Midterm Review

De-risking Renewable Energy Investment

A project of the Ministry of Energy of the Republic of Kazakhstan

conducted with the support of the United Nations Development Programme

under grant funding from the Global Environment Facility

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Acronyms and Abbreviations

AFA	Administrative and Finance Assistant
DREI	De-risking Renewable Energy Investment
CEO	Chief Executive Officer
Damu	Damu Entrepreneurship Development Fund JSC
EADB	Eurasian Development Bank
EBRD	European Bank for Reconstruction and Development
EESL	Energy-Efficient Standards and Labelling (in reference to the UNDP-supported, GEF-funded full-sized project entitled *Energy Efficient Standards, Certification, and Labelling for Appliances and Equipment in Kazakhstan* – commonly known as "the EESL project")
ESMP	Environmental and Social Management Plan
FSC	Financial Settlements Centre
GEF	Global Environment Facility
GHG	Greenhouse gas
JSC	Joint stock company
KEGOC	Kazakhstan Electricity Grid Operating Company
KOREM	Kazakhstan Electricity and Power Market Operator
MoE	Ministry of Energy
MTR	Midterm Review
M&E	Monitoring and Evaluation
MW	Megawatt
NAMA	Nationally Appropriate Mitigation Actions
PM	Project Manager
PPM	Programme and Project Management
PPG	Project Preparatory Grant
POPP	Programme and Operations Policies and Procedures
PV	Photovoltaic
RE	Renewable energy

RK	Republic of Kazakhstan
SME	Small and medium enterprises
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

Executive Summary

Since late 2017, the United Nations Development Programme has been supporting the Ministry of Energy of the Republic of Kazakhstan in executing a project entitled *De-risking Renewable Energy Investment* (DREI). This project, conducted with the support of a US $4.51 million grant from the Global Environment Facility, seeks to promote private-sector investment in renewable energy (RE) in order to achieve Kazakhstan's 2030 and 2050 targets. Based on the global DREI methodology developed by UNDP, the project in Kazakhstan includes development of policies in support of private-sector investment in both large-scale and small-scale renewable energy, as well as development and delivery of financial mechanisms in support of small-scale renewable energy.

The project is now approximately halfway through its planned five-year implementation period. As required by the GEF's Monitoring and Evaluation Policy, UNDP has commissioned an independent Midterm Review (MTR) of the project, which has conducted by international consultant Mark Chao and national consultant Lyubov Inyutina on the basis of extensive document review and interviews.

The core purpose of the MTR is to help ensure that the project is on track to maximally fulfill its targeted outcomes by the close of the project. The review, as stipulated in the guidance document on conducting Midterm Reviews of UNDP-supported, GEF-funded projects focuses on four main assessment areas: 1) project strategy; 2) progress toward outcomes; 3) project implementation and adaptive management; and 4) sustainability. The MTR provides ratings and assessments in these areas, as summarized in the table below. All ratings are determined based on the findings of research, considered in the context of the specific wording of the rating rubrics provided in the MTR guidance document.

MTR Ratings & Achievement Summary Table

for the full-sized project De-risking Renewable Energy Investment

Measure		MTR Rating	Achievement Description *(italicized text below shows relevant wording from the rating rubrics in the MTR guidance document)*
Project Strategy		N/A	Project strategy is well designed, with strong strategic logic based on UNDP's global DREI framework, as well as close alignment with national goals and priorities. There is a notable degree of flexibility built into the project design, which has allowed for effective adaptive management. ((Having achieved significant results in Component 1, the project is now correctly turning almost its entire strategic focus to Outcomes 2 and 3 for the remainder of the project period.)
Progress Toward Results	**Project Objective:** Promote private-sector investment in renewable energy in Kazakhstan in order to achieve Kazakhstan's 2030 target for renewable energy	**Satisfactory**	*The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.* The project is on track to fulfill or overfulfill its most important target (GHG emissions reductions) because of its pivotal role in creating and implementing the site-specific auction that has led to the financing and construction of the 50 MW solar PV facility in the village of Shaulder (see Outcome 1 below). The project has conducted substantial work toward fulfilling its other objective targets (new small-scale RE capacity and direct beneficiaries), but substantial and very efficient work will be needed to attain the targets by project's end.
	Outcome 1: Appropriate policies, programmes and regulations are in place to reduce investors' risks, scale-up investment and enable the achievement of 2030 RES target	**Highly satisfactory**	*The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".* This rating is applied because of the highly successful application of the site-specific auction mechanism for the 50 MW solar facility at Shaulder (the major focus of the component), which successfully de-risked a large-scale RE investment, leading to the lowest renewable electricity price in the country's history, and is leading already to replication of the mechanism for hundreds of additional megawatts of capacity.[1] A risk scoring survey conducted in August 2020 to assess progress toward Outcome 1.2 indicates that investment risk has fallen by 20 percent relative to the baseline determined by the same methodology during the project preparatory period (fulfilling the midterm target for this outcome indicator).

[1] The DREI project played the central role in creation of the auction mechanism, its rules, amendments to existing regulations, development of technical documentation, arrangement for needed permits, recruitment of bidders, and support for implementation of this auction by the Financial Settlements Center of the Kazakhstan Electric Grid Operating Company. Though other international agencies (notably EBRD under the funding of the Green Climate Fund, as well as USAID) have been very active in supporting large-scale renewable energy policy and finance in the country, they never did any actual work on the detailed development and implementation of the site-specific mechanism, nor on the Shaulder auction itself. Thus the DREI project's role and impact from the Shaulder auction can be considered fully incremental beyond the existing work of EBRD and USAID.

	Outcome 2: Appropriate policies, programmes and capacities are in place to reduce risk and attract investment in small-scale (on-grid and off-grid) renewables	**Satisfactory**	*The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.* This rating is applied because all outcome-level indicators are on track for fulfillment, according to the wording of the Project Results Framework. Development of policy recommendations (the centerpiece of the component) has been carried out in an exemplary way, but the recommendations so far have not been accepted by the Government.
	Outcome 3: Sustainable business models and financial mechanisms to support their implementation in place for investment in small-scale urban and rural RES solutions	**Moderately Satisfactory**	*The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings* The project has identified a small number of business models and has developed three types of financial instruments (interest rate subsidies, principal subsidies, and green bonds) that are now ready for deployment under a comprehensive Responsible Party Agreement with the national entrepreneurship fund Damu. The first green bonds were issued in August 2020 on the Astana International Exchange of the Astana International Financial Centre. However, so far the project has developed only a very small pipeline of projects, with an insufficiently clear sense of target market sectors and potential.
Project Implementation & Adaptive Management	**Moderately Satisfactory**		*Implementation of some of the seven components [management arrangements, work planning, finance & co-finance, project-level M&E, stakeholder engagement, reporting, communications] of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.* The project team is well constituted and managed, with a strong core of skills and excellent working relations with all partners. The National Implementing Partner and National Project Director are strongly engaged in project strategy, adaptive management, specific project activities (especially development of legislative amendments), stakeholder coordination, and so on. The project has so far not been able to resolve persistent issues of financial delivery (on-time spending of budgeted amounts), though it is likely that problems will at least be partially resolved upon scale-up of activity in Component 3. Co-financing documentation is poor. Co-financing faces significant uncertainty going forward, as it depends heavily on uptake of financial instruments in Component 3. Monitoring and evaluation systems have not yet been sufficiently implemented, mostly because most major results are still pending.

Sustainability	**Moderately likely**	*Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review* The COVID-19 pandemic and its economic repercussions greatly magnify and expand the risks noted in the Risk Log of the Project Document. Nevertheless, the project has achieved significant high-impact results and replication outside of GEF funding already with its new site-specific renewable energy auction mechanism. Other areas of work (Components 2 and 3) can reasonably be expected to produce at least some lasting policy and market impacts, even given the risks.

Based on its assessment in each of these four areas, the MTR report concludes with a set of recommendations, as summarized in the table below.

Summary of MTR Recommendations

	Recommendation	Entity Responsible
A	*Project Management*	
A.1	**Reconsider split project management arrangement and make the shift to a full-time Project Manager.**	UNDP with approval of the Project Board
A.2	**Prepare a plan for improved and accelerated project implementation with the Country Support Team. Budget ambitiously in order to remedy disbursement delivery shortfalls.**	Project Manager with oversight and approval of UNDP and Project Board
A.3	**Secure definitive documentation of delivered co-financing immediately, and again for the Terminal Evaluation.**	Project Manager with support of project partners
A.4	**Revise the project Risk Log in light of the COVID-19 crisis, thoroughly revise proposed countermeasures, and make these countermeasures a central part of project strategy and activities.**	Project Manager, with support from the International Chief Technical Advisor and National Project Coordinator
A.5	**Consider applying for a no-cost extension of the project period (up to 12 months, plus 6 months because of COVID-19) if more time is needed to adopt legislation (Component 2), implement financial mechanisms (Component 3), and spend project grant funds**	UNDP with approval of Project Board
B	*Outcome 1*	
B.1	**Close the project's activity on the site-specific auction mechanism Component 1, but ensure effective knowledge-sharing by preparing a lessons learned study and possibly a short lessons learned video, to be distributed via web-based channels, UNDP knowledge-sharing networks including via the global DREI initiative, and partner agencies.**	Project Manager and Task Leader, with assistance from a hired consultant as needed
C	*Outcome 2*	

C.1	**Develop and implement measures to enhance political will for adoption of the legislative amendments, while also supporting building code revisions as an alternative or supplemental policy de-risking tool**	Project Manager and Task Leader, with assistance from International Chief Technical Advisor and another hired consultant as needed
C.2	**Expand the project's communications and outreach, including execution of a project-wide lessons-learned report and final conference**	Project Manager, with assistance from a hired consultant as needed
D	*Outcome 3*	
D.1	**Immediately develop detailed market research (including investment risk analysis based on DREI methodology) on selected small-scale RE technologies, business models for their delivery and use, and potential numbers of implementers of implementers**	Project Manager, Task Leaders, and International Chief Technical Advisor, with assistance from a hired consultant
D.2	**Use the market research conducted under recommendation D.1 to establish priorities for promotion, as well as customization and delivery of incentives for selected technologies and business models**	Project Manager, Task Leader, and International Chief Technical Advisor in coordination with Damu

I. Introduction: Purpose, Scope, and Methodology

Since September 2017, the United Nations Development Programme (UNDP) has been supporting the Ministry of Energy of the Republic of Kazakhstan in implementing a five-year project, entitled *De-risking Renewable Energy Investment* (hereinafter referred to as "the DREI project"). Under grant support from the Global Environment Facility (GEF) as well as co-financing from various other entities, this project seeks to promote private-sector investment in renewable energy (RE) in order to achieve Kazakhstan's 2030 and 2050 targets. Based on the global DREI methodology developed by UNDP, the project in Kazakhstan includes development of policies in support of private-sector investment in both large-scale and small-scale renewable energy, as well as development and delivery of financial mechanisms in support of small-scale renewable energy.

Purpose and Scope of the Midterm Review

The project document was signed on February 19, 201. The project is now approximately halfway through its planned implementation period, and is due to end in February 2023. As required by the GEF's Monitoring and Evaluation Policy, UNDP has commissioned an independent Midterm Review (MTR) of the project, which has been conducted by international consultant Mark Chao and national consultant Lyubov Inyutina.

As noted in the guidance document on conducting Midterm Reviews of UNDP-supported, GEF-funded projects[2] (hereinafter referred to as "the MTR guidance document"), the primary purpose of the MTR is to

[2] *Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects.* UNDP-GEF Directorate, 2014.

help ensure that the project is on track to achieve maximum results by its completion. The MTR has several focus areas.

- Review of project strategy as defined in the Project Document
- Assessment of progress towards targeted results
- Monitoring of implementation and adaptive management to improve outcomes
- Early identification of challenges and risks to sustainability
- Emphasis on supportive recommendations, including corrective actions as needed.

The MTR process emphasizes a participatory and collaborative approach, in which the MTR consultants work closely with the project team, with key input from national partners and UNDP. The MTR is the key vehicle and indeed the last major opportunity during the project period for identifying and justifying changes needed to planned activities and management arrangements, in order to help ensure maximal fulfillment of targeted outcomes and objectives. The project team is to prepare a management response to the MTR's recommendations.

The MTR includes ratings of the project in terms of progress toward results (targeted outcomes as specified in the Project Results Framework and the GEF Tracking Tool), project implementation and management, and sustainability. Annex B contains an evaluative matrix, prepared at the outset of the research phase of the MTR process, summarizing all of the review criteria and indicators, sources, and methods used to arrive at the ratings.

It should be emphasized, however, that the MTR should not be considered as a mere grading exercise, *but rather a supportive endeavor* intended to ensure that the project gains needed insights from its past activity and can take the best path forward, based on substantive source material filtered through objective independent perspective.

Information Sources and Collection Methods

This MTR is based on a comprehensive review of project documentation, as well as input collected from the project team, UNDP management, the Ministry of Energy (the National Implementing Partner), all key partners, and beneficiaries.

Document review

The MTR consultants received and reviewed a wide array of relevant documents from the project team.

- Project Document. This is the key document defining and justifying project activity. It is the central tool for project management to understand, plan, and track its work and for both the project team and the MTR team to assess progress toward outcomes. The Project Document includes but is not limited to the following.
    - Narrative sections on strategy, activities and intended results, partnerships, monitoring and evaluation, management and governance, and so on.
    - Project Results Framework, including all official indicators, baseline levels, midterm targets, and end-of-project targets
    - Project budget and projected co-financing
    - Annexes (including gender analysis and Gender Action Plan, Social and Environmental Screening, the Environmental and Social Management Plan, Risk Log, greenhouse gas emissions calculations)

- Request for GEF CEO Endorsement
- GEF Tracking Tool, including results at midterm
- Inception Report (May 2018)
- Project Progress Reports for 2018 and 2019
- Project Implementation Review for 2019
- Annual Work Plans for 2018, 2019, and 2020
- Summaries of actual annual spending by component, compared with the original project budget and amounts approved annually by the Project Board
- Co-financing letters
- Summary of received co-financing
- Various project outputs
    - Policy roadmap for development of technical regulations for RE
    - Numerous documents on the development, technical scoping, permitting, design, and administration of a new site-specific solar-energy auction mechanism implemented in November 2019
    - Report on study tour to Finland focusing on policies and practices to support small-scale renewable energy development
    - Baseline analysis of government policy relevant to small-scale renewable energy
    - Summary of proposed amendments to existing legislation (comparative table showing existing versions and proposed revisions, line by line)
    - Assessment of technical potential for RE in public buildings in three regions (Turkestan, Akmolinskaya Oblast, city of Nur-Sultan)
    - Review of world best practices for monitoring, reporting, and verification of impacts of RE projects, with recommendations for Kazakhstan
    - Training seminar materials and lists of attendees
    - Written materials on business models and financial instruments
    - Signed protocol and Responsible Party Agreement on partnership on financial de-risking instruments for small-scale RE, including detailed assignment of obligations and responsibilities in the form of official Terms of Reference, between UNDP and the national entrepreneurship fund Damu, with endorsement by the Ministry of Energy
    - Pool of potential projects to be supported by these instruments
- Quarterly reports prepared by the International Chief Technical Advisor, Oleg Khmelyov
- Calculations and accompanying narrative summary prepared by project on estimated GHG emissions reductions from project activity
- A preliminary accounting of project activities conducted so far in 2020

Direct contacts with the project team and key stakeholders

Beyond document review, the second key method for collecting needed information was direct contact with the project team and key stakeholders, including both partners and beneficiaries, via written questionnaires and online interviews via Zoom.

The written questionnaires were prepared in Russian and sent to various project beneficiaries and stakeholders, who were identified based on input from the project team as having important but limited connections to the project, including representatives of businesses and professional associations, as well as at least one local government official. The questions were mostly open-ended, asking respondents to

describe their roles and interactions with the project, and to provide their assessment of important issues and the project's effectiveness in addressing them. All questionnaires were completed and returned. Specific follow-up questions were delivered as needed by email. The questionnaire (both the actual Russian version sent to respondents and an English translation) and a list of recipients are presented in Annex C.

In addition to the written questionnaires, the MTR team also sent a more detailed set of specific questions to a key staff person at the Committee for Ecology (Ms. Saltanat Stanbayeva) in the Majilis of the Parliament of the Republic of Kazakhstan, and received a written response.

The online interviews were delivered to the project team and to project partners of central importance, including the following:

- **Ministry of Energy**: Ainur Sospanova, Head of the Renewable Energy Department (also National Project Director and Chair of the DREI Project Board)
- **Damu** (national entrepreneurship fund – the project's main partner in the financial instruments of Component 3: Saule Abisheva, Director of the Subsidy Department
- **EBRD:** Marat Yelibayev, Principal Banker
- **Financial Settlement Centre of the national grid company KEGOC:** Zhenis Dyusenov, Deputy General Director
- **Kazakhstan Electricity and Power Market Operator** (KOREM JSC): Tatyana Polyanichkina, Deputy Chair
- **International Green Technology and Investments Center:** Ramazan Zhampiisov, Executive Director
- **The DREI project team**
    - Syrym Nurgaliyev, Project Manager
    - Yerlan Dairbekov, Task Manager (policy)
    - Birzhan Yevniyev, Task Manager (financial instruments)
    - Oleg Khmelyov, Chief Technical Advisor
- **The UNDP Country Office**
    - Vitalie Vremis, Deputy Resident Representative
    - Arman Kashkinbekov, Head of the Sustainable Development Unit
    - Firuz Ibrohimov, Chief Programme Advisor
    - Zhanetta Babasheva, Resource Monitoring Coordinator
- **PPG team:** Grant Ballard-Tremeer, lead International Consultant and primary author of the Project Document

All of these interviews were based on detailed question scripts developed individually for each interviewee. Most interviews were conducted in Russian without an interpreter, as Ms. Inyutina is a native speaker of Russian and Mr. Chao is nearly fluent himself in relevant subject matter. Ms. Inyutina prepared written notes of all Russian-language teleconference interviews in order to ensure maximal clarity and thoroughness of content for Mr. Chao. Interviews with EBRD, Grant Ballard-Tremeer, the project team, and UNDP Country Office staff were conducted in English.

Normally, the MTR would also have included a mission by Mr. Chao to Kazakhstan, during which he and Ms. Inyutina would conduct in-person interviews with the project team, partners, stakeholders, and

beneficiaries. Because of the global COVID-19 crisis and associated restrictions on travel and meetings in Kazakhstan, such a mission and interviews proved infeasible. Therefore, after discussion and agreement between the International Consultant and the UNDP Country Office, this MTR has been conducted with no travel nor in-person contact, but rather only via remote contact. While far from ideal, this arrangement diddid yield clear conversations with no appreciable problems in terms of access to people, nor intelligibility of communication, especially given Ms. Inyutina's diligent note-taking.

II. Project Description & Background Context

The objective of the DREI project, as stated in the Project Document, is ***to promote private sector investment in renewable energy in Kazakhstan to achieve Kazakhstan's 2030 and 2050 targets for renewable energy.*** To this end, UNDP and the Ministry of Energy of Kazakhstan have developed this project to identify and remove key barriers to investment in RE, via targeted interventions in policy, business development, financing, outreach, and other technical assistance, for both large-scale and small-scale RE.

Development Context

The national *Concept on Transition to a Green Economy*, adopted in 2013, sets forth the targets, mentioned in the project objective, for renewable energy in Kazakhstan –10 percent of total installed electric generation capacity by 2030 and 40 percent by 2050. [3] These goals fit into the broader context of a green development pathway, articulated in this concept.

At present, Kazakhstan's economy remains heavily dependent on fossil fuel revenues and is affected considerably by fluctuations in oil prices. According to the green economy concept, Kazakhstan's peak oil production will be reached in 2030-2040 followed by a steady decrease in oil exports. Therefore, economic diversification and private-sector growth are central strategic priorities for the country, as stated also in the national Kazakhstan 2050 strategy, requiring a green development path for sustained socio-economic growth, as well as the creation of a favourable environment for foreign investments.

Renewable energy in Kazakhstan occupies a small but growing share of the nation's power generation capacity. The total installed electric generation capacity in Kazakhstan in 2015 was 20,600 MW. This installed capacity included approximately 18,000 MW from fossil-fired thermal but only about 252 MW of renewables (70 MW of wind, 125 MW of hydroelectricity, and 57 MW of solar). Supported by various policy measures and incentives (see Annex L of the Project Document), renewable energy has increased as of 2019 to a total installed capacity of 936.8 MW, including 18 wind, 27 solar, 35 hydroelectric power plants and 3 bioelectric power plants. In 2019 alone, 15 facilities with a capacity of 405.17 MW were commissioned. By 2025, the Government projects that at least 3,000 MW of installed RE capacity will be operational.[4]

Barriers, Strategy, and Expected Results

Despite this significant progress toward scaled renewable energy deployment, significant barriers remain.

This project in Kazakhstan is one of the first several UNDP-supported projects worldwide to deploy the **DREI framework**. Developed by UNDP and first released in 2013, the DREI framework seeks to assist policymakers in developing countries to cost-effectively promote and scale-up private sector investment in renewable energy. The foundation of the DREI framework is its approach for systematically identifying barriers and associated risks that impede private investment in renewable energy, and then designing packages of targeted financial and policy interventions to reduce, transfer or compensate for these risks.

[3] Government decree N79, May 30, 2013. The cited targets include a 10 percent share of renewable energy in total domestic power generation by 2030, and 40 percent by 2050.

[4] https://primeminister.kz/en/news/za-2019-god-v-moshchnosti-vie-kazahstana-uvelichilis-vdvoe#:~:text=In%20Kazakhstan%2C%20there%20are%2083,and%203%20bioelectric%20power%20plants.

The DREI framework is most comprehensively developed for utility-scale RE, but also includes materials and tools to support on-grid and off-grid small-scale RE applications.

UNDP commissioned a DREI analysis specifically for Kazakhstan during the project's preparatory period. This analysis comprehensively identified key risks that impede investment in both large-scale and small-scale RE – including risks involving power markets (uncertainty about the firmness of state targets, the competitive landscape and prices, etc.).), the permit process, grid connection, social acceptance, technical hardware issues, labor markets and availability of expertise, and the high cost of equity and debt financing. Risks, immature market development, and low levels of baseline support activity apply particularly to small-scale renewable energy markets.

The components and activities of the project are based directly on this DREI risk analysis, with a focus on policy support for large-scale RE (Component 1), and both policy support and financial instruments to develop the market for small-scale RE (Components 2 and 3). Components, outcomes, and planned outputs are framed as follows:

Component 1: Large-Scale Renewable Energy: Policy and Financial Derisking Measures

Outcome 1: Appropriate policies, programmes and regulations are in place to reduce investors' risks, scale-up investment and enable the achievement of 2030 RES target

- *Output 1.1:* Technical, economic, financial, environmental and social analysis carried out to support the Ministry of Energy and other stakeholders in the design and implementation of appropriate policies, programmes and regulations, including development of briefings for decision-makers
- *Output 1.2:* Capacity building of key stakeholders through coaching and training seminars / study tours

Component 2: Renewable Energy for Life: Policy Derisking

Outcome 2: Appropriate policies, programmes and capacities are in place to reduce risk and attract investment in small-scale (on-grid and off-grid) renewables

- *Output 2.1:* Appropriate policies, programmes and regulations for on- and off-grid small-scale renewables designed and implemented
- *Output 2.2:* Functioning MRV for the small-scale renewables sector
- *Output 2.3:* Media campaigns and training for suppliers / developers to promote and market small-scale renewables in their target markets

Component 3: Renewable Energy for Life: Financial Derisking and Incentives

Outcome 3: Sustainable business models and financial mechanisms to support implementation for investment in small-scale urban and rural RES solutions in place

- *Output 3.1:* Financial and business models for small-scale renewables are developed and piloted
- *Output 3.2*: Appropriate financial instruments created and piloted
- *Output 3.3:* Capacity of local financial institutions to support small-scale renewables enhanced
- *Output 3.4*: Investments mobilised for small-scale renewable energy projects

The Project Results Framework sets forth targeted outcomes and expected results in each of these components and for the project on the whole. These include quantitative targets for greenhouse gas emissions reductions, new installed small-scale RE capacity, and beneficiaries, as well as more qualitative goals for increased government capacity, support for RE policies, knowledge of technical systems, reduction of overall investment risk (captured in a numerical DREI score), and the existence of viable business models and financial instruments. For all of the specific language and numbers of these targets, see Section VI of the Project Document, as well as the Progress Toward Results Matrix in Section III below.

