
OUTCOME EVALUATION IN THE PRACTICE AREA OF ENERGY AND ENVIRONMENT

Final report

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Disclaimer

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Abbreviations

AAO	Association of Apartment Owners
APR	Annual Progress Report
BMC	Building Management Company (means various forms of companies operating on building management market)
CCHCALM	Committee for Construction, Housing and Communal Affairs, and Land Management
CFL	containing compact fluorescent lamps
CESP	Comprehensive Energy Saving Plan
CRNMPC	Committee on Regulation of Natural Monopolies and Protection of Competition
CAST	City of Almaty Sustainable Transport (UNDP/GEF Project)
CIS	Commonwealth of Independent States
CHP	Combined Heat and Power
CO	UNDP Country Office
CPAP	Country Programme Action Plan
CP	Country Programme
CTA	Chief Technical Adviser
CO₂	Carbon dioxide
DH	District Heating
DAC	Development Assistance Committee (OECD)
EBRD	European Bank for Reconstruction and Development
ECA	Europe and Central Asia
EADB	Eurasian Development Bank
EE	Energy Efficiency
EPC	Energy Performance Contract
ESCO	Energy Service Company
EEDCRS	Energy efficient design and construction in residential sector (UNDP/GEF project)
ETC	Emission trading Scheme
EEL	Promotion of Energy-Efficient Lighting in Kazakhstan (UNDP/GEF project)
GEF	Global Environment Facility
GHG	Greenhouse Gas
GCF	Green Climate Fund
GoK	Government of Kazakhstan
GDP	Gross Domestic Product
GG&GB	Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana “Green Bridge” Initiative (UNDP CO Kazakhstan Project)
HOB	Heat Only Boiler
HMBMSM in Small Cities	Development and probation of the Housing-Municipal Building Maintenance Services’ Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection (UNDP CO Kazakhstan Project)
IEA	International Energy Agency
JSC	Joint Stock Company
KII	Key Informant Interview
KZT	Kazakhstan tenge
LED	light-emitting diodes
MDG	UN Millennium Development Goals
MEDT	Ministry of Economic Development and Trade
MEWR	Ministry of Environment and Water Resources (until August 2014)
MEMR	Ministry of Energy
MID	Ministry of Investments and Development
MMC	Municipal Management Companies
M&E	Monitoring and Evaluation
MOG	Ministry of Oil and Gas
MoU	Memorandum of Understanding
MHHWS	Removing barriers to energy efficiency in municipal heat and hot water supply (UNDP/GEF project)

MTR	Midterm review
NAMA	National Appropriate Mitigation Actions
NMT	Non-motorized transport
NGO	Nongovernmental Organization
OECD	Organization for Economic Cooperation and Development
PM	Project manager
PIR	Project Implementation Report
RES	Renewable energy sources
SAC	Strategic Advisory Council (SAC),
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for Reconstruction and Development
WB	World Bank
Wt.	Watt

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EXECUTIVE SUMMARY

Kazakhstan is currently one of the dynamically developing states in Central Asia but ranks among the top ten of the most energy-intensive economies in the world. To be able to mitigate greenhouse gas (GHG) emissions the Government of Kazakhstan has embarked on an ambitious reform agenda and UNDP has been one of its main partners in pursuing the achievement of its objectives.

According to the Evaluation Plan of UNDP Kazakhstan for 2010-2015, an outcome evaluation is to be conducted to assess the impact of UNDP's development assistance for Outcome 3 in the Practice Area of *Environment and Climate Change* of its *Country Programme Action Plan 2010-2015*, namely: *"The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies."* The current evaluation was commissioned to address this task covering the following 7 projects:

1. *Removing barriers to energy efficiency in municipal heat and hot water supply;*
2. *Energy efficient design and construction in residential sector;*
3. *Development and probation of the Housing-Municipal Building Maintenance Services' Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection;*
4. *Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25;*
5. *Promotion of Energy-Efficient Lighting in Kazakhstan;*
6. *City of Almaty Sustainable Transport; and*
7. *Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana "Green Bridge" Initiative.*

The portfolio was highly relevant in terms United Nations Development Assistance Framework for Kazakhstan for 2010-2015, falling under Outcome 2, namely: *"By 2015, communities, national and local authorities use more effective mechanisms and partnerships that promote environmental sustainability and enable them to prepare, respond and recover from natural and man-made disasters"*.

Relevance: The evaluation found that the portfolio was highly relevant also in terms of being in line with the Government priorities specified in many country strategies and papers, e.g. *National Strategy of Kazakhstan 2030* (2008); *National Strategy of Kazakhstan 2050, also called "2050 Strategy"* (2012); *Nurly Zhol Programme* (2014), and *100 Steps for the implementation of 5 institutional reforms* (20.05.2015). Moreover, UNDP has played a key role in drafting some of these policy papers, including: *the Energy Saving Program-2020 (Program 2020)* with the corresponding *Comprehensive Energy Saving Plan for 2012-2015*, *National Program for Modernization (NPM) for Residential and Communal Sector for 2011-2020* (transformed into the *"Program on the development of the regions until 2020"* since 2014). the *Concept for Transition of the Republic of Kazakhstan to Green Economy, etc.*

Effectiveness: There were significant achievements for the Outcome in the part of energy efficiency in the residential and public sectors both in terms of policy and demonstration projects. The achievements surpassed most of the targets from the UNDP's Country Programme Action Plan 2010-2015, e.g. related to the reduction in GHG emissions, investment leveraged for the pilot projects. etc. The policies and regulations drafted with the support of the projects were in their vast majority adopted by the Government: this is true in particular in relation to incorporating EE heating and hot water supply in the modernization of housing stock (where the project was instrumental in effectuating the respective Government Program), building codes (where many regulations developed by the project were adopted) and Energy Efficiency in lighting (where the project had key contribution to the Government "Energy Efficiency-2020" program). The project was instrumental in modernizing the systems of energy audit and of quality control for energy efficient lighting products (latter is in progress). The numerous pilots completed by the project demonstrated the effectiveness of energy efficient solutions and played a key

part in building the knowledge base and awareness raising of the government, businesses and citizens. In a number of areas, the project played a pioneering role with the pilots (*e.g. Energy Service Company (ESCO) model, “green” buildings, and the model for modernization of heating supply for small cities*). Within the project in Almaty on energy efficiency in transport, the project delivered a number of important results so far, especially in the part of the Sustainable transport strategy for Almaty city 2013-2013 and transport model for municipality (with more planned during the 18 months’ extension). Some of the challenges experienced by this project were related predominantly to its overly complex design: the project is expected to deliver the remaining modified planned results at its completion mid-2017.

The project contributed to the policy on promoting the use of renewable energy sources through the *Concept note on transitioning to green economy*. Apart for 2 small pilots with solar panels, no separate project was implemented and hence the target from the Country Programme and Action Plan is not met, but that was well justified as the state policy on subsidized heating tariffs (with no feed in tariffs for renewable energy until recently) did not ensure an environment which would be economically attractive for promoting renewable energy -oriented businesses

Efficiency: The portfolio benefitted from the high quality and hands on project management and portfolio level advice from the UNDP county office and the UNDP Regional Center (in Bratislava and then in Istanbul). UNDP has been very successful in resource mobilization: overall various stakeholder provided 196 Mil USD in co-financing. The large levels of co-financing received is a testament of the appreciation of the role and work done by the team by various stakeholders. Successful synergies were built with other projects, implemented by UN agencies and others (*e.g. EBRD and USAID*).

Sustainability. The fact that the Government and UNDP had 2 of the earliest cases of *tied grants (with the Government funding 80 percent of the projects costs)* highlights the finding that UNDP is a partner of choice for the Government for this portfolio. The national Government provided approximately 111.85 mil USD and the subregional governments – 61.0 mil USD (almost 173 mil USD in total) to the portfolio as co-financing. UNDP has forged successful and viable partnerships with international development partners (EBRD in particular), local governments, businesses and NGOs. In many areas (*e.g. in training, audits*). UNDP has helped to establish sustainable mechanisms of training and certification. The viable partnerships, along with long term view in programming and a major emphasis on policy level reforms together provide for a solid ground for the sustainability of the results achieved. The work done under this Country Programme Action Plan has laid an impressive foundation for the next one.

Recommendations. With only small adjustments UNDP CO will be even more effective and efficient in the next Country Programme Action Plan (2016-2021).

1) Building partnerships.

- Resource mobilization becomes even more important than before. And hence there will be a need to be even more proactive in partnership building. This applies to traditional funding agencies but also, to other UN agencies, including those that do not have presence in the country (UNIDO, UNEP, etc.) as well as other organizations, to leverage the committed sources of funding as well as promote the ideas of the project. This happens most of the time, but needs to happen more

2) Respond to SDG positioning by improving monitoring and learning practices

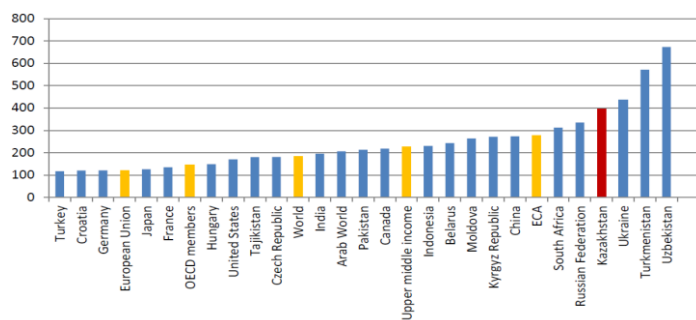
- Partnerships have an even more emphasis now given the highlighted role in the SDGs. SDGs should be used for repositioning of the CO work in general and in this portfolio in particular. *As an example UNDP is well positioned to support developing a coherent set of mainstreaming measures for the implementation of the Concept on transitioning to Green Economy (e.g. through a multi-stakeholder forum for a green economy, green screening of public expenditure, green accounting, and environmental fiscal reform);*

- GEF funded projects have an emphasis on energy and environment related indicators. But UNDP, given its human development mandate can and should include social ones (*e.g. related to access to and affordability of the services for the poor, as well job creation*) to capture social and human development aspects through project level indicators. UNDP Istanbul Regional Hub is now promoting this practice and the one of the projects in the portfolio under this evaluation included 1 indicator on green jobs already. This practice should be applied across all the projects in the portfolio; and
 - The pilots need to be evaluated routinely to capture not only the energy related outcomes, but also institutional, social, employment, etc. This is happening in some of the projects and not so much in others. It is recommended that this becomes a routine.
- 3) *Have a more systematic approach to promoting gender balance and to considering special policy issues for social groups***
- Identify aspect of the new policies from which the various social groups (including women) could be benefit more and enhance if justified; and
 - Identify aspects of the new policies and project strategy that might have unexpected negative impacts on vulnerable groups and address
- 4) *Improve the effective monitoring and planning of the projects***
- The project boards/stakeholder committees should become truly effective platforms to mitigate the emerging risks in the projects, which are used to discuss also controversial issue;
 - The projects should have effective project planning tools (apart from the Annual workplans) in the form of time bound roadmaps, monitoring plans for various components; and
 - The processes for hiring project managers need to be expedited so that not to lose valuable time at the start of the projects
- 5) *Use every possible avenue to promote the ideas of the project building support groups***
- New project managers should receive some briefings/training on effective advocacy and communication. The successful examples should be shared across the projects better.
- 6) *Improve CPAP indicators***
- It is recommended that the CPAP indicators as well as project level indicators are harmonized to allow for aggregation. It should also be assured that there are relevant baselines and targets
- 7) *Thematic Recommendations***
- *Given the new impetus towards greener economy, environmental fiscal reform is needed* to shift incentives from ‘brown’ to green economic activities, and towards inclusive approaches; this will require specialized inter-agency expertise. Subsidies and other incentives will need a thorough review, notably in oil and gas, mining and agriculture. This is an area where UNDP could be very effective; and
 - *Financial barriers.* The shortage of readily available and affordable debt financing is a key barrier to the uptake of energy efficiency projects in public facilities. This could be an area for UNDP to engage in.

1 INTRODUCTION

1.1 Background

Figure 1: Energy use (kg oil equivalent) per US\$ 1,000 GDP – 2009 (constant 2005 PPP)

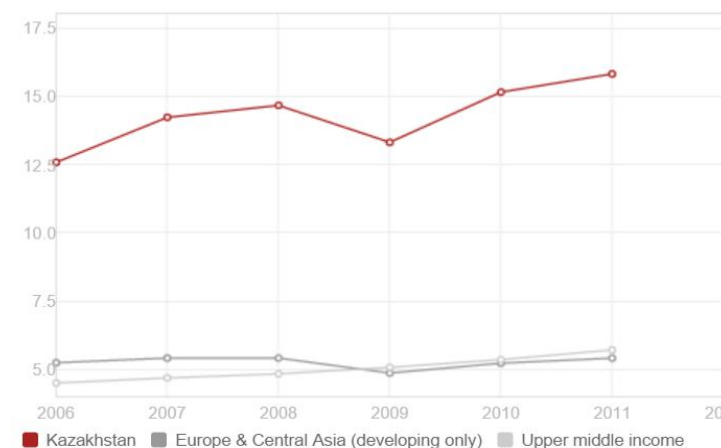


Source: WB (2013)

growth in the past decade has led to a sharp upswing in energy and electricity consumption. The International Energy Agency (IEA) projects Kazakhstan's energy demand to increase at least 50 percent by 2035⁴.

CO2 emissions (metric tons per capita) were almost 3 times higher than the average for ECA and other middle income countries in 2011 (see Figure 2).⁵ To be able to mitigate GHG emissions the Government of Kazakhstan (GoK hereafter) has embarked on an ambitious agenda of increasing energy efficiency (EE hereafter). The implementation of EE policy has become one of the main tools of industrial upgrading, and modernizing housing and communal services and transport sectors. To reduce

Figure 2: CO2 emissions (metric tons per capita)



<http://data.worldbank.org>

Kazakhstan is currently one of the dynamically developing states in its region with Real GDP growth rate at 4.3 percent in 2014¹, but ranks among the top ten of the most energy-intensive economies in the world. It uses three times as much energy per unit of GDP (purchasing power parity-based) compared to the Organization for Economic Cooperation and Development (OECD) average.² Mirroring the high energy intensity, the country is the fourth most carbon-intensive country in the world (see Figure 1)³. Kazakhstan's rapid economic

dependence on fossil the new policy initiatives support the renewable energy sector. Government has set several priorities to adopt a transition of Republic of Kazakhstan to a "green economy". The production of green energy is expected to benefit resource deficient regions of the country, such as south-eastern Kazakhstan as well as create employment opportunities for the population.

