	Halyk Bank of Kazakhstan	23.10.2023	450 000 000	450 000 000	16.06.2023	116 825 000	255 562
17	Construction of street lighting in Atyrau (2nd part of project)	JSC Batys Transit	Halyk Bank of Kazakhstan	15.03.2023	150 000 000	150 000 000	28.12.2023	44 795 048	97 992
18	Conversion of the boiler house from coal to gas	Children's Center "Parus"	Bereke Bank	11.01.2019	11 750 000	11 750 000	05.09.2018	2 999 843	7 751
19	Replacing electric water heaters with solar collectors	Children's Center "Parus"	Bereke Bank	28.12.2018	5 717 400	5 717 400	05.09.2018	1 451 654	3 751
20	Installation of solar panels for a street lighting system	Children's Center "Parus"	Bereke Bank	28.12.2018	1 701 700	1 701 700	05.09.2018	432 063	1 116
21	Application of LEDs for indoor and outdoor lighting	Led System Media LLP	Sberbank	29.06.2018	34 058 000	34 058 000	28.03.2018	2 923 649	7 554
22	Application of EE technology for heat supply regulation	LLP "Garant Service NS"	ATF Bank	20.09.2019	5 039 000	4 779 000	26.11.2018	171 685	444
23	Application of LEDs for indoor and outdoor lighting	LLP "Garant Service NS"	ATF Bank	20.09.2019	4 150 000	4 150 000	26.11.2018	206 611	534

	<i>Project</i>	<i>Applicant</i>	<i>Bank</i>	<i>Date of conclusion of the agreement with the bank</i>	<i>Investment amount, tenge</i>	<i>Loan amount, tenge</i>	<i>Date of approval of the Project Board</i>	<i>Amount of financial support, tenge</i>	<i>Amount of financial support, US dollars</i>
24	Application of EE technology for heat supply regulation	LLP "Aquatoria-Aktobe"	Bereke Bank	21.11.2018	3 795 000	3 795 000	05.09.2018	246 909	638
25	Application of LEDs for indoor lighting	Almaty International Airport	Halyk Bank of Kazakhstan	27.12.2019	250 000 000	250 000 000	04.04.2019	28 255 565	73 005
26	Application of energy efficient lighting for runway No. 1	Almaty International Airport	Halyk Bank of Kazakhstan	30.10.2018	1 200 000 000	300 000 000	05.09.2018	67 970 679	175 620
27	Application of energy efficient lighting for runway No. 2	Almaty International Airport	Halyk Bank of Kazakhstan	30.10.2018	1 200 000 000	300 000 000	05.09.2018	67 970 679	175 620
28	Boiler room modernization	KarNed LLP	VTB bank	14.09.2018	150 000 000	130 000 000	09.07.2018	19 431 477	50 206
29	Boiler room modernization	KarNed LLP	VTB bank	18.02.2019	90 000 000	90 000 000	26.11.2018	31 102 878	80 362
30	Application of EE technology for heat supply regulation	LLP "ECOSERVICE - 2030"	Tsesna Bank	14.02.2019	3 513 000	3 513 000	29.01.2019	43 119	111
31	Application of EE technology to regulate heat supply (Temirtau)	LLP "ECOSERVICE - 2030"	Jusan Bank	25.10.2019	40 000 000	3 072 384	21.06.2019	67 738	175
32	A comprehensive project for the use of technologies for insulating buildings	Tselinnaya Hotel LLP	Jusan Bank	24.01.2020	200 000 000	113 375 891	21.01.2020	24 245 421	62 644