Implementation Arrangements

Day-to-day project activities are carried out by project staff, including a Project Manager, Administrative and Finance Assistant, and two technical experts. The staff receive steady technical support from an International Chief Technical Advisor as well as from working groups of outside stakeholders. The UNDP Country Office in Kazakhstan provides management oversight as well as support with procurement and compliance issues. The National Project Director is Ms. Ainur Sospanova, who is the head of the renewable energy department at the Ministry of Energy, the National Implementing Partner of the project.

Ms. Sospanova chairs the Project Board, which consists of representatives of 10 agencies – the Ministry of Energy, UNDP (Deputy Resident Representative Vitalie Vremis), the Ministry of the National Economy, the Committee on Water Resources of the Ministry of Agriculture, the national grid operating company KEGOC, the Financial Settlements Center of KEGOC, the energy-sector industry association KAZENERGY, the Kazakhstan Electric Power Association, the Renewable Energy Association of Kazakhstan, and the Union of Farmers of Kazakhstan.

Finally, the project also relies on extensive input from other stakeholders, especially the European Bank for Reconstruction and Development (EBRD) and the U.S. Agency for International Development (USAID), which conduct their own ambitious programs to support renewable energy investment in Kazakhstan. See Section III.A (Partnerships, coordination, and incrementality) for more details.

III. Findings

A. Project Strategy

Project design and the DREI framework

UNDP's DREI methodology forms the core of the DREI project strategy in Kazakhstan. During project preparation, UNDP prepared a full DREI report for the country, including matrices of identified risks and corresponding country-specific interventions for both large-scale and small-scale RE. (See Tables 2, 3, and 4 of the Project Document for full details.) All project components and activities were designed directly on the basis of the DREI analysis. The DREI methodology and its use in Kazakhstan form an exemplary analytic basis for the broad project strategy as reflected in the Project Document.

Country ownership and alignment with national goals

The project design is well aligned with official national goals. The project's core objective, as stated in the Project Results Framework, is defined explicitly in terms of RE targets set forth in the country's *Concept on Transition to a Green Economy*, adopted in 2013: "***to promote private-sector investment in renewable energy in Kazakhstan to achieve Kazakhstan's 2030 and 2050 targets for renewable energy***."[5] The Ministry of Energy, as the National Implementing Partner, has played an active leadership role in the project during both its development and its implementation, thus helping to ensure that the project remains country-driven and aligned with national goals, policies, and programs. The presence of the Ministry of the National Economy, the Ministry of Agriculture, national agencies for management of the electric grid and associated financial transactions, and several national business associations also help to assure that the project is driven by the priorities and realities of both Kazakhstan's government and its private sector.

Partnerships, coordination, and incrementality

The implementing partners and key stakeholders recognized from the beginning of the Project Preparatory Grant (PPG) period that there was already a well-developed "ecosystem" of agencies supporting the development of large-scale renewable energy in Kazakhstan. The European Bank for Reconstruction and Development (EBRD) is the leading international institution in this field, having delivered financing for 100 MW of large-scale wind and solar generation projects with associated technical and policy support at the time of the DREI project's inception, with plans to develop 300 MW of renewable generation capacity by 2021. The U.S. Agency for International Development (USAID) supports policy and regulatory reform to encourage private investment in RE and energy efficiency through its Power the Future program, and also delivers support for development of small businesses. The Asian Development Bank, International Finance Corporation, and the Islamic Development Bank have also had initiatives involving large-scale RE in Kazakhstan. For more details, see subsection IV.ii (Partnerships – Related Initiatives) of the Project Document.

The PPG team therefore pointedly tried to define the DREI project's niche in this ecosystem so as to ensure incrementality and to avoid redundancy with existing efforts of the other respective agencies. The project strategy reflects this attention to incrementality in two key ways.

[5] Government decree N79, May 30, 2013. The cited targets include a 10 percent share of renewable energy in total domestic power generation by 2030, and 40 percent by 2050.

- **Emphasis on small-scale renewable energy** It has been agreed with the EBRD that the EBRD focuses on large-scale renewable energy while the UNDP project focuses on small-scale technologies. Before the DREI project, there was minimal organized existing activity in Kazakhstan to promote small-scale RE. The project budget allocates $3.6 million in direct costs for support of small-scale RE in Components 2 and 3, but only $700,000 in support of large-scale RE in Component 1.

- **Intentionally flexible program design.** Both Section III (Strategy) of the Project Document and the Project Results Framework are designed flexibly. The lead PPG consultant and "pen-holder" for the Project Document confirms this flexibility is intentional, in order to allow for UNDP and its partners to define where the DREI project can contribute most effectively in response to emerging conditions and achieve incrementality in the context of other agencies' work.

  The strategy section of the ProDoc does lay out expected subject matter for policy and regulatory support in Component 1, but explicitly leaves open the possibilities of ***how*** the project will achieve its outcomes. With regard to Output 1.1 on policy support, Section III (Strategy) of the Project Document specifically notes, "*The activities to achieve this output…will be reviewed, in light of new developments and in coordination with other donors and IFIs, during the project's Inception Phase and regularly during the course of the project's implementation.*"

  The Project Document lays out expected subject matter for policy and regulatory support for small-scale RE in Component 2, noting particularly that recommendations will arise from the DREI analysis, but does not go into detail about specific legislation or new requirements to be targeted. Component 3 is the most open-ended of all, setting forth general plans to support companies in the development of financial and business models, and to develop and deploy new financial instruments for de-risking – but not rigidly defining what the models, instruments, target markets, and target technologies would be.

  This flexibility is also reflected in the Project Results Framework for all three components and their corresponding outcome indicators.

Sustainability, risks, and social/environmental screening

The project is designed specifically to achieve market transformation within the context of policies that articulate and support long-term national goals. Therefore sustainability (in the sense of creating change and impact that outlast the project) is central to the project strategy. In Components 1 and 2, the project focuses on creating permanent policy mechanisms and institutional procedures in support of both large-scale and small-scale RE. Component 3 is designed for the project to help develop viable business models for small-scale renewable energy, and to help businesses to apply the models, obtain financing to reduce investment risk, and thus to gain traction in the market. The Project Document specifically notes (page 33) that "*Financial derisking instruments will be designed in such a way as to achieve a sector-wide impact and low renewable energy financing costs for all perspective renewable energy projects and therefore eliminate, or at least significantly reduce the need for, additional financial derisking after project completion*."

The DREI analysis elaborates on how all of the various project interventions would result in lower cost of financing for renewable energy in the country. There is no specific explanation of how the de-risking achieved by the project's financial instruments (essentially, the use of GEF funds to transfer or compensate for investor risk) would outlast the project once the GEF-funded incentives are no longer available. But it is reasonable to envision that the incentives would help to establish the market, create economies of scale, develop a technical and financial track record for various technologies and services, and thus raise consumer and investor confidence.

Sustainability depends not only on sound strategic logic and design of project interventions, but also on recognition and mitigation of risks. The Project Document comprehensively and clearly lays out numerous project risks and associated countermeasures in the Risk Log (Table 7, pages 31-32 of the Project Document). The main risks noted pertain to external political and economic conditions (especially low oil prices and resultant impacts on the state budget), as well as the possibilities of slow business uptake of RE solutions and offered financial instruments.

Annex F of the Project Document is the required Social and Environmental Screening, which reviews the social and environmental risks created by the project. That annex notes that the direct activity of the project in eliminating policy, financial, market and technical barriers, and creating an enabling environment for investments in renewable energy, in itself poses minimal risk of adverse social or environmental impacts. The screening notes further, however, that actual renewable energy projects may cause impacts related to siting and construction works. Further, there may be generation of waste, noise and visual pollution, potential discrimination of women to access financing, etc. that are limited in scale and temporary.

The Project Document does not contain a completed Environmental and Social Management Plan (ESMP), but the project completed an ESMP in August 2019. This plan is based directly on the social and environmental risks noted in the aforementioned Annex F, but adds a table with proposed remedial measures, developed in the context of national laws, regulations, and standards.

In preparation for the site-specific auction for the 50 MW solar facility at Shaulder, the project commissioned a full environmental impact assessment as part of a pre-feasibility study, as well as public hearings. Risks were deemed to be negligible during both the construction and operation periods for the facility.

Reflection of gender in the project design

Gender issues are integrated into the project design and reflected in specific activities, based on a comprehensive gender analysis, which is presented in Annex Q of the Project Document. This annex also includes a Gender Action Plan, which elaborates on the gender-disaggregated targets of the Project Results Framework and also sets forth additional targets, including that at least 50% of beneficiaries for training and capacity building will be women and/or women-headed organizations (i.e. Associations of Apartment Owners, SMEs, farming communities).

A gender-related risk of discrimination against women in access to financing and capacity-building is identified in the Social and Environmental Screening. This risk is deemed low, and is mitigated by the inclusion of indicators for numbers of women beneficiaries at objective, outcome, and activity levels, as well as specific selection criteria that proactively help support women's participation.

Project Results Framework

The Project Results Framework ("logframe") states the project objective and its intended outcomes, defines performance indicators, and presents baseline levels, midterm targets, and end-of-project targets for each indicator.

As the core document for measuring project success, a well-designed logframe should define indicators and targets that are "SMART" – Specific, Measurable, Achievable, Relevant, and Time-bound. SMART indicators and targets help to ensure the project team's clear understanding of project goals, and also to facilitate effective monitoring and evaluation.

The DREI Project Results Framework has three objective-level indicators and seven outcome-level indicators, all with respective targets, as follows.

- **Objective indicator 1:** Total Lifetime Direct and Consequential GHG Emissions Avoided (Tons CO_{2eq}). *End-of-project target: 460,000 tonnes CO_{2eq} direct emissions plus between 1.8 and 8.0 million tonnes CO_{2eq} consequential emissions avoided*

  This is the most defining indicator for all GEF-funded climate-change mitigation projects. It is specific and relevant. The targets are achievable and time-bound. Measurability is relatively straightforward as well (based on the assumption that installed RE systems displace electricity consumption from the national grid). This indicator could involve some possible complexities in determining how much credit the project should get for RE installations that might eventually have occurred anyway, but the logframe simply defines the baseline as zero, not a dynamic figure that rises over time.

- **Objective indicator 2:** Increase in Installed capacity from wind and solar power (MW) and lifetime RE production (MWh). *End-of-project target: 9.5 MW (direct, small-scale sector only) = approximately 500 GWh lifetime production*

  This indicator and targets are specific, relevant, and measurable. The targets are time-bound and possibly achievable, but will be challenging for the project to fulfill given emergent risks and unclear market opportunities. Section IV of this MTR report offers recommendations on dealing with these risks and homing in on the most promising market sectors.

- **Objective indicator 3:** Number of direct project beneficiaries. *End-of-project target: 28,500 people, 50% women*

  This is a human development indicator, common in UNDP-supported projects. The indicator and target are specific and relevant. The project intends to count as direct beneficiaries those people who receive financing and/or training through the project. Therefore the indicator is highly measurable and time-constrained as well. As with the previous indicator, achievability will be a challenge requiring efficient market delivery of financial instruments for the remainder of the project.

- **Outcome indicator 1.1:** Capacity of the Government to design and implement policy initiatives enabling development of renewable energy markets. *End-of-project target: 25 policymakers trained*

  This indicator and target are highly specific, measurable, achievable, and time-constrained. They are only indirectly relevant to the overall targeted outcome, which is that "*Appropriate policies, programmes and regulations are in place to reduce investors' risks, scale-up investment and enable the achievement of 2030 RES target*," because delivery of training does not equate directly to adoption of policies, programmes, and regulations that effectively reduce investor risk and enable scale-up.

- **Outcome indicator 1.2:** Reduction in DREI aggregate risk score across 9 DREI risk categories. *End-of-project target: Aggregate DREI risk score 25 out of 45 (56%)*

  This indicator requires application of a DREI evaluative exercise, in which investors in solar and wind energy are asked to provide a score on a scale of 1 to 5 for each of nine risk categories according to 1) the of occurrence of negative events; 2) the level of financial impact of these events (should they occur), and 3) the effectiveness of public instruments to address each risk category. This indicator and target are very highly relevant, achievable, and time-constrained. They are specific in terms of the definition of the evaluation task, though general in terms of their aggregation of qualitative content. The indicator is also highly measurable, but requires some research effort applied by a person knowledgeable about the methodology. (For the DREI project, the same company that administered the exercise at the baseline/PPG stage, Eco Ltd., also administered it at midterm, thus ensuring consistency in approach.)

  It should be noted that the logframe indicator is presented differently from the risk scoring examples presented in the document that defines the global DREI framework.[6] That framework calculates the aggregate risk score as the product of probability scores x impact scores, summed across all applicable categories. Thus, for nine categories each scored on a scale of 1 to 5, the minimum score would be (1 x 1) * 9 = 9, while the maximum score would be (5 x 5) * 9 = 225.

  In contrast, the logframe indicator is presented as a score out of a maximum of 45 points, reflecting the ***probability score only***, without reference to impact. This is not explained in the Project Document, nor in the Eco Ltd. report prepared at midterm,[7] but has been explained by the project team to the MTR team, and also confirmed based on review of the detailed figures in the midterm Eco Ltd. report.

- **Outcome indicator 2.1:** Degree of support for small-scale renewable energy development in policy, planning and regulations. *End-of-project target: 8 - Strong policy and regulatory frameworks designed with financial / market / incentive based mechanisms*

[6] *Derisking Renewable Energy Investment: A Framework to Support Policymakers in Selecting Public Instruments to Promote Renewable Energy Investment in Developing Countries.* UNDP 2013.
[7] *Kazakhstan Renewable Energy Sources Investment Risks Scoring Survey*. Eco Ltd. 2020.

This indicator comes from the GEF Tracking Tool. Like the previous indicator, this one also involves the use of a quantitative score to characterize a complex, highly qualitative outcome. The indicator is directly and strongly relevant to Outcome 2, which is that "*Appropriate policies, programmes and capacities are in place to reduce risk and attract investment in small-scale (on-grid and off-grid) renewables*." It is not very specific, but at least the numerical scale is fully explained in a comment box in the Tracking Tool. It is therefore measurable, albeit highly subjective. The target is time-constrained and achievable.

- **Outcome indicator 2.2:** Knowledge of small-scale applications in rural and urban areas. *End-of-project target: At least 25% of women and 25% of men in target stakeholder groups understand the benefits and risks of renewables and support their development*

  This indicator and target are relevant to the stated outcome ("*capacities are in place*"), but it is not at all specific, nor easily measured. It requires a survey, as well as clear definitions of "target stakeholder groups" and "understand the risks and benefits of renewables," which do not yet exist. Nevertheless, the target is time-constrained and seems to be achievable.

- **Outcome indicator 3.1:** Developed financial and business models for small-scale RES in urban and rural sectors. *End-of-project target: Standard contracts / agreements prepared to facilitate scale-up*

- **Outcome indicator 3.2:** Appropriate financial instruments created for pilot investments in small-scale rural and urban renewables. *End-of-project target: Financial derisking instruments for small-scale on- and off-grid projects are designed and deployed*

  These two indicators and their respective targets have the character of outputs, rather than outcomes per se, but are useful in their measurability, achievability, and time constraints. The targets is not very specific, in that it makes no distinction among the types, numbers, rigor, and targeted market sizes for the standard contracts and business documents to be developed, nor the viability and actual successful application of the financial instruments. Both indicators and their targets are directly relevant to the overall Outcome 3 ("*Sustainable business models and financial mechanisms to support their implementation in place for investment in small-scale urban and rural RES solutions.*") and to the overarching project objective.

- **Outcome indicator 3.3:** Investment mobilized to support small-scale projects. *End-of-project target: Small-scale projects of total installed capacity of 9.5 MW addressing various technologies and sectors are implemented with support from the project*

  This target was originally defined as "9500 small-scale projects [addressing various technologies and sectors (using business / financial models from 3.1 and 3.2) are implemented]," but was revised in the Inception Report as shown above. The changed target is fully consistent with the original, as the Project Document noted that the expected average energy production capacity of each small-scale project was projected at 1 kW. The revised target is more achievable than the original, as it allows for faster progress with fewer projects of larger capacity. It is also now fully

consistent with Objective indicator 2 and its target, with the same overall SMART qualities noted above.

Two of the logframe indicators are gender-disaggregated (Objective indicator 3 and Outcome indicator 2.2). In addition, Annex Q of the Project Document and Annex 7 of the Inception Report define further gender-related targets associated with specific project activities (training, engagement of women and/or women-headed organizations).

B. Progress Toward Results

One of the MTR's fundamental objectives is to review progress toward results. The MTR has carried out this assessment based on the Project Document, project work plans, GEF Tracking Tools, and PIRs, as well as results verified in the course of interviews and review of specific project outputs.

GEF Tracking Tool

Tables 1a and 1b below presents the project's key indicators as noted in the GEF Tracking Tool, with the quantitative targets set at the time of GEF CEO Endorsement and the levels of these targets at midterm.

Table 1a

Quantitative Outcome Indicators from the Tracking Tool
Targets and Midterm Levels Achieved

Quantitative Outcome Indicators				
Indicator number and description	**Subcategories of indicator and units**	**Notes from Tracking Tool**	**Target at CEO Endorsement**	**Level achieved at midterm as reported by project**
1. Total Lifetime Direct and Indirect GHG Emissions Avoided	Lifetime direct GHG emissions avoided [tonnes of CO_{2eq}]	Small scale renewable energy in rural and urban areas	460.000	0
	Lifetime indirect GHG emissions avoided (bottom-up, tonnes of CO_{2eq}]	(Bottom-up) Small scale renewable energy in rural and urban areas	1,800,000	0
	Lifetime indirect GHG emissions avoided [top-down, tonnes of CO_{2eq}]	(Top-down) Small scale renewable energy in rural and urban areas	8,000,000	0
3. Increase in Renewable Energy Capacity and Production	Increase in installed RE capacity per technology (MW)	Wind, PV, and solar thermal	9.5 MW	0
	Lifetime RE production per technology (MWh)	(IEA unit converter: http://www.iea.org/stats/unit.asp)	500,000 MWh	0

Table 1b

Qualitative Outcome Indicators from the Tracking Tool
Targets and Midterm Levels Achieved

Qualitative Indicators				
Indicator number and description	**Baseline level at CEO Endorsement**	**Target at CEO Endorsement**	**Level achieved at midterm as reported by project**	**Notes as reported by project**
9. Degree of support for low GHG development in policy, planning and regulations	4 (Strong policy/ strategy adopted while implementation (or capacity) is weak/in progress)	8 (Strong policy and regulatory frameworks designed with financial/market/incentive based mechanisms in multiple sectors of the economy)	6 (Sub-sector and institutional plans reflect key policy targets and priority actions of main development/climate plans and capacity for implementation at sub-sector is strengthened)	Policy and legislation for utility scale and small-scale renewables
10. Quality of MRV systems	1 (Very little measurement is done, reporting is partial and irregular and	7 (Measurement regarding GHG is broadly done (with widely acceptable methodologies), need for	2 (Measurement systems are in place but data is of poor quality and/or methodologies are not	MRV systems for small-scale urban and rural renewable energy

	verification is not there)	more sophisticated analyses to improve policy; Reporting is periodic with improvements in transparency; verification is done through more sophisticated methods even if partially)	very robust; reporting is done only on request or to limited audience or partially; verification is not there)	including small wind, PV and solar thermal
11. Degree of strength of financial and market mechanisms for low GHG development	1 (No such facilities are in place)	6 (Financial/performance based mechanism successfully demonstrated)	7 (Policy and enabling framework addresses any constraints to wider uptake of such mechanisms)	The financial mechanism to support small scale RE projects is in place, some pilot projects planned to be realized [by] the end 2020

As the tables plainly show, the project has not yet achieved and documented results in terms of the quantitative indicators of GHG emissions reductions and new small-scale RE capacity. This absence of quantitative results is expected imminently to begin to be resolved, however, as the project launches the financial instruments of Component 3, and as the 50 MW solar power generation facility catalyzed by the project in Shaulder comes online in 2021.

The project's self-reported results in terms of the qualitative indicators is mostly clear and consistent with actual accomplishments and preliminary progress toward outcomes. The reported results for the final indicator (number 11, on financial and market mechanisms) might better be rated at level 6 instead of level 7, as new policies to support small-scale RE have not yet been adopted, and wider uptake of developed financial mechanisms has not yet been verified.

Assessment of progress and justifications for achievement ratings

Annex A presents the MTR team's assessment and ratings of progress toward the targeted objectives and outcomes of the Project Results Framework. The rightmost two columns present the assessments and ratings, with a summary of the justification for each.

The project has generated an impressive volume of work in all three components, with varying degrees of concrete outcomes, demonstrated impact, and fulfillment of targets.

Component 1 has been recast from the Project Document's original open-ended plans for policy support for large-scale RE, to focus very specifically on the development and implementation of a new auction mechanism for large-scale renewable electricity. This mechanism, unlike preceding renewable energy auctions in the country, involves selection by the auction organizers in advance of a specific suitable site, analysis of feasibility and generation potential, issuance of design specifications, and preparation of permits, as well as definition of the terms and conditions of a power purchase agreement for the winning bidder.

This mechanism had been previously discussed among the major institutions involved in large-scale renewable energy policy and markets in Kazakhstan, including the Ministry of Energy, EBRD, and USAID, but had never actually been pursued. In view of this unfulfilled idea, as well as the lack of pressing need for further detailed policy development in other areas, UNDP and these parties therefore agreed during

the early stages of the DREI project that piloting this mechanism would be the best way to achieve incrementality under this component.

The DREI project thus played the central role in creation of the auction mechanism, its rules, amendments to existing regulations, development of technical documentation including a pre-feasibility study+68, arrangement for needed permits, recruitment of bidders (including a remarkable 24 teleconference briefings with energy companies to describe the project scope and auction mechanism), and support to the Financial Settlements Center of the Kazakhstan Electric Grid Operating Company (KEGOC) in running the auction. Held in November 2019, the auction attracted 95 bidders. The winning company was LLP Arm Wind, which is a subsidiary of the Italian energy giant ENI.

In assessing the progress of the DREI project on this component, and in foreseeing its achievements of targeted outcomes, the MTR team has closely examined the question of whether other agencies besides DREI deserve credit for implementing this auction. Most notably, EBRD (with funding from the Green Climate Fund) and to a lesser extent USAID have been very active in supporting large-scale renewable energy policy and finance in the country – including development of the original "zonal auction" mechanism[8] and in EBRD's case, delivery of actual financing for numerous renewable energy projects (11 as of the end of 2019)

Marat Yelibayev, Principal Bander at EBRD, has provided clarifications of the relative roles of EBRD and DREI in the Shaulder auction, via both an interview and subsequent email correspondence. He notes that the general idea of site-specific auctions had been elaborated around 2013 or perhaps even earlier, but did not lead to any specific plans or actions. The idea of the site-specific auction began to be more actively elaborated in 2017-18. Mr. Yelibayev confirms that the DREI project played the lead technical role in developing technical documentation, preparing permissions, explaining the new mechanism, and in assisting the FSC in implementing the auction. EBRD did not play any significant role in these areas, though it did provide support in studying power purchase agreement bankability, and also in attracting energy companies to participate in the auctions. Mr. Yelibayev also confirms that EBRD is not providing financing to Arm Wind for the facility at Shaulder. For this reason, he affirms his understanding that EBRD does not intend to claim GHG reductions or new capacity from the Shaulder facility as its own achievement in reporting to the Green Climate Fund.