UNDP has been one of the main partners of the GoK in pursuing the achievement of its objectives.

¹ <http://www.worldbank.org/en/publication/global-economic-prospects/data?region=ECA>

² <http://data.worldbank.org>

³ WB (2013): "Project Appraisal Document on a Proposed grant amount of US\$ 21,763,000 to the Republic of Kazakhstan for an energy efficiency project", May 17, 2013

⁴ <https://www.iea.org/publications/freepublications/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf>

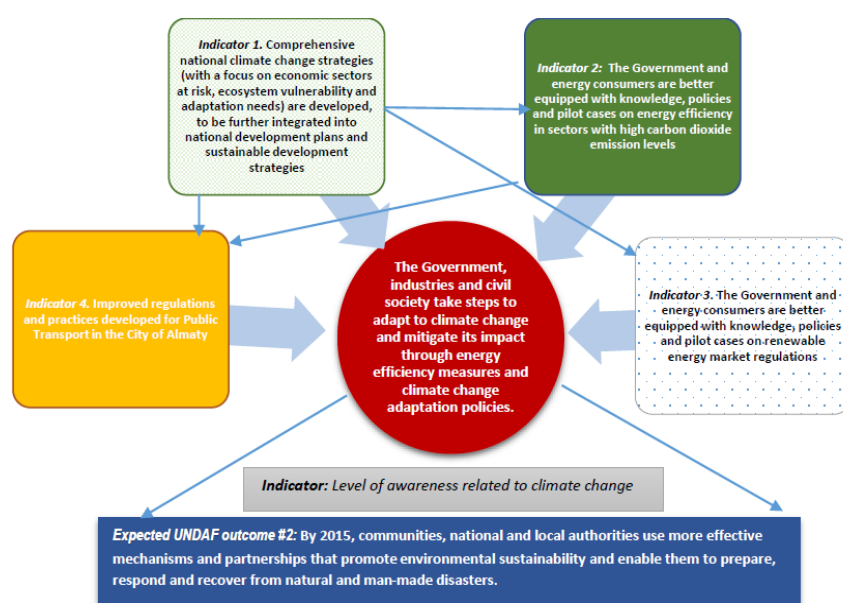
⁵ <http://data.worldbank.org/indicator/EN.ATM.CO2E.PC/countries/KZ-7E-XT?display=graph>

According to the Evaluation Plan of UNDP Kazakhstan for 2010-2015, an outcome evaluation is to be conducted to assess the impact of UNDP's development assistance for **Outcome 3 in the Practice Area of Environment and Climate Change**: “The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies” (see the Country Programme Action Plan (CPAP) and the Country Programme Document (CPD) for Kazakhstan for 2010-2015).

UNDP Outcome 3 is also an integral part of Environment Sustainability, which is one of three pillars under the United Nations Development Assistance Framework (UNDAF) in Kazakhstan for 2010-2015 with the following expected outcome: “By 2015, communities, national, and local authorities use more effective mechanisms and partnerships that promote environmental sustainability and enable them to prepare, respond and recover from natural and man disasters.” UNDP supports the GoK in development and implementation of the comprehensive climate change adaptation and mitigation strategies that would enable the Government to move towards the Green Economy and utilize the potential of the state Nurly Zhol Programme.

1.2. Objective and scope of work

Figure 3: Output & Outcome linkages, Outcome 3, CPAP 2010-2015



UNDP Country Office (CO) Kazakhstan (further referred to as UNDP) commissioned this outcome evaluation with the **overall objective** to assess how UNDP's environment programme results contributed, together with the assistance of partners, to a change in development conditions. The purpose of the proposed evaluation is to measure UNDP's contribution to the outcome outlined above with a view to fine-tune the current UNDP environment programme, providing the most optimal

portfolio balance and structure for the next programmatic cycle. More specifically, the OE is expected to:

- evaluate the performance during 2010-2015 against the expected results in Outcome 3, showing what has been and what has not been achieved and what are the reasons for success or underperformance;
- to receive an unbiased analysis of the effort-time ratio;
- to help UNDP to draw the lessons learnt; and
- recommend improvements for use in the next round of programmatic activities, with a particular focus on the role of UNDP in assisting Kazakhstan in its development agenda, and thus inform a more efficient strategy for next UNDAF 2016-2020.

The outcome evaluation is conducted in 2015 towards the end of current programme cycle of 2010-2015 with a view to contributing to better and more effective performance in the next 2016-2020

programme. The evaluation covers UNDP outcome 3 (Table 1), with 7 projects, under current CPAP period 2010-2015. **Error! Reference source not found.** describes the Output and Outcome linkages for this Outcome from CPAP 2010-2015

Table 1: Projects to be evaluated under the Outcome

Outcome 3: The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies		
Projects to be covered under those Outcome Evaluation		Status
1.	Removing barriers to energy efficiency in municipal heat and hot water supply (MHHWS) ⁶	2007- 2013 (completed)
2.	Energy efficient design and construction in residential sector (EEDCRS)	2010-2015 (ongoing, the completion expected 12.2105)
3.	Development and probation of the Housing-Municipal Building Maintenance Services' Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection (HMBMSM in Small Cities)	2013-2014 (completed)
4.	Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25 (School25 project)	2013 (completed)
5.	Promotion of Energy-Efficient Lighting in Kazakhstan (EEL)	2012-2016 (ongoing)
6.	City of Almaty Sustainable Transport (CAST)	2011-2015 (ongoing)
7.	Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana "Green Bridge" Initiative (GG&GB)	2012-2013 (completed)

Annex 2: Brief Information on the projectsdescribes these projects in detail: with objectives, components and funding sources. 4 of the project (*MHHWS*, *EEL*, *CAST* and *EEDCRS*) are mainly funded with a grant from the Global Environmental Facility (GEF hereafter); 2 of the projects were funded mainly by the GoK under the "tied grant" modality (*HMBMSM in Small Cities* and *GG&GB*) and 1 of the projects (School NO 25) was funded mainly by the European Bank for Reconstruction and Development (EBRD).

1.3. Evaluation Framework

The evaluation is organized according to the standard (UNDP, OECD DAC) set of evaluation criteria. While assessing performance, the evaluation identifies various factors that can explain the performance, possible areas of partnerships with other national institutions, NGOs, UN Agencies, private sector and development partners. In particular, the evaluation will cover the issues described in Table 2

Table 2: Evaluation criteria and questions

Criteria	Evaluation issues
Relevance	• <i>Relevance for the Government Programs</i>: Extent to which UNDP support is relevant to Kazakhstan's low carbon development agenda and environmental priorities as articulated in the National Strategy of Kazakhstan 2030, Knurly Zhol Programme, and sectoral development programs of relevant line ministries; • <i>UN documents</i>: Relevance of programme and project design in addressing the identified environmental priority needs in CPAP 2010-2015; and UNDAF 2010-2015 • <i>Strategic Positioning of UNDP</i>: Examine the distinctive characteristics and features of UNDP's environment programme and how it has shaped UNDP's relevance as a reliable partner. UNDP's position will be analyzed in terms of communication, i.e. how UNDP articulates the need for its presence in the country, how UNDP meets partner needs by offering specific, tailored services to these

⁶ Abbreviations are those of the author of this report

Criteria	Evaluation issues
	partners, how UNDP mobilizes resources for the benefit of the partners. A specific attention should be given to the UNDP's comparative advantages over other development organizations in Kazakhstan. • Partnership strategy: Ascertain whether UNDP's partnership strategy has been appropriate and effective. Specific attention should be given to how new partnerships were formed, level of stakeholders' participation and efficiency of the partnerships. Examine the partnership among the UN Agencies and other donor organizations in the relevant field. The Evaluation will also aim at validating the appropriateness and relevance of the Outcome to the country needs, hence enhancing development effectiveness and/or decision making on UNDP future role in environment.
Effectiveness	▪ Outcome status: Determine whether there has been progress made towards achieving the targets in Outcome 3 and identify the challenges to the attainment thereof. Identify innovative approaches and to the Outcome. ▪ Contribution to mainstreaming the Outcome's targets in the national programmes and national capacity building. Extent of UNDP's contribution to mainstreaming the Outcome's targets in the national programmes. Extent of UNDP achievement in national partners' capacity development, advocacy on environmental issues and climate change related policymaking. ▪ Extent of UNDP's effectiveness in producing results aligned with CPAP. ▪ Extent of UNDP partnership with civil society and local communities to promote environmental awareness in Kazakhstan. ▪ Underlying factors: Analyze the underlying factors that influenced UNDP contribution to the achievement of the outcomes through related project outputs, distinguishing the substantive design issues from the key implementation and/or management capacities and issues including the relevance and nature of outputs, degree of stakeholders' and partners' involvement in the completion of outputs, and implementation strategies employed by the projects and UNDP.
Efficiency	▪ How UNDP practices, policies, decisions, constraints and capabilities affect the performance of the Portfolio. ▪ How much time, resources and effort it takes to manage the portfolio, what could be improved ▪ Extent of engagement and coordination among the stakeholders. ▪ Extent of synergies and leveraging with other programmes in Kazakhstan. ▪ Extent of synergies among UNCT programming and implementation.
Sustainability	▪ Extent to which UNDP established mechanisms ensure sustainability of the policymaking interventions ▪ Extent of the viability and effectiveness of partnership strategies in relation to the achievement of the outcomes. ▪ Effective use of Environment portfolio to support appropriate central authorities, local communities and civil society in climate change related agenda in a long term perspective.

Apart from the above the report covers:

- **Lessons learnt:** the report identifies lessons learnt, best practices and related innovative ideas and approaches in relation to the management and implementation of activities. Lessons learnt is the critical aspect of the Outcome Evaluation as it will be use to design a better implementation strategy for the programmatic cycle.
- **Recommendations:** Based on the above analysis, recommendations are provided in this report on how UNDP should adjust its partnership arrangements, resource mobilization strategies, working methods and/or management structures to ensure that the Energy and Climate Change related portfolio fully achieves its outcomes in the next UNDAF 2016-2020 period.

The outcome evaluation will follow the guidance and methodology provided in the UNDP Handbook on Planning, Monitoring and Evaluating for Development Results.⁷

⁷ <http://web.undp.org/evaluation/evaluations/handbook/english/documents/pme-handbook.pdf>

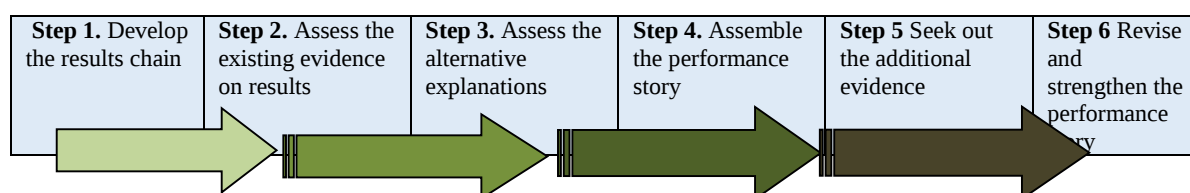
The rest of the report is organized as follows: Chapter 2 describes the methodology and limitations, Chapter 3 describes the findings organized along the evaluation criteria, Chapter 4 presents the Conclusions, Chapter 5 presents the Lessons Learnt and Chapter 6 concludes with Recommendations.

2. METHODOLOGY

2.1. Evaluation methods

Traingulation is used to verify the information gathered from the document review (both those produced by UNDP and by third parties) and interviews. It involves developing the reliability of the findings through multiple data sources of information, bringing as much evidence as possible into play from different perspectives in the assessment of hypotheses and assumptions. In the assessments of the outcomes an attempt is made to attribute the results to the program when feasible: when not feasible, **contribution analysis** is used, which is presented schematically below (see Figure 4)⁸

Figure 4: Steps in Contribution Analysis



Annex 3: Results Framework for the Outcome from CPAP features Outcome 3 related Results Framework with indicators from UNDP CPAP 2010- 2015. 3.2 contains analysis of quantitative results based on these indicators as well as qualitative description of the main achievements and challenges. Wherever data was available from the project reports data is disaggregated (by sex, age and location). The framework proposed by White (2005) serves as a basis (with modifications as appropriate) for sustainability analysis.⁹

2.2. Data sources and collection methods

The Outcome Evaluation will involve all relevant stakeholders including but not limited to the UN, the governmental institutions, CSOs, private sector, multilateral and bilateral donors, and beneficiaries. The sources of information include:

- a. **Desk Review.** This involves:
 - **UNDAF and the CPD/CPAP** for a description of the intended outcome, the baseline for the outcome and the indicators and benchmarks used, coupled with the information from the CO gathered through monitoring and reporting on the outcome. This will help to define whether change has taken place;
 - **Relevant analytical documents**, including the UN progress reports: the current status of and degree of change in the outcomes will be assessed against the Country Analysis and the baselines for the outcome and the indicators and benchmarks used in relation to UNDAF, CPD and CPAP, relevant project/program documents, progress and monitoring reports of projects/programs, and third party reports;

⁸ based on John Mayne, "Addressing Attribution Through Contribution Analysis: Using Performance Measures Sensibly", The Canadian Journal of Program Evaluation Vol. 16 No. 1 Canadian Evaluation Society, 2001

⁹ : H. White, "Challenges in evaluating development effectiveness", IDS Working Paper 242, Institute of Development Studies, Brighton, UK, March 2005

- **Relevant project reports.** The project reports include the annual reports, respective project documents, Terminal and Mid Term evaluation reports, Annual Progress Report (APR)/Project Implementation Report (PIR), project budget revisions, project files;
 - **National strategic and legal documents;**
 - **Third party reports;**
 - Information from the websites of various agencies; and
 - News digests from various media portals
- b. **Interviews with all Key Informants and Players,** including various representatives of stakeholders, namely UN staff, Government (relevant Ministries¹⁰), and akimats (of Astana and Almaty), private sector, NGOs, educational institutions, etc. (see the template interview guide in Annex 5: Guide for the KIIs. 18 Key Informant interviews (KII) were conducted (see the list of interviewees in Interviews helped gather information on what the partners have achieved with regards to the outcome; what strategies they have used; what do they do and plan to do to sustain the results, what do they think about the achievement looking back at the activities completed some time ago; as well as gathering their perceptions about UNDP's work under this Outcome.
- c. **Field visits** to selected sites. 1 site visit was conducted during the mission in Kazakhstan November 16-20, 2015), to the School No.25. However, since the author of this report conducted recently the MTR for the EE in the Lighting project, the relevant information from the site visits conducted under that project are also referred to.