	<i>Project</i>	<i>Applicant</i>	<i>Bank</i>	<i>Date of conclusion of the agreement with the bank</i>	<i>Investment amount, tenge</i>	<i>Loan amount, tenge</i>	<i>Date of approval of the Project Board</i>	<i>Amount of financial support, tenge</i>	<i>Amount of financial support, US dollars</i>
	and regulating heat supply								
33	Application of LEDs for indoor and outdoor lighting	PROLUX LED LLP	Halyk Bank of Kazakhstan	25.12.2018	700 000 000	350 000 000	06.11.2018	76 060 659	196 522
34	Application of LEDs for outdoor lighting	Adal-I LLP	Sberbank	01.08.2019	70 000 000	70 000 000	09.07.2018	2 455 848	6 345
35	Conversion of boiler houses from coal and diesel fuel to gas, House of Culture "Arman"	SMP-Kyzylorda LLP	Sberbank	11.02.2019	10 998 000	7 943 000	29.01.2019	23 074 180	59 618
36	Conversion of boiler houses from coal and diesel fuel to gas, District House of Schoolchildren	SMP-Kyzylorda LLP	Sberbank	11.02.2019	8 515 385	6 150 000	29.01.2019		
37	Conversion of boiler houses from coal and diesel fuel to gas, Boarding School No. 47	SMP-Kyzylorda LLP	Sberbank	11.02.2019	19 531 385	14 106 000	29.01.2019		
38	Conversion of boiler houses from coal and diesel fuel to gas, School No. 47	SMP-Kyzylorda LLP	Sberbank	11.02.2019	18 377 654	13 272 750	29.01.2019		
39	Conversion of boiler houses from coal and	SMP-Kyzylorda LLP	Sberbank	11.02.2019	22 124 423	15 978 750	29.01.2019		

	<i>Project</i>	<i>Applicant</i>	<i>Bank</i>	<i>Date of conclusion of the agreement with the bank</i>	<i>Investment amount, tenge</i>	<i>Loan amount, tenge</i>	<i>Date of approval of the Project Board</i>	<i>Amount of financial support, tenge</i>	<i>Amount of financial support, US dollars</i>
	diesel fuel to gas, School No. 219								
40	Conversion of boiler houses from coal and diesel fuel to gas, School No. 48	SMP-Kyzylorda LLP	Sberbank	11.02.2019	26 652 115	19 248 750	29.01.2019		
41	Conversion of boiler houses from coal and diesel fuel to gas, School No. 127	SMP-Kyzylorda LLP	Sberbank	11.02.2019	23 574 462	17 026 000	29.01.2019		
42	Conversion of boiler houses from coal and diesel fuel to gas, School No. 244	SMP-Kyzylorda LLP	Sberbank	11.02.2019	26 652 115	19 248 750	29.01.2019		
43	Conversion of boiler houses from coal and diesel fuel to gas, School No. 270	SMP-Kyzylorda LLP	Sberbank	11.02.2019	23 574 462	17 026 000	29.01.2019		
44	Conversion of the boiler house from coal to biomass	Agroprofi LLP	Halyk Bank of Kazakhstan	26.07.2019	117 000 000	117 000 000	05.09.2018	16 352 126	42 250
45	Conversion of the boiler house from coal to biomass	Agroprofi LLP	ATF Bank	17.06.2019	86 000 000	86 000 000	05.09.2018	18 535 243	47 891
46	Boiler room modernization	Sapro-NAT LLP	ATF Bank	07.08.2019	29 438 000	22 500 000	28.03.2018	2 680 666	6 926

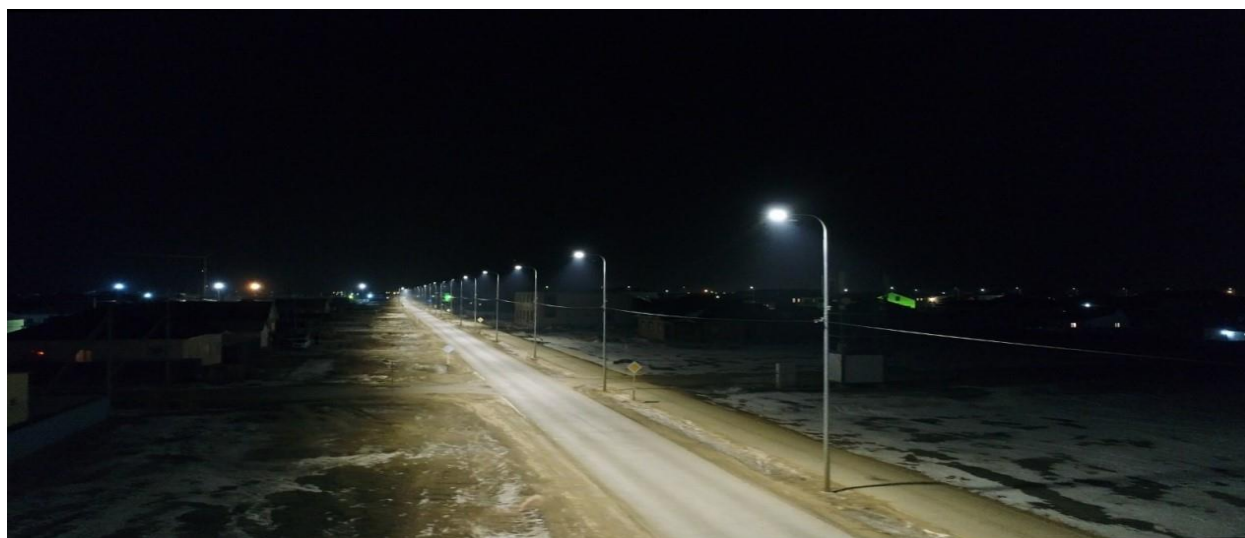
	<i>Project</i>	<i>Applicant</i>	<i>Bank</i>	<i>Date of conclusion of the agreement with the bank</i>	<i>Investment amount, tenge</i>	<i>Loan amount, tenge</i>	<i>Date of approval of the Project Board</i>	<i>Amount of financial support, tenge</i>	<i>Amount of financial support, US dollars</i>
47	Boiler room modernization	Sapro-NAT LLP	ATF Bank	29.12.2018	24 915 780	22 500 000	28.03.2018	3 388 584	8 755
48	Comprehensive project for the use of building insulation technologies	LLP "Piko"	ATF Bank	25.12.2019	31 000 000	31 000 000	06.12.2019	5 341 163	13 800
49	Comprehensive project for the use of building insulation technologies	LLP "Piko"	ATF Bank	19.08.2019	18 000 000	18 000 000	29.01.2019	2 054 115	5 307
50	Application of LEDs for outdoor lighting	Torlan Stroy LLP	Sberbank	24.07.2019	32 000 000	21 000 000	09.07.2018	4 417 119	11 413
					6 173 053 360	3 743 403 061		956 682 888	2 229 224