Thus, the MTR team concludes, based on available information, that the DREI project's role and de-risking impact from the Shaulder auction, as well as the resultant GHG emission reductions, can be considered fully incremental beyond the baseline and beyond the existing work of other agencies, because the auction cannot reasonably be expected to have taken place without the work that the DREI project did.

he chosen site is located in the village of Shaulder in Turkestan in southern Kazakhstan, in open terrain with high insolation during most of the year. The project team conducted technical studies indicating that a 50 MW solar plant there would generate more than 82,000 MWh of electricity in the initial year of operation. The site-specific auction mechanism yielded the lowest price ever for renewable electricity in Kazakhstan (12.49 Kazakh tenge per kWh, or US $0.03/kWh, which is 2.3 times lower than the initial ceiling price and about one-third lower than the price of 18.6 tenge per kWh, obtained during Kazakhstan's first

[8] Zonal auctions are so named because they reflect targets by geographic zones of the country.

(zonal) renewable energy auction conducted in October 2018.[9] Now the winning bidder, LLP Arm Wind is proceeding to build the facility at Shaulder via equity and loans, without any financial support from the GEF, nor from EBRD.

The unprecedented effectiveness of de-risking via this mechanism is clear and widely recognized. Mr. Yelibayev calls the site-specific auction a "great achievement" and a "win-win" for all parties. EBRD and the Financial Settlements Centre of KEGOC are now already seeking to replicate the mechanism in at least five facilities, with fulfillment expected in the next two years.

In addition to its work on the auction mechanism, the DREI project has conducted other substantial activity in Component 1. The project delivered training to more than 70 attendees on the original zonal auction mechanism in conjunction with USAID. It organized and executed two study tours, one to the Netherlands and one to Denmark, on best practices in renewable energy policy. Participants in these tours included representatives of the Ministry of Energy, the Ministry of the National Economy, the national Parliament, regional administrations, the national entrepreneurship fund Damu, and others.

Further work is already in progress under this component for development of analyses and recommendations on integration of RE into the grid, deployment of energy storage for RE systems, and simplification of administrative procedures on the registration of land lots for RE siting.

Outcome Indicator 1.2 involves a DREI risk score, reflecting the probability of negative developments as assessed by stakeholder interviews (see discussion in Section III.A above, under "Project Results Framework"). This indicator has been assessed in August 2020 by Eco Ltd., the same contractor that assessed the same risk score at the baseline/PPG stage. This midterm assessment indicates that the risk probability score has fallen from 32/45 to 28/45, meeting the midterm target of 30/45 and quite plausibly on target to meet the end-of-project target of 25/45, despite perceived new macroeconomic risk related to the COVID-19 pandemic.

All of the work on this component puts the project squarely on track to fulfill the targets set forth for Outcome 1 in the Project Results Framework. In this light, and especially in consideration of the concrete de-risking impact and rapid replication of the site-specific auction mechanism, the MTR team has assigned a rating of **Highly Satisfactory** to Outcome 1, signifying that "*the objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice*."

Component 2 has focused mostly on the development of amendments to various pieces of existing legislation and regulations relevant to small-scale renewable energy in Kazakhstan. The project first developed an analysis of existing policies and legislation, as well as past and current programs.[10] Then, working closely with the Ministry of Energy (more than 20 meetings), the project developed an extensive

[9] https://www.pv-magazine.com/2019/12/02/italys-eni-wins-kazakhstans-50-mw-solar-auction-with-0-032-kwh-bid/

[10] Including the 2009 Renewable Energy Law (extensive discussion of specific articles and clauses), the Green Economy Concept approved by presidential decree in May 2013, the action plan developed for the Green Economy Concept and approved by presidential order in June 2013, plans for regional and energy-sector development, and so on.

of recommended changes to existing legislation, written in actual proposed revised language for the relevant statutes, with regard to the following areas.

- Definitions and terminology
- Requirements for the authorized agency (Ministry of Energy)
    - To establish rules for M&V of small-scale RE
    - To establish rules for connection of small-scale RE to the grid
    - To set targets for RE capacity (not less than 5 MW for each region, city of national significance, and capital; target can be revised upward)
    - To develop rules for purchase of electricity (including from flood-control dams and residential RE) by the Financial Settlement Centre
    - To develop subsidies for small-scale RE for individual and net consumers
- Requirements for local administrations
    - To implement M&V of small-scale RE
    - To conduct promotional campaigns for RE
    - To develop annual targets and send them to the national authorized agency
- Requirements for the Financial Settlement Centre
- Reporting requirements for electricity supply companies on the amount of electricity they purchase from net consumers
- Obligation of the electricity transmission network to carry electricity produced from small-scale RE free of charge (received from net consumers and Financial Settlements Center)
- Support measures for individual consumers and net consumers (until the given region meets its targets)
    - Tax incentives
    - Targeted subsidies (40 to 80 percent of project cost)
        - Obligations of subsidy recipients
    - Clarified rules and procedures for grid access
- Inclusion of electricity production from solid waste as RE from point of view of Financial Settlement Centre, subject to new emissions monitoring requirements and relevant environmental laws

These proposed policy revisions are comprehensive and reflective of best practices as well as extensive stakeholder input. The revisions also directly reflect the core DREI project approach of de-risking via delivery of greater clarity to investors and implementers. Senior officials at both the Ministry of Energy's renewable energy department and the Majilis (lower house) of the Parliament of Kazakhstan agree that this work is correctly formulated and potentially of great value to the country and its renewable energy industry.

Regrettably, however, at the moment these proposed revisions are in limbo in terms of prospects for adoption. The project presented these proposed revisions to the Ministry of Energy in the early spring of 2020, but they were rejected at the highest levels of the Ministry because of the perception that stipulated subsidies were not sustainable for the state budget. Low oil revenues and the COVID-19 crisis both played a significant role in driving this decision.

Now the project is trying to circumvent this opposition and advance the proposed legislation via the Parliament. The legislature has strong champions of the revisions and of RE on the whole, especially at

the staff level of the Committee for Ecology of the Majilis, who are notably optimistic that the amendments will eventually be adopted because they contribute to national goals and reflect a general trend of growing support for RE in the country. Meanwhile, the project is also supporting the development of updated building-code requirements regarding RE in new construction, with the selection and hiring process for a consultant in progress as of July 2020. Such code requirements could be a means of effective scaled policy de-risking even if the core legislative amendments do not pass.

The project is also in the process of completing the key output for Output 2.2, regarding development of a M&V system. A study of international best practices has already been carried out. The project has also conducted extensive outreach activity (participation in a solar business expo, mass media promotion of RE, etc.) and a study tour to Finland under Output 2.3 and has developed a training roadmap that bridges Output 2.3 and Output 2.4. The project has also completed an analysis of quality control needs for RE technology in Kazakhstan.

In the Project Results Framework, there is a mismatch between the indicators/targets (support for and knowledge of RE) and the overall stated outcome ("Appropriate policies…in place"), such that the targets are squarely on track to be achieved, but the outcome itself is not yet on track. The MTR team assigns a rating of **Satisfactory** for the outcome based on fulfillment of the indicators, but also note the importance of responding to the risks regarding fulfillment of the outcome on the whole.

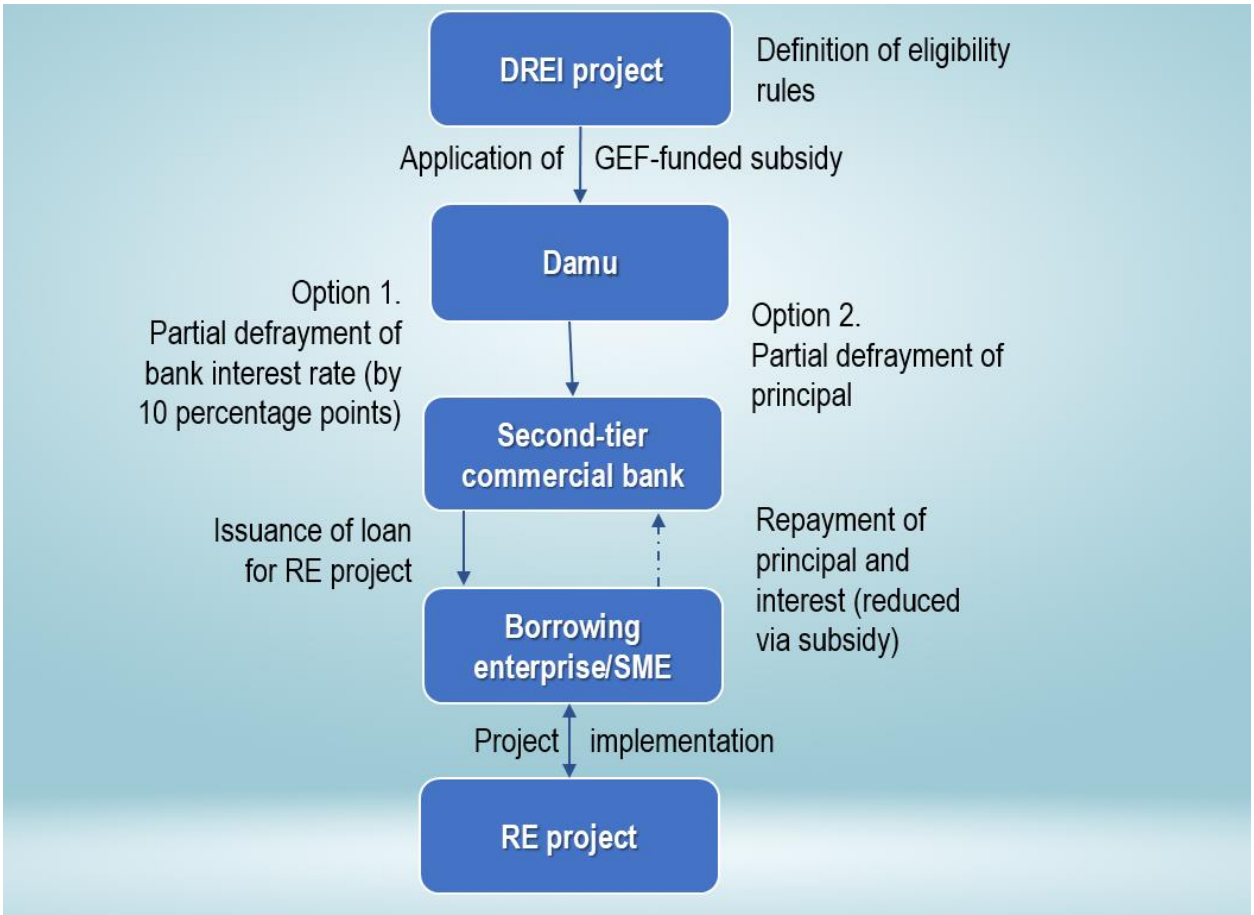
Component 3 has included extensive work in establishing proposed financial instruments to be delivered in partnership with Damu. These instruments are mostly well designed and indeed, two of them have already been successfully tested in the separate UNDP-supported GEF-funded project on Nationally Appropriate Mitigation Actions (NAMA) for low-carbon urban development).

The mechanisms include:

- An interest rate subsidy (already piloted in the NAMA project), reducing the effective interest rate on a qualifying loan by 10 percentage points (for example, from 14 percent to 4 percent).

- A subsidy covering a portion of loan principal (variable depending on project size).. This subsidy has already been piloted in the NAMA project, at a fixed level of 25 percent in most cases. (See Figure 1 below for a schematic representation of these two loan subsidy mechanisms.)

Figure 1
Subsidized Loan Schemes (Interest Rate Reduction or Principal Reduction)
Under the Damu-DREI Agreement

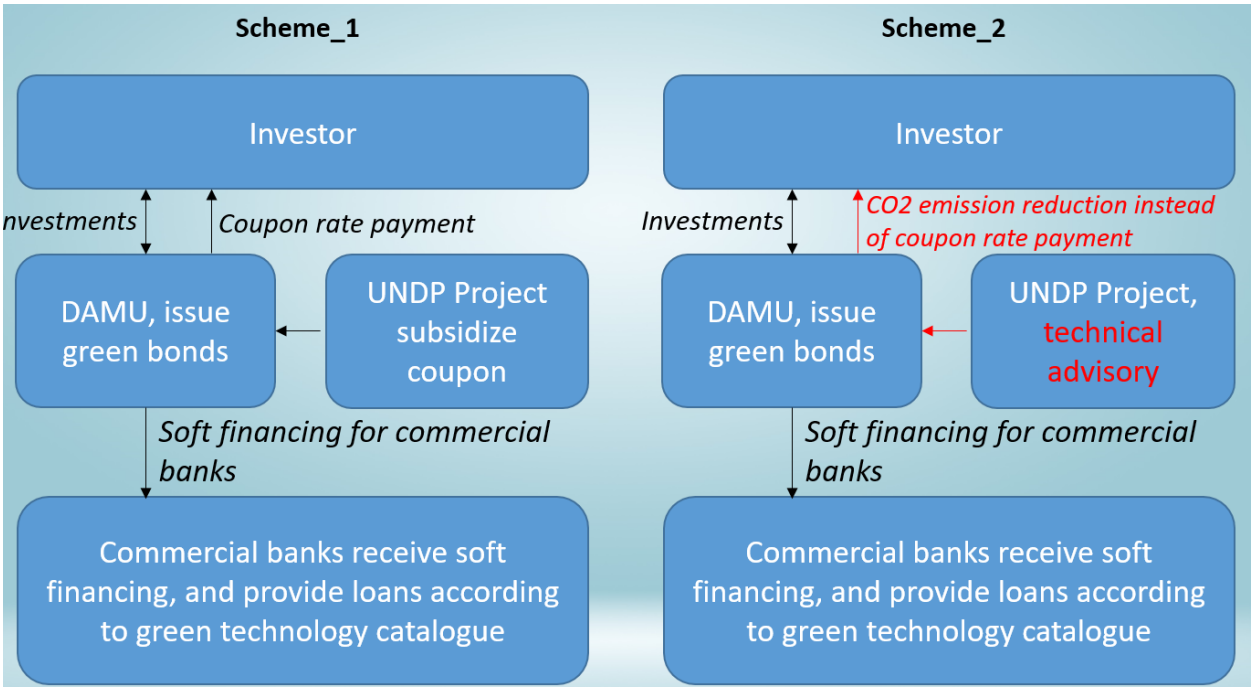


- Green bonds to be issued by Damu and sold to investors. Damu would then use the revenue from bond sales to provide soft financing to commercial banks for lending to qualifying RE projects, based on eligibility criteria developed by the project. The UNDP-managed GEF subsidy would be used to cover the coupon rate of the bonds (11.75 percent). See Figure 2 below.

  Green bonds developed and subsidized by the project were released for sale on the Astana International Exchange of the Astana International Financial Centre in August 2020 (scheme 1 of Figure 2). UNDP reports that US $500,000 in these bonds sold out almost immediately. Now the DREI project is working with Damu to link this newly-available RE funding to projects. The DREI project has referred two possible projects to Damu. The leading candidate is a 1 MW solar PV plant for agricultural uses in southern Kazakhstan, with expected financing needs of about US $460,000. The DREI project also has identified a project on solar PV and solar hot-water heaters in a single-family residential neighborhood in Almaty, which could also receive green bond funding if available.

  In addition, the project has conceived of a mechanism by which the bond buyer would receive verified GHG emissions reduction credits in lieu of the coupon rate (Scheme 2 of Figure 2). The project is planning to pilot this mechanism.

Figure 2
Green Bond Mechanism Developed by the DREI Project



All this work (which falls under Output 3.2) has involved extensive negotiations with Damu over agency responsibilities, transaction procedures, eligibility criteria, reporting, and so on. These negotiations were relatively slow to develop, such that only now are the parties ready to launch the financial instruments. But the parties have finally signed a formal Responsible Party Agreement, with the approval of the Ministry of Energy. It appears clear that Damu understands the potential of the GEF-subsidized instruments, and is ready to put significant organizational effort into promoting and administering these financial instruments in all regions of the country.

The project has done less concrete work in Output 3.1 on the development of business and financial models. The project has delivered some direct assistance to firms in business planning, especially in financial modeling of renewable energy investment, and has also developed simple spreadsheet tools for firms to use themselves. So far, however, such outreach actually reached a minimal number of firms.

So far, the project has identified 16 potential projects that are suitable for implementation under the financial support of the component. This pool is diverse, encompassing various applications and target markets (farms, automobile fueling stations, villages, refrigerated warehouses, remote tourism destinations, and so on), but it urgently needs to be expanded and made more concrete. The pipeline of viable qualifying projects and enterprises needs to be dramatically broadened in order for the project to achieve its end-of-project target for Outcome indicator 3.3., though already there are encouraging signs of interest, including enrollment of 140 participants in one webinar on the financial mechanisms in April 2020.

The key step in getting a clear picture of target sectors and expanding the pipeline is market research. The project has made some progress in such research in July 2020, with the completion of a market research report by the contracted firm SSDC on existing small-scale renewable-energy installations in Kazakhstan.[11] This report notes helpfully that 99 percent of all existing small-scale RE installations are in rural off-grid areas, almost all involving solar PV generation. The report does not, however, go into appreciable depth about further market potential, priorities for the types of enterprises and business models, and the needs for financial assistance.

Mr. Khmelyov, the Chief Technical Advisor, has found certain gaps and discrepancies in the SSDC report, and has noted them in his own quarterly report from June/July 2020. Mr. Khmelyov's report, in turn, also provides an important starting point for the project's market research and strategy, with initial analysis of numerous technologies and applications (solar PV, solar water heating, solar space heating, wind power, heat pumps, small hydroelectric generation, biomass for heating, and even biogas for electricity). Mr. Khmelyov also has provided very helpful comparisons of renewable solutions in comparison with the conventional technology that would be replaced (solar PV versus diesel generators, and solar water heaters versus solid-fuel water heaters).

Overall, then, the project has made substantial albeit slow progress in this component, and has almost all the pieces in place for accelerated application of its financial instruments via Damu. The main challenge now is in understanding market potential, defining priorities, and expanding the pipeline. Meanwhile, COVID-19 significantly compounds known risks that affect the prospects of this outcome. (See discussion of Sustainability below.

Given the substantial progress but significant remaining uncertainties for fulfillment of this component, the MTR team assigns a rating of **Moderately Satisfactory** to progress under Outcome 3, signifying that "*the outcome is expected to achieve most of its end-of-project targets but with significant shortcomings*."

Achievement across the three **objective-level targets** has been uneven, but on balance, the project's overall progress has been strong.

On the one hand, the key climate-change mitigation objective (GHG emissions reduction) is squarely on track to be achieved and indeed probably overfulfilled. Given EBRD's affirmation that it does not intend to take credit for emission reductions from the Shaulder solar facility, the MTR team contends that these reductions should be attributed to the DREI project in full, as the auction cannot reasonably be expected to have taken place without the work of the project.

In contrast, the other two objective targets (installed small-scale RE capacity and direct beneficiaries) cannot be confidently deemed to be on track because of insufficient clarity about target markets and potential uptake of project-supported financing instruments, as well as new risks related to COVID-19. Nevertheless, the groundwork of the Responsible Party Agreement with Damu, as well as the recent progress with green bonds and pipeline support, support the expectation that the project can get on track with an appropriate management response.

[11] *Анализ маломасштабных проектов ВИЭ по Казахстану в разрезе областей. [Analysis of small-scale RE projects throughout Kazakhsta,, with a breakdown by regions].* SSDC, July 2020.

Thus, in light of all these considerations, the MTR team assigns a rating of **Satisfactory** to progress toward the project objective, signifying that "the objective is expected to achieve most of its end-of-project targets, with only minor shortcomings."

Progress toward gender targets

The project has devoted substantial and steady attention to the engagement of women throughout the implementation period so far, in accordance with its Gender Action Plan, with the following results.

- Women constituted 5 of the 10 participants in the study tour to the Netherlands and 2 of the 6 participants in the study tour to Finland.
- Women constituted approximately 40 percent of the recipients of training on zonal and site-specific RE auctions in 2019.
- Women constituted 30 percent of the 140 participants in the April 2020 webinar on the financial instruments of Component 3.
- Perhaps most importantly, the project has developed and confirmed with Damu that gender preferences will be applied to scoring of eligibility criteria for the subsidized loans, in the form of extra scoring points for firms represented by or run by women.

Thus the project has already fulfilled its Gender Action Plan targets for study tour participation and absolute numbers of women receiving training. It has not yet measured progress toward the target for the total number of women beneficiaries (50 percent of 28,500 total beneficiaries), but the gender preferences in applicant scoring is a strong way to help the project reach its target of 50 percent women beneficiaries.

C. Project Implementation & Adaptive Management

This section discusses the project's implementation arrangements and its application of adaptive management.

Management Arrangements

The project team consists of Project Manager (PM) Syrym Nurgaliyev, Administrative and Finance Assistant (AFA) Zulfiya Suleimenova, Task Leader (TL) on policy development Yerlan Dairbekov, and Task Leader of finance Birzhan Yevniyev. Collectively, the team has strong expertise in policy, engineering, finance, and project management.

Part-time work arrangement of Project Manager and Administrative/Finance Assistant

Mr. Nurgaliyev and Ms. Suleimenova are working only 53 percent of full-time in their respective positions in the DREI project, while working the other 47 percent of full-time in the UNDP-supported, GEF-funded full-sized project *Energy Efficient Standards, Certification, and Labelling for Appliances and Equipment in Kazakhstan* (hereinafter referred to as the EESL project).

This arrangement is quite unusual among UNDP-supported, GEF-funded projects and is inconsistent with the Project Document, whose Annex E notes that both the PM and AFA positions are full-time. Normally, it would be expected that at least the Project Manager must work full-time in any single GEF-funded full-sized project in order to cover the demands of day-to-day management and oversight, strategy

development, assurance of proper delivery of technical assistance, financial management, risk management, reporting, internal and external communications, interaction with the Project Board, nurturing relationships with partners and stakeholders, and so on.

So far, the split arrangement has not yielded serious shortfalls in the performance of the DREI project. Not only the project team, but also the National Project Director and all key partners and stakeholders, confirm that the project has been working efficiently and effectively. It seems clear that the arrangement has been working because of an acceptable match among Mr. Nurgaliyev's skills, time availability, and responsibilities, as well as the active and effective work of the two TLs and the Chief Technical Advisor, Oleg Khmelyov (see below for more on his role).

UNDP cites two main justifications for Mr. Nurgaliyev's split PM arrangement.

1. UNDP had a great deal of difficulty recruiting qualified PM candidates, even after three rounds of posting the position and receiving applications. As a result, the position vacant for the first few months of 2018, all the way through the Inception Period. Meanwhile, Mr. Nurgaliyev was already working full-time during that period as EESL PM. In order to fill the long and continuing void in the DREI PM position, UNDP decided to split his role between the two projects in May/June 2018.

2. UNDP in Kazakhstan employs a portfolio approach in its Sustainable Development Unit, in which multiple projects are coordinated, supervised, and/or managed together in order to achieve programmatic synergy and budgetary/personnel efficiency. UNDP notes that the Inception Report for the DREI project encourages the DREI project's integration into a portfolio of similar projects, and notes the split PM arrangement without objection.

UNDP has noted furthermore that the Programme and Project Management (PPM) update issued in June 2018 under the UNDP Programme and Operations Policies and Procedures (POPP) encourages use of a portfolio management approach to create efficiencies in projects whose targeted outcomes and content are closely aligned. But this very document also specifically notes that, "*For GEF- and GCF-financed projects, only UNDP quality assurance requirements and project governance can be combined with other projects under a portfolio approach; no other elements can be combined"* [See item 29 on page 8.]

The DREI project and the EESL project both have been undergoing a GEF performance audit. Auditors have been able to see these split positions and, according to Country Office management, have not raised any objections about them. Nonetheless, there still seems to be a possibility that the split PM and AFA positions are non-compliant, or at least inconsistent, with the PPM guidance of the POPP, as well as possibly GEF rules or expectations.