2.3. Limitations and potential shortcomings

There were many changes in the Government structure and staff of the Government of Kazakhstan during the last 5 years and hence in the cases of the projects which finished a while ago (this applies to 2 of the 7 projects under review), it was not possible to meet the Government officials involved (with the current ones not having the institutional memory). Overall the number of interviewed stakeholders was somewhat less than ideally desired.

As could be seen from the Results framework from the CPAP (see Annex 3: Results Framework for the Outcome from CPAP) the baselines and the targets for some of the indicators are not specified. In those cases, the aggregated information from individual project documents was used to the extent possible and/or assessing increase/decrease without the analysis of achieving targets (in their absence)/

The principal responsibility for managing this evaluation resided with the UNDP CO in Kazakhstan. The UNDP CO ensured timely provision of arrangements within the country. The evaluation benefited from UNCP CO support; all measures were in place to ensure the independence of the evaluation while at the same making sure that the evaluation is conducted in a participatory manner.

3. FINDINGS

3.1. Relevance

3.1.1. Relevance for the country needs

¹⁰ Ministry for Energy, Ministry for National Economy and Budget Planning, Ministry for Investment and Development

According to GOK estimates, the energy saving potential of *public* and *residential sector* is about 0.9 mtoe per year. The importance of these two sectors is underscored by the fact that they account for 55 percent of the country's heat consumption and 20 percent of electricity consumption. The public sector uses about 4,100 GWh/year of electricity (5 percent of electricity generated) and about 59,000 TJ of heat (15 percent of heat consumption). About 70 percent of the public and residential buildings would require retrofitting in order to comply with applicable thermal efficiency standards of Kazakhstan. International experience shows that public office buildings in developing countries can readily achieve 20 to 40 percent energy savings through cost-effective retrofits¹¹.

3.1.2. Relevance for the Government Programs

In 1995 Kazakhstan ratified the United Nations Framework Convention on Climate Change (UNFCCC) as a non-Annex I party, and in 1999 committed to join industrialized nations in their effort to limit GHG emissions and accept a binding and quantified emission limitation of 100% over a 1992 baseline. Kazakhstan ratified Kyoto protocol in 2009; while it is negotiating Kyoto Protocol Annex B inscription, the country took the voluntary quantitative commitments to reduce GHG emissions by year 2020 by 15% over a 1992 baseline. It further committed to reduce GHG emissions by 25% by 2050. The country has set itself a target to generate 3% of its total electricity supply from renewable energy sources by 2020.

Kazakhstan's III-VI National Communication to the UNFCCC (2013) identifies the 'urban sector' consisting of district heating, buildings, waste and transport as the third priority area for national climate change mitigation (after the power generation and industry sectors) with a potential to reduce annual GHG emissions by 25MtCO₂ by year 2030. This is almost 30% of the cumulative GHG abatement potential for Kazakhstan. Urban GHG emission reductions are prioritized in this proposal because it is the sector where the reduction of GHG emissions will directly result in tangible socio-economic and local environmental benefits.

Thus the portfolio of the projects under this Outcome evaluation ***are fully in line with the government priorities to promote sustainable development and the commitment to mitigate GHG emissions under the UNFCCC.*** The portfolio is ***also fully aligned with the national priorities to strengthen economic and energy independence of Kazakhstan by promoting resource efficiency and climate resilient growth.***

The ***portfolio is relevant to Kazakhstan's low carbon development agenda and environmental priorities as articulated in the National Strategy of Kazakhstan 2030, Nurly Zhol Programme, and sectoral development programs*** of relevant line ministries (these are briefly described in Annex 7: State Programs). Not only there is full alignment, but UNDP CO has contributed, and in many cases played a pivotal role in developing some of these strategies.

The points below highlight the key aspects of the alignment with the main government programs.

- ***National Strategy of Kazakhstan 2030*** (announced in 2008) included many measures to give an impulse to economic growth, including “reorganization of the electric energy system and adopting electricity tariffs encouraging investments into the industry”;
- ***National Strategy of Kazakhstan 2050, also called “2050 Strategy”*** (2012) calls for widespread economic, social and political reforms to position Kazakhstan among the top 30 global economies by 2050: these include “... an efficient, sustainable and diversified energy sector; a green economy with clean air and water, resilient to the risks of climate change. 10 top projects of 2050 Strategy were identified for implementation, including “Public service transport in Kazakhstan becoming more ecologically friendly”;

¹¹ WB (2013): “Project Appraisal Document on a Proposed grant amount of US\$ 21,763,000 to the Republic of Kazakhstan for an energy efficiency project”, May 17, 2013

- Under **Nurly Zhol Programme** (announced in 2014) the 4th priority is identified as “, modernization of housing and utilities infrastructure and water and heat supply networks”; under this Program the GoK has committed to allocating an additional US\$3 billion annually from the National Fund to support economy in the three-year period;
- **100 Steps for the implementation of 5 institutional reforms** (announced 20.05.2015): Step 59, announces “...Attracting strategic investors in the field of Energy Efficiency through the promotion of energy service contracts using the ESCO mechanism”. Step 52 is also relevant, announcing the plans to reform the energy tariff policy (with 2 part tariffs) thus also stimulating energy efficiency.

The portfolio is relevant also to other programs (listed below), but since the UNDP made a direct contribution to these ones they are described in Section 3.2):

- **The Energy Saving Program-2020 (Program 2020)** with the corresponding **Comprehensive Energy Saving Plan (CESP) for 2012-2015** was developed by the Ministry of Industry and New Technologies (MINT) as a working mechanism for implementation of the Energy Saving Program-2020. The Comprehensive Energy Saving Plan consists of 47 measures.
- **National Program for Modernization (NPM) for Residential and Communal Sector for 2011-2020**. This program has now transformed into a new Program namely “**The program on the development of the regions until 2020**”, (Government decree No 728 from June 2014; the program entered into force in January 2014); and
- **Concept for Transition of the Republic of Kazakhstan to Green Economy and sectoral development programs.**

The portfolio is also in line with the main legislation on Low-Carbon Urban Development (and has contributed to the elaboration of some of these laws). Some of the main ones include;

- The Law on Energy Saving and Energy Efficiency (2012);
- Law on Renewable Energy Sources (RES Law; amended in 2013);
- The Law on Transport (21 September 1994 № 156-XIII; with changes and amendments as of 12 January 2012);
- Environmental Code of the Republic of Kazakhstan (09 Jan 2007 № 212-III (with changes and amendments as of 11 April 2014),

Annex 8: Relevant Laws provides a description of the main laws

3.1.3. Relevance for the UN documents

This Section discusses the relevance of the portfolio (programme and projects’) design in addressing the identified environmental priority needs in CPAP 2010-2015; and UNDAF 2010-2015. The portfolio is very relevant in terms of achieving the objectives stipulated under these documents:

- **CPAP (2010-2015)** highlights that (a) Kazakhstan is highly vulnerable to climate change, which poses serious threats to the environment, social and economic systems; and that (b) Kazakhstan is ranked as the fourth GHG-intensive economy in the world with the highest level of GHG emissions per capita and per GDP and energy sector contributing to the greatest share of the GHG emissions (80.4%). CPAP envisioned UNDP support (and encouragement of) the GoK integrating comprehensive national strategies to adapt to and mitigate the impact of climate change with national development planning, focused on the most vulnerable economic sectors. It specifies that energy efficiency and improved hazardous waste disposal measures will also be developed and demonstrated. CPAP Indicator 3, namely “*The Government and energy consumers are better equipped with knowledge, policies and pilot cases on renewable*” was not addressed directly through a specific project, even though the legal and regulatory framework for development of renewables was supported in the previous CPAP period and before that, along with recommendations to promote investment in wind energy. The focus under the new CPAP (2010-2015) was rather on the policy advisory work with the Government

(see Section 3.2.2): this does not however reduce the relevance of the work portfolio in relation to CPAP. On the contrary, the approach was justified given that the tariff policy (still in place but with plans to change under the 100 Steps programme) made the investments in renewable energy mostly economically unviable. Hence advocacy and policy level work was the right path chosen. As the successful experience with energy efficiency projects demonstrated, engagement when the time is right is essential for success.

- **UNDAF 2010-2015:** The portfolio falls under UNDAF Outcome #2. “By 2015, communities, national and local authorities use more effective mechanisms and partnerships that promote environmental sustainability and enable them to prepare, respond and recover from natural and man-made disasters”. UNDAF highlighted the need for the integration of comprehensive national strategies to adapt to and mitigate the impact of climate change with national development planning, focused on the most vulnerable economic sectors, with integrated services developed to bridge the gap between competitive industrial production and environmental concerns and EE and improved hazardous waste disposal measures to be developed and demonstrated. (pp 17-18). As in the case of CPAP, UNDAF “Output 2.3, namely “The Government and energy consumers are better equipped with knowledge, policies and pilot cases on renewable energy market regulations, and energy efficiency measures in sectors with high CO2 emission level”. was pursued partially in part concerning renewable energy, but this was relevant given the context. The portfolio supports also the other 2 Outcomes of UNDAF, namely (see next Subsection for discussion),
 - UNDAF Outcome 1 “Economic and Social Well-Being for All” - By 2015, the population of Kazakhstan, and vulnerable groups in particular, will enjoy improved social, economic and health status.
 - UNDAF Outcome 3 “Effective Governance” - By 2015, state actors at all levels and civil society are more capable and accountable of ensuring the rights and needs of the population, particularly vulnerable groups.

3.1.4. Strategic Positioning of UNDP

UNDP was (and is) **well-placed to contribute to environmental sustainability in Kazakhstan** playing an important role in assisting GoK to comply with obligations taken in connection with international environment conventions and agreements such as the Kyoto Protocol to UNFCCC, Convention on Biological Diversity, Convention to Combat Desertification and the Stockholm Convention on persistent organic pollutants:

- **Firstly**, it draws on its **global experience**, and lessons learned in the same sectors in many countries across the world and in the region in particular;
- **Second**, UNDP had built a **strong record of working with GEF** on EE and RE projects, which allows to capitalize on valuable GEF expertise in these sectors;
- **Third**, UNDP has a **wide experience in addressing the key causes of environmental degradation, in particular, inequitable development and marginalization**. The review of the design of the projects reveals that the concern for the poor and vulnerable is well reflected in them. This is very important in relation to SDGs and this positioning needs to be strengthened (see Chapter 6 on Recommendations);
- **Forth, broad based experience of UNDP** was instrumental in engaging with a wide spectrum of stakeholders, which has proven to be a critical factor of success and is now even more accentuated in the SDGs. One of the distinctive feature of the projects is support to Non-governmental organizations (NGOs), with the sectoral associations being particularly featured contributing to better governance. It is recommended that such positioning is strengthened (see Chapter 6 on Recommendations);

- **Fifth**, the projects of the type included in the portfolio require **significant implementation capacity** to be successful, and this has traditionally been one of the competitive advantages of UNDP;
- **Sixth**, the portfolio under this CPAP period is **based on the experience accumulated in the previous programming phases** allowing to build on the achievements and applying the lessons learnt. Particular, in relation to Outcome 3, under the previous CPAP (2004-2009) UNDP
 - assisted in international treaty ratification (such as the Stockholm Convention on persistent organic pollutants, Kyoto protocol to UNFCCC, Ramsar and Bonn conventions) and reporting (third national report on implementation of the biodiversity convention, Second national communication to UNFCCC);
 - Over 130 small-scale projects in nature and energy conservation were implemented by non-government organizations and community-based organizations through GEF Small Grants Programme;
 - In cooperation with the Agency on Regulation of Natural Monopolies and the administrations of Almaty and Astana cities, UNDP started a large-scale initiative to advance energy efficiency in public and municipal buildings (carried over to the current CPAP); and
 - UNDP supported a survey of the most hazard-prone and vulnerable areas in the Almaty region, along with an assessment of the available infrastructure and research and monitoring potentials

2 of the 7 projects are funded with mostly Government contributions, being some of the first examples of the “tied grants”, supporting the evidence stemming from the document review and the interviews indicating that UNDP is viewed as a **partner of choice for the Government** under this portfolio. UNDP’s partnership strategy (see next Section) reflects this aspect of the strategic positioning of UNDP.

Under this portfolio, UNDP articulated well the need for its presence in the country, in particular with its **communication strategy**, through (a) several major events held by the Government were supported by UNDP (e.g. the conference on “*Building up the Green Economy in Kazakhstan*” which was a major international event)¹²; (b) exposition events organized but the Government and/or NGOs and/or private sector were well used by UNDP as opportunities for awareness raising, and promotion the innovative ideas being promoted (one such event coincided with the field visit for this evaluation, “*International Forum "Utilities - EXPO - 2015"*”); and (c) communication events to promote specific ideas from the projects (see however *Chapter 6 on Recommendations*)

3.1.5. Partnership strategy

CPAP and UNDAF highlighted that a range of new and existing partnerships are central to the success of the implementation. In particular, it was recognized that as Kazakhstan’s economy continued to grow, the direct resources that the UN agencies can allocate to Kazakhstan will increasingly be limited due to the existing resource allocation formula. As a result, it was recognized that UN will increasingly rely on its comparative advantages, including using its direct resources as *seed funding*, to *leverage additional resources* to support the implementation, highlighting that a broad based partnership was critically important for success (see Section 5 on Lessons Learnt). The experience proved the validity of this point and UNDO positioning vis-à-vis partnership building was well in line with this vision under Outcome 3,

- At the **national** level, the partnership with the Ministry of Foreign Affairs and the Ministry of Economic Development and Trade (hereinafter MEDT) was strengthened through the establishment of a Strategic Advisory Council (SAC), under the aegis of the Memorandum of Understanding (MoU) between the Government and UNDP on the cooperation in the new stage

¹² devoted to the completion of the joint project of the UN Development Program and the Ministry of Environment and Water Resources of the Republic of Kazakhstan “Assistance to Kazakhstan in Improving Interregional Cooperation for the Green Growth Promotion and Astana Initiative Implementation”, December 3, 2013 was held in Astana, and was a major event);

of national development (signed in 2009)¹³. SAC, in particular reviews the requests for tied grant (proposals): the first examples of tied grants (80% on average financed by the Government) were related to this portfolio marking a shift with the Government as an equal partner in development. Close cooperation and partnerships continued with the Ministry of Environment Protection (MEP, *in existence at the start of current CPAP period*), Ministry of Industry and New Technologies (MINT), with other central Government bodies, and with commissions under the President and the Parliament;

- The long established ***close partnerships with the sub-national partners*** in programme implementation (oblast and rayon authorities) was enhanced under this CPAP, which is crucial for the successful implementation of the pilots and capacity building to ensure the smooth implementation, sustainability and replication of various initiatives. The close links and trusted partnership allowed UNDP to ensure the continuity in the circumstances of the frequent changes in the government;
- ***Partnerships with the NGOs*** (this applied predominantly to business associations) were strengthened; moreover, in many cases UNDP was instrumental in supporting the formation of such associations. In some cases, this was a crucial element in the success of the projects (e.g. in the case of the Association of Apartment Owners (AAO) for the MHHWS project). The approach to engagement includes both the capacity development component and working through the NGOs as a mechanism to channel through various activities (e.g. training);
- ***Partnerships with businesses*** was promoted and enhanced through the majority of the projects. This has proved to be a crucial element of success in undertaking pilots and breaking into new areas, new concepts and new ways of working e.g. in the case of the promotion of the concept of ESCOs, “green” construction, etc.