XI. Annex 2

Publications

1) Story on NAMA beneficiary (Batys Transit):

Link: [Enhancing Urban Lighting: A Pillar for Residents' Safety and Sustainable Urban Growth | United Nations Development Programme \(undp.org\)](#)



2) Story on NAMA beneficiary (Beskol School):

Link: [Reducing heating costs and carbon emissions: insights from a school in Kazakhstan | United Nations Development Programme \(undp.org\)](#)



List of publications on NAMA projects

№	Media	Title	Link
1.	UNDP KAZ	Video: Beskol school-college:	ENG: https://youtu.be/ddU60pA0gzk?si=fp5wtcV1fijPUXoU RUS: https://youtu.be/Dky1dZsxcaE?si=dqnyDwupFFnAlVoE KAZ: https://youtu.be/w5-opAGDgYc?si=Zxc_VTD8Z1wYrTzI
2.	UNDP KAZ	Video: Overview of the project	Video general: ENG https://youtu.be/LgHiDhF1kZ4 RUS https://youtu.be/kwg_mDR3bSI KAZ https://youtube.com/watch?v=pQ5P7eZmaBs
3.	UNDP KAZ	Press release: More than 300,000 people in Kazakhstan now live and work in more comfortable conditions UNDP presented the results of a nine-year project	More than 300,000 people in Kazakhstan now live and work in more comfortable conditions United Nations Development Programme (undp.org)
4.	UNDP KAZ	Posts on official pages in social media on the final event of NAMA	FB: https://www.facebook.com/share/p/Q2VdAszPAScgadZW/?mibextid=oFDknk IG: https://www.instagram.com/undp.kazakhstan/p/C58jpFqI_3M/ Twitter: https://twitter.com/UNDPKAZ/status/1781374013068955944#
5.	UNDP KAZ	UNDP: Savings of up to 50% of utility costs are possible	https://www.youtube.com/watch?v=iRPFIfZF7_A
6.	UNDP KAZ	Spearheading innovative “green” financing – for sustainable modernization	https://www.undp.org/kazakhstan/blog/spearheading-innovative-green-financing-sustainable-modernization
7.	UNDP KAZ	Fashioning a people-friendly city – Vanquishing pollution, transitioning to clean energy	https://www.undp.org/kazakhstan/stories/fashioning-people-friendly-city-vanquishing-pollution-transitioning-clean-energy
8.	UNDP Eurasia	Astana fashions a people-friendly city through clean energy transition	https://www.undp.org/eurasia/stories/people-friendly-city
9.	UNDP KAZ	An effective financing model for the modernization of multi-apartment residential buildings was implemented in the capital	https://www.undp.org/kazakhstan/press-releases/effective-financing-model-modernization-multi-apartment-residential-buildings-was-implemented-capital
10.	UNDP KAZ	Entrepreneurs from the North Kazakhstan region receive UNDP grant for the production of environmentally friendly briquettes	https://www.undp.org/kazakhstan/news/entrepreneurs-north-kazakhstan-region-receive-undp-grant-production-environmentally-friendly-briquettes
11.	UNDP KAZ	Enhancing Urban Lighting: A Pillar for Residents’ Safety and Sustainable Urban Growth	https://www.undp.org/kazakhstan/stories/enhancing-urban-lighting-pillar-residents-safety-and-sustainable-urban-growth
12.	UNDP KAZ	Bringing sustainable heating solution for rural Kazakhstan	https://www.undp.org/kazakhstan/stories/bringing-sustainable-heating-solution-rural-kazakhstan
13.	UNDP KAZ	UNDP Kazakhstan presents the results of a biofuel production	https://www.undp.org/kazakhstan/press-releases/undp-kazakhstan-presents-results-biofuel-production-project-needs-rural-areas-kazakhstan