The GEF performance audit team did raise questions about Mr. Nurgaliyev's lack of fluency in English. UNDP responded by explaining that Mr. Nurgaliyev does understand English and the gap in his speaking ability has not triggered any reporting of deficiencies in evaluations or other QA exercises prepared under his direction, nor any problems in his fulfillment of required courses in English. The GEF auditors then dropped these questions. Indeed, it seems clear to the MTR team that while Mr. Nurgaliyev's limitations with English are certainly not optimal, they do not keep him from managing the project effectively on the whole, especially given that his writing, reading, and listening ability are actually quite acceptable, and also because he has ample available help from Mr. Dairbekov, Mr. Khmelyov, Ms.

Suleimenova, and the staff of the UNDP Country Office, all of whom have strong English abilities. (Mr. Nurgaliyev is taking English classes and notes his intent to continue.)

The most important problem with the split PM arrangement is that it has significantly hampered the implementation of the EESL project, where Mr. Nurgaliyev started out working full-time in 2017 but shifted to 47 percent time starting in mid-2018, according to the lead Midterm Review consultant for that project, Rahul Teku Vaswani. Mr. Vaswani has informed me, furthermore, that he will recommend that the EESL project needs to have a full-time PM and AFA.

Thus, in order to reconcile the needs of both projects, reconsideration of the split PM arrangement will be necessary. See Section IV (Conclusions and Recommendations) for further discussion of these implications and how to resolve them.

Technical support and managerial oversight

The project is supported by International Chief Technical Advisor Oleg Khmelyov, who splits his time between this project and the UNDP-supported, GEF-funded project entitled *Nationally Appropriate Mitigation Actions for Low-Carbon Urban Development*. Mr. Khmelyov has a MBA degree and extensive experience in sustainable development finance, including work with EBRD in Russia, and thus brings strong expertise in the core focus areas of the project. Indeed, he has been an especially valued contributor in the development of financial instruments in Component 3, as well as overall project strategy. His contract with the DREI project calls for 120 days of work per year, including 6 missions to Kazakhstan. Missions have been temporarily suspended because of the COVID-19 pandemic.

The project receives management support from the Sustainable Development Unit of the UNDP Country Office, headed by Arman Kashkinbekov. Mr. Kashkinbekov came to UNDP in December 2019 from the Association of Renewable Energy of Kazakhstan, which is the nation's leading industry association for RE. Mr. Kashkinbekov remains a board member of this association. He therefore has extensive relevant knowledge and extremely strong connections in both government and the private sector.

Mr. Kashkinbekov delegates much of the work of portfolio-level program oversight to Mr. Firuz Ibrohimov, who has nearly 15 years of experience with management and technical advising for environmental projects in Central Asia, including 10 years with UNDP and six years with UNDP in Kazakhstan.

In addition, the Deputy Resident Representative of UNDP in Kazakhstan, Mr. Vitalie Vremis, serves on the Project Board and provides high-level oversight and guidance as needed, including coordination with other UN initiatives.

In sum, the project has ample support available from diverse management resources. Mostly, though, given the rather orderly functioning and steady productivity of the project so far, the most active and regular management support for the project comes from Mr. Khmelyov, with relatively little intervention by Country Office management.

National Project Director, Project Board, and working groups

The National Project Director, Ms. Ainur Sospanova, serves as the Head of the Renewable Energy Department of the Ministry of Energy of the Republic of Kazakhstan. She is very closely involved with the strategic direction of the project, including assurance of incrementality and effective adaptive management in the scoping of Component 1 via close coordination with other agencies, as well as specific technical details, including development of the utility-scale RE auction mechanism and the legislative

amendments in support of small-scale RE in Component 2. Furthermore, beyond her comprehensive knowledge of all relevant subject matter and well-placed position in the Ministry of Energy, Ms. Sospanova also has previous experience with UNDP project management, having worked for UNDP many years ago.

The Project Board comprises 10 members representing the Ministry of Energy, UNDP, the Ministry of the National Economy, the Ministry of Agriculture, the national grid company KEGOC, the Financial Settlements Centre, Kazenergy (association of oil, gas, and energy sector organizations), the Kazakhstan Electric Power Association, the Renewable Energy Association of Kazakhstan, and the Union of Farmers of Kazakhstan. The board has met formally in September 2018, February 2019, January 2020, and June 2020.

Protocols and direct input to the MTR team from board members indicate that the board is functioning normally, with high engagement from key parties. The Project Board approves the project results on annual basis and Annual Work Plan (including budgets) for the subsequent year. Moreover, for the most important high-level issues (such as legislative amendments, the formal Responsible Party Agreement with Damu, and the levels of principal subsidy under the second financial instrument of Component 3.2), approval is obtained at meetings chaired by the Vice Minister of Energy of the Republic of Kazakhstan and affirmed by protocol.

Finally, the project has relied heavily on the input of formal and informal working groups, as well as a donor coordination group (including UNDP, EBRD, USAID, and the Ministry of Energy) that meets quarterly. These groups have assisted in the scoping of overall project activity, as well as the development of legislation, and roadmapping of educational training needs and intervention. The project has recently also created a standing committee for review of eligibility of applications for project-supported financial incentives. This committee consists of the DREI Task Leader Yerlan Dairbekov, the Director of the Renewable Energy Development Division within Ms. Sospanova's department at the Ministry of Energy, and the director of business support at the International Green Technology and Investments Center.

Work planning

As noted above, the project prepares Annual Work Plans for approval by the Project Board. These plans, in turn, reflect ongoing assimilation of stakeholder input as well as the Project Document and the Project Results Framework. As a result, work plans are mostly clear, well formulated, and consistent with the Project Document. The main issue has been with fulfillment of the budgets of these work plans, as discussed in the following section.

Finance and co-finance

The DREI project's most serious problems in management and implementation pertain to project spending – specifically, the project's consistently severe shortfalls in delivery (disbursement of GEF funds) relative to amounts budgeted in the Project Document and in the project's Annual Work Plans, as approved by the Project Board – as well as co-financing.

Disbursements and shortfalls in delivery

As of May 10, 2020 (slightly more than halfway through the implementation period), the project had disbursed only $783,684, which is about 17 percent of the total GEF grant. This shortfall continues a trend noted in the 2019 PIR in June 2020, at which time the project had spent only about 7 percent of the GEF grant amount.

Table 2a presents a comparison of budgeted and actual spending broken out by year and component. This comparison shows that the main shortfalls have been in Components 2 and 3. It also shows that spending has been even slower compared to budgeted amounts so far in 2020 than in previous project years.

Table 2a
Comparison of Project Disbursements by Year and Component with Original Budgeted Amounts

		Annual disbursement		
Outcome		**2018**	**2019**	**2020 (Through 10 May)**
Total	**Budget ProDoc (USD)**	**268 500**	**811 600**	**1 247 100**
	Expenditure (USD)	**174 691.8**	**558 017.20**	**50 974.83**
	Delivery (%)	**65.06%**	**68.76%**	**4.09%[12]**
Component 1	Budget (USD)	92 000	219 500	205 500
	Expenditure (USD)	107 423.15	247 217.72	-9 689.17 [VAT reimbursement]
	Delivery (%)	116.76%	112.63%	-
Component 2	Budget (USD)	93 500	323 500	304 500
	Expenditure (USD)	30 241.94	170 910.36	23 684.39
	Delivery (%)	32.34%	52.83%	7.78%
Component 3	Budget (USD)	37 900	197 500	665 500
	Expenditure (USD)	21 261.18	93 858.17	23 212.81
	Delivery (%)	56.1%	47.52%	3.49%
Project Management	Budget (USD)	45 100	71 100	71 600
	Expenditure (USD)	15 765.53	45 685.54	13 569.44
	Delivery (%)	34.96%	64.26%	18.95%

Table 2b sheds further light on the spending delivery shortfalls, by presenting a comparison of budgeted vs. actual spending on selected line items. The data make clear that spending has deviated from budgeted levels especially in consultants and contracted services.

[12] This delivery rate figure has reached about 10 percent as of the end of July 2020.

Table 2b
Comparison of Budgeted and Actual Spending by Year for Selected Line Items

Cost Item	2018	2019	2020 (10/05)	2021	2022	Total	% of allocated GEF amount
International consultants	7 106	83 408.01	12 814.28	-	-	**103 328.29**	**14.29%**
Local consultants	17 816.59	33 732.28	8 286.82	-	-	**59 835.69**	**13.09%**
Contractual services	83 368.15	234 485.79	-12 935.24	-	-	**304 918.7**	**12.97%**
Travel	15 087.26	29 688.69	5 427.41	-	-	**50 203.36**	**29.02%**
Workshops	15 939.52	56 007.99	4 575.41	-	-	**76 522.92**	**60.97%**
Miscellaneous (including Administrative costs)	7 178.49	13 632.37	1 832.12	-	-	**22 642.98**	**65.63%**
Audio Visual & Print Production	1663.32	22 887.8	0	-	-	**24 551.12**	**63.6%**
Contractual services - Individual	13 879.56	53 377.95	19 343.58	-	-	**86 601.09**	**15.38%**
Equipment and Furniture	0	1 066.36	0	-	-	**1 066.36**	**16.41%**

At a certain level, spending less money than budgeted might be considered a good problem to have, and indeed a sign of efficiency given that the volume and quality of work outputs remain high. But low delivery creates problems for UNDP vis-à-vis the GEF, and certainly would raise suspicions that the original budget request was much too high.

There are several reasons for the project's slow spending. The project has hired relatively few consultants. It had a long lag in initial hiring of project staff, including the Project Manager. The PM and AFA salaries are only slightly more than half-time, rather than full-time as budgeted. The project also had a gap for most of 2019 in the International Chief Technical Advisor position.

These concerns about slow project spending can reasonably be projected to be alleviated by scaled-up implementation of outreach and delivery of financial incentives in Component 3. But as noted above and in the Recommendations section, successful scaled delivery depends on clear market research, strong business models, and efficient targeted marketing.

Co-financing

Meanwhile, the project's lack of documented success in securing co-financing is also a very serious concern. Table 3 shows co-financing sources and amounts confirmed at the PPG stage, along with actual amounts secured and confirmed by the time of this MTR.

Table 3

Co-Financing Amounts and Sources Confirmed at CEO Endorsement And Actual Amounts Secured and Confirmed at Midterm

Name of Co-financer	Type of Co-financing[55]	Amount Confirmed at CEO endorsement (US$)	Actual Amount Contributed at stage of Midterm Review (US$)	Actual % of Expected Amount
Ministry of Energy	In-kind	3,250,000	Not determined. The Ministry has provided a letter that does not cite any specific cost-sharing figures.	
Eurasian Development Bank	Loans	30,000,000	0	0
Ergonomika Ltd.	Equity	1,500,000	0	
JSC Int'l Center for Energy Efficiency "ProEco"	Equity	800,000	0	
JSC Astana Solar	Equity	13,960,000	0	
Enkom ST LL	Equity	800,000	0	
Kazakhstan Green Building Council	In-kind	300,000	0	
Nazarbayev University (Kuntech)	In-kind	300,000	0	
UNDP	In-kind	100,000	45 300	
Solar Power Association of Qazaqstan	In-kind	0	1,682	
KOREM (Kazakhstan Electricity and Power Market Operator)	In-kind	0	145,276	
Financial Settlements Centre of KEGOC	In-kind	0	1,207	
LLC Arm Wind	Equity		Self-financing initiated, to be supplemented by loans, but total amount not yet formally confirmed	
Damu	Loan		Specific figures not formally confirmed. Damu has mentioned a commitment of 450 million tenge (slightly more than US $1 million) in a letter to the Ministry of the National Economy. Damu has also	

			informally noted to the MTR team that Damu foresees mobilization of up to $19 million in loans, mostly underwritten by commercial banks	
	TOTAL	51,010,000	$148,165 confirmed. Total including other sources not possible to calculate	

The table makes the co-financing situation look extremely dismal, but there are some mitigating factors. Some agencies, including the Ministry of Energy,, have clearly been participating actively in support of the project (and therefore allocating in-kind resources countable as co-financing) but have not responded adequately to the project team's request for confirmed figures. So in these cases, the issue is one of reporting, rather than the actual absence of co-financing. LLP Arm Wind, the developer of the 50 MW Shaulder facility, is unquestionably mobilizing millions of dollars to build it, but has not divulged any details except to note that it will finance the project through a combination of equity and loans (without any GEF subsidy). DREI project staff and EBRD confirm separately that EBRD is also not supporting the Arm Wind facility with loans.

The project team notes that, as foreseen in the Project Document, the great majority of co-financing is expected to emerge in connection with the financial instruments (loans, green bonds) of Component 3. As Component 3 has not yet begun to deliver financing with the aid of such instruments, associated co-financing has not materialized so far.

This co-financing in Component 3 will be mobilized by Damu. Most Damu financing will be underwritten by second-tier commercial banks, while some will be covered by the new proposed green bond mechanism. In an interview with the MTR team, the head of Damu's subsidy department shared the fund's projection, based on financial analyses, that subsidies provided by the DREI project can help mobilize approximately 8 billion tenge (about $19 million) in loans. Damu has confirmed in a letter to the Ministry of the National Economy (though regrettably, not to the project also) that Damu has committed 450 million tenge (slightly more than $1 million) of its own funds to these loans.

The arrangements with Damu also help to explain the outwardly rather alarming absence of materialized co-financing from the Eurasian Development Bank (EaDB). Originally, this bank (which was established by the Russian Federation and the Republic of Kazakhstan in 2006) had pledged to create a line of credit to support renewable energy investment. In 2019, Damu and the project held meetings with the EaDB to advance a process by which the bank would release funds and Damu would administer them to businesses. However, these discussions have been interrupted due to staff turnover at Damu, and the process has only recently been resumed.

Thus the question remains open and under discussion. EaDB's financing, at 13 percent interest, is more expensive compared to that of other potential sources. The project had intended to stipulate that it would provide its GEF-funded incentives only for loans with rates up to 12%, out of concern for financial stress that would negatively affect the implementation of renewable energy projects. Damu and the Astana International Finance Centre are brokering agreements with other potential lenders who are willing to

offer financing at lower rates. Therefore it is possible that some significant portion or even all of the loans under Component 3 would originate from sources outside the EaDB.

Project-level monitoring and evaluation systems

The project has not yet established any formal systems for monitoring and evaluation beyond the general framework set forth in Section VII of the Project Document (Monitoring and Evaluation Plan) and Annexes B and C (Monitoring Plan and Evaluation Plan).

Table 4 again shows the key objective and outcome indicators of the project, the anticipated monitoring schedule as presented in Annex B of the Project Document, and the status of actual execution of monitoring.

Table 4
Monitoring Plan from the Project Document and Actual Fulfillment at Midterm

Indicators	Data source/ Collection Methods	Frequency	Status of fulfillment
Objective indicator 1: Total Lifetime Direct and Consequential GHG Emissions Avoided (Tons CO_{2eq}) (GEF indicator 1)	*Audits*	Annually Reported in DO tab of the GEF PIR	No formal assessment by midterm because of no results
Objective indicator 2: Increase in installed capacity from wind and solar power (MW) and lifetime RE production (MWh) (GEF indicator 3)	Power purchase agreements (PPA), loan agreements with local banks for small-scale developments	Annually Reported in DO tab of the GEF PIR	No formal assessment by midterm because of no results
Objective Indicator 3: Number of direct project beneficiaries (UNDP mandatory indicator 3).	Survey	Annually Reported in DO tab of the GEF PIR	Tracking of participants in training carried out, but no formal reporting. No beneficiaries of financial instruments yet, and therefore no survey conducted
Outcome indicator 1.1: Capacity of the Government to design and implement policy initiatives enabling development of renewable energy markets	Survey	Annually Reported in DO tab of the GEF PIR	No formal assessment conducted
Outcome indicator 1.2: Reduction in DREI aggregate risk score across 9 DREI risk categories	*Survey, Interviews with investors*	After final PIR submitted to GEF	Assessment conducted in August 2020.
Outcome indicator 2.1: Degree of support for small-scale renewable energy development in policy, planning and regulations	Government plans, strategies and policy documents	Annually	Project closely tracks government plans and policy documents, and has generated a qualitative

Indicators	Data source/ Collection Methods	Frequency	Status of fulfillment
			score at Midterm (entered in the Tracking Tool)
Outcome indicator 2.2: Knowledge of small-scale applications in rural and urban areas is improved	Survey	After final PIR submitted to GEF	Not yet conducted
Outcome indicator 3.1: Developed financial and business models for small-scale RES in urban and rural sectors	Report	After final PIR submitted to GEF	A limited number of business models compiled, but no formal report created yet
Outcome indicator 3.2: Appropriate financial instruments created for pilot investments in small-scale rural and urban renewables	Government policy documents, interviews with financial institutions	Annually from 3rd year of the project Reported in DO tab of the GEF PIR	Financial instruments already developed and formal agreement with Damu is well documented. Monitoring of delivery planned for 2020.
Outcome indicator 3.3: Investment mobilized to support small-scale projects	Grant applications	Annually from 3rd year of the project	Not yet conducted. Monitoring of delivery planned for 2020.

Because the project has so far not directly catalyzed investments for any actual RE installations except for the Arm Wind facility at Shaulder, it has not yet been necessary to conduct formal assessments of the three objective-level indicators (GHG reductions, installed small-scale RE capacity, and direct beneficiaries). Monitoring of most other indicators has also not yet been conducted, but this absence is consistent with the original plans to conduct such monitoring only near the end of the project. Qualitative assessment of progress toward indicators 2.1, 3,1, and 3.2 is ongoing but not yet compiled into formal M&E reports as such. Assessment of a DREI risk score (indicator for Outcome 1.2) via interviews with investors has also not yet been conducted. This too is consistent with the Monitoring Plan, but has made it impossible to assess progress specifically in terms of this indicator as of Midterm.

The main evaluative exercise so far for the project on the whole has been the 2019 PIR, which did reflect extensive stock-taking and assessment of the project's overall direction and needs for remedial action. It did not, however, directly report on progress toward indicators (levels achieved), but rather simply reported on activities toward the targets.

In addition, the project commissioned a survey to determine a DREI risk score, which is the defining parameter of Outcome indicator 1.2. This survey was conducted by Eco Ltd., the same firm that conducted the initial assessment of DREI risk score at the baseline/PPG stage, and apparently correctly followed the same methodology. It should be noted that this report does not report results in terms of the logframe indicator (aggregate probability score out of a maximum of 45), but rather the full DREI risk score (aggregate probability x impact score out of a maximum of 225).

In sum, the project's M&E activity so far has been rather low, but this level of activity is not in itself problematic, nor strongly inconsistent with the M&E plan of the Project Document. If the project devotes sufficient attention and focus to M&E in coming years, it can be on track for fulfillment of the plan by project's end.

Stakeholder engagement

As noted in several sections of this MTR report already, UNDP and the Ministry of Energy have built an extensive network of engaged stakeholders. The project team has made a point of receiving input from the full range of these stakeholders in both design and implementation, including government agencies, IFIs, private-sector enterprises and associations, governmental and commercial financial institutions, and civil society organizations. It is clear that the project has done an exemplary job of developing partnerships and programmatic synergy. It has also meaningfully integrated stakeholder input into account in the design of the whole project as well as key specific outputs, including proposed legislative revisions, the training roadmap, and so on.

The project now faces some challenges in winning the support of policymakers (both legislators and executive officials) for those revisions, and in eliciting market demand for its financial instruments. Even more active engagement of all of its allies will be needed in order for the project to generate the necessary political will and market demand.

Reporting

The key adaptive management changes adopted by the project have first been duly proposed to the Project Board, discussed, formally approved, and documented in written protocols.

The project has prepared one PIR to date, covering July 2018 through June 2019. This PIR was well prepared and reflective of the PIR's key purposes, though the reporting of development progress was not framed sufficiently in terms of the project's targets. A second PIR is being prepared as of July 2020.

In addition, the project has prepared Annual Project Progress Reports for UNDP for the project years ending in December 2018 and December 2019, respectively. Although these reports are not nearly as structured and substantial as the PIR (most notably in their lack of connections to the Project Results Framework and lack of any evaluative elements), they are helpful in simply forcing the project to take stock of project activities and spending. Thus the project is essentially reporting on its progress every six months.

Finally, the project generates still more regular reporting in the form of quarterly summaries written by the International Chief Technical Advisor, Mr. Khmelyov. These reports have extremely helpful sections on project implementation ("plans vs. reality"), and contain extensive recommendations seeking to define a helpful path forward for each component and activity of the project.

Communications

Development and effective implementation of project communications depends on three elements:

1. Development of clear and compelling material
2. Correct identification of target audiences and stakeholders
3. Delivery of the material to the audiences and stakeholders via effectively chosen media and/or outreach channels.

The project carries out communications at various levels.

The main type of communication to date has been internal communication with project allies and stakeholders – government agency partners including the Ministry of Energy; international development agencies; financial institutions; and representatives of private-sector companies. Such communication has been consistent, comprehensive, and effective, largely because of the strong development, nurturing, and coordination of partnerships by Ms. Sospanova and the project team. This communication includes interactions through the Project Board, as well as various standing working groups and routine correspondence. The two study tours executed by the project have also enhanced personal and working relations among key individuals and agencies.

The project has conducted several rounds of training and outreach to specific target audiences, especially businesses, with regard to renewable energy auctions and broader technical capacity-building on small-scale renewable energy. Materials for these events are of consistently high quality, and attendance has been strong – most notably, with 70+ businesses participating in the project's training on RE auctions. This training work to be expanded in 2020 and 2021, but has been disrupted by the COVID-19 pandemic and related lockdowns. The project has delivered one set of webinars, with the possibility of delivering more if in-person training continues to be impossible.

The centerpiece of the project's work on technical outreach is the development of a roadmap for the development of "knowledge infrastructure" (as stated in the 2019 PIR). This roadmap is essentially a communication strategy to promote capacity in the business and technical aspects of RE via formal and vocational education systems, including remote learning options. This roadmap is due for completion in September 2020.

To date, the project has devoted very little effort to outward communication via the mass media to the general public about renewable energy and the project itself. The national and international media did cover the Shaulder auction extensively at the end of 2019, but since then the project has done nothing further to compile and push out lessons learned from that successful endeavor.

Otherwise, the project has had little news or public-oriented messaging to communicate broadly. Soon this will change, as the project and Damu will be promoting its financial incentives for small-scale renewable energy. The strategic linchpin of such communications will be marketing through local Damu affiliates, which are located all around the country. There is a pressing need for a comprehensive plan on how the project will apply its own marketing and communications in support of Damu's outreach to potential borrowers.

The Project Document twice mentions that the project will compile lessons learned for dissemination within and outside Kazakhstan, in order to help current and future projects to design and implement activities effectively. Both of these mentions are in Section VII on monitoring and evaluation, but are easy to overlook because of their absence from the sections of the Project Document that enumerate outputs and activities (Section III on Strategy and the Multi-Year Work Plan of Annex A), as well as from the Project Results Framework).

Rating for Project Implementation and Adaptive Management

In light of all of the dynamics and effectiveness of project implementation in the seven areas enumerated above, **the MTR team issues a rating of MS (Moderately Satisfactory) for the overall category of Project**

Implementation & Adaptive Management – which, according to the rating scale provided in the MTR guidance document, connotes that "*Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action*." While most of the management areas are in good order, this rating falls short of a Satisfactory rating because of the severe unresolved issues of financial delivery and co-financing.

D. Sustainability

As noted in Section III.B (Progress Toward Outcomes), the project continues to face significant risks to effective implementation and achievement of its targets, especially in Components 2 and 3. This section discusses the project's risk evaluation and mitigation processes, identifies risks that the project currently faces, then discusses the project's readiness to respond to the four GEF categories of risks (financial, socio-economic, institutional/governance, and environmental) and thus to ensure the sustainability of project outcomes after the project ends.

Risk log and risk mitigation countermeasures

Table 3 presents key elements of the Risk Log contained in Annex I of the Project Document, and left unchanged through the Inception Period up to the present. Taken together, these risks are nearly comprehensive. They are all well-stated and still applicable, with logical associated countermeasures. Therefore the Risk Log constitutes a very helpful starting point for assessing the sustainability of the project, determining further actions, and monitoring risk mitigation throughout the rest of the project period.