A particular feature of the partnership strategy is mobilizing resources for the benefits of the partners (including from the private sector), a number of such examples are present in almost all the projects (presented throughout the text).

UNDP plays an active role in coordination mechanisms related to **UNDAF** in theme group meetings. It maintained an active dialogue with all development partners, in order to ensure that the country programme results remain relevant and make a strategic contribution to national development priorities. In relation to international and bilateral development agencies and banks, the most effective partnerships were built with EBRD¹⁴ (EE in lighting project, CAST, School no 25) and USAID. For the discussion on the extent of effectiveness of synergy building see Section 3.3 under Efficiency)

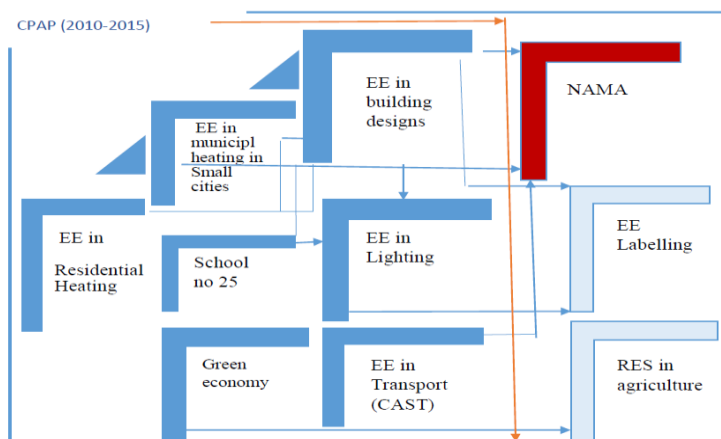
Thus overall, UNDP’s partnership strategy has been appropriate and effective. For the discussion on efficiency of partnerships see Section 3.3 on Efficiency).

3.1.6. Relevance of composition of the portfolio

¹³ The Council includes representatives of MEDT, MFA and UNDP, but also invites representatives of other state bodies to take part in its meetings. The Council meets periodically, minimum once a year, to review the directions of UNDP cooperation with Kazakhstan, scrutinize all requests for cooperation with UNDP, agree the list of priority projects to be developed and implemented, and conduct annual ex-post review of the results.

¹⁴ The EBRD has invested over US\$650 million in energy efficiency projects in Kazakhstan in corporate energy efficiency, credit lines to partner banks for on-lending to the private sector, cleaner energy production, renewable energy, and municipal infrastructure energy efficiency

Figure 5: Programmatic linkages in the portfolio



Strong programmatic linkages between the projects are a distinctive feature of the portfolio: here the role of the Portfolio leadership and the support from the GEF regional Office needs to be recognized (see Figure 5). The MHHWS marked the start of strong contribution towards the EE in residential sector; this was complemented with the (a) MBMSM in small Cities project (small cities' angle) and (b) School No 25 Project (in-depth look at EE in heating in Schools).

The EE in building design was the next logical step to address the building regulatory issue. The next steps marked the transition to 2 sectoral EE projects (in Lighting, in transport), all picked up by the project on “*Nationally Appropriate Mitigation Actions*”¹⁵ (with the Small cities project as a small but important case for replication), which is the first effort in Kazakhstan to adopt a comprehensive approach to reduce GHG emissions in cities. There is an approved project on EE labelling, with both the EE in Lighting and EE in Residential Building Design making a strong contribution. Meanwhile the small Green Economy project will find its continuation in the approved new project on RES in agriculture.

3.2. Effectiveness

3.2.1. Outcome status

<i>The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies.</i>	Indicator: Level of awareness related to climate change Baseline: To be determined in 2010 Target: Increase by 30%
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There is a **strong progress** towards the stated Outcome, namely “*The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation (CCA) policies*”. This is demonstrated by (See Section 3.2.2 on details)

- EE and CCA mainstreamed in major government programs;
- Government adopting relevant policies;
- local governments replicating the pilot projects initiated by UNDP; as well as
- businesses and citizens adopting more EE oriented behavior and solutions

¹⁵ The Project supports the identification, design, and implementation of Nationally Appropriate Mitigation Actions (NAMAs) in the urban sector. NAMAs, consisting of investments in infrastructure supported by capacity building, awareness raising and technical assistance, are expected to contribute to achieving the country’s voluntary target to reduce GHG emissions by 15% by 2020, while improving urban services and the quality of life of citizens in Kazakh towns and cities. The Project is expected to Improve the capacity of municipalities to carry out integrated municipal planning, formulate their targets and prioritize urban mitigation actions, support the creation and strengthening of local institutions, and will facilitate financing of urban NAMAs through creation of a dedicated funding mechanism. The project also features implementation of a pilot urban NAMA in Prigorodnoye district of Astana to demonstrate a comprehensive approach to modernization and management of urban areas and provision of sustainable and reliable public services to city’s residents. Project’s main partners are the Government of Kazakhstan, regional and municipal authorities, the Eurasian Development Bank and private sector companies. As a result of the Project it is expected that the local authorities will be able to articulate their climate-related priorities and goals, estimate financial resources required to meet them, as well as to identify and prioritize investment projects where GHG emissions can be achieved most cost-effectively and where opportunities therefore exist to leverage private capital and financing.

The indicator for the Outcome captures however only ***citizen awareness***, stipulating a target increase by 30%. Since no baseline was identified in the CPAP results framework, it is not possible to provide hard evidence for the entire portfolio. However, the review of the documentation resulted in the following:

- **MHHWS:** The interviewees indicated that the project played a crucial role in changing the vision and ***clearly attributed*** the inclusion of the EE heating in the state program on the modernization of the housing stock to the project (it was likely only a renovation project otherwise). The before-and -after surveys among the households and businesses (2008 and 2009) registered that: (a) there was an increase by 19% about energy saving overall among the households on average, but with almost 50% increase in major cities; and (b) much more in-depth knowledge among the businesses (whereby overall basic awareness was high at the start as well)¹⁶
- **EEL:** The project has covered with its public awareness campaigns more than 30% of the population. There was a baseline survey conducted with the follow up envisioned at the end of the project;
- **CAST:** One of the key successes is the concept of “green mobility” that is now being pushed ahead by the Almaty municipality. They no longer feel that this concept is imposed on them; rather, having seen the long-term monetary gains from introducing sustainable transport management, they have become the active proponent of green mobility.

KIIs revealed that the majority of the interviewees identify increased awareness of the importance of the EE as well as new technologies as one of the major achievements of UNDP under this portfolio.

3.2.2. Status of Outputs and contributions to Outcome

Output 1. Comprehensive national climate change strategies (with a focus on economic sectors at risk, ecosystem vulnerability and adaptation needs) are developed, to be further integrated into national development plans and sustainable development strategies

Comprehensive national climate change strategies	Indicator: low-carbon development principles mainstreaming into national development strategy Baseline: No reference to climate change impact in any national development strategies Target: Developed national adaptation policy and low carbon development policy in line with post-Kyoto commitments
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With GEF funding UNDP is implementing the project on the Development of Kazakhstan's National Communication to the UNFCCC and Biennial Report, which enables Kazakhstan to prepare and submit its Seventh National Communication (7NC) and Biennial Report (BR) to the Conference of Parties (CoP) of the UNFCCC in accordance with its commitments as a Party as mandated by Article 12 of the Convention and subsequent CoP decisions¹⁷. The project helps to increase the national technical and institutional capacities in preparing the NC/Br and assisting the Government to integrate climate change issues into sectoral and national development priorities that directly contribute to achieving the MDG/SDG goals. This project is not covered under the Outcome 3 portfolio under this evaluation, but is complementary to it.

¹⁶GoK/UNDP (2014):” The opportunities of achieving social impact with improvements in EE in multi apartment residential Buildings”

¹⁷ The project updates the information provided regarding national circumstances, inventories of greenhouse gases, policies and measures undertaken to mitigate climate change, assessments of vulnerability to climate change and steps taken to adapt, and information on public awareness, education, training, systematic research and observation, and technology transfer.

According to the Climate Laws, Institutions and Measures (CLIM) Index¹⁸ back in 2011, Kazakhstan experienced important problems in both formulation and implementation of relevant policies. With a CLIM Index of 0.226, Kazakhstan was 61st in the world (EBRD, 2011)¹⁹. This highlights the relevance of a strong emphasis on policy level work under the portfolio under Outcome 3

UNDP has strongly contributed to the development of the following policies.

- ***The Energy Saving Program-2020 (Program 2020)*** aims at reducing energy intensity of the Gross Domestic Product in the Republic of Kazakhstan and increasing energy efficiency through the reduced energy use and inefficient use of fuel and energy resources. Specifically concerning sustainable urban development, the Program 2020 targets (i) large-scale public awareness on EE issues, (ii) development and use of economic and non-economic mechanisms to motivate energy saving and EE, (iii) development of mechanisms for ESCO operation in the country; (iv) personnel training on energy saving and EE; (v) reduced energy use by the transport sector; (vi) reduced per unit costs for generation of 1 kWh, 1 Gcal of heat and heat use per 1 m² in the housing sector. that plans to reduce emission 10% every year until 2015. The program in the long run envisions reduction in energy per square meter by 30% and reduce costs by 14%. Also, the Program envisages the creation of 20 training centers for continuing education in energy conservation and efficiency. The Comprehensive Energy Saving Plan(CESP) for 2012-2015 was developed by the Ministry of Industry and New Technologies (MINT) as a working mechanism for implementation of the Energy Saving Program-2020. The Comprehensive Energy Saving Plan consists of 47 measures. The CESP focuses on the most energy inefficient sectors of the economy, including industry and the municipal/residential sector. The aim is to tap the country's vast energy saving potential, which is estimated at US\$1.3 billion per year or 12 TWh of electricity, 2.5 million Gcal of heat and 7 million tons of coal. Mechanisms in the CESP include fiscal incentives, standards and codes, awareness raising, state budget allocations with private sector leverage, and the creation of a National Energy Savings Fund;
- ***National Program for Modernization (NPM) for Residential and Communal Sector for 2011-2020.*** To address the challenges with urban infrastructure described above, the Government of Kazakhstan has adopted the NMP (2011-2020)²⁰. Program goals are to (a) decrease the share of buildings in need of capital renovation from current 32% down to 22% by 2015; and (b) upgrade/refurbish 24,400 km of communal networks (heat and hot water supply, electricity, and gas) to minimize resource losses in the system. This program has now transformed into a new Program namely "***The program on the development of the regions until 2020***", (Government decree No 728 from June 2014; the program entered into force in January 2014)
- ***The Concept for Transition of the Republic of Kazakhstan to Green Economy and sectoral development programs.*** The Ministry of Energy is in charge of the *Concept for Transition of the Republic of Kazakhstan to Green Economy* that lays out goals and targets and general approaches for achieving sustainable development in the country. The Concept identifies seven key areas in which to undertake sustainable-development initiatives: water resource management, sustainable agriculture, energy efficiency, power sector development, waste management, air pollution reduction, and ecosystem management. Fundamental to Transition

¹⁸ The CLIM Index was constructed by the European Bank for Reconstruction and Development. It serves to compare the quality and depth of climate policies, measures, laws and institutions across a wide range of countries. The Index examines 12 constituent variables grouped into four key policy areas: (i) international cooperation; (ii) domestic climate framework; (iii) sectoral fiscal or regulatory measures or targets; and (iv) cross-sectoral fiscal or regulatory measures. Most of the variables are then scored based on a scale of 0/0.5/1 basis and the policy areas and variables are weighted and scored. High carbon intensity is highly correlated with a low CLIM Index and high national income correlates with a high CLIM Index. The highest possible score is a 1.0

¹⁹. EBRD (2011): Sustainability Report

²⁰ The first stage of Program implementation in 2011-2016 envisages allocation of USD 1.6 billion (237 bln KZT) from the national budget and additional 43 million USD from the regional budgets. Provision of 640 mln USD has already been confirmed in the tri-annual state budget for 2011-2013 approved by the Parliament and the President.

to Green Economy is the idea that in addressing the sustainability of key sectors, there will be synergies found across a variety of cross-cutting issues, including climate change, good governance, environmental sustainability, gender equality, and human rights. The Concept was approved in May 2013, and the follow up Action Plan was approved by the Government in August 2013. The Concept on Transitioning to Green Economy stipulates

- Reducing energy consumption of GDP compared to the level of 2010 by 25% in 2020, by 30% in 2030, and by 50 % in 2050
- Decrease from the levels of 2012 of CO2 emissions in the electric utility industry: by 15% in 20030, and by 40% in 2050

Output 2. The Government and energy consumers are better equipped with knowledge, policies and pilot cases on renewable energy market regulations

The Government and energy consumers are better equipped with knowledge, policies and pilot cases on renewable energy market regulations	Indicator 2.1 Enabling policy and institutional framework in place for on-grid renewable energy
	Indicator 2.2: The amount of GHG emissions to be reduced by the wind energy plants under construction Baseline: 0; Target: Over 1 million tons of CO2 to be reduced over the next 20 years by the wind energy projects under construction in the end of the project

1) Indicators 2.1 Enabling policy and institutional framework in place for on-grid renewable energy

Kazakhstan has a large RE potential, particularly from wind and small hydropower plants. The country has the potential to generate 10 times as much power as it currently needs from wind energy alone (UNDP & GEF, 2012)²¹. But renewable energy accounts for just 0.6 percent of all power installations. Of that, 95 percent comes from small hydropower projects. The main barriers to investment in renewable energy were until recently the high financing costs and an absence of uniform feed-in tariffs for electricity from renewable sources,²² even though the *Energy Efficiency 2020 programme* (2013) stipulated a plan to reduce energy consumption by 10 percent annually until 2015 and the *long-term strategy for Kazakhstan (until 2050)*, adopted in 2012, set an ambitious goal of generating 50 percent of all power from alternative energy sources, including renewable sources (planning to attract about two billion dollars of investment into renewable energy sector until 2020)²³.