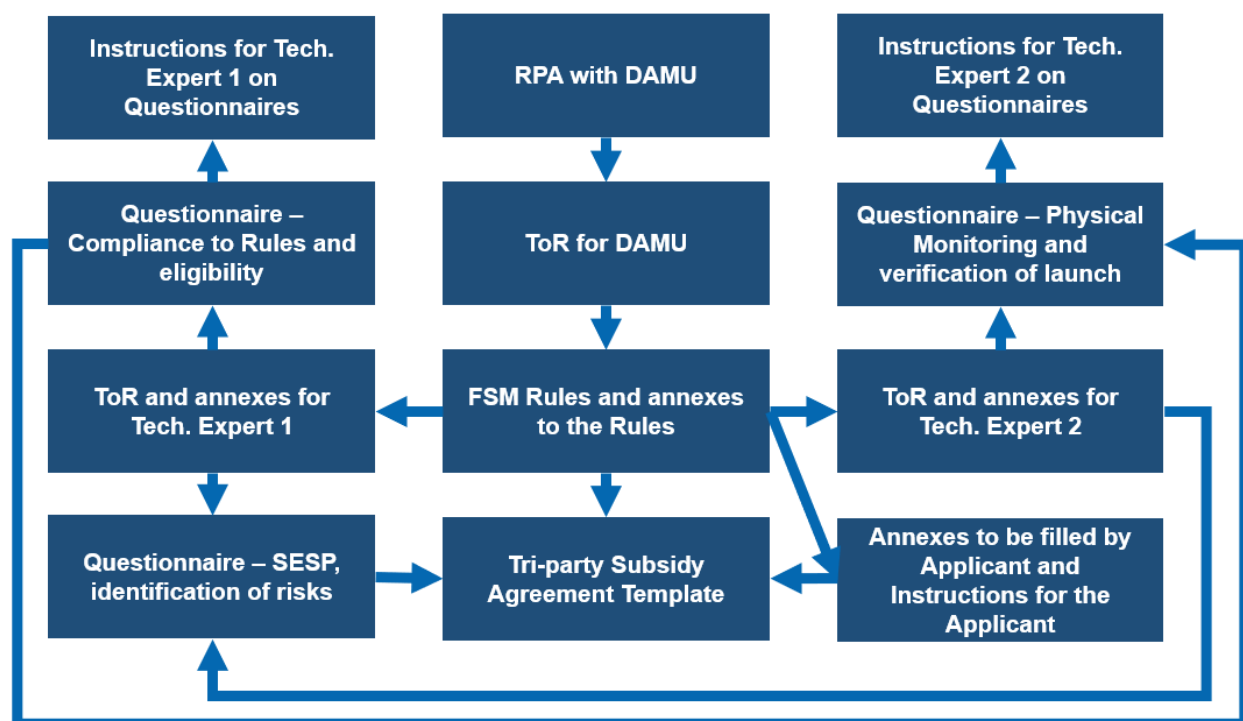
		project for the needs of rural areas of Kazakhstan	
14.	Qazaqgreen.kz	Eco-fuel from waste is planned to be produced in Kazakhstan	https://qazaqgreen.com/news/kazakhstan/1580/

XII. Annex 3 NAMA FSM – enhanced version

After the FSM review was completed, the NAMA Project (as well as the DREI Project) got very general recommendations on how to rework the FSM:

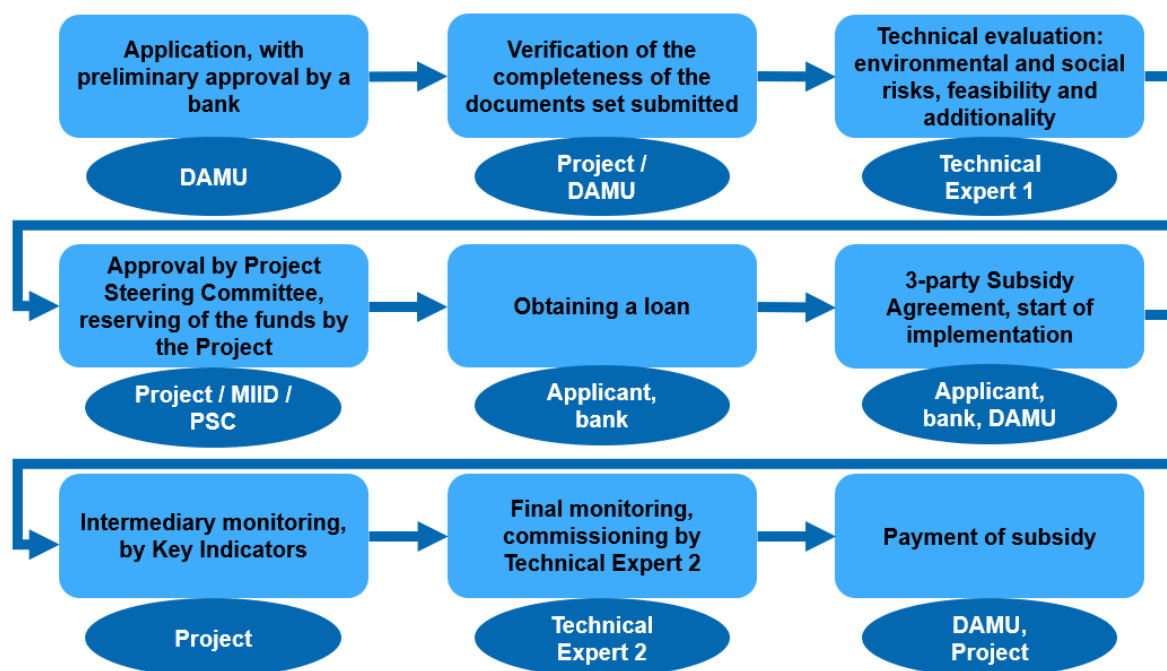
- FSM Rules change (including DD for banks – R1-2)
- Taxonomy revision (issues related to coal, natural gas – R3)
- Financial additionality testing (payback – R4/R7)
- Pre-approval by banks before approval for subsidy (R5)
- Phasing out the interest rate subsidy (R6)
- Web-based monitoring templates to simplify monitoring (R8)
- 3rd party validation and verification (R8)
- Exit strategy – DAMU to take over (R9)
- Upstream leveraging of funds (R9)

As a result, the NAMA Project elaborated, got approvals of the stakeholders and operationalized the new sets of documents to improve the decision-making process and the monitoring system for the FSM:



The essence of the FSM for NAMA Project is providing a loan principal partial compensation. The procedure is as follows:

1. Applicant develops a plan, pre-agrees with a bank and applies for support.
2. The Project verifies if the set of presented documents is complete.
3. Technical Expert 1 reviews the application and confirms it is eligible.
4. PSC approves application and the Project reserves funds for it.
5. The applicant gets a loan.
6. The applicant signs a 3-party subsidy agreement with DAMU and bank.
7. If the project takes more than 60 days to complete, intermediate monitoring takes place.
8. The applicant completes the project, Technical Expert 2 validates if is in line with the approved application.
9. The loan principal partial compensation is transferred via DAMU to reduce the loan principal.



Preliminary examination and final validation include social and environmental risks screening (SESP) and examination of the proper risk management arrangements, as recommended by the UNDP HQ financial expert. Most recently the SESP procedure was reviewed, simplified and adapted for the projects supported by the NAMA Project. The number of questions was reduced, and the questions were elaborated to cover most realistic and typical risks. A training to introduce the new methodology for the team of NAMA Project and, most importantly, Technical Experts 1 was organized on Feb. 07, 2023. Later the CTA did personalized trainings for the two Technical Experts 2 of the NAMA Project.