In addition to these original elements of the Risk Log, which are in unshaded cells, Table 3 also includes some new risks observed by the MTR team, shown in blue-shaded cells.

Table 3
Identified Risks and Countermeasures (from Risk Log at CEO Endorsement)

#	Description	Type	Countermeasures / Management response
1	Loss of political support	Political	Project design is rooted and based on the national commitments and targets stated and adopted at the highest possible level, i.e. by the President, the Parliament and the Government of Kazakhstan. Any proposed revisions in the policies, as well as new ones to be proposed by the project will also have to secure the highest level of approval, i.e. by the Parliament (revision in the Law) or by the Government (e.g. changes in the feed-in tariffs). Project implementation will be based in the Ministry of Energy, thus giving the best chance of ensuring ownership and buy-in.
2	Ongoing low international oil prices	Financial	Unless appropriate policies and regulations, supported by financial de-risking mechanisms and incentives are introduced and enforced, RE will not be able to compete with fossil fuel based power generation in Kazakhstan. Component 1 for large-scale renewables and component 2 for small-scale renewables therefore aims precisely at achieving these goals and leveling playing field for RE.

#	Description	Type	Countermeasures / Management response
3	Private investors do not find RES investments sufficiently attractive	Financial	The project adopts private investors' perspective to the analysis of risk, underlying barriers and the design of de-risking strategy. A detailed quantitative analysis of investment has been conducted based on DREI framework and methodology and proposed set of policy and financial de-risking tools are proposed in line with investors outlook. Through policy and financial de-risking the project will ensure that investments become more attractive.
4	Domestic supply chain and capacities for RES in Kazakhstan are very limited – this may cause inadequate implementation of RES projects leading to sub-optimal performance, mal-functioning, etc.	Technology	First, the project will involve top-level international technical specialists with experience of implementing RES projects in developing countries to provide quality assurance throughout all stages of pilot RES project design and implementation. Second, a significant share of Component 2 will be devoted to building domestic capacity for small-scale RES, through provision of vocational training and other type of learning and educational activities. Finally, domestic quality certification scheme for certain type of RES (e.g. solar PV) will be proposed and implemented to ensure minimum quality standards for RES projects.
5	Co-financing for pilot projects doesn't materialize due to lack of private sector interest and/or government commitment	Financial	Co-financing for pilot RES for life projects will be provided from the financial institutions eager to support this technology and sectors with signed letters of financing, with continued support from the Ministry of Energy.
6	Local financial institutions fail to launch financial products to support small-scale RED developments	Financial	The project will offer capacity building and training for the local financial institutions. Furthermore, the confidence of the financial institutions will be increased via demonstrations activities, i.e. pilot small-scale RES projects will be supported. Also, created favorable policy environment under Component 2 for small-scale renewables will enable development of financial products.
7	Climate change poses two categories of risks for the deployment of RES in Kazakhstan. First, intensified frequency and scale of natural disasters pose risks to any infrastructure, including to RES projects. Second, availability of some RE resources might be affected as a result of climate change (e.g. hydro)	Environ-mental	Resource risk will be mitigated through diversification of targeted RES, solar, wind, biogas, etc. In fact, solar and wind resources, where the largest potential exist in Kazakhstan, are not expected to be negatively affected by the changing climate. Regarding infrastructure risks caused by climate-induced events, for each pilot investment climate risk assessment will be conducted and mitigation strategy proposed as part of pilot project design
8	Small-scale urban and rural RES developers do not use developed financial products	Social	The risk is mitigated through a country-wide awareness campaign and adequate design of financial products tailored to the needs and abilities of small-scale developers.

#	Description	Type	Countermeasures / Management response
9	Developed business and financial models for small-scale RES are not replicated throughout Kazakhstan	Market	The mitigation measures include increasing awareness (component 2), increasing access to small-scale finance (component 3), ensuring continued governmental support and commitment for small-scale (component 2) and close monitoring of lessons learned.
10	Political upheaval in Belarus causes disruption to the Customs Union under the Eurasian Economic Union, thus possibly creating uncertainty and delays in supply chains	Political and market	The project should help Damu to consider this risk in assessing applications for project-subsidized financing. The market research to define priorities and refinements to Outcome 3 should also take this risk into account.
11	The COVID-19 pandemic and its economic impacts exacerbate many of the risks listed above, because of stress on businesses, reduced investor confidence, changed government priorities, and so on.	Political, market, social	The project should hone and deliver arguments to the government on how renewable energy investment can be a key part of the nation's COVID-19 recovery, as a way to create jobs, accelerate recovery, build resilience into the national economy, and perhaps even directly contribute to the rapid deployment of needed health case. The project, in conjunction with UNDP, should seek to deliver input into national economic stimulus planning in order to make this case.

New and exacerbated risks from the COVID-19 pandemic

Like essentially all countries of the world, Kazakhstan has been severely affected by the COVID-19 pandemic. As of July 2020, the country is apparently facing a surge in cases, which has prompted President Tokayev to issue orders for a second lockdown lasting at least to the end of the month.

The long-term effects of the lockdown and continued disruptions to economic activity even after reopening will be profound and probably prolonged, directly affecting the renewable energy sector and the DREI project. Foreseeable effects include the following, many of which are already reflected in the Risk Log but are now much more severe because of the pandemic.

- **Business stress and failures.** New immediate and long-term threats to the viability of businesses, including both providers and consumers of renewable energy, perhaps especially small businesses with low operating reserves
- **Disrupted supply chains** (both domestic and international)
- **Currency devaluation.** Recent currency devaluation (March 2020)[13] and the prospect of further devaluation, which raise the cost of imported renewable technologies – most notably, solar panels manufactured in China.
- **Diminished consumer buying power** and willingness to spend

[13] https://www.bloomberg.com/news/articles/2020-03-16/kazakhstan-allows-currency-to-weaken-amid-oil-price-crash

- **Fear among commercial investors** leading to reduced flows of capital investment and loan financing
- **Falling global oil prices and state budget revenue.**
- **Changed budget priorities** of the government as well as IFIs, leading to reprogramming of funds that might otherwise have gone to renewable energy investment
- **Lack of political will** and insufficient attention to climate change and renewable energy, given the sense that other priorities now take precedence. This risk has already been realized in spring 2020, when the Ministry of Energy rejected the proposed legislative amendments in support of small-scale renewable energy, on the grounds that the state budget could not cover the proposed subsidies for installation of small-scale RE equipment.
- **Institutional risk**. Though the Government of Kazakhstan is united and very stable on the whole, change regularly occurs at the level of ministry leadership.[14] Such change could accelerate or at least become less predictable as a result of the pandemic. According to press reports, President Tokayev has already threatened to replace his entire cabinet because of ineffective response to the pandemic.[15]

While the course of the pandemic and associate economic decline are impossible to predict precisely, it would be prudent to assume that all of these issues will apply to the entire remaining portion of the DREI project, and to react accordingly. The project does not have a specific COVID-19 response strategy, but will need to develop one as soon as possible, starting with refinement of the proposed addition shown above in the Risk Log.

At the same time, there is some reason to hope and even expect that all of these risks will ultimately not completely derail the project during the rest of the implementation period, nor the long-term sustainability of outcomes. The main basis for tempered optimism is the possibility that vaccines and new treatments will eventually end the COVID-19 pandemic, or at least render it much less severe than it is today, thus enabling a timely and permanent reopening of the economy. The Government of Kazakhstan is considering aggressive stimulus measures, and at least some decisionmakers understand that green development, with its associated benefits in job creation, is a key potential element in recovery and rebuilding. On July 20, 2020, the National Bank of Kazakhstan cut its base rate by 50 basis points to 9 percent, thus widely increasing access to liquidity. Furthermore, even under the current dire conditions, most agencies that the MTR team contacted – including the Ministry of Energy, UNDP, EBRD, Damu, and the winning Shaulder auction winner LLP Arm Wind – are continuing their work more or less normally, albeit with most or all office work being conducted remotely. Finally, while indeed the virus has surged in Kazakhstan's large, dense cities, it has spread much less quickly in remote, sparsely populated regions where most small-scale RE opportunities happen to be.

In the meantime, there is no magic key to eliminating all these new and exacerbated risks from COVID-19. Certainly, political will and government follow-through with stimulus, timely budget allocations, and policy support for renewable energy will be essential.

[14] This has recently included the Ministry of Energy, as former Minister Kanat Bozumbayev left his post in December 2019 to become a special assistant to the President. Bozumbayev was replaced by Nurlan Nogayev.
[15] https://thediplomat.com/2020/07/kazakhstans-covid-19-crisis-spinning-on/

As for the project's own response to risks, there are several things that it can do. It should emphasize making the case for government support for renewable energy investment as a way to create jobs, accelerate recovery, and build resilience into the national economy. The project, in conjunction with UNDP and other projects in the sustainable development portfolio, should seek to deliver input into national economic stimulus planning in order to make this case. The project should also explore specific linkages among renewable energy investment and the most immediate needs of the health crisis and lockdown, as clean, affordable, and accessible access to energy is necessary for resilient health care delivery and for productivity during lockdown. Active knowledge-sharing among other UNDP projects can help guide these efforts.

Rating for sustainability

In view of all of the above-discussed risks to sustainability, the MTR team assigns a sustainability rating of **Moderately Likely**. According to the sustainability rating scale in the MTR guidance document, this means that there are "moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review."

IV. Conclusions & Recommendations

Conclusions

The DREI project is built on a strong yet flexible strategic framework defined in the Project Document, based on the global DREI methodologies of analysis and development of targeted de-risking instruments, in a way that is fully consistent with national strategic priorities as set forth in the Green Economy Concept and the Kazakhstan 2050 strategy.

To date, the project team has conducted much substantive work in Components 1 and 2, most notably in the development of the new site-specific auction mechanism and proposed legislative amendments in support of small-scale RE. These and other ancillary outputs of Components 1 and 2 (training, study tours, analytic reports) are of consistently high quality, with strong relevance to the overall project objective and the DREI approach reducing investor risk by reducing, transferring, or compensating for investment risk.

The DREI project played the defining role in creation and implementation of the new site-specific auction mechanism, from development of amendments to relevant regulations, to preparation of the pre-feasibility study and other documentation, recruitment of bidders, and assistance to the Financial Settlements Center of KEGOC in actually conducting the auction. EBRD confirms that despite its own active role in promoting large-scale renewable energy in Kazakhstan, it played a minimal role in the Shaulder auction, is not providing financing to the winning bidder, and therefore does not intend to take credit for the GHG and RE-capacity impacts of this auction.

The site-specific RE auction was a huge success, delivering a 50 MW facility with the lowest cost per kWh in the short history of Kazakhstan's large-scale renewable electricity market. This auction is greatly valued by the Government, the winning bidder and its investors, as well as EBRD and the Financial Settlements Center, which are poised to replicate this approach in the next two years without GEF funding.

The legislative amendments on small-scale RE are comprehensive and reflective of both best practices and stakeholder input, on a wide range of topics from net metering to subsidies to regional targets to agency responsibilities. Regrettably, these amendments are now in limbo, as the Ministry of Energy is reluctant to call for subsidies from a stressed state budget. The project is promoting adoption of the amendments via the Parliament. Some risks remain, but key players are optimistic that in time, the amendments will indeed be adopted.

The outputs of Component 3 of the project has required a longer incubation period, as the project has only recently confirmed aa Responsible Party Agreement with Damu. Now the project and Damu are poised to launch three types of financial instruments (interest rate subsidy, principal subsidy, green bonds) supported by GEF grant funds and linked with Damu-supported business loans mostly to be issued by commercial banks. Encouragingly, the first green bonds were issued on the Astana International Exchange in August 2020. But there remains significant overarching uncertainty about the uptake of these instruments and associated RE projects, in part because of lack of clarity about target markets and priority technologies, and in part because of myriad risks emerging from the COVID-19 pandemic.

Despite its consistently high-quality work across all three components, the project has not achieved nor documented substantial results to date in terms of the objective indicators of GHG emissions reductions, newly installed small-scale RE capacity, and direct beneficiaries (recipients of training and financial support). This absence of results is a consequence mostly of the timing of activities (with both the Shaulder

facility and new small-scale projects due to be installed only after this MTR), with the expectations that substantial results will be achieved and then documented in the second half of the project. The project's M&E plan defines needed steps for monitoring and evaluating these results.

The project is well run, with a well-balanced core of expertise among its staff, supported by ICTA Oleg Khmelyov, the Sustainable Development Unit of the UNDP Country Office, and a National Project Coordinator whose engagement and leadership are exemplary. The unusual half-time work arrangement for Project Manager Syrym Nurgaliyev and Administrative and Finance Assistant Zulfiya Suleimenova (positions split with the UNDP-supported GEF-funded EESL project on appliance and equipment efficiency standard) has not in itself led to appreciable problems with implementation of the DREI project, but still will need to be reconsidered because of its implications for the EESL project.

The primary problems with project management and implementation pertain to disbursements from the project budget, as well as the securing and documenting of co-financing. For essentially its entire duration, the project has been spending money far more slowly than foreseen in the Project Document budget and even in its Annual Work Plans approved by the Project Board. This problem of slow spending has been getting worse rather than improving in the first half of 2020. As for co-financing, the project has not been able to obtain confirmed co-financing amounts from key partners, including even the Ministry of Energy and Damu. As a result, reported co-financing at midterm appears abysmally low. It should be noted, however, that the situation is probably not as bad as the documentation makes it appear, especially as Damu notes informally that it plans to apply about $19.3 million in co-financing for RE investments in Component 3, mostly originating from second-tier commercial banks.

The sustainability of project outcomes is uneven across the three components. It is clear that the site-specific RE auction mechanism piloted by the project is now firmly established as noted above, with concrete prospects already materializing for replication without further GEF support. The sustainability of results of Component 2 would be strong if the legislative amendments are eventually adopted, but that possibility remains uncertain at present. The sustainability of outcomes in Component 3 is the least certain, given lack of clarity of what actual uptake and market-transformation impact will be.

From the beginning, the project has had a clear understanding of risks to sustainability. Now, however, the spectre of COVID-19 has severely exacerbated essentially all project risks and has created new ones as well. The next 6-18 months will likely be marked by unusual market chaos and difficulty, which could well negatively affect the project and Kazakhstan's renewable energy market in terms of company activity, consumer demand, investor confidence, and political support. Nevertheless, the project needs to proceed undeterred, seeking ways to make renewable energy a central part of Kazakhstan's recovery and rebuilding, and biding its time as necessary until more normal conditions return.

Recommendations

Based on the findings and conclusions, the MTR team recommends the following actions to help ensure the maximal fulfillment of targeted project outcomes and the sustainability of these outcomes even after the end of the project.

A. Project management

A1. Reconsider split project management arrangement and make the shift to a full-time PM.

Despite the acceptable pace and quality of DREI project operations with essentially a half-time PM, the MTR team does believe that it would be better for it to have a full-time PM. This would allow for the fullest possible execution of the vital functions set forth in Annex E of the Project Document, while also definitively resolving any inconsistency with the UNDP POPP's preclusion of the portfolio approach for day-to-day management of this or other GEF-funded projects.

This recommendation is consistent with the recommendation also expected from the MTR of the EESL project. The most obvious approach would be for Mr. Nurgaliyev to take this full-time DREI PM role, and to be replaced by a full-time PM in the EESL project.

The MTR team feels less strongly about the need for a full-time AFA in the DREI project, but understands that here too, changing the EESL AFA position to full-time would trigger the need to revisit the corresponding position in DREI as well.

In sum, the MTR team recommends that the project should do the following:

- Hire a full-time PM for the DREI project, based on the ToR of the Project Document. If Mr. Nurgaliyev is available, then he should be a leading candidate, in light of his familiarity with the project and its successes so far.
- English fluency is a requirement according to the ToR. Mr. Nurgaliyev, despite his limitations with spoken English, could be considered to satisfy this prerequisite, subject to his continued commitment to taking English classes.
- Implement this hiring process in accordance with the UNDP POPP and other relevant requirements for recruitment and contracting.
- Develop a transition plan covering the recruitment and contracting period during which the full-time PM positions will be filled. This plan could reasonably involve continuation of the split arrangement until both full-time PM positions are filled, with some overlap between Mr. Nurgaliyev and the newly hired PM in one project.
- If UNDP still wishes to persist in the split PM arrangement, ensure first that it too is consistent with requirements of the UNDP POPP and the GEF.
- Renew Mr. Khmelyov's ICTA appointment through the end of the project in February 2023 and ensure regular missions to Kazakhstan at least once per three months, once it is possible to fly.
- After considering how to react to the recommendations for the AFA position in the EESL project, determine whether there is a need to revise the AFA position in the DREI project accordingly. In terms of workload, either a full-time or a half-time position may be acceptable. If continuing the half-time AFA arrangement is determined to be optimal for DREI, first ensure that any arrangements for the AFA position are consistent with the UNDP POPP's stipulations with regard to portfolio management, as well as any relevant GEF rules.

A2. Prepare a plan for improved and accelerated project implementation with the Country Support Team. Budget ambitiously in order to remedy disbursement delivery shortfalls.

Low delivery of disbursements is a common issue in UNDP-supported projects, but seems unusually severe in the case of the DREI project. It is beyond the scope of this review to propose a comprehensive spending plan, but in general, the project must find ways to spend down the GEF grant in a timely and maximally effective way.

Starting as soon as possible, the project team and senior UNDP management should work together with the Country Office Support Team of the Istanbul Regional Hub to develop a concrete plan. Spending should be consistent with existing project activities, but in special cases (such as making the case for renewable energy as part of the nation's COVID-19 response) could involve limited expansion into new areas of work. Possibilities include but are not limited to the following:

- Hiring of a full-time PM and possibly a full-time AFA as explained above
- Individualized support for business model development and preparation of loan applications, delivered by multiple national consultants
- Further generalized business training for renewable energy companies
- Development of expanded studies of market opportunities for small-scale renewable energy companies in various sectors (see recommendations for Outcome 3 below)
- Expanded mass-media promotion of the financial instruments
- Expanded mass-media promotion of small-scale renewable energy in general
- Technical support for the design of one or more selected new pilot projects, especially in connection with COVID-19 response (for example, electricity and storage for a rural health facility).
- Hiring of consultants to prepare separate lessons-learned reports on the site-specific auction mechanism and on the project on the whole
- Convening a regional conference to close the project

A3. Secure definitive documentation of delivered co-financing immediately, and again for the Terminal Evaluation

The inadequacy of co-financing documentation for the MTR is, ultimately, simply a failure to document an interim result. Inadequate documentation of co-financing for the Terminal Evaluation will be viewed as a failure to *deliver* a key result – an important measure of project effectiveness and a core commitment of the project to the donor and to the project's beneficiaries. Therefore the project (specifically, the Project Manager with support from the UNDP Country Office if needed) must make sure well in advance of the Terminal Evaluation to explain to all project partners the importance of timely, complete, and clear documentation of their delivered co-financing. (It is expected that most co-financing will come in the form of principal and commercial loans for investments supported by GEF subsidies in Component 3. Transparent and timely documentation of every transaction should be a central part of the process.)

A4. Revise the project Risk Log in light of the COVID-19 crisis, thoroughly revise proposed countermeasures, and make these countermeasures a central part of project strategy and activities

The project should immediately re-examine and revise its Risk Log in light of the COVID-19 crisis and enter the changes into ATLAS. Some suggested language is included in the MTR section on Sustainability. The project should pay particular attention to the refinement and affirmation of countermeasures, some of which are discussed elsewhere in this Recommendations section (see especially recommendations C1 and D1). The responsible party for this work is the Project Manager, with input from the Task Leaders and ICTA.

A5. Consider applying for a no-cost extension of the project period (up to 12 months, plus 6 months because of COVID-19) if more time is needed to adopt legislation (Component 2), implement financial mechanisms (Component 3), and spend project grant funds

Given the project's extremely low delivery rate, the stalled legislative amendments of Component 2, and the delayed launch of financial instruments in Component 3, one of the main threats to project success is simply that it will run out of time before fulfilling its targets and obligations. Therefore the project team and UNDP, in consultation with the Project Board and the UNDP-GEF Regional Technical Advisor, should assess where it stands at the end of 2021. If at that point it appears that more time is needed to fully realize the targets of Components 2 and 3, then UNDP should apply for a no-cost extension. (Extensions of up to 12 months are normally permitted, and an additional 6 months may be requested because of the COVID-19 pandemic.)

B. Outcome 1

B1. Close the project's activity on the site-specific auction mechanism Component 1, but ensure effective knowledge-sharing by preparing a lessons learned study and possibly a short lessons learned video, to be distributed via web-based channels, UNDP knowledge-sharing networks including via the global DREI initiative, and partner agencies.

The project has correctly determined, despite some encouragement from its partners, that it need not and indeed cannot organize another site-specific RE auction. The project should plan to use its remaining Component 1 resources on compilation of a polished document in both English and Russian (as well as Kazakh if desired by the Government) on the site-specific auction mechanism, its rules and procedures, and its influence on de-risking. To the extent possible, this document should reflect the DREI analysis methodology, including the generation of risk scores and a "waterfall" diagram showing how elimination of different types of risk (market, permits, site preparation, etc.) reduced the cost of capital.

The project should then seek to develop a lessons learned study on how this worked and to share this information widely within Kazakhstan and globally, using existing UNDP knowledge-sharing networks, mainstream and social media outreach via the Country Office, as well as the outreach channels of partner organizations (EBRD, USAID, private-sector associations, and so on.). The project should also consider preparing a video on the auction mechanism (separate videos in Russian and English, or one in English with Russian subtitles), to be distributed by the same channels.

The project does not have a notable website, nor social media presence of its own. It should coordinate with the UNDP Country Office and determine if it should develop its own presence, or whether it could make better use of UNDP's platforms. Either way, the project should seek to enhance its web presence,

using the report and video to attract and build initial attention, and then expand to support outreach for Outcomes 2 and 3.

C. Outcome 2

C1. Develop and implement measures to enhance political will for adoption of the legislative amendments, while also supporting building code revisions as an alternative or supplemental policy de-risking tool..

Simply waiting out the COVID-19 crisis and hoping for oil revenues to rise may actually turn out to be a reasonable strategy for unblocking the legislative amendments so painstakingly developed under Component 2. But the project cannot afford simply to wait. Instead, the project should seek further ways to promote the amendments and convince lawmakers and Ministry officials to support them.

One way to do so would be to identify the most controversial provisions (mainly government subsidies for small-scale RE) and remove them from the legislative package, or negotiate different terms.

Another way would be to reframe the revised legislation not only as a way to help the nation achieve its clean-energy goals, but also as a means of recovery from the COVID-19 crisis. For this, the project team should consider reframing subsidies explicitly as a way to preserve and create jobs, as well as to transform markets and de-risk investments. For this reframing, the project should consider commissioning research on the estimated jobs impact of the legislation. There is now much attention to this subject worldwide, and there should be no shortage of relevant analysis to draw from.[16]

Meanwhile, the project should also continue on its current course of finding alternative policy de-risking via enhanced RE provisions of building codes.

C2. Expand the project's communications and outreach, including execution of a project-wide lessons-learned report and final conference

The project should expand its communications and outreach about how and why to pursue small-scale RE. This work should be consistent with the training roadmap already under development, but should seek to reach a broader public audience. The project should also not overlook the Project Document's stipulation that it will generate a lessons-learned report in the last year of implementation. If possible, the project could plan to use this report as a featured part of a final wrap-up conference focusing on knowledge-sharing and post-project sustainability.

The project, with the support of the UNDP Country Office, should also help ensure that its findings are maximally disseminated by delivering content into country reports under the UNFCCC, and the REN21 knowledge network on renewables. It can also think ambitiously about other modes of outreach, including video for release via the web or via national television channels. This content should certainly include the site-specific auction mechanism (see recommendation B1 above), but should also be framed more broadly to raise awareness of the general public about small-scale renewable energy and its advantages.

[16] See, for example, https://www.mckinsey.com/business-functions/sustainability/our-insights/how-a-post-pandemic-stimulus-can-both-create-jobs-and-help-the-climate# and https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020.