UNDP's main contribution to RES policy under this CPAP period came in the form of the contribution to the development of the Concept on transitioning to green economy (adopted in May 2013), under the project on "Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana "Green Bridge" Initiative (GG&GB)". It stipulates share in electricity generation of solar and wind energy at least at 3% by 2017, total renewables at 30% by 2030 and 50% by 2050 (includes nuclear), The Government plans to have 1,850 megawatts of installed power projects until 2020 (1,300 megawatts is wind power, 500 megawatts – solar plants, 50 megawatts – biogas plants): the plan is to commission 106 facilities generating energy from renewable energy sources by late 2020, including 28 solar power plants with the capacity of 713.5 megawatts in Almaty, Zhambyl, Atyrau, Karaganda, Kyzylorda, South Kazakhstan and Mangistau provinces.

²¹ UNDP and GEF, 2012: Transforming on-Grid Renewable Energy Markets – A Review of UNDP/GEF Support for Feed-in Tariffs and Related Price and Market-Access Instruments. Available at: http://web.undp.org/gef/document/UNDP_FIT_Port_TransformingREMarkets_15oct2012.pdf

²² UNDP Kazakhstan (2014): "Kazakhstan RE Snapshot"

²³ <http://strategy2050.kz/en/news/6502/>

This set into motion the next steps. In 2013, the Government of Kazakhstan amended the Law on the use of Renewable Energy Sources (in existence from 2009). The main amendments to the law concern the following:

- Allocation of a land plot for the construction of RES-using facilities (amendments in Article 90 of the Land Code);
- Introduction of fixed tariffs (In June 2014, the Kazakh government set tariffs for energy produced by renewables in a bid to get three percent of electricity from cleaner sources by 2020);
- Purchase of the full volume of RES energy at a fixed tariff guaranteed for 15 years;
- Financial Settlement Centre (FSC) is responsible for the centralized purchase and sale of energy generated by RES facilities designated;
- RES producers are exempt from paying for the transportation of electricity produced from renewable energy source; and the
- FSC performs the financial settlement of imbalances from RES;
- A plan to develop alternative and renewable energy in Kazakhstan for 2013-2020 was adopted by the Government in 2013. The plan aims to install about 1040 MW renewable energy capacity by 2020, including 793 MW from wind, 170 MW from hydro and 4 MW from solar sources. The cost of the plan is estimated at KZT 317.05 billion (c. €1.25 billion);

The Government program of “100 Steps” (20.05.2015), under Step 52, announces the plans to reform the energy tariff policy (with 2 part tariffs) thus also stimulating energy efficiency and RES:

There is some tangible progress:²⁴

- There are more incentives for investment in renewable energy.
- Investment security is created by power purchase agreements between regional grid operators and renewable energy facilities. Grid losses are compensated up to 50 percent. The plant operator does not pay for transmission services and obtains complimentary access to the power grid.
- Renewable energy projects are prioritized in granting land plots and are exempt from custom duties for imported materials needed to commission the plant.
- The Law on Investment allows renewable energy facilities to receive state grants of up to 30 percent of the project costs related to land plots, buildings, machinery and equipment. Foreign investors may also apply for tax deductions in line with the Tax Code, for example, in exemptions from land and property tax. Bureaucratic expenses have fallen, because electricity production (which had required a license) no longer requires licensing²⁵
- Economic zones in the country provide more benefits, including tax incentives.
- In the Zhambyl Region, the local government, with some private Lithuanian financing, has agreed to build a 250MW wind farm for \$550 million;
- in the Akmola Region, near the capital, the European Bank for Reconstruction and Development has agreed to fund a 50MW, \$120 million wind farm.²⁶
- KazAgroFinance has adopted a program on financing of renewable energy production in the remote villages of Kazakhstan;
- in January 2014 BISOL Group completed the installation of a 2 megawatt ground mounted solar power plant in the city of Kapchagay in the Almaty Province, the largest photovoltaic system in the country so far.

UNDP had its contribution to this:

²⁴ UNDP Kazakhstan (2014):” Kazakhstan RE Snapshot”

²⁵ Law on Amending Certain Legislative Acts Regarding the Improvement of the Regulatory Approval System

²⁶ <http://www.eurasianet.org/node/70501>

- A wind atlas is available and provides potential investors with detailed data on wind resources in the country (this started under the previous CPAP and was completed under the current one);²⁷ and
- A joint project between UNDP and the Kazakh Electricity Association offers pre-feasibility studies for potential wind farm investment projects²⁸.

2) Indicator 2.2: The amount of GHG emissions to be reduced by the wind energy plants under construction

As described in Section 3.1.3, for the reasons which were well justified, UNDP did not pursue full scale projects related to RES under the current CPAP. The work concentrated around policy advice to the Government, in particular as part of the contribution to the Concept of the Transition to Green Economy. There were also several pilot projects undertaken by the projects under this portfolio which included RES (solar power).

- One of them was funded under the GOK/UNDP project HMBMSM in Small Cities with **solar panels installed in the kindergarten “Saltanat”**. It was installed in July 2014, leading to the 14% decline in energy consumption.
- There were solar panels also installed in the "National Academy of green" technologies" in Arnasai village, a unique project, with the main objective to provide a system of knowledge on the "green" economy and technology, familiarization with the practice of the use of energy and water-saving technologies. It was established by the joint initiative of coalition for Green Economy in Kazakhstan and the Development of G –Global and Ak Bota public fund with support of UNDP and International Fund of Coca – Cola.

All of the above have laid the ground of more UNDP engagement in promoting RES during the next CPAP period.

Output 3. The Government and energy consumers are better equipped with knowledge, policies and pilot cases on energy efficiency in sectors with high carbon dioxide emission levels.

Government better Equipped with EE Policies	Indicator 3.1: Average thermal energy and power consumption in new/renovated residential buildings Baseline: Thermal energy consumption on average: X (tbc); Power consumption on average: X (tbc) Target: Thermal energy demand reduced to an average of X kWh/m²
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- Indicator 3.1: Average thermal energy and power consumption in new/renovated residential buildings

²⁷ UNDP Kazakhstan (2014):” Kazakhstan RE Snapshot”

²⁸ www.windenergy.kz/eng/pages/Ereymenau_investment_projects.html

Information is available for 3 of the projects. UNDP contributed to (see Table 3):

- the reduction of 2.4 TWh annually through the EEL but the information is not available in terms of kWh/m² annually,
- around 58 kWh/m² annual reduction on average through the EEDCRB; and
- on average of 25% from the normative per building through the MHHWS project.

Thus, due to the different units used, it is not possible to calculate the total (See Section 6 on Recommendations).

However, no doubt UNDP has made a significant contribution to the reduction of average thermal energy and power consumption in new/renovated residential buildings

Table 3: UNDP contribution to the decrease in average thermal energy and power consumption in new/renovated residential buildings

MHHWS	EEDCRB	EEL
on average reduction by 25% from the “normative” (which varies by region) ¹	58 kWh/m ² annually ²	Decrease in average power consumption 2.4 TWh/ m ² annually ³

Sources: (1) interview and project reports was not specifically measured, depends on the region d (2) MTR and interview; decrease the average thermal energy consumption for new and renovated buildings by 33 and 83 kWh/m² (difference between new and old buildings), i.e. on average 58 kWh/m² annually; 3) MTR, reflects the whole of the EE2020 program

Government better Equipped with EE Policies	Indicator 3.2: Power consumption reduced to an average of ___ kWh/ m ² (corrected to stand for CO ₂ emissions’ reduction) Baseline: New building lifecycle CO ₂ emission X mln tons CO ₂ e Target: X mln tons CO ₂ e, or X tons CO ₂ e less than the baseline
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- [*Indicator 3.2: Power consumption reduced to an average of ___ kWh/ m² \(corrected to stand for CO₂ emissions’ reduction\)*](#)

Information is available for 3 of the projects (MHHWS, EEL²⁹ and EESCRB): Table 4 provides the details. To sum up **UNDP contributes 6.9 mil tCO₂s reduction annually form the contribution to the state program and 17.6 thousand from the pilots (in part concerning EE in residential and public buildings).** [NB: there is a confusion between the wording of the indicators, targets and baselines for this and the precious indicators, see Section 6 on Recommendations].

Table 4 UNDP contribution to the decrease in GHG emissions

MHHWS	EEDCRB:	EEL
4.0 mil tCO ₂ savings annually ¹	5,0 million CO ₂ annually ²	1.9 million tons of CO ₂ /year ³
Successful completion and continuation of the financially sustainable measures in the pilot cities led to 5 000 tons of CO ₂ / year ¹	4.3 thousand tons tCo ₂ annually	8.6 thousand tons tCo ₂ annually
Total: 6.9 mil tCO₂s form the contribution to the state program and 17.6 thousand from the pilots		

Sources: (1) terminal evaluation and interview. the terminal evaluation report, estimates 30-40 000 tCo₂ annual reduction, however the new estimates suggest 4 mil tCO₂ reduction from the contribution to the whole program of EE heating based modernization of the housing stock; and 5000 tCo₂ from the pilots. (2) MTR; (3) MTR

²⁹ Note that for the part of the EE lighting project the figure includes the plans for the mandatory phasing out of the mercury containing lighting products. The project contributes to the implementation of these plans but assumptions are important for correct interpretation

Prior to the project on “*Removing barriers to energy efficiency in municipal heat and hot water supply*” (**MHHWS**) the GoK had already adopted some of the critical documents that supported EE improvements in municipal housing DH.³⁰ However the legislation was rather declaratory; only a compulsory *building level* DH metering for *new* multi apartment buildings was in place, but only voluntary building level metering in existing facilities have been required by the legislation, and only some 10% of buildings had building level metering installed. The project perfectly fitted into the *unique time opportunity window* when governmental and municipal policy makers started to recognize the need for EE improvements of local DH schemes. Kazakhstan has been generating relatively sufficient funds to co-finance some of EE measures. and it catalysed the initiation of the country’s DH transformation towards more EE one. **The project helped develop the Law on Energy Efficiency** (approved in 1/2012), prepared several policy and analytical papers and a Methodology on energy planning (adopted by the Ministry of Industry and New Technologies (MINT)). **EE component was incorporated** in the newly (at the time) developed 5.8 billion US\$ “**National Program on Modernization of Housing and Municipal Infrastructure 2011-2020**”. While the implementation of the program had revealed certain challenges (e.g. with the quality of energy audits, and the extent of uptake especially in the buildings with the majority of poor households) the past 4 years have shown its viability; no such massive program would have had no issues in implementation and it is important to note that measures are being put in place to address.

Under the UNDP/GEF Project “**Energy-Efficient Design and Construction of Residential Buildings**” (**EEDCRB**) UNDP, jointly with the Committee for Construction, Housing and Communal Affairs, and Land Management (CCHCALM) of the GoK seeks to reduce energy consumption in residential buildings in Kazakhstan, thereby reducing greenhouse gas (GHG) emissions, while advancing the housing and development goals of the country. Prior to the project. the most recent revision to the national thermal-performance code for buildings was adopted in 2004. With the support from the project, **new mandatory targets for thermal performance of buildings were developed and adopted** on July 1, 2015. The project also helped improve the enforcement of the codes (registering approximately 30 percent non-compliance rate): in 2012 and 2014, new national laws on EE and on jurisdictional functions in government brought about major changes in relation to responsibility for licensing, assessment and oversight over architecture, urban development and construction. Local executive bodies are now newly responsible for state oversight and quality control over architecture and construction³¹. It is expected that this change will lead to much greater efficiency of work flows within enforcement, and closer attention to all steps of the design and construction process³². In place of the former system of licensure, **a new system for certification of building-code enforcement officials** was adopted in 2012, with specific new requirements for experts in building-code plan review, construction supervision, and inspection³³. More than 6000 professionals have passed the test and received certification as experts, but thousands of other applicants did not. With the assistance of the UNDP/GEF project, the CCHCALM has been carrying out reforms of the work of experts assigned to review of building designs for code compliance. As of April 2015, **new rules for comprehensive independent**

³⁰ Kazakhstan has ratified the UNFCCC on May 17, 1995, in 1997 a new Law on Energy Savings has been approved, together with National Energy Saving Program. All these documents, including UNFCCC Initial National Communication of Kazakhstan, called for higher energy efficiency in district heating

³¹ These bodies carry out technical inspection of builders, and also oversee designers’ supervision of developers’ activity (known by the Russian term translated literally as “authorial supervision”).

³² Under the new process, more than 21,000 inspections took place in Kazakhstan from 2012 through 2014, with issuance of more than 21,000 improvement notices for non-energy and energy-related matters. Most of the improvement notices were quite minor and easily remedied, but penalties were issued in 8,000 cases. In 13 extreme cases, licenses of construction companies were revoked.

³³ The certification process includes 117 test questions, developed by the UNDP/GEF project, on 12 legislative acts and building-code requirements on energy efficiency in buildings. The process of assessment and certification is managed by the State Committee for Construction.

review of documentation have been established at two key stages of building design – preliminary technical/economic justification and subsequent design and cost estimation. The process of plan review is based on the principle of “one window” – a single comprehensive review instead of multiple confusing and time-consuming separate steps, including a major focus on energy efficiency. The rules are compulsory for all architectural, construction, and urban-planning projects in the Republic of Kazakhstan, for new construction as well as major renovation of existing buildings. ***New forms and procedures were introduced into official statistical reporting***, allowing to collect data on the EE rating class of new and renovated buildings, as well as the use of renewable energy sources (RES), and the cost of introduction of “green” measures in the buildings. ***A new simplified methodology for calculating energy consumption in certain types of new residential buildings to verify compliance with applicable building code requirements was developed and tested. 4 technical documents on EE residential building design – two detailed methodological guides and two catalogues of technical solutions – were developed*** with the assistance of the UNDP/GEF project and adopted³⁴. The Committee accepted several important proposals, e.g. on (a) setting EE targets for buildings based on their comfort class and, such that EE will receive special new emphasis in design and construction of elite residential and commercial buildings (which have greater cost flexibility), while affordable housing will still be acceptably energy-efficient, within code-compliant levels; and (b) on requiring that the EE rating class of the building be specified at the earliest part of the design stage, as part of the Terms of Reference of the designer. This will ensure that energy performance is considered as an integral part of the building design, and also help facilitate resolution of utility-service planning in certain areas with energy deficits. The ***mandatory rating system for EE in buildings was adopted*** by the GoK and Parliament as part of the Law of Kazakhstan *On Energy Saving and Energy Efficiency*, adopted in January 2012. Energy performance ratings are now required for all new and renovated buildings, and are issued during building design and verification of code compliance. The UNDP/GEF project, in order to support the implementation of this law, developed ***three additional policy documents*** (bylaws), adopted as Resolutions of the Government. These resolutions define *rules on determination and review of EE performance ratings; EE requirements for building designs; and EE technology requirements for buildings*. As noted above, one of these resolutions requires that a particular energy rating of building must be indicated early in the design stage as part of the designer’s Terms of Reference. In addition, the UNDP/GEF also provided an input into the ***preparation of a Concept on transition of the Republic of Kazakhstan to a green economy***. An Action Plan for 2013-2020, approved by the Government to implement this Concept, calls for ***mandatory labelling of all buildings by EE classes***. The UNDP/GEF project also prepared a proposal to introduce mandatory labelling of buildings in terms of energy performance, in the form of a draft ministerial order, including the relevant technical provisions and the format and layout of EE certification (at the time of the evaluation this draft is undergoing review by the Ministry of Justice of the Republic of Kazakhstan. The UNDP/GEF project helped prepare proposed amendments to existing standards for windows, applicable within the framework of the Eurasian Economic Union (EEU)³⁵. These amendments increase thermal resistance requirements for windows by 100 percent to 120 percent, depending on the climatic region of Kazakhstan, and will allow introduction of simple labels showing certified thermal resistance levels for various window products. The project has conducted a feasibility analysis and cost-benefit assessment of introduction of these standards.

The UNDP/GEF project also *catalysed major advances in the measurement of energy consumption and accounting of GHG emissions from the building sector in Kazakhstan* (based on wider usage of heat consumption meters:³⁶ a streamlined methodology for an information-management system on energy

³⁴ These documents explain the application of the new, stricter national building code requirements for thermal performance of buildings, and specifically for heating, ventilation, and air-conditioning. The documents were prepared and issued for free distribution among designers. The UNDP/GEF project held presentations of published editions with more than 150 participants.

³⁵ Originally called the Eurasian Customs Union, or familiarly simply as the Customs Union, this entity includes Kazakhstan, Russia, Belarus, Armenia, and Kyrgyzstan.

³⁶ Valid accounting of GHG emissions from the residential buildings sector requires the presence of heat consumption meters, which have been largely absent until quite recently, but are becoming used more gradually. As a result of the execution of

consumption and GHG emissions in the building sector was developed and tested in 2015 in Astana; the system makes it possible to monitor thermal and electric energy consumption of buildings online, and to define EE class of buildings based on measured data, not only design calculations. From measured energy consumption data, the system can calculate greenhouse gas emissions.

The project on the “**Promotion of Energy-Efficient Lighting in Kazakhstan**” (EEL) indirectly contributed to the Law on Energy Saving and EE (2020), with the project preparation process serving as a catalyst) and **then made valuable contribution to the EE-2020 program**, through: development of new standards, building and health codes, supporting the establishment of quality testing system for EE lighting products and a system of safe collection and disposal of mercury containing compact fluorescent lamps (CFLs) from the residential sector and reforms in the public procurement system to ensure that the procurement rules promote the use of EE lighting products; This contribution was highly valued by the Government. The project plays a key role in helping the government to put in place a comprehensive support to putting in place a quality control system for EE lighting products.

The projects on “*Development and probation of the Housing-Municipal Building Maintenance Services’ Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection*” (MBMSM in small Cities) and “*Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25*” (School25 project) did not result directly on policy level changes, but provided important lessons as pilots feeding into policies (see later in this Section)

At the Sixth Ministerial Conference on Environment and Development, Asia-Pacific (MCED-6), countries-participants adopted a Declaration on strengthening interregional cooperation in joint activities for transition from current conventional models of economic development to green growth for improving people’s well-being and achieving sustainable development. Astana "Green Bridge" Initiative is proposed by Kazakhstan to promote partnership in Europe and Asia-Pacific region in developing policies and tools for supporting green investments and green technologies. The **joint project** of UNDP and MEP RK on the “**Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana “Green Bridge” Initiative**” (GG&GB) was initiated to provide institutional support to strengthen interregional cooperation between European and Asia-Pacific countries in pursuance of the above mentioned Ministerial Declaration adopted at the MCED-6. It significantly contributed to the development of the “Concept of Transitioning to the Green Economy” (adopted in 2013), by: identifying goals and objectives of transition to "green" economy by RK, a methodology for determining "green" projects, recommendations on inclusion of low carbon development ("LCD") measures of RK into sectoral and territorial development plans, determining indicators for implementation of LCD in RK; and recommendations to the Government of RK on financial and economic methods of stimulation of natural resources users to reduce greenhouse gas emissions. Kazakhstan

- has set the goal that its transition into the green economy will increase GDP by 3%, and create more than 500 thousand new jobs;
- plans to spend an average \$3.2 billion a year along with investors to achieve its green goals by 2050 and cut carbon emissions by 40 percent in 2050 from 2012 levels.
- Plans to use one third of its wastes to generate 'green' energy by 2050.
- plans to host the 2017 World's Fair, Astana EXPO 2017 which has the theme Future Energy and its framework will support Astana's development of a sustainable green economy.

orders of the President and Government to install heat meters in residential buildings in some cities, meters have been installed for more than 90 percent of consumers (Astana, Semey, and others). The incentive for the installation of meters is lower heating tariffs. In Astana, Karaganda, and other cities, heat supply companies have adopted and implemented investment programs to install meters. Installation of heat meters continues widely. In 2015, the government of Kazakhstan has allocated US \$32.4 million from the national budget for the installation of heat meters among residential consumers. These funds will be released as loans to heat supply companies, which will allow installing meters for more than 50 percent of consumers nationwide by the end of the year.

One of the priority directions of the development of a green economy is the development of renewable energy sources (*described earlier under Outcome 1*), which marks the project contribution along with the part concerning energy efficiency. In June 2015, the EU, UNDP and UNECE launched a joint project "Supporting Kazakhstan's transition to a green economy model". The project is supported by the EU with 7,1 million Euros budget and is targeted to bring water governance in Kazakhstan align with the Green Economy Strategy of the country

Kazakhstan created a multilateral, cross-sectoral and voluntary Partnership Programme "Green Bridge" to provide a stable and long-term basis for green investment, transfer of new technologies and innovations to create sustainable economies and create new and long-term green jobs. UNDP advised on the mechanisms of the functioning of the Partnership Program "Green Bridge". ***The project instituted innovative ways of partnership building.***

<i>(Subregional) Government better Equipped with evidence from pilot cases and leveraging.</i>	Indicator 3.4: Volume of EE investments in pilot cities Baseline: 0 Target: Financing for energy efficient initiatives <u>leveraged</u> in the amount of at least USD 10 million
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- [*Indicator 3.4: Volume of leveraged EE investments in pilot cities*](#)

As it can be seen from the Table 5 the overall amount of leveraged investments in pilots **exceeds 23.1 Mil USD.**

Table 5: Investments made in the pilot cases

MHHWS	EEDCRB	EEL	CAST	Small cities	School 24
6.6 Mil USD ¹	12.46 Mil USD ²	3.5 mil USD ³	Feasibility study and 1 km of bike line funded by Almaty municipality	0.3 mil USD ⁴	0.2 mil USD ⁵
Total: 23.06 Mil USD +					

Source:

(1) 4.19 mil USD from the Government (Astana, Karaganda City Governments and Agency of Construction and Municipal Services) for project in public and residential buildings in Astana and Karaganda, energy audits in building and energy efficiency capacity building for targets groups; (2) 2.27 mil USD from the private sector (private companies) of which 1.4 mil USD for energy efficiency equipment purchases, installation and maintenance services of energy efficiency; equipment providers; and 0.871 mil USD for the creation/capitalization of Karaganda ESCO; 0.136 mil USD from other sources (apartment owners), Final Report; 6.35 mln USD from the public budget and 6.11 mil USD private investor/developer, MTR, p.39; excludes the investment from the project in the amount of 1.24 Mil USD; MTR, includes replication; Project completion report; Project completion report

Figure 6: ESCO model in Karaganda



The remaining of this subsection discussed the man lessons learned from the pilots Under the “**Removing barriers to energy efficiency in municipal heat and hot water supply**” (MHHWS) project there were 17 pilot sites in Almaty, Astana and Karaganda with 3 different financial models. schemes based on a revolving principle, when the financial savings are accumulated and spent for further EE investments. Pilot projects were based on a close cooperation with and training of municipalities, district heating (DH) utilities, Association of Apartment Owners (AAOs), building maintenance companies and in Karaganda establishment of ESCo type services with a local private company. Pilot investment projects were rather small scale, were implemented at individual multi apartment or school buildings and included installation of heat metering, heat substation with heat exchangers and heat flow regulation, and new building level domestic hot water

supply. The project worked with **Astana, Karaganda and Pavlodar regional governments and helped develop joint regional/municipal energy saving plans**, concept of energy management and methodology of energy auditing in public sector. Piloting the ESCO model in Karaganda (see Figure 6) is one of the main achievements of the project. The projects achieved 10-35% energy savings on average in old buildings. One of the important contributions of the project is

There were a number of pilot projects under the Project “**Energy-Efficient Design and Construction of Residential Buildings**” (EEDCRB). In particular, **the issuance of energy performance labels for buildings was piloted in Karaganda**, with the application to an administrative building in October 2014: an EE certificate and rating were prepared in accordance with the requirements of the national code, and then, for the first time in the country, a physical EE label was placed on the facade of the building. New energy-efficient residential buildings were piloted in two regions (see Box 1)

Under the “**Development and probation of the Housing-Municipal Building Maintenance Services’ Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protect** (MBMSM in small Cities) *a model for modernising inefficient district heating and other systems in Kazakhstan’s small cities was developed.* The analysis demonstrated the benefits of participation akimats in the formation of the model of management of the buildings; enhancing the role of the management boards of the buildings, formation of large regional operators for the communal services; the need to institute the notion of EE project managers; state participation in the partial coverage of the costs of modernization, etc. The lessons from this project fed into the current NAMA project

Under the project on the “**Promotion of Energy-Efficient Lighting in Kazakhstan**” (EEL) *indirectly contributed to the Law on Energy Saving and EE (2020)* a number of pilots projects were implemented of 2 types mainly: schools (*lighting audits and upgrading*)³⁷ and street lighting (*modernization of street lighting system in 5 pilot areas in Northern, Eastern, and Central regions of Kazakhstan (EE lighting equipment based on LED elements with automatic control system)*; estimates of Energy savings are around 5,961 MW/h, preventing the

emissions of CO₂ by 5,550 tons. There was also 1 pilot in a new residential building. Apart from this the project helped to fund (along with the municipality of Almaty) the 1st demonstration site for utilization of the used mercury containing CFLs: while this scheme needs some improvement) ecological and cost effectiveness aspects) it provides important lessons for the system that will be implemented country wide with the adoption of the law on “*Enlarged Responsibility of Producers and Importers*” under the concept of transition to Green Economy.

Under the project on the “**Demonstration of improvement of EE of public buildings at the example of the School No.25**” (School25 project), *the energy consumption and the expenses on the heating reduced by approximately one third (in the heating season), see Figure 7.* This project highlighted a policy problem related to the laws and procedures governing the budgeting of the schools, whereby the saved amounts on energy do not stay with the school thus lowering the incentives to undertake modernization. This project was funded by EBRD; the experience was analysed by the WB as part of the preparation of the Project Appraisal Document (PAD) for the WB funded EE project³⁸

Box 1: Pilot project under the Energy efficient design and construction in residential sector

1) The building design earned an energy performance rating of «B» (high efficiency – that is, with 15 to 40 percent less energy consumption than a minimally code-compliant building). Measurements from January 2015 through the end of the heating season in April 2015 **indicated energy savings at up to 25-30 percent relative to average comparable building stock in Karaganda.** The increase in initial construction cost due to EE measures was 9.5 percent but because of steep reductions of 47 percent in annual operating costs, **the life-cycle cost of the EE pilot building is projected to be 12 percent less** than the cost of a baseline building.

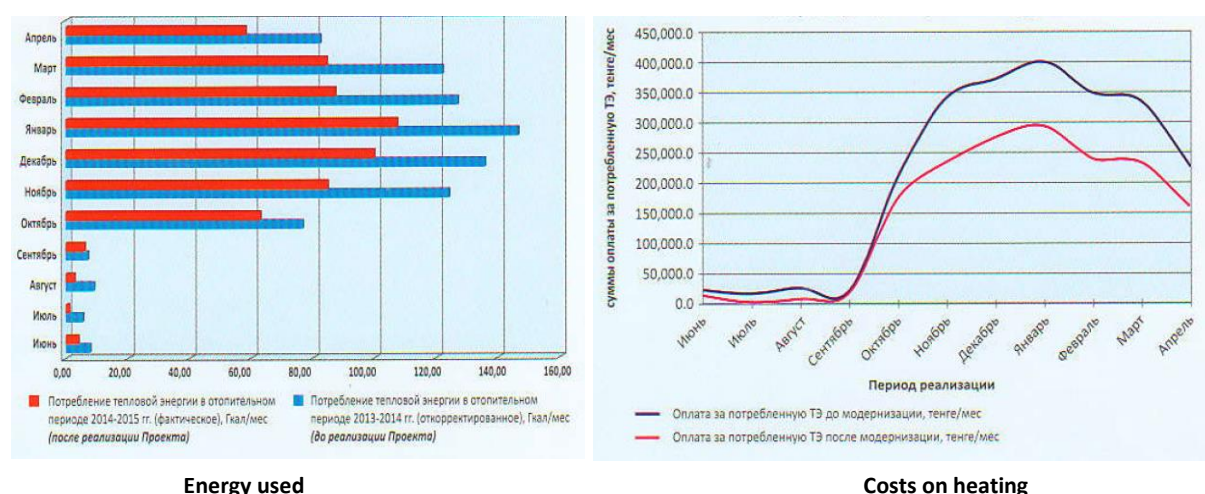
2) thermal modernization of an existing residential building in Karaganda (26 Mustafina Street), with, *inter alia*, installation of an automated heat point and insulated heat distribution pipes at the heat point and within the building. A new heat meter was installed as well. Monitored energy performance over the heating season of 2014-15 recorded a reduction in heat consumption was by 50 Gcal or about 16 percent in comparison with the comparable baseline period of 2010-11. GHG emissions have been reduced by about 28 tonnes per year. Furthermore, apartment owners collectively save about US \$840 per heating season (about \$40 per flat)

Source: UNDP/GOK (2015): “Summary of Activities and Outcomes from the UNDP/GEF Full-Sized Project Energy Efficient Design and Construction of Residential Buildings”

³⁷ Lighting audit was conducted in selected schools in 6 villages of Kazakhstan for LEDs and CFLs to be installed with financial and technical support of Kazakh private producers; Lighting modernization to LED was performed in 24 classrooms in Central and Eastern Kazakhstan. Energy saving is 1,876 MWt/h, estimated 1,745 tons of CO₂ emissions prevented. Together with UN Joint program of Mangistau and Kyzylorda and the regional akimats the lighting systems were upgraded in 4 schools with ES around 2,976 MW/h, preventing 2,775 tons CO₂ emissions.

³⁸ WB (2013): “Project Appraisal Document on a Proposed grant amount of US\$ 21,763,000 to the Republic of Kazakhstan for an energy efficiency project”, May 17, 2013

Figure 7: School No 25, savings in energy consumption and spending on heating



Source: Project Leaflet

All the projects (the larger ones, GEF funded more of course) have a component on capacity building of target municipalities, partner NGOs, regional governments, private service companies, energy consumers and experts. There are some examples below.

The ***Removing barriers to energy efficiency in municipal heat and hot water supply*** (MHHWS) project for example implemented country wide training events, training 500 + AAOs, dozens municipalities, and 100 energy specialists. Under the Project ***“Energy-Efficient Design and Construction of Residential Buildings” (EEDCRB): technical guidance*** was produced for building designers to encourage EE beyond code requirements and ***an enhanced course material on EE*** was included as a standard part of building-design curricula, delivered to at least 350 building design professionals by the end of the project. The project supported the 6th Multi-Comfort House Contest in Kazakhstan, in cooperation with the company Saint-Gobain, the Kazakhstan State Architectural and Construction Academy, the national Kazakhstan Scientific-Technical University, Pavlodar Technical University, and other institutions of higher learning in the country, delivering 16 lectures on thermal insulation, acoustic solutions, engineering systems, and green & passive houses etc. Under the ***Promotion of Energy-Efficient Lighting*** project (EEL) two avenues were pursued, namely ((1) *awareness raising campaigns among the general public* and (2) *promotional campaigns/training for EE market professionals (building-industry professionals, responsible regional officials, and other specialists, including industrial energy auditors)*. The project works with the *Center on Energy Efficiency in Housing and Communal Services* for the training component for the energy professionals, covering all the 16 regions in the country. This *Center* uses a model of operations which involves higher educational institutions and akimats in each region. Under the project on ***“Energy efficient design and construction in residential sector” (EESCRB)*** training was delivered to more than 1100 participants on EE building design and building code compliance via 28 national and regional workshops and seminars. Attendees included at least 500 designers and construction workers; 400 building owners, developers and service companies; 80 architects; 80 energy audit experts; and 60 journalists. This training covered a wide range of best practices in the integrated building design, energy labelling, green standards, energy audit, and energy-efficient technologies and their correct installation. Of particular note was advanced training, delivered in five regions of Kazakhstan to experts of building design organizations, the state

plan-review agency Gosekspertiza, and Committee for Construction. This training included in-depth discussion of energy-efficient design approaches, as well as new calculations to be conducted in code compliance documentation, cost estimation, and preparation of energy performance documentation. Finally, the project conducted six additional media training sessions in the cities of Atyrau, Ust-Kamenogorsk, Kyzylorda, Aktau, Taraz, and Shymkent for 120 Kazakh journalists from regional and local media agencies and TV channels. These sessions included training on energy efficiency itself, as well as proposed approaches and multimedia tools for informing the public about it. Various workshops were carried out also under the CAST project Green Growth & Green Bridge project

The UNDP/GEF project conducted an online survey for different participants using Survey Monkey to measure the effectiveness of all these educational activities. **Four-fifths of respondents** noted that training by the UNDP/GEF project had highly increased their familiarity and technical knowledge regarding energy efficiency in buildings.

Gained knowledge on behalf of various constituents in most cases significantly changed behaviour. A few examples illustrate the point:

- *National Government*: adopting large number of bold policies, committing to ambitious targets, and becoming increasingly the main funder for some of the joint with UNDO projects
- *Akimats*: replicating the pilots promoted by UNDP with their own funding.
- *Businesses*: acting as early adopters in number of cases when novelty ideas were promoted by UNDP (e.g. in the case of ESCOs green buildings)
- *Citizens improving their attitude and practices in relation to EE products* (EE lighting products; disposal of mercury containing lamps CFLs, participation in the Housing modernization programs changing with EE Heating)

Output 4. Improved regulations and practices developed for Public Transport in the City of Almaty

The Project on the “**City of Almaty Sustainable Transport (CAST)**” has achieved good dynamics in delivering its results. Overall there are several key breakthroughs, such as

- delivery of **new planning instruments like a Sustainable transport strategy for Almaty city 2013-2013 and transport model for municipality**
- successful public outreach and joint projects with other international development organizations, such as the EBRD;
- a portfolio of specific pilots with large confirmed spillover effects; and
- Bike line design pilot project providing a good platform for municipality to refocus road reconstruction planning and initiated discussions of the needs of cyclists.

One of the key successes is the concept of “green mobility” that is now being pushed ahead by the Almaty municipality. The project succeeded to instill a new climate of awareness among the key decision makers and technical staff at the Almaty municipality and the Transport Holding³⁹; They no longer feel that this concept is imposed on them; rather, having seen the long-term monetary gains from introducing sustainable transport management, they have become the active proponent of green mobility. The Project made significant progress in *enhancement of the practical knowledge* and skills regarding Sustainable Transport policies based on international best practice examples. Study tours organized by project enabled promoting new type of cooperation with international experts and sharing knowledge to broad audience.

However, there are certain challenges: (a) the discussions with the municipality about possible outcomes of the traffic management component are not finalized as yet (the key problem is related to the identification of the possibilities for data collection resources and the coordination of this component with development of the city master plan. (2) there are no designated personnel by the municipality to maintain and sustain the work with the TDM. Due to the changes in the economic situation in

³⁹ UNDP (2014): “Midterm review of the UNDP/GEF Project on City Almaty Sustainable Transport”, by Angeel Aparicio

Kazakhstan and devaluation of local currency and state budget deficit some of pilot projects, previously committed for finance via municipal budget are not confirmed by new administration. Project is in process of development of new financial mobilization strategy for these projects (LRT/BRT) and will spend additional work time for clarification of different scenarios within municipality⁴⁰.

The challenges in this project stem from a number of factors: the overambitious project document (which was made more realistic at the MTR stage); complexities arising from the intertwined project design elements including EBRD, which had faced its own challenges in certain aspects⁴¹ and (c) changes in the personnel of the municipality coupled with less than ideal oversight by the PSB. There are a number of lessons that could be learnt from this project, which are discussed in Section 5 on Lessons Learnt.

Improved regulations and practices developed for Public Transport in the City of Almaty	Indicator 4.1 GHG emissions from ground public transport in Almaty Baseline: 9 MtCO ₂ Target: 7 mil t CO ₂ eq of emissions reductions directly and indirectly over 10-year influence period.
	Indicator 4.2.: Efficiency of public transport Baseline: 21% of passengers use public transport Target: Share of passengers increases to about 40%

In terms of the targets stipulates in CPAP (2010-201):

- *It was planned that the project will likely lead to 7 mil tCO₂eq of emissions reductions directly and indirectly over 10-year influence period.* According to the MTR, this project will achieve 308 ktonnes CO₂eq reduction over 10-year after completion of CAST (hence this indicator needs to be revised downs in the next CPAP); and 31 ktonnes CO₂ (direct annual reduction) from starting of demo project commissioning
- *It was planned that the project will likely lead to the share of passengers increasing to about 40% from 20%.* According to the MTR, 20% increase of passenger trips on public transport by project end is likely. Thus again this indicator needs to be revised downs in the next CPAP)

Table 6: Performance of the portfolio against the indicators capturing improved regulations and practices developed for Public Transport in the City of Almaty

	Current CPAP	Next CPAP
Indicator 4.1 GHG emissions from ground public transport in Almaty Baseline: 9 MtCO ₂ ; Target: 7 mil t CO ₂ eq of emissions reductions directly and indirectly over 10-year influence period.	The results will be available during the next CPAP	339 Ktonnes of direct reduction in annual CO₂ emissions are likely (31 from demo projects; and 308 upon completion) [source: MTR]
Indicator 4.2.: Efficiency of public transport Baseline: 21% of passengers use public transport Target: Share of passengers increases to about 40%	Revised target planned to be achieved by project end in 2017	20% increase is likely by year 5 end [source: MTR]

⁴⁰ MTR and “Project Lessons Learnt Report” by Yelena Yerkovich, CAST PM, 10/11/2015

⁴¹ Development of proper planning of joint initiative with EBRD was critical from political and operational points for success of CAST project. Due to the fact that in 2012-2014 EBRD mostly focused on interventions into the investments in rolling stock, some other important sub-projects (e-ticketing and regulatory frameworks) were delayed or cancelled due to the lack of coordination with the municipality or unclear strategy for project monitoring between municipality and EBRD. Both agencies share concerns regarding correlation of work plans with the task force developed by municipality and requested to establish additional project implementation units/task force group for key pilot projects.

3.2.3. Contribution to advocacy on environmental and climate change issues

Almost all of the projects display examples of effective advocacy. The points below provide 2 examples only:

- The “*Removing barriers to energy efficiency in municipal heat and hot water supply*” (MHHWS) features one of the main success cases of the advocacy, namely succeeding to convince the government to include hearing efficiency perspective into the planned at the time modernization of the housing stock
- Under the *CAST project*, inclusion of the bike line design pilot in the project, which then provided a good platform for municipality to refocus road reconstruction planning and initiated discussions of the needs of cyclists

3.2.4. Contribution to Social Impact

Example of an impact on jobs

Under the MHHWS the impact on jobs was captured (see *Chapter 6 on Recommendations*), with the reconstruction of 1 existing building with EE heating leading to the creation of 1.6 green jobs.

Examples of social impact

The Project's work on the Law on housing relations and rules of providing housing allowance to the low income households contributed to the opportunity that the low income households gained in the form of 30% of compensation of the costs of thermal modernization, including the cost of upgrading the systems of heat supply. Since such assistance is provided only to a certain part of the population, the social value of such impact cannot be underestimated, because it solves the problem of social inequality, thus making the program more attractive to the utilities

There are examples of private businesses using the project as a vehicle for the implementation of socially important initiatives. As an example the lighting modernization in the school for children with impaired vision was funded by the Project partners, namely by Kazakhstan lighting producers. The replication of lighting modernization in the rest of classrooms is initiated by the city authorities and should be funded from the local budget.

Gender

Gender issues were mostly not explicitly addressed by the projects (this is evident reviewing the project documents and evaluation reports), however: (a) implementation relied heavily on equal gender roles, including decision makers – women were represented; and (b) equal participation of women was promoted and ensured during the training events. Going forward however it is recommended to have a more systematic approach. For example, the MTR for CAST notes that there is a potential to identify, through the TDM those social groups which could be more benefited by the new policy and by each pilot, and to make sure that the project's strategy does not include unexpected negative impacts on vulnerable groups

3.2.5. Extent of UNDP's effectiveness in producing results aligned with CPAP.

Overall the UNDP performance was strong in terms of achieving the results aligned with CPAP. Since there are no targets in the current CPAP for Outcome indicators for most important, with a few exceptions it is impossible to say whether the plans were achieved or not in a strict sense of the word. This can be only inferred by aggregating the results from the projects. While this will be not entirely precise it would be safe to say for some of the indicators the inferred targets would surpassed, e.g. in relation to the funds mobilized for the pilot projects. There is also strong performance in relation to CO2 reduction and savings in heat energy (for the CAST project this is entirely sure however, with the MTR

of that project ranking it likely”. The only indicator against which there is no record of progress is related to the implementation of RE project, which stems from the fact that UNDP chose not pursue vigorously given that fact that the Government prioritized EE first. The slower pace of the progress with the CATS project stems from several external factors but also overly ambitious plans and overcomplicated design of the initial Project document (currently revised).

The most impressive results are achieved in terms of contribution to policies and regulatory framework. The predominant majority of the regulations proposed by UNDP were adopted. And secondly, also impressive is the implementation of the pilot projects which each time added a new dimension (most of the time) adding to the body of knowledge. For some of the projects *heating, Small cities, Buildings, School no 5) the management should be credited for systematically capturing the learning form the pilots (not only in terms of GHG emissions, but also institutional, and social) and disseminating.

Table 7: Summary ratings of the projects from the MTRs and 1 Terminal Evaluation

	MHHWS TE	EEDCRS MTR	EEL MTR	CAST MTR
Overall results and attainment of objectives	HS	S	S	S
Relevance	R	R	R	R
Effectiveness and efficiency	HS	HS	S	MS
Country ownership	HS	HS	HS	MS/MU
Sustainability	L	L	ML	ML
Project impact Significant)	S	HS	S	S
Overall Project Rating	HS	S	S	S

Source: MTRs and Final Evaluation reports. Those in red ate inserted by the authors of this report, based on the other ranking (needed as the system of rankings changed over time)

There are impressive results at the project related outcome level for almost all the projects. Two projects had faced challenges (apart from the MHHWS project which had faced major challenges at the start back in 2007 but then got on track after redesign and under new management and achieved impressive

results). The challenges of the CAST project were mentioned. Apart from that the Green Growth and Green bridge project faced some challenges also in relation to the advisory part on the management arrangements of the Green Growth Initiative: after the changes at the Ministry, the recommendations ns related to the management of the Green Bridge initiative were not followed through (as opposed to the part on contribution to green growth policy which was very successful). As shown in Figure 7 of the 4 GEF funded projects were rated as Satisfactory at Midterm, and the MHHWS project received a **Highly Satisfactory** rating upon completion

In March 2015 the GoK reported that he energy intensity of the gross domestic product of Kazakhstan declined by 18.6% at the end of 2013 in comparison with the indicators of 2008. The GOK analysis shows that this result was achieved largely due to the structural reforms of the economy and a reduction by 6% in energy intensity of the industrial sector, but also supported by the law "On energy saving and energy efficiency", 22 regulatory legal acts, the program "Energy 2020" and 16 regional plans on energy conservation and energy saving program.⁴² UNDO can claim strong contribution to this.

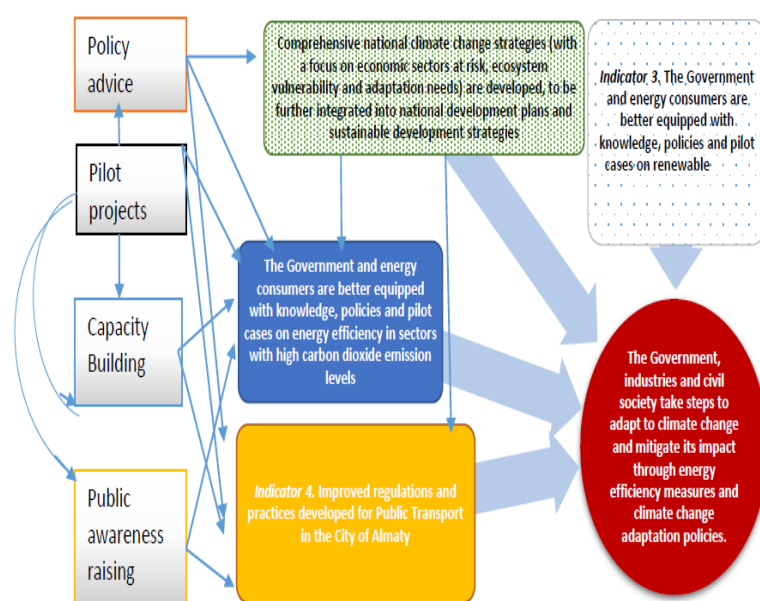
3.2.6. Underlying factors

⁴² <https://primeminister.kz/news/show/24/energoemkost-vvp-kazahstana-snizilas-na-186-za-5-let-mir-rk-/03-03-2015?lang=en>

Underlying factors have discussed throughout this Chapter: the text below only summarizes the main ones (with some of these discussed under the Chapter 5 on Lessons Learnt)

Overall Strong project designs. The projects, 4 out of 7 being GEF funded benefitted from the robust procedures for the project design, with strong links between upstream (Policy) and downstream (pilots, capacity building, communications) levels of engagement see Figure 6). The fact that there were strong interlinkages between the projects was an additional strength.

Figure 6: Reconstructed Results chain



Source: author

where the initial design was overly ambitious and overcomplicated (among other issues). This 2 cases highlight that even if the GEF procedures are quite stringent and very thorough in terms of project designs, even more care must go into it

Large and Influential. 4 GEF funded projects are large enough to be effective in making strong contributions to the Government low carbon agenda. 2 other projects, funded under the tied grants were smaller in size but still managed to make their contribution.

Timing/Alignment with Government priorities/close partnership relation with the Government. With the 5 projects related to the EE in residential buildings the portfolio was perfectly timed to support the strong and bold strides by the Government. The trust and partnership relations with the government only reinforced the effect.

Strategic vision, strong technical advice from GEF and hands on management. The strategic vision of the UNDP CO, the high quality technical advice from the GEF and hands on project management provide for a potent mix to result in overall quite a strong and effective portfolio.

Changes in the Government structure, priorities and financial standing. The projects struggled due to the frequent changes in the Government. More recently the projects were affected by the financial crisis that hit Kyrgyzstan with the devaluation of the currency: some of the pre-existing commitments on behalf of the akimats for co-funding were cancelled or reduced (e.g. in the case of EEL and CAST)

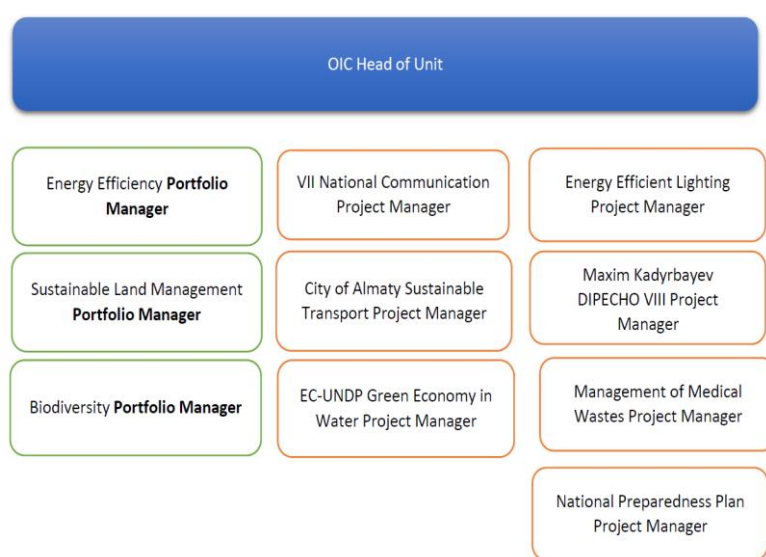
Project design is key and in the case of the 2 projects under this portfolio the issues with the initial design has however proved to be the reasons behind the challenges in the initial years (EE heating and CAST). In particular, the project on the *Removing barriers to energy efficiency in municipal heat and hot water supply* (MHHWS, was a very successful project at the end, but it lasted for 7 years and was ranked as unsuccessful during the MTR. The challenges were related to the program design and the quality of the program management at the start. With new management and with a revised approach and redesign the project changed course. And the 2nd one is the CAST project

3.3. Efficiency

This Section discusses UNDP practices, policies, decisions, constraints and capabilities affecting the performance of the Portfolio.

3.3.1. Synergies

Figure 8: Organigram of the Energy and Environment practice



Source: UNDP CO

Good synergies **within the portfolio** is a strong feature of the portfolio (as discussed in Section 3.1.6) and contributes to multiplying of the benefits of individual projects. There was a consolidation within the Energy and Environment practice which now has 3 portfolios: for EE, Sustainable Land Management and Biodiversity (see Figure 8): this promoted the programmatic synergies among the projects further.

Cross country linkages among the similar projects, often facilitated by UNDP IRH played a very positive role in terms of experience sharing and saving time on the issues that could be applied regardless of the country or with slight modification.

Collaboration with other UN agencies in Kazakhstan proved to be very important and was one of the factors allowing UNDP to engage in the joint integrated joint programs in Karaganda and Mangystau.

With these projects UNCT is implementing an integrated approach in these 2 localities, with multi angle approach to solving development challenges

Table 8: Joint Projects. March 2014-December 2016

Joint project	Outcome 3 related objective	Participating UN agencies	Budget
Improving the welfare and quality of life in the Kyzylorda region through innovative approaches to delivering economic, social and environmental services to the local population, including those most vulnerable	3. empower local authorities and communities in applying sustainable environmental practices to respond to existing environmental challenges, including climate change and natural and manmade disasters.	UNDP, UNICEF, UNFPA, WHO, UN Women, UNESCO	USD \$8,743,999 (KZ GoK 6,452,999 and UN 2,291,000)
Expanding the opportunities of the Mangystau region in achieving sustainable development and socio-economic modernization	Objective 3 (Environmental): By the end of 2016, local authorities and communities are empowered to apply sustainable environmental practices to respond to existing environmental challenges, including by increasing resilience to climate change.	UNDP, UNICEF, UNFPA, WHO, UN Women, UNESCO, UNHCR	USD \$8,259,333 (KZ GoK 6,769,833 and UN 1,489,500)

For this Outcome UNDAF specifies UNIDO (providing TA in developing national capacities for the optimization of industrial energy systems (\$500,000)) and UNECE (providing TA in developing capacities both at governmental and municipal levels for the EE market creation; through the Eastern European Energy Efficiency Fund it had committed to foster EE investments for climate change mitigation (\$50,000)). These plans did not materialize in full due to changing resource allocation plans at UNIDO (the anticipated GEF funding did not materialize) and UNECE (involved more in the water sector).

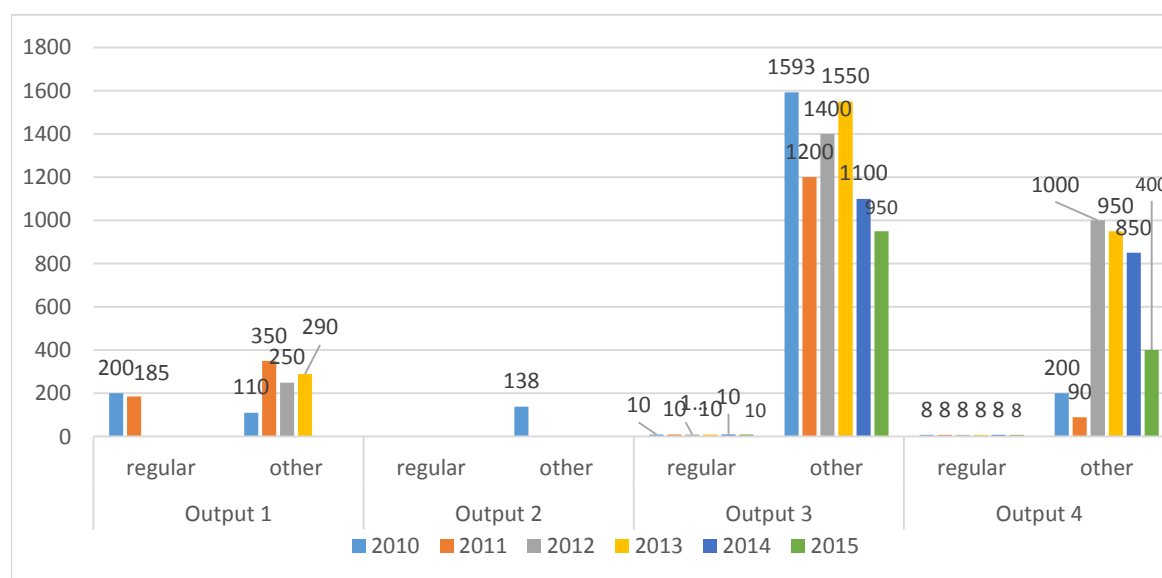
The team has established **good working relations with many international and bilateral agencies present in Kazakhstan** and active in supporting Kazakhstan's shift to low carbon economy. This was most prominent with regards to EBRD and USAID

- **EBRD** was the main funder for the pilot project in the school no 25. There is cooperation also under the EE lighting project (under the component on street lighting, where UNDP has played, on the request of the Almaty akimat a role of a peer reviewer of the contract. In the case of the CAST project the collaboration is deeper, with several activities interwoven with the EBRD plans. Even though there were some challenges with this particular case, whereby EBRD's changing its course affected the implementation of the whole project, this collaboration between the two agencies is strong overall.
- **USAID Central Asian Energy Efficiency Support Program (CAEESP)** places much emphasis on identifying energy efficiency projects within energy intensive users (industrial, municipal buildings, large scale residential blocks, single enterprise townships, etc.) industrial Energy Efficiency Project Development and Financing. Municipal Energy Efficiency Project Development and Financing support for Private Sector Energy Efficiency Service Providers⁴³

3.3.2. Resource mobilization

UNDP has been very successful in resource mobilization. This is remarkable if one compares the large resource mobilization targets stipulated in the CPAP for this Outcome (see Figure 9). *The Energy*

Figure 9: Resource mobilization plans from CPAP (2010-2015) under Outcome 3, '000 USD



Source: CPAP (2010-2015)

⁴³ http://pdf.usaid.gov/pdf_docs/PA00JHKQ.pdf

efficient design and construction in residential sector (EESCRB) project could serve as an example. The disbursed co-financing is **eight times more** of what has been initially planned and confirmed at the project's approval stage. The project should be particularly commended for its persistent work with the government that resulted in the increase of the initially committed co-financing by 4.5 times, from 24.85 million USD to 113.6 million USD. Also, the project has managed to attract the private sector funding (6 million USD; committed by the private contractor for the Karaganda pilot building). EE lighting project mobilized an additional 1.23 mil USD (including 6500 from private companies and 349K USD from NGOs). Under the MHHWS project, GEF provided a grant of 3.29 mil USD for project implementation and the planned co-financing was at the level of 7.18 mil USD consisting of the GoK in kind support of 0.13 mil USD, and cash co-financing from Almaty municipality in the amount of 1 mil USD, Kokshetau municipality 3.19 mil USD, and private Kokshetau Power utility 2.86 mil USD. The total budget of the project was planned to be 10.47 mil USD. *The actual cash co-financing provided was 54.8 mil USD, of which 48 mil USD by the National Program on Modernization of Housing and Municipal Infrastructure (as of 3/2013).*

3.3.3. Extent of engagement and coordination among the stakeholders.

UNDP's close relations with the Government, high quality expertise and management as well as neutrality have made it a partner of choice for the Government. This is a great asset to build upon. Similarly, a number of projects built innovative partnerships with the private sector. The work with the business associations was also effective. Overall, in most of the projects, UNDP offering specific, tailored services to these partners, displaying flexibility and commitment: this paid off reflected in high level of stakeholders' participation, efficiency and sustainability of these partnerships

Engagement with the nongovernmental sector could have been stronger. For example, the MTR for CAST project notes that "... [strong collaboration] ... with ITDP and other international NGOs active in the region can provide valuable guidance to the project, and should be actively pursued"

The cooperation with the NGOs sector should also go beyond the business associations and engaging more with civil society organizations to promote environmental awareness in Kazakhstan and contribute to the improvement of the environmental governance more.

3.3.4. Delivering on time

Several projects suffered