D. Outcome 3

D1. Immediately develop detailed market research (including investment risk analysis based on DREI methodology) on selected small-scale RE technologies, business models for their delivery and use, and potential numbers of implementers

Perhaps the greatest uncertainty among all the components is the extent of market demand for the subsidized loans. The project and Damu have been operating on the confident assumption that the mechanisms themselves, combined with aggressive promotion, will unearth this demand. But this assumption is highly risky, and may indeed prove to be unrealistic unless the project thinks more deeply about where the demand might lie.

The project has done in identifying examples of successful past cases (off-grid PV for resort, biomass boilers for schools), and in developing the small but diverse pipeline of initial projects (farm, automobile fueling stations, villages, refrigerated warehouse). Based on its review, however, the MTR team infers that the project has no evidence-based plan to scale these projects up, but rather just a general sense that the market will become clearer as the project and Damu have time to establish and promote the subsidy mechanisms.

The project and Damu urgently need a more concrete plan and internal sectoral targets based on more market research. What types of businesses will have the greatest interest and profit potential? Based on what types of RE, based on what value propositions? How many such businesses? In what regions? How much installed capacity for each project type? And how will these answers match with the project budget and the project's target of 9.5 MW installed small-scale RE?

The project has taken the first steps toward generating this needed market research during June and July 2020, via the SSDC study and Mr. Khmelyov's quarterly report. Now the project needs to make this research even more concrete, and turn it from background information into an action plan. This action plan, in turn, should define evidence-based priorities for marketing and outreach and tailoring of instruments as needed to reflect the risk. Steps should include:

- Identification and justification of high-priority sectors, regions, and technologies where the project should prioritize pipeline development and delivery
- Application of DREI analysis to the envisioned investments and technologies, in order to define the risks and expected mitigation effects of the proposed business support (Component 3.1) and financial instruments (Components 3.2 and 3.3).
- Analysis of how the project can most efficiently help realize the installation of small-scale RE capacity (and thus fulfill objective indicator 2 and outcome indicator 3), with the greatest impact per dollar of GEF subsidy spent, under various scenarios for uptake of the financial instruments for different technologies and applications.

Here is a list of possible areas as a starting point for this research.

- **Wind power and/or PV for buildings in off-grid rural settlements via rooftop PV or community microgrids.** The Project Document notes that there are 255 such settlements in the country.

Such development may require development of "productive use," by which communities turn the availability of electricity into revenue-producing activity. (This could also be a suitable area for technical support for a pilot.)

- **Wind power and/or PV for farms in off-grid rural areas.** The Project Document notes that there are 9000 such farms in the country. There may be unfulfilled needs at these farms for refrigeration and/or water pumping.
- **Wind power and/or PV in areas with very poor or antiquated grid infrastructure.** These are most likely to be located in remote rural areas as well. There may be opportunities to create minigrids in agreement (and with financial support) from the grid operator
- **Biomass boilers.** According to a fresh UNDP study from July 2020 based on regional data, there is already 54 MW of renewable heat-generation capacity installed in the country, almost all of which is in the North Kazakhstan Oblast, where 105 small biomass boilers are in use (burning straw, wood chips, and wood waste).
- **Solar water heaters for household use.**

This research should be launched as quickly as possible and should be completed by the end of 2020 so that the project can focus its efforts on the areas with maximized chances for success.

D2. Use the market research conducted under recommendation D.1 to establish priorities for promotion, as well as customization and delivery of incentives for selected technologies and business models

Based on the results of the research of recommendation D1, the project should then design its promotional outreach to reach the most promising market sectors. Given the notable possibility that the strongest market potential is in remote rural areas, the project may need to devote considerable effort to stakeholder engagement and development of realistic, effective, and appropriate outreach strategy. The project should not expect the outreach strategies for educated, web-connected urban populations to work in the same way among farmers, herders, and other residents of the Kazakh countryside. Instead, the project will likely need to work with professional associations, the Farmers Union, and regional offices of the Ministry of Agriculture. The latter two agencies are already represented on the Project Board.

The project should also refine its financial instruments (especially variable subsidy levels) for specific technologies and applications, depending on the results of DREI analysis for each, as well as their relative levels of maturity in the market.

Annexes

Annex A. Progress Toward Results Matrix

Annex B. Matrix of Evaluative Questions for the MTR

Annex C. Written questionnaire and list of recipients

Annex D. Stocktaking Exercise on Project Outputs (prepared by national consultant Lyubov Inyutina)

Annex A. Progress Toward Results Matrix (Achievement of Outcomes against End-of-Project Targets)

Project Strategy	Indicator[28]	Baseline Level	Level in 1st PIR (self-reported)	Midterm Target	End-of-project Target	Midterm Level & Assessment	Achievement Rating and Justification
Objective: Promote private-sector investment in renewable energy in Kazakhstan in order to achieve Kazakhstan's 2030 target for renewable energy	Objective indicator 1: Total Lifetime Direct and Consequential GHG Emissions Avoided (Tons CO_{2eq})	0	No quantitative results. Project reported that "*[t]he foundations have been laid…[with the] introduction of a pilot auction mechanism…. The Ministry of Energy of RoK (ME) officially announced the introduction of project auction and date of the first round (27 November 2019) for the 50 MW Solar project with the key preparatory work." implemented by the Project.*"	48,000 tonnes CO_{2eq} direct emissions	460,000 tonnes CO_{2eq} direct emissions plus between 1.8 and 8.0 million tonnes CO_{2eq} consequential emissions avoided	No quantitative results, but major concrete progress with completion of auction for new 50 MW solar facility in the town of Shaulder in Turkestan, with projected GHG reductions of about 68,000 tonnes/year starting in Q4 2021, gradually declining over 25 years. Concrete steps have already taken toward replication of this mechanism for hundreds of additional MW of RE generation capacity, outside the DREI project. No results yet with deployment of small-scale RE. **On target to be achieved**	**Satisfactory** Achievement across the three objective-level targets has been uneven, but on balance, the project's overall progress has been strong. On the one hand, the key climate-change mitigation objective (GHG emissions reduction) is squarely on track to be achieved and indeed probably overfulfilled. The DREI project deserves full credit for direct GHG reductions from the Shaulder facility, given the project's essential catalytic role, without which this facility would likely not have been able to attract investment. Replication of this auction mechanism by agencies outside the DREI project will likely yield consequential emissions reductions beyond the target.
	Objective indicator 2: Increase in Installed capacity from wind and solar power (MW) and lifetime RE production (MWh)	0	No quantitative results. Project reported substantive activities on development and delivery of legislative and regulatory framework amendments to the Ministry of Energy, as well as development and discussion with key partners of a financial mechanism (subsidy) to de-risk small-scale RES projects	1 MW (direct, small -scale sector only) = approximately 50 GWh lifetime production	9.5 MW (direct, small-scale sector only) = approximately 500 GWh lifetime production	No quantitative results at midterm. Project has developed legislative amendments but they have not been accepted so far by the Government. Project has developed financial instruments and is poised to launch them throughout the country, but uptake is uncertain, with a pipeline of only 16 small-scale RE projects currently identified. (See also Outcome indicator 3.3.) **Not on target to be achieved**	

	Objective indicator 3: Number of direct project beneficiaries	0	No quantitative results reported. Project reported that the financial incentive mechanism of Component 3 was developed with gender preferences to help ensure women's participation and equitable distribution of benefits	3,000 people, 50% women	28,500 people, 50% women	No quantitative results at midterm, except small numbers of participants in study tours and training. Project plans to reach direct beneficiaries at targeted scale via planned outreach and delivery of financial mechanisms in Component 3, but this work is now considerably time-constrained, with significant remaining risks. **Not on target to be achieved**	The other two objective targets are not on track to be achieved because of insufficient clarity about target markets and potential uptake of project-supported financing instruments, as well as new risks related to COVID-19. Nevertheless, with an appropriate management response, it is plausible that the project can get on track.
Outcome 1: Appropriate policies, programmes and regulations are in place to reduce investors' risks, scale-up investment and enable the achievement of 2030 RES target	Outcome indicator 1.1: Capacity of the Government to design and implement policy initiatives enabling development of renewable energy markets	The Government has limited capacity to deliver renewable energy derisking strategies	Project reported organization of seven regional workshops on zonal auctions (70 participants, including investors, executives, et al), plus study tour to the Netherlands for policymakers	Identified knowledge gaps and prepared training plan	25 policymakers trained	Despite reorientation of component to focus on the site-specific RE auction mechanism, the project did deliver meaningful support to the Government and other agencies on capacity-building for policy development and implementation via workshops and training, in excess of the stated end-of-project target. **Achieved**	**Highly satisfactory** The site-specific auction mechanism yielded the lowest price ever for renewable electricity in Kazakhstan (12.49 Kazakh tenge per kWh, or US $0.03/kWh, which is 2.3 times lower than the initial ceiling price. The unprecedented effectiveness of de-risking via this mechanism is clear and widely recognized. Now the winning bidder, LLP Arm

	Outcome indicator 1.2: Reduction in DREI aggregate risk score across 9 DREI risk categories	Aggregate DREI risk score 32 out of 45 (72%) – in 2016 (Best in class - Germany - score 10/45 = 22%)	No assessment in terms of DREI risk score. Project reported extensive work in development of new site-specific RE auction mechanism embodying multiple types of de-risking	Aggregate DREI risk score 30 out of 45 (66%)	Aggregate DREI risk score 25 out of 45 (56%)	DREI risk score determined by midterm assessment to be 28/45, fulfilling midterm target and on track for EOP fulfillment (probability score only, not impact, consistent with baseline parameter). Site-specific RE mechanism has been applied in November 2019 auction; winning bid included lowest-ever renewable electricity price in country's history. Replication of mechanism outside UNDP-supported project now in process (at least five facilities totaling hundreds of additional MW). **On track to be achieved**	Wind (a subsidiary of the Italian energy firm ENI) is proceeding to build the facility at Shaulder via equity and loans, without any GEF support. EBRD and the Financial Settlements Centre of KEGOC are already seeking to replicate the mechanism in at least five facilities. End-of-project target for training of policymakers fulfilled already.
Outcome 2: Appropriate policies, programmes and capacities are in place to reduce risk and attract investment in small-scale (on-grid and off-grid) renewables	Outcome indicator 2.1: Degree of support for small-scale renewable energy development in policy, planning and regulations	1 – Virtually no policy or strategy for small-scale climate change is in place	No numerical scoring in terms of indicator. Project reported extensively on activity on policy development, including situation analysis, compilation of world best practices, delivery of training (including study tour to Finland), and drafting of comprehensive legislative amendments.	3 – Policy and strategy proposed and consultations ongoing (quality is good)	8 - Strong policy and regulatory frameworks designed with financial / market / incentive based mechanisms	Policy and regulatory framework has been designed reflecting a wide range of needed content, including feed-in tariff clarifications, government subsidies, and regional targets, as well as agency responsibilities and definitions, after dozens of direct meetings between project experts, Ministry of Energy, and working group members. Project has also conducted review of world best practices on MRV, and is developing recommendations (expected completion August 2020) to be aligned with national emissions trading system. Policies are in limbo, as Ministry of Energy has declined to support their adoption for now, given state budget constraints associated with COVID-19. Nevertheless, given clear fulfillment of end-of-project target as worded, this outcome 2.1 can be considered **Achieved.**	**Satisfactory** For this outcome, there is a mismatch between the indicators/targets and the overall stated outcome (see first column), such that the targets are squarely on track to be achieved, but the outcome itself is not (as the policies are not yet on track to be "in place.") We assign this rating based on fulfillment of the indicators, but also note the importance of responding to the risks regarding fulfillment of the outcome on the whole. The key need for policies to be "in place" is for the Government to support the legislative

	Outcome indicator 2.2: Knowledge of small-scale applications in rural and urban areas	RES projects are perceived as more risky, expensive and second class energy supply options compared to traditional energy sources	Project reported on development of roadmap for development of "knowledge infrastructure" for RE throughout country, including creation of formal and vocational education systems	Developed awareness raising media campaign and short-, medium- and long- term communication strategy to support development of RES. The communication will reflect gender perspectives, channels and needs	At least 25% of women and 25% of men in target stakeholder groups understand the benefits and risks of renewables and support their development	Roadmap concept developed and discussed with stakeholders. Final version expected in September 2020. Training sessions for businesses, events, media outreach also conducted. **On target to be achieved**	revisions developed by the project. Outcome indicator 2.2 is not measured yet, but seems to be on track overall. A clear survey methodology is needed for this indicator, including definitions of "target stakeholder groups" and "understand the benefits and risks."
Outcome 3: Sustainable business models and financial mechanisms to support their implementation in place for investment in small-scale urban and rural RES solutions	Outcome indicator 3.1: Developed financial and business models for small-scale RES in urban and rural sectors	There are no financial or innovative models in place. Projects are funded fully without use of financial mechanisms.	The project reported on activity in development of financial instruments, mentioning review of best practices regarding business models.	Business and financial models are designed for key market sectors for testing in selected pilot projects	Standard contracts / agreements prepared to facilitate scale-up	The project has identified a modest number of viable business and financial models across a range of sectors. Continued work is needed to expand and enhance these models, and to create a robust basis for efficient marketing of subsidized loans and green bond mechanisms. **On target to be achieved**	**Moderately satisfactory** The project has done extensive work in establishing proposed financial instruments to be delivered in partnership with Damu. These instruments are well designed and indeed, have already been successfully tested in the separate

	Outcome indicator 3.2: Appropriate financial instruments created for pilot investments in small-scale rural and urban renewables	Small-scale developments are very scarce and face a number of financial barriers.	The PIR report noted activities in the development of financial derisking instruments, including negotiations with Damu, development of eligibility criteria, and so on.	Financial derisking instruments for small-scale on- and off-grid projects are designed in consultation with the stakeholders and with consideration of the best international practices	Financial derisking instruments for small-scale on- and off-grid projects are designed and deployed	The financial instruments (subsidized loans, loan guarantee, green bond funding) are developed and ready for deployment in 2020. **On target to be achieved**	UNDP-supported GEF-funded project on Nationally Appropriate Mitigation Actions for low-carbon urban development). The main deficiency in this component is a clear sense of target market sectors, their associated business models, and their size. The pipeline of viable qualifying projects and enterprises needs to be dramatically expanded in order for the project to achieve its end-of-project target for Outcome indicator 3.3 (which is closely aligned with Objective indicator 2).
	Outcome indicator 3.3: Investment mobilized to support small-scale projects	0	The project reported initial work in forming a pool of projects suitable for the financial instruments of Component 3.2. Of 100 received applications, 10 were deemed suitable candidates.	Small-scale projects of total installed capacity of 1MW addressing various technologies and sectors (using business / financial models from 3.1 and 3.2) are implemented with support from the project	Small-scale projects of total installed capacity of 9.5 MW addressing various technologies and sectors are implemented with support from the project	The project does not yet have a concrete plan for identifying and reaching eligible companies and projects at scale, except to rely on heavy promotion at the regional level through Damu affiliates. The current pipeline of suitable projects stands at 16 as of June 2020. The project therefore faces considerable challenges in reaching the 9.5 MW target, especially in the absence of national subsidies and feed-in tariff clarifications. **Not on target to be achieved**	

Annex B. Matrix of Evaluative Questions for the MTR

This matrix is based on the template provided in the MTR guidance document and the Terms of Reference of the MTR team.

In the section on Progress Toward Results, indicators are shown as they are written in the Project Document. In a few cases, the indicators are not easily measurable, or have wording that does quite not match with the wording of targets. The matrix provides additional notes in these cases, in red type.

Matrix of Evaluative Questions for the MTR

Evaluative Questions	Indicators	Sources	Methodology
Project Strategy: To what extent is the project strategy relevant to country priorities, country ownership, and the best route toward expected results?			
To what extent does the project strategy (including changes introduced during the Inception Period) reflect national priorities? Is the project country-driven?	Specific matching of outcome and outputs to national strategy documents; qualitative statements of national partners, including the National Project Director	Project Document and Inception Report; interviewees (see Annex B of Inception Report)	Document review and interviews
To what extent does project strategy realistically reflect market conditions and technical potential for renewable energy in Kazakhstan?	Qualitative statements of national experts and business representatives	Questionnaire recipients and interviewees (see Annexes A and B of Inception Report, respectively)	Questionnaires and interviews
To what extent does the project strategy reflect stakeholder input?	Qualitative statements of stakeholders, with matching of statements to Project Document	Project Document section on partnerships and stakeholder analysis; questionnaire recipients and interviewees (see Annexes A and B of Inception Report, respectively)	Document review, questionnaires, interviews
To what extent does project strategy reflect known best practices and lessons learned from other relevant projects?	Linkages between Project Document elements and relevant documented best practices and lessons learned	Project Document, other project documentation (including UNDP global DREI methodology) and industry literature, plus questionnaire	Document review and interviews

Evaluative Questions	Indicators	Sources	Methodology
		recipients and interviewees	
How substantive, clear, and correct are the overall logic and theory of change that underlie the project strategy?	Subjective explanations and analysis of coherence and logic	Project Document, interviewees (Grant Ballard-Tremeer, Oleg Khmelyov, industry representatives, et al)	Document review and interviews
To what extent are project activities specifically linked to specific investment risks for RE, as identified in the Project Document?	Specific links between activities and identified risks	Project Document and Inception Report	Document review
Are project indicators specific, measurable, achievable, relevant, and time-bound (SMART)?	Concreteness and measurability of indicators and targets; consistency of targets and underlying calculations with available statistics, data from other countries and projects; some subjective assessment	Project Document and interviewees (project team, National Project Director, banks and private-sector companies)	Interviews
Does the project strategy thoroughly identify risks (including social and environmental risks) and lay out appropriate mitigation approaches?	Content of risk log and other relevant annexes of ProDoc, and consistency with observations of knowledgeable stakeholders	Project Document, including relevant annexes on risk, social and environmental screening, and Environmental and Social Management Plan; input from stakeholders on market and policy risks	Document review, questionnaires, interviews
Does the project strategy reflect relevant gender considerations?	Quality and depth of gender analysis; concreteness of Gender Action Plan	Project Document, plus stakeholder input	Document review, interviews
Progress Toward Results: To what extent have the objectives and the outcomes of the project been achieved thus far?			
What are the direct and consequential effects of project activities toward GHG emissions reductions at midterm?	Objective indicator 1: Total lifetime direct and consequential GHG Emissions Avoided (tonnes CO_{2eq})	Calculation report from project team; GEF Tracking Tool	Document review, with follow-up interview questions or email exchange as needed

Evaluative Questions	Indicators	Sources	Methodology
What has been the increase in total installed capacity of RE in Kazakhstan since the project began? What is the total expected lifetime energy production from these facilities? How much of this new capacity and energy production is attributable to project activity?	Objective indicator 2: Increase in installed capacity from wind and solar power (MW) and lifetime RE production (MWh)	Calculation report from project team	Document review, with follow-up interview questions or email exchange as needed
How many beneficiaries have there been from project activity so far?	Objective indicator 1: Number of direct project beneficiaries, including percentage of women.	Project documentation	Document review, with follow-up interview questions or email exchange as needed
What is the capacity of the government to design policies in support of large-scale renewable energy?	Outcome indicator 1.1: Capacity of the Government to design and implement policy initiatives enabling development of renewable energy markets. Capacity is qualitative and therefore difficult to measure. The Project Document targets for this measure involve completion of a gap assessment and training plan (midterm) and delivery of training to policymakers (end of project). The MTR should seek to assess capacity increases not only in terms of training volume, but also qualitatively based on stakeholder feedback and the nature of project-supported government activity in policy development.	Outputs of training (materials, attendee lists, study tour reports); interviewees	Document review and interviews
What policies and mechanisms are in place to reduce investor risk in large-scale RE?	Outcome indicator 1.2: Reduction in DREI aggregate risk score across 9 DREI risk categories	National policy documents and project documentation. Annex B of the Project Document (Monitoring & Evaluation Plan)	To be based on UNDP global DREI methodology

Evaluative Questions	Indicators	Sources	Methodology
		indicates that this assessment is to take place only after submittal of the final PIR, during the project's last year of operation.	
What is the degree of government support for small-scale renewable energy development as reflected in policies, plans, and regulations?	Outcome indicator 2.1: Degree of support for small-scale renewable energy development in policy, planning and regulations. The degree of support is a qualitative measure, with targets shown in the Project Results Framework on a scale of 1 (virtually no policy or strategy on small-scale RE) to 8 (strong policy and regulatory frameworks designed with financial / market / incentive based mechanisms).	National policy documents and project documentation; interviewees (Ministry of Energy, legislators, project team)	Document review, with follow-up interview questions or email exchange as needed
To what extent do rural and urban citizens understand small-scale renewable energy applications, their operations, market availability, and benefits?	Outcome indicator 2.2: Knowledge of small-scale applications in rural and urban areas	Annex B of the Project Document (Monitoring and Evaluation Plan) indicates that this indicator is to be evaluated via a survey, to be finalized only after submittal of the final PIR, during the project's last year of operation.	Document review (survey if available)
To what extent are business and financial models developed, established, and/or standardized for delivery of small-scale RE in urban and rural areas?	Outcome indicator 3.1: Developed financial and business models for small-scale RES in urban and rural sectors	Documentation from businesses, financing programs, and the project	Document review
To what extent are there appropriate and effective financial instruments to de-risk and	Outcome indicator 3.2: Appropriate financial instruments created for	Documentation on financing programs;	Document review, supplemented by

Evaluative Questions	Indicators	Sources	Methodology
stimulate investment in small-scale RE?	pilot investments in small-scale rural and urban renewables	interviewees and questionnaire respondents	feedback from banks and businesses
To what extent has investment been mobilized, leading to the installation of small-scale RE projects?	Outcome indicator 3.3: Investment mobilized to support small-scale projects. This logframe indicator does not match with the corresponding targets, which are framed in terms of total new installed capacity of small-scale RE resulting from project activity (1 MW by midterm, 9.5 MW by end of project)	Documentation on installed small-scale RE (business documents, national statistics, project documentation)	Document review
Project Implementation and Adaptive Management: Has the project been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far? To what extent are project-level monitoring and evaluation systems, reporting, and communications supporting the project's implementation?			
Has the project been implemented efficiently in terms of matching of staff responsibilities and skills with the needs of the project?	Qualitative assessment, to be supported by stakeholder feedback. See detailed questions below.	Interviewees (project team, UNDP CO, et al)	Interviews
Has the project been implemented cost-effectively, in terms of both allocation of budget to components, and delivery of this budget through executed activities?	Comparison of budgeted versus actual spending, with qualitative justifications for specific expenditures, financial audit if available	Project financial documentation, supported by interviewees (project team, UNDP CO)	Document review and interviews
Does the project staff receive sufficient support and oversight?	Qualitative assessment, to be supported by feedback from interviewees. See detailed questions below.	Interviewees (project team, UNDP CO, et al)	Interviews
How has the project adapted to changing conditions thus far? How effective has this adaptive management been?	Qualitative assessment, to be supported by feedback from interviewees. See detailed questions below.	Interviewees (project team, UNDP CO, National Project Director, et al)	Interviews
How clear, disciplined, and effective are the project's M&E systems?	Substance of completed M&E outputs. Qualitative assessment, to be supported by feedback from interviewees. See	M&E documentation (PIR, annual progress reports, GHG calculations, etc.) Interviewees	Document review and interviews

Evaluative Questions	Indicators	Sources	Methodology
	detailed questions below.	(project team, UNDP CO, National Project Director, et al)	
How extensive and effective are the project's communications? Do they support the broader goals and effective operations of the project?	Substance of completed communications outputs. Qualitative assessment, to be supported by feedback from questionnaire respondents and interviewees.	Communications outputs, questionnaire respondents, interviewees	Document review and interviews
Sustainability: To what extent are there financial, institutional, socio-economic and environmental risks to sustaining long-term results?			
Is the risk log in the Project Document sufficiently comprehensive, clear, and relevant?	Comparison of risk log with risks actually recognized by key stakeholders	Questionnaire respondents and interviewees	Questionnaires and interviews (businesses, banks, policymakers, CTA, et al)
What new risks (including risks related to COVID-19 and its economic effects) have emerged with regard to effective project implementation and sustainability of results?	Risks identified by key stakeholders and experts	Questionnaire respondents and interviewees	Questionnaires and interviews (Project Manager, Task Leaders, businesses, banks, policymakers, CTA, et al)
How can the project mitigate these risks?	Mitigation approaches recommended by stakeholders and experts	Questionnaire respondents and interviewees	Questionnaires and interviews (Project Manager, Task Leaders, businesses, banks, policymakers, CTA, et al)

Annex C. Written questionnaire and list of recipients

Actual questionnaire sent to recipients

Вопросник/ интервью для заинтересованных сторон, принимающих участие в сотрудничестве по проекту Правительства РК и ПРООН-ГЭФ:
«Снижение рисков инвестирования в Возобновляемые Источники Энергии»
(ниже-Проект)

№	Вопрос	Ответ
1	Какова Ваша связь с Проектом или как вы вовлечены в Проект? Когда (начиная с 2018 года до мая 2020 г.) вы были вовлечены и как часто сотрудничаете с командой проекта ПРООН (регулярно, в течение месяца, в ходе семинара и т.д.)?	
2	Насколько важно ваше сотрудничество/партнерство с Проектом до нынешнего момента и планируете ли его в перспективе ?	
3	Каково влияние участия вашей структуры/организации в мероприятиях Проекта на ожидаемые результаты по улучшению инвестирования и снижению рисков в развитие ВИЭ?	
4	Знаете ли вы про специальный проектный механизм, который был применен Проектом на аукционе ВИЭ 2019 года? На ваш взгляд, насколько перспектива его применения полезна для инвестора?	
5	Как бы вы оценили рыночные условия и перспективы использования возобновляемых источников энергии (ВИЭ) малого масштаба (фотоэлектрических систем для зданий, солнечных водонагревателей и т. д.), с точки зрения, как поставщиков, так и потребителей / жителей? Заметно ли улучшились рыночные условия с 2018 года (несмотря на текущий экономический кризис, связанный с COVID-19)?	
6	Насколько эффективно, на ваш взгляд, выполняются Проектом мероприятия, включая в плане повышения осведомленности, обучения, для достижения целевых уровней использования	

	возобновляемых источников энергии в Казахстане к 2020 и 2030 году?	
7	Что еще нужно сделать, с точки зрения законодательства и снижения риска для инвесторов? Если можете, обозначьте какие-либо конкретные потребности, которые проект мог бы эффективно удовлетворить.	
8	Какие стимулы для бизнеса уже доступны вашей компании (если вы представитель бизнеса) и какие вы еще хотели бы для продвижения ВИЭ?	
9	Какова роль женщин в продвижении ВИЭ на ваш взгляд? Какой вклад со стороны женщин есть/мог бы быть в целом по проекту или конкретному компоненту проекта?	
10	Чем реализуемый с 2018 года Проект оказался полезен Вам/ или вашей организации/ органу/ассоциации/бизнесу?	
11	Какие предложения у вас есть для дальнейшего сотрудничества по Проекту, и/или для сотрудничества с ПРООН для достижения целевых показателей развития ВИЭ к 2050 году в Республике Казахстан?	

Translation of questionnaire into English (not sent to recipients)

Questionnaire for Stakeholders Interacting with the Joint Project of the Government of Kazakhstan and UNDP/GEF *De-risking Renewable Energy Investment in Kazakhstan"*
(hereinafter – "the Project")

№	Question	Answer
1	What is your relationship with the project or how are you involved? When (from 2018 to May 2020) have you been involved and how frequently do you interact with the UNDP project team (regularly, during the month, during seminars, etc.)?	
2	How important has your collaboration/partnership with the Project been to date, and what are you plans for such collaboration in the near future?	
3	What influence has your organization's participation in the Project's activity had on the expected results on enhancing investment and reducing risk in the development of renewable energy (RE)?	
4	Do you know about the special mechanism that was implemented by the Project for a RE auction in 2019? In your view, how promising for the investor is the application of this mechanism?	
5	How would you assess the market conditions and prospects for use of small-scale RE (PV systems for buildings, solar water heaters, etc.), from the point of view of both suppliers and consumers/residents? Have market conditions noticeably improved since 2018 (notwithstanding the current economic crisis associated with COVID-19?	
6	How effective, in your view, are the public outreach, awareness-raising, and training activities of the Project in terms of helping to reach the targeted levels of RE in Kazakhstan in 2020 and 2030?	
7	What else needs to be done with regard to legislation and reduction of investor risk? If you can, please indicate any specific needs that the project could effectively meet.	
8	What incentives for business are already available for your company (if you are a	

	business representative), and what others would you like to see with regard to RE?	
9	In your view, what is the role of women in promotion of RE? What is, or what could be, the contribution from women to the project, either on the whole or for any specific component?	
10	How has the project been useful to you or your organization/agency/association/business since 2018?	
11	What suggestions do you have for further collaboration with the Project and/or with UNDP for achievement of the RE targets in the Republic of Kazakhstan up to 2050?	

List of agencies and individuals to whom the questionnaire was sent (around May 22, 2020)

#	Name	Organization	Contacts
Local government administration			
Akimat of Pavlodar Region			
1	**Yerzhan Salkhanov**	Deputy Head of the State Administration "Department of Energy and Housing and Communal Services of Pavlodar Region"	+7-(7182)-73-09-53 (58) E-mail: cal84@mail.ru Mobil: +7 701 528 8 63 https://pavlodar.gov.kz/ http://energypvl.gov.kz/%D1%80%D1%83%D0%BA%D0%BE%D0%B2%D0%BE%D0%B4%D1%81%D1%82%D0%B2%D0%BE/?lang=ru
Financial Institutions of the Republic of Kazakhstan			
2	**Vladimir Andronov**	Managing partner Subsidiary Bank Sberbank JSC (SB Sberbak JSC)	+7-(7172)-250-30-20 5030(for Mobil) E-mail: vladimir.andronov@sberbank.kz https://www.sberbank.kz/ru/
Associations and NGOs			
"KAZENERGY" Association			
3	**Damir Narymbaev**	Deputy Director of Department for the Development of the Oil and Gas and Energy Industries, organization of legal entities (OLE)	E-mail: d.narynbayev@kazenergy.com Mobil: +7 777 599 09 33 http://www.kazenergy.com/en/
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Solar Power Association of Qazaqstan			
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Annex D. Stocktaking Exercise on Project Outputs (prepared by Lyubov Inyutina, National Consultant for the MTR)

Stocktaking Report for Midterm Review

According to TOR the national expert should prepare a stocktaking report during MTR which reviews each of the outputs of the projects for relevance and effectiveness This stocktaking report will be prepared in table format, reviewing each output one by one, and assessing their relevance and effectiveness.

The project strategy covers the proposed policy and financial derisking activities (the DREI framework) for large-scale renewables, which provides strong indications to the Government of how investment in derisking will lead to a substantially reduced cost, and substantial savings for the economy; and for small-scale renewables, focusing on a mix of business models which can be replicated within Kazakhstan or Central Asia. The combination of technical assistance and concessional finance is expected to have a significant market impact in a new market (small-scale renewables). The overall outcome of the project will be an increased installed capacity of wind and solar power (MW) and lifetime renewable energy production (MWh) with associated reductions in GHG emissions and wider opportunities for gender mainstreaming in capacity building, financing and employment. The Project is now focused on wind and solar technologies only. The Project is being implemented in accordance with the approved Annual Work Plans, Project Document, Project's inception report with the elaborated logframe and indicators of the Project, in line with the UNDP procedures and standards. The project has completed the UNDP social and environmental screening procedure (SESP attached as Annex F in ProDoc) to ensure this project complies with UNDP's Social and Environmental Standards. Three Project Board meetings have been held (2018-2020), chaired by the renewable energy department of the Ministry of Energy (ME).

Outcomes are the broad results that we hope that the project will achieve (increased large-scale and small-scale renewable energy capacity, increased investment, new and effective policies and programmes, increased human capacity). The **project outcomes** generally correspond to thematic areas of GEF – in this case, the GEF focal area of climate change mitigation.

Outputs are the concrete products that are generated by the activities (policies, recommendations, training, media articles, etc.). The Project Document lists rather general outputs, while at Midterm we consider the list of "**specific outputs**" – the actual reports, recommendations, etc. that the project generated, enumerated in the progress reports and especially the 2019 PIR, in AWPs, Project Boards protocol, in other words - **Delivered outputs at Midterm**, as well as those that have been initiated but are still under implementation as of June 2020 (marked in blue). For the purpose of this analysis different project reports, ProDoc, Inception Report, PIR, PB protocols, ESMP report, PIF, strategic and regulation documents were reviewed.

Relevance is about project strategy and project design (including adaptive management – changing activities because of changing needs and conditions), but not so much about implementation.
While assessing the relevance of an output, we are asking the following questions.

- Does this output (and its underlying activity) correctly fit into the project strategy?
- In what ways are the activity and output aligned with the targeted outcomes of the project?
- Are the activity and output the best ways to achieve the targeted outcomes? Are there better approaches that the project is not including?

Effectiveness is about implementation, but not so much about project strategy and design.
When assessing effectiveness, we are asking the following questions.

- What is the level of quality of this output?

- Is it used and valued by key stakeholders?
- Was the process of generating the output efficient, orderly, and timely?
- Did the output actually contribute to the targeted outcome? How well or how much did it contribute?

Summary of the Relevance and Effectiveness of Project Outputs is presented in table 1, Gender aspect is considered towards effectiveness, see in table 2.

1. Planned Outputs and Activities, Actual Delivered Outputs at Midterm, and Assessment of Relevance and Effectiveness

<table>
<tr><td colspan="5">Outcome 1
Appropriate policies, programmes and regulations are in place to reduce investors' risks, scale-up investment and enable the achievement of 2030 RES target</td></tr>
<tr><td>Planned Outputs
(as stated in Project Document and revised in Inception Report)</td><td>Planned Activities
(as stated in Project Document and revised in Inception Report)</td><td>Actual Delivered Outputs at Midterm</td><td>Assessment of relevance</td><td>Assessment of effectiveness</td></tr>
<tr><td rowspan="4">Output 1.1: Technical, economic, financial, environmental and social analysis carried out to support the Ministry of Energy and other stakeholders in the design and implementation of appropriate policies, programmes and regulations, including development of briefings for decision-makers.</td><td>Activity 1.1.1: Support the Ministry of Energy, in coordination with other donors, to develop methods for renewable energy auctions, to ensure cost effective actions, and necessary parallel operation of the feed in tariff (for those with already approved PPAs).</td><td rowspan="4">• Development of new site-specific project auction mechanism (so called "with documentation"), including pre-feasibility study of the 50 MW solar project, including site selection and engineering analysis, assessment of the RES potential and facility's operating regime conduction of the grid connection study and obtaining technical conditions for connection; Other preliminary steps, including public hearings, environmental impact assessment, and securing of permits; recommendation on refunding of costs
• Meetings with potential donors (USAID, EBRD) and partners (more than 20 events) were held</td><td rowspan="4">The planned outputs and actual delivered outputs at Midterm correctly fit into the project strategy, because the activities and outputs are definitely aligned with the targeted outcome 1 of the project.

The planned Activity 1.1.2 related to feed-in tariffs was removed during Inception Period because the Government of Kazakhstan finished to use this mechanism and moved on to the auction scheme since 2017.

The planned activities (1.1.1-1.1.6) were transposed to actual delivered outputs at Midterm (as named in column 2 of the table</td><td rowspan="4">The MT target: identified knowledge gaps and prepared training plan is mostly achieved:
Road map concept was developed based on the provided analysis and identified gaps, discussed with wide range of stakeholders (to be finalized by the end of 2020) indicates that the Capacity of the Government to design and implement policy initiatives enabling development of renewable energy markets in terms of
the large-scale RE segment was significantly improved during 2018-2020.

The Government supports the targeted policies for development the market,</td></tr>
<tr><td>Activity 1.1.2 was removed during the Inception Period because feed-in tariffs are no longer applicable.</td></tr>
<tr><td>Activity 1.1.3: Develop analysis and recommendations on land allocation rules and procedures to address short-term / long-term needs (as reflected in the 1 July 2016 Land Code) relating to both permitting and grid connection.</td></tr>
<tr><td>Activity 1.1.4: Improve the proposals for technical rules for</td></tr>
</table>

	renewables, including analyzing and providing argumentation and risk mitigation measures related to the new obligation on solar PV operators to install and operate batteries at the request of the system operator. Activity 1.1.5: Develop approaches and recommendations on the increased participation of conventional power producers in the renewable energy market (i.e. when acquiring renewable energy power plants). Activity 1.1.6: Carry out analytical and legal work to address the long-term creditworthiness of the Settlement Centre and propose measures to increase its creditworthiness and financial stability. Activity 1.1.7: Assess options and develop recommendations on a guarantee scheme for PPAs. Activity 1.1.8: Implement analysis of payment reflows and risk exposures under the auction models.	• Holding an auction with documentation (site-specific project auction) in November 2019 and Implementation (approved by ME and other government authorities) • *Workshops and webinars delivered on zonal auctions and new site-specific project auction mechanism [at least nine total sessions – plus 24 on-line webinars conducted (including agenda and schedule developed) for potential investors on a new pilot auction mechanism* • In December 2019, the Project took part in a separate closing seminar for the year based on the results of renewable energy auctions • **Work that is ongoing in 2020 but not completed by MTE, planned to be completed during August-November 2020, in particular TORs are developed and at initiating the process of tendering for the following kinds of activities:** • At the stage of signing of contract with KEGOC on the "Development of analysis on integration of renewables into the grid" including: - Study on fossil fuel subsidy	accordingly). The review of activities and outputs delivered at Midterm and which are under implementation according to AWP 2020 approved by PB held in February 2020 shown that they are aligned with the targeted outcome 1 of the project. The adoption of the new site-specific project auction mechanism, developed by UNDP/GEF project was successfully piloted and its replication is proved by the ME Order #202 issued 21 May 2020 ("On approval of the auction schedule for November 2020"), including two Solar projects 20 MW capacity each) for auction with documentation. Besides this experience EBRD plans to use this mechanism for 3 wind projects (which are under development, with capacity up to 150 MW) in the round of 2021 auctions in Kazakhstan. The delivered outputs at Midterm demonstrate that	while the work on identification of Aggregate DREI risk score amount (Midterm target is 30 according to ProDoc) and its dynamic is not finished, but in the process of work. Everything planned is done on time, with a few exceptions, which will be discussed below, the process of generating delivered output is efficient and orderly. The review of delivered outputs show that: - support the improvement of the zonal auctions (based on lessons gained from a study- tour to the Netherlands (2018) in the sphere of RE regulations and policies, including auctions mechanism implementation (2018-2019), local analytical analysis and cooperation with USAID program on regular basis), also - developed and introduces successfully the new project auction mechanism

	Activity 1.1.9: Implement analysis and guidance on approaches to address currency risk through, for instance, partial indexation.	and implications for RE auctions. planned to be done till October 2020, recently on the stage of TOR development; - -A web portal module (electronic library / interactive map of RES) to be developed and transferred to the balance of "Financial Settlement Center of Renewable Energy" LLP, for further use and operation. • Preparation of simulation analysis for national operator on feasibility of using energy storage devices for integrating renewable energy objects into the grid, storage at stations and / or in general at network nodes – its plan to be done till November 2020, Work at the stage of discussion of TOR with KEGOC, slightly adjusted based on KEGOC requirements • Development of a design scheme for land lots registration according to the simplified procedure and / or registration of the lots for a special company (SPV, for example registration for the SEC), including development of recommendations on indexing the tariff for the period of construction of a renewable energy facility; – **TORs are developed,** a new	project is on track uses best solutions to achieve the targeted outcomes. The question to be clarified with ME is why the program on RES development recommended for joint development by PB 2018 is not in the focus of ME in 2019-2020.	(2019) addressed policy risk reduction All these characterize the good quality of generating output and the desire to achieve the MT target indicator of reducing the total risk of DREI to the planned parameters. The output actually contributes to the targeted outcome because it really improved the implementation of auction system in Kazakhstan. International auctions (2018 – 2019) were held with a total capacity of 1,255 MW, 138 companies from 12 countries participated in the auction, led to the results consistent with Government expectations: the average decrease in the auction price was for wind generation - 11%, for solar generation - 30% (in particular a pilot auction was held with documentation prepared by UNDP (solar power plant) with an installed capacity of 50 MW, according to the results of

		hiring process will be launch its plan to be done till November 2020, • Analysis of past RES auctions, development of methodological support for RES auctions – **TOR for an international expert is prepared,** a tender will be announced, it is planned to be done till November 2020 • Development of recommendations for calculating a fair tariff for renewable energy facilities (benchmarking) is on the stage of **TOR development**, it is planned to be done till November 2020 • Certification of renewable energy auctions on information security – ongoing the preparation to certification process plan to be finalized till the august 2020		which the winner was determined – LLP Arm Wind, a subsidiary of the ENI oil company -- with a price of 12.49 KZT per kWh (the lowest price of any winning bid at any renewable energy auction in Kazakhstan to date). At the end of February 2020, a Decree of the Government of the Republic of Kazakhstan was signed, in which renewables are included in the list of priority investment projects. Those who invest in renewable energy facilities receive additional incentives for the implementation of projects in Kazakhstan. This is a very big support, especially regarding property tax. The world oil companies Shell, Eni, Total are already actively implementing green projects in Kazakhstan. And such financial organizations as the EBRD, ADB, DBK financially support renewable energy projects. The new site-specific project auction mechanism was used and valued by key stakeholders (ME, RFC, KOREM, KEGOC, Akimats,

				Associations, convential electricity producers) The output ensured cost effectiveness for private business involved into enable the achievement of 2030 RES target. The assistance and support to ME in improvement draft law on" Changes to the Law on RES development" was provided efficiently and timely in coordination with other donors and Mazhilis of Kazakhstan (in particular some changes such as 20 years guarantee in PPAs for investors, improve of RFC sustainability In spite of effect of COVID-19 on all aspects of economic, social situation in the country, the outputs and outcome 1 have been on track -for the evaluation period. It is necessary to note, that the planned activities (1.1.6-1.1.9) are reflected in specific outputs named in column 3 of the table that

				were launched according to AWP 2020. There is a huge volume of work to be done for the rest of 2020. Taking in mind the recent condition with limits due to COVID-19, the project will need to apply very effective adaptive management to fulfill this and subsequent AWPs in a timely and in efficient manner.
Output 1.2: Capacity building of key stakeholders through coaching and training seminars / study tours	Activity 1.2.1: Carry out training needs assessment, design a training programme, and provide training for local staff-members on large-scale renewable energy development issues.	• Study tour to Netherlands (Nov. 2018) organized and implemented for 10 policymakers representing the Ministry of Energy, Ministry of the National Economy, and regional administrations (akimats) on policies and regulations in support of RE, including auctions mechanism implementation experiences • Study tour to Denmark (Nov.2019) organized and implemented for policymakers (members of Parliament, representatives of the Ministry of Energy, a regional electric grid company, administration of the Turkestan region, Damu Entrepreneurship Development Fund and RES Association) on renewable energy systems, focusing on	Delivered outputs are relevant to project strategy and project design, fully comply to Output 1.2 of the Project and underlying activities 1.2.1 and 1.2.2. As PB 2020 approved the cooperation of UNDP/GEF Project with IGTIC on the development of a master plan for the implementation of the Jasyl Urpaq Green Technology Park, this will contribute to the PR of the project and UNDP activities in Kazakhstan, in the field of Climate Change Mitigation and promotion of RE technologies.	The delivered outputs at Midterm and at least 50% of planned for 2020 and are done accordingly, orderly, efficient, timely, with involvement of Associations, ministries, akimats, local and international business, involving targeted partners for cooperation with good quality of this output. The involvement of women into sites visits increased their interest in preparation and implementation of RE projects. Training for local stuff members on large-scale RES issues cover the procedures and other issues important for auctions on large-scale RES

		industrial solar collectors for central heating systems • Work on assistance to the Association of Universities in designing training system, advanced training and retraining of personnel in the field of renewable energy development, given the expansion of professional opportunities for women in the energy sector is characterized by an interim report with concept of Road Map for Capacity Building was provided (2019). • 6 workshops were held in 2018: 4 regional seminars on informing and explaining procedures for participation in renewable energy auctions in six regions of Kazakhstan and Together with USAID, 2 gender events were held • In 2019: 7 seminars were held on explaining the rules for participation in renewable energy auctions; 2 webinars on renewable energy auction rules • 1 seminar on the possibility of participation of a single purchaser of "green energy" - "RFC" LLP in the carbon trading system Work that is ongoing in 2020 but not completed by MTE, planned to be		and Capacity Building improvement, information exchange events provided during 2018-2020 in coordination with USAID were efficient, in total the output is valued by key stakeholders. The Study Tours (2018-2019) actually contribute to the targeted outcome 1, covering a wide range of stakeholders such as representatives of the ministries, Parliament, akimats, Damu, RES Associations, taking in account gender aspect. Number of policy makers trained during Study Tours:16. Due to pandemic of COVID-19 affecting the efficiency and timeliness of the implementation of planned activities, approved by AWP 2020, the following activities were forced to be carried out in 2021: - two study tours to expand opportunities and increase the capacity of engineering staff of grid companies to study international experience in the

		completed during August-November 2020: The final report on Road Map on Capacity Building based on issued interim report mentioned above is under implementation and is planned to be ready in October 2020 • Together with International Green Technologies and Investment Projects Center (IGTIPC) on the development of a master plan for the implementation of the Jasyl Urpaq Green Technology Park – contract is signed in conjunction with the NAMA project (50/50), the work is being done and to be design by August 2020.		implementation of renewable energy projects; and - to the second half of 2020 conduction training for representatives of energy sector organizations to ensure the empowerment of women in the energy sector (of-line or on-line). The output actually contributes to the targeted outcome1 and the objective of the Project translated in a number of direct project beneficiaries that could be identified up to now as about 50% women. The progress of the objective can be described as: on track
	Activity 1.2.2: Organize regular information exchange events, conferences, workshops and seminars on large-scale renewable energy issues.			

Outcome 2 Appropriate policies, programmes and capacities are in place to reduce risk and attract investment in small-scale (on-grid and off-grid) renewables				
Planned Outputs *(as stated in Project Document and revised in Inception Report)*	**Planned Activities** *(as stated in Project Document and revised in Inception Report)*	**Actual Delivered Outputs at Midterm**	**Assessment of relevance**	**Assessment of effectiveness**
Output 2.1: Appropriate policies, programmes and regulations for on- and off-grid small-scale renewables designed and implemented.	Activity 2.1.1: Design and implement appropriate policies, programmes and regulations. The approach used will follow the UNDP DREI framework, as adjusted for small-scale renewables – this will inform the selection and design of appropriate policy derisking tools. In addition, the fiscal and financial effects of small-scale on-grid RE will be studied. Activity 2.1.2: Develop and recommend improvements for small-scale on-grid RE approval, permits and grid connection (addressing DREI permits risks): streamlined and simplified approval procedures for permits, grid-connection procedures and contracts with grid operator. Activity 2.1.3: Organise and implement training to build capacity of local officials and experts to develop policy interventions for small-scale renewable energy development.	• Analysis and draft amendments to key relevant legislation and regulations submitted to the Ministry of Energy, to address technical obstacles and introduce incentives to promote the uptake of small-scale RE, including: - Analysis of current regulatory framework, barriers, and key stimuli for small-scale RE - Analysis of world best practices on policies supporting small-scale RE - Amendments prepared to Tax Code, the Enterprise Code, The Code of Administrative Offences, Law of the Republic of Kazakhstan "On Electric Energy", The Law On Support of the Use of Renewable Energy Sources of the Republic of Kazakhstan, Law "On natural monopolies"	This output (and its underlying activity) correctly fit into the project strategy. Project Achievements described in the PIR and activities included into AWP 2020 and approved for implementation by the Project Board, confirm the correct choice of direction to achieve the target of outcome 2. It is seen through analysis when comparing planned activities and actual delivered outputs at Midterm. The difficulty is, in the best and fastest way to achieve results to date, it is practically impossible, given that the market for small	Midterm target levels-48,000 tones CO2eq direct emission (GEF objective indicator 1); increase in Installed capacity from wind and solar power (MW) (GEF objective indicator 2) - 1 MW (direct, small -scale sector only) are not achieved by now, nevertheless, the project has done a lot to advance towards these tasks. The GEF Tracking Tool for Climate Change will be also updated during the midterm evaluation. Review and analysis of recommendations of delivered outputs at Midterm revealed that the process of

		• Direct consultation by project staff to Ministry of Energy and Parliament on small-scale RE policies in over 20 meetings • Studies of social facilities: schools, hospitals, kindergartens in the Akmola and Turkestan regions, as well as in the city of Nur-Sultan, have been completed. Studies have shown the possibility of using renewable energy technologies (solar collectors / solar panels) in an urban environment in combination with energy efficiency measures at such facilities, taking into account the existing infrastructure and current energy tariffs. • Study tour to Finland (Nov.19) organized and implemented for six policymakers (members of Parliament, ministry representatives, etc.) on policies and practices to promote small-scale RE deployment. _____ **Work that is ongoing in 2020 but not completed by MTE**: • Preparation of an analysis / model on the basis of a distribution network for integration of small-scale renewable energy projects (in terms of power generation) with	renewable energy projects is at the initial stage, almost no legislative framework to support investors and incentives to reduce existing risks in the field of small-scale renewables, external deterrence factors have arisen, such as limitations due to the pandemic and present condition of decreasing economy effected by COVI and oil prices decreased. At this stage we believe that the activity and outputs satisfy the desire to achieve the intended targeted outcomes, but it is expected to be very difficult for the remaining time. It is recommended to extend the project for at least a year (for implementation of planned outputs 2.1 and 2.2. indicated in column 1 of the table).	generating the output is orderly, and timely, but not very effective in terms of achieving the expected MT target in terms of CO2 direct reductions and 1MW installation. According to existing practice it often happens that installations come later than Midterm Review is held, with a construction delay of 1-2 years, thus and at this moment lack of achievement of indicators is not unduly alarming. In order to achieve the required degree of supporting policy for small-scale renewable energy development project supported ME in the draft law, amending and supplementing certain legislative acts, relating to the development of small-scale RE projects. The strategy proposed was based on best

		the obligatory calculation of economic and social indicators, including reduced fuel consumption, reduced maintenance costs and CO2 emissions the study plan to be designed till September 2020. The tender has passed. In the process of signing a contract • Development of by-laws and support for changes in legislation regarding small-scale renewable energy projects- to be completed in June 2020 • Calculation of the potential for using renewable energy for the needs of hot water supply and heating at various civil engineering facilities for domestic needs, taking into account gender aspects. the study plan to be design till September 2020, waiting for contract signing with the subcontractor		world practices lessons, its quality was good, but amendments were rejected (postponed until better times) in the first round of GOK consideration (it is common practice to adopt a new). Consultations were actively going prior to quarantine due to pandemic COVID-19 including on policies, norms and mechanisms on supporting on-grid and off-grid small-scale RE projects. During the assessment of knowledge of small-scale applications in rural and urban areas we can say that the activity and output aligned with the targeted outcomes of the project: awareness raising media campaign is developed and going is good; a Road map concept, including a vision of communication strategy to promote

				RE and educational system for RES sector drafted, discussed and valued by key stakeholders (ME, Ministry of education, educational organizations, universities, training organizers, RE providers etc.) for short and midterm. The communication will reflect gender perspectives, channels and needs. The further work is needed on it to achieve the required effect by finalizing strategy and starting its implementation. The process of generating the output is orderly, and timely. The output actually contributes to the targeted outcome, but additional efforts are necessary in information of population, involving second-tier banks and business participants in the field of small-scale renewables and specific training and

				promote dialogues on different levels. Lessons of working with the Damu Foundation proved its major role in helping to incentive investment in SME, in our case it is a locomotive to provide financial support for small -scale renewable energy projects. This financial mechanism was approved by two protocols: Project Board and ME Protocol #1627-248 (2019) before being implemented by the project.
Output 2.2: Functioning MRV for the small-scale renewables sector	Activity 2.2.1: Review the current practice of international MRV systems in small-scale renewable energy and requirements for improving existing MRV practices in Kazakhstan. Activity 2.2.2: Propose appropriate financial and institutional arrangements for the MRV system for small-scale renewable sector in Kazakhstan. Activity 2.2.3: Establish an MRV system of international standard for regular measurement, reporting, and verification of relevant indicators for the small-scale renewable sector.	• Analysis of world best practices on MRV of renewable energy completed, including recommendations for Kazakhstan provided • In November 2019, the Project took part in regional seminars with participation of representatives of UNDP in several Central Asian countries on green financing and exchange of experience on	This output (and its underlying activity, planned, delivered at Midterm) is relevant to the project strategy. The project's design addresses scaling-up through the establishment of MRV for small-scale renewables, which will support the creation of	Part of work (related to 2.2.1,2.2.2) is generated in efficient, orderly, and timely manner. No less to be done, as mentioned in activities 2.2.3,2.2.4. The delivered outputs not so much contribute to the targeted outcome up to now, according to

	Activity 2.2.4: Design and deliver training materials to support operation of the MRV system.	functioning of the MRV systems _____ **Work that is ongoing in 2020 but not completed by MTE**: • Development of a methodology for designing MRV system including small projects in the country reporting system and, in the future, for inclusion in the emission trading system. The international consultant already starts working on the MRV methodology and it is planned to be design till August 2020, after will be provided to the Ministry of Ecology for further implementation	an enabling policy framework; and, the establishment of business models and financial mechanisms for the provision of financial incentives to small-scale developers. The output contributes to the targeted outcome: - preparation of required pool of specialists (with gender focus) for RE fast growing sector is ongoing; - the required methodologies will be developed by experienced international consultant to be used and valued by key stakeholders	the volume of work covered, but it is on track and believe to be effective due to chosen strategy and adaptive management. For domestic projects templates on MRV were approved by 2018 regulation, while for small-scale RES templates should be simplified and developed in the frames of work of international consultant.
Output 2.3: Media campaigns and training for suppliers/developers to promote and market small-scale renewables in their target markets.	Activity 2.3.1: Consult with stakeholders and assess the types of intervention required to achieve optimum awareness for on and off-grid small-scale developments. Activity 2.3.2: Develop a media plan including the scope of the media campaign; interventions required; and the human, financial and technical resources needed to support implementation of the plan.	• The project took part in 2 major events (RES Summits in June and demonstration tour for potential investors in September 2019) on the topic of co-financing of small-scale renewables, which resulted in adoption of charters which noted the need and importance	This output (and its underlying activity, planned, delivered at Midterm) is relevant to the project strategy. It corresponds with output 2.1 directly and is aligned with the	The level of quality of this output is assessed as good. It is valued by key stakeholders, as mentioned above. The consultation with stakeholders is going efficient, orderly, and

	Activity 2.3.3: Plan and execute awareness raising interventions in on- and offline media as per developed media plan. Activity 2.3.4: Facilitate information exchange via organisation of targeted training and workshops including inter alia for small-scale equipment suppliers.	of developing the sector of small-scale renewable energy projects in the country. • Offline and online trainings (webinars) were conducted to rise a capacity of local communities/entrepreneurs and stakeholders. • Participation in the Power Expo Kazakhstan exhibition and provision of trainings and explanations on the sector of small-scale renewable energy projects. • A roadmap concept has been prepared (2019) for creating training, advanced training and retraining system for personnel in the field of renewable energy development (containing measures, mechanisms and deadlines) and discussed in Jan.2020 at a seminar in Almaty with universities and experts, comments and suggestions were presented The Roadmap is currently being finalized, expected in Sept.-Oct. 2020 • Interaction with the media in order to inform the public about large and small RES – systematically ongoing process, interaction with media prior webinars and seminars.	targeted outcome 2 of the project. The reviewed activities and output are the best ways to achieve the targeted outcome 2.	timely despite the impact of pandemic-related processes in the country. To improve the knowledge of small-scale applications in rural and urban areas it is necessary to make a pilot project in small-scale RE, the effect will be enhanced when replication of such an experience is possible. Serious articles on regular basis organized by the project stakeholders published in internet and mass media on this topic confirms the high level of interest of specific audience and well developed awareness raising media campaign for more broad audience, involvement of women into this field is desired. The communications strategy should take into account new challenges when finalizing Road Map.

		Production of publications, promotion through social networks, conducting large-scale PR companies, organizing information campaigns, flash mobs; draft of PR strategy is under discussion with PR department of UNDP, promotions of the Project activity as well as RES development will be continued. • A workshop /meeting with the Women's Energy Club, Kazenergy Association, USAID and other partners to jointly identify areas that require direct improvement in gender indicators conducted in Apr.2020 (with about 30% were women) _____ **Work that is ongoing in 2020 but not completed by MTE:** • Events on information campaigns with women's associations and NGOs to disseminate information on small-scale renewable energy throughout the country, including remote rural areas is planning with an international gender expert Valentin Bodrug		Preparation of required pool of specialists (with gender focus) for RE fast growing sector is well organized and is ongoing. The output actually contributes to the targeted outcome2.
Output 2.4: Functioning and enforced quality	Activity 2.4.1: Hold consultations with producers, sellers, buyers, users and/or regulators of small-scale renewable energy	- Draft Roadmap prepared on quality assurance infrastructure	This output (and its underlying activity,	The review of delivered outputs

control system in place for small-scale technology. Under this output, the project will address the identified DREI hardware risks (and indirectly the labour risks), the project will carry out awareness raising activities focused on building the profile of small-scale renewables and reliable suppliers and designers in the sector.	equipment and facilitate a dialogue on technology standards. Activity 2.4.2: Develop proposals for small-scale technology standards, in consultation with the identified stakeholders Activity 2.4.3: Establish small-scale technology platform, which includes information on small-scale technologies, quality and performance standards. This platform will be an online web-based platform that allows purchasers to identify suppliers and equipment that meets minimum quality and performance standards, and provides information to purchasers to assist in their decision-making processes. Activity 2.4.4: Develop appropriate institutional and organizational arrangements for monitoring and enforcing quality standards. The approach to be taken will be integrated with the financial incentives that are developed and implemented in component 3, so that, for instance, only approved products and suppliers are eligible to receive the incentives. Activity 2.4.5: Organize and implement relevant training to develop skills for support of quality control system.	for RE sources and minimization of current risks for investment in renewable energy sources **Work that is ongoing in 2020 but not completed by MTE:** • Development of standards for renewable energy technologies. Minimum standards were suggested by the international consultant, currently the Project in a process of tendering of possible subcontractor to implement it till the end of 2020. • Development of recommendations for building codes on minimum requirement - use of renewable energy technologies in construction -The recommendations plan to be developed till September 2020. Tender held, subsequent - according to UNDP procedures. • Development of an online calculator for various small-scale renewable energy technologies for use by all interested parties, including housewives – the online calculator plan to be developed till September 2020. • Organization and conduction of technical training (study tour) for representatives of technical	planned, delivered at Midterm) is relevant to the project strategy. The reviewed planned activities seem to achieve the targeted outcome 2. The delivered outputs emphasize commitment to outcome 2	indicates that the work was started, orderly, and timely. The delivered output (draft Road Map on quality assurance infrastructure and minimization of current risks for investment) when be finalizing should make more investigation on gaps and new challenges. The time of development of recommendations for building codes on minimum requirement - use of renewable energy technologies in construction could be postponed till the end of 2020 due to recent conditions and effects of COVID-19. An absolute plus is that technical standards related to renewable energy technology will be chosen for further implementation till the end of 2020.

		regulation units for skills development in order to support a quality control system, taking into account gender balance – Due to pandemic of COVID-19, the study tour postponed till 2021		The delivered output does not so much contribute to the targeted outcome up to now (difficult to assess its effectiveness at this stage), according to the volume of work covered, but it is on track and believe to be effective due to chosen strategy and adaptive management.

Outcome 3 Sustainable business models and financial mechanisms to support their implementation in place for investment in small-scale urban and rural RES solutions				
Planned Outputs *(as stated in Project Document and revised in Inception Report)*	**Planned Activities** *(as stated in Project Document and revised in Inception Report)*	**Actual Delivered Outputs at Midterm**	**Assessment of relevance**	**Assessment of effectiveness**
Output 3.1: Financial and business models for small-scale renewables are developed and piloted	Activity 3.1.1: Review international practices on financial and business models for support of small-scale renewable energy projects. Activity 3.1.2: Analyse existing markets for small-scale renewables to assess opportunities and gaps for support of such projects Activity 3.1.3: Design appropriate business and financial models for small-scale renewable energy developments tailored for existing markets in Kazakhstan. Business models to be elaborated include energy performance contracting models (RESCO models), where these might work effectively such as in heating for clinics, hotels and restaurants as well as *loan guarantee mechanisms, interest rate subsidy mechanisms and a possible revolving fund mechanism* Activity 3.1.4: Develop standard supporting documents, including legal documents, for mainstreaming small-scale renewables developments. Depending on the business models that are most viable, as identified under Activity 3.1.3, standard supporting documents will be developed and will include standard contracts	Business and financial models are designed for small-scale RES. Project team assists businesses in business plans preparation. Ministry of Energy approved a concept proposed by the Project for support of small-scale RE projects.	This output, planned and ongoing activities are relevant to the project strategy, aligned with the targeted outcome 3 of the project.	Midterm level target: Business and financial models are designed for key market sectors for testing in selected pilot projects is achieved by developed financial and business models for small-scale RES in urban and rural sectors The level of quality of this output could be assessed when it will be implemented or tested in practice, recently it is on starting point (readiness for execution). It is valued by key stakeholders: approved by key stakeholders and PB and ME in particular.

	including for *power purchase agreements*, design documents and permitting applications.			The process of generating the output is efficient, orderly, and timely and it actually contribute to the targeted outcome 3, using Fund DAMU, which has established itself in Kazakhstan- a financial mechanism is designed and suggested to be implemented through SME's support scheme and first time in Kazakhstan «green bonds».
Output 3.2: Appropriate financial instruments created and piloted	Activity 3.2.1: Arrange and hold consultations with international financial institutions, local financial institutions, banks, development finance institutions, institutional investors, and others to identify and refine plans to develop financial instruments. The analysis will follow the DREI small-scale framework to inform the selection of appropriate financial instruments. This activity includes in-depth discussions with DAMU, the JSC "Fund for Financial Support of Agriculture" and JSC "Agrarian Credit Corporation" to tailor the support provided by these organizations to stimulate small-scale renewables in urban and rural areas.	• Financial mechanisms for support of small-scale RE investment via interest subsidy (10% loan interest and 25% loan principal) developed in conjunction with national enterprise fund Damu • Financial mechanism on green bonds designed and suggested for implementation through SME support scheme. Green bonds issued in August 2020. by Damu with support of UNDP	This output (and its underlying activity, planned, delivered at Midterm) is relevant to the project strategy. The reviewed planned activities and output aligned with the targeted outcome 3outcome3 of the project ESMP relevance: Creating the interest rate subsidy mechanism for small-scale renewable investments and providing technical support to the Damu	Midterm target: Financial derisking instruments for small-scale on- and off-grid projects are created in consultation with the stakeholders and with consideration of the best international practices is achieved. Midterm target related to small-scale projects of total installed capacity of 1MW addressing various technologies and sectors (using business / financial models from

		• The rules for financial mechanism developed and agreed. • Protocol of minutes at Vice-Minister of ME (#16-27-248, 26th of July 2019) regarding to discussing proposed a financial instrument on subsidy for small scale RE projects recommended to proceed further and to launch pilot stage of the mechanism; and to consider necessity to find out other sources of subsidy after the pilot stage will be completed	Foundation and second tier banks per se have no risks of adverse social or environmental impacts according to ESMP assessment done in 2019..	3.1 and 3.2) implemented with support from the project is not achieved by now because it is not piloted. The reason is that the preparation and mostly approval took a long time in the frames of a lot of consultations between key stakeholders provided. Because this instrument is new and risks were discussed and considered.
	Activity 3.2.2: Building on the policy-focused work of Output 2.1, support the Ministry of Energy and the Ministry of Agriculture in the creation of the enabling framework to provide market-enabling incentives for small-scale developers. The project team will develop a set of recommendations which includes *proposing financial instruments* for approval by the Government.	• Protocol on partnership, including detailed assignment of obligations and responsibilities, between UNDP and Damu developed for implementation of *interest rate subsidy mechanism*, with endorsement by the Ministry of Energy was signed, Agreement and other supporting documents developed, discussed as required and signed.		The process of generating the output is orderly, although not timely in terms of meeting the midterm target. Its piloting has some uncertainties in time due to limitations due to quarantine COVID-19, quarantine not yet cleared, effecting all processes including Midterm Review Assessment.
	Activity 3.2.3: Develop eligibility criteria associated with the financial instrument, including the project type, to consider the different economics of the projects and their relevant technical parameters, and environmental and social safeguarding.	• Pool of potential projects to be supported developed, with at least 16 eligible projects identified by MTE (10 projects were		

	Activity 3.2.4: Facilitate selection, adoption, capitalization, and operation of financial incentives and appropriate financial support schemes for small-scale renewable energy developments. Activity 3.2.5: Monitor the implementation of the financial mechanism under output 3.4, including environmental performance and compliance with agreed environmental and social safeguards. Under this activity monitoring data will be used to prepare a short case study on small-scale DREI implementation and lessons learnt for communication through the UNDP DREI corporate platform, and for sharing with related regional programmes where relevant.	mentioned in PIR, then 6 projects were discussed and added to the list) • MTA is organized and launched (international and national experts started to work). The work is underway with Damu, a search is underway for investors who are willing to participate and redeem green bonds.		
Output 3.3: Capacity of local financial institutions to support small-scale renewables enhanced	Activity 3.3.1: Carry out a training needs assessment for local banks and other financial institutions to determine priorities for capacity building and training. Activity 3.3.2. Develop and deliver training for at *least 3 local financial* institutions. Training will include technical and financial aspects of small-scale renewables, and environmental and social safeguards.	• The project conducted capacity building training seminars and webinars for second-tier banks and small and medium-sized businesses to facilitate implementation of small-scale renewable energy projects taking into account gender balance, including: ➢ On issues of developing, attracting financing and green subsidies for renewable energy and energy saving projects (Almaty, October 2019)	This output (and its underlying activity, planned, delivered at Midterm) is relevant to the project strategy. The reviewed planned activities and output aligned with the targeted outcome 3 of the project Changing the project strategy from conduction seminars to webinars due to COVI-	The process of generating the output is constructed on the same principles: to be orderly, timely and efficient, following the approaches used for Capacity Building training activities mentioned above (for outcomes 1 and 2). The delivered outputs are done with good quality, nevertheless more work should be

		➢ On implementation of small-scale renewable energy projects, through financial mechanisms, meetings, consultations with second-tier banks (February, September 2019) ➢ On support measures for small and medium-sized businesses on implementation of renewable energy and energy efficiency projects - Regional Energy Forum - "Karaganda Energy Forum - 2019" (Karaganda, December 2019) ➢ Master class (training) on development of investment projects to improve energy efficiency and development of renewable energy (Karaganda, December 2019) ➢ Consultation session "Overview of Kazakhstan's transition to green economy by increasing the share of renewable energy in the heat supply sector" (Nur-Sultan, September 2019) ➢ Webinar on financial mechanisms for small RE projects (28 April,2020) together with Kazakhinvest (140 participants)	2019 quarantine in Kazakhstan since mid of March 2020 has place.	done to involve more specific stakeholders. Thus, it is planned to conduct similar webinars with Damu for the whole of Kazakhstan and second-tier bank employees. The output contributes in general to the targeted outcome 3, the effective initiated process confirms the correct path.

Output 3.4: Investments mobilised for small-scale renewable energy projects. Under this output, the project will assist the Ministry of Energy and Ministry of Agriculture, and financial partners with practical strategies to address first-mover risks small-scale renewable energy projects. In addition, some pilot projects may be developed in niche markets such as organic urban farming to demonstrate both technical and financial potential.	Activity 3.4.1: Financial engagement with small-scale renewable energy projects according to the criteria of the established financial mechanism (under output 3.2)	[No results yet – this will come later in the project]		

2. Assessment of Gender-Related Activity and Benefits

Gender indicators	Targets	Gender-related activity and results at midterm	Assessment of effectiveness
from Annex Q of Project Document and Annex 7 of Inception Report			
Objective indicator 7: Number of direct project beneficiaries (UNDP mandatory indicator 3)	28,500 people, 50% women	• Project has supported the improvement of the RE auctions efficiency through organization of 5 regional workshops (July-September 2019) to raise awareness and clarify the procedures of auctions in 3 regions of Kazakhstan, including site visit for pilot project auction. More than 150 potential investors, representatives of municipal authorities with approx. 40 % represented by women participated in the workshops and had an opportunity to clarify practical questions on auction system from the ME, financial settlement center of RE, UNDP, USAID. • Two study tours have been organized: one to Finland (April 24-28, 2019) for 6 policy-making level representatives of the ME, the Parliament (with 33% women representation) another one to Denmark (November 18-22,2019) for 10 policy-making level representatives of the ME, the Parliament, RE association, Utilities company to get acquainted with the best practices in the sphere of RE regulations and policies, including auctions mechanism implementation experiences (3 women representation); • Following the recommendations of the implemented gender analysis, the Project focused on the development of entrepreneurial initiatives among women to introduce new RE technologies, on the provision of the access to «affordable» loan funds for «green» businesses. Thus, women's entrepreneurship supporting measures have been incorporated into evaluation process within the suggested financial scheme for the RE small-scale projects funding. Moreover, projects assessment scale (additional assessment score for the projects with women participation in general and higher score - with women in senior positions) incentivizes appliers for the funding to be represented by women. • On 28 April 2020, a webinar was held with 140 participants, including 30% women to promote the financial mechanism for small scale RE projects realization, online [output 2)	The target of 30-50% women participated in Capacity Building events and knowledge improvement, training (for big and small projects) is implemented. The capacity building opportunities incorporated in the Project (all three components) will ensure female participation, e.g. training on large-scale RES, establishment of RES technology MRV where users will be trained on data collection and analysis; training and awareness-raising for commercial banks; etc. The follows targets reflecting gender mainstreaming under components 2 and 3: • Component 2 "Renewable Energy for Life: Policy Derisking": at least 50% of beneficiaries for training and capacity building related to RES are women and/or women-headed organizations (i.e. Associations of Apartment Owners, SMEs, farming communities);
Number of women representing various agencies who receive training and consultation via this activity	20 women representing at least three agencies, including at least three on study tour		
Knowledge of small-scale applications in rural and urban areas	At least 50% of beneficiaries for training and capacity building related to RES are women and/or women-headed organizations (i.e. Associations of Apartment Owners, SMEs, farming communities)		
Capacity of the local financial institutions to support small-scale projects	At least one dedicated financial product is developed for support of small-scale RES		

			• Component 3 “Renewable Energy for Life: Financial Derisking and Financial Incentives” at least 50% of beneficiaries for project-supported “RES for life” applications in cities and rural areas will be women. The Project also addresses gender aspects in the following ways: 1) a gender marker is used as per UNDP guidance; 2) gender issues are incorporated in the Project results framework, including gender-sensitive actions, indicators, targets and budget; 3) the Project will monitor the share of women and men as direct beneficiaries during project’s implementation.

Annex E. Evaluation Report Clearance Form

Evaluation Report Clearance Form
For the Mid-Term Evaluation Report of the UNDP-GEF
De-risking Renewable Energy Investment project
(PIMS 5490)

Midterm Review Report Reviewed and Cleared By:

Commissioning Unit

Name: Abduvakkos Abdurahmanov, Evaluation manager

Signature: Abduvakkos Abdurahmanov Date: 24-Feb-2021

UNDP-GEF Regional Technical Advisor

Name: Manuel Soriano Regional Technical Advisor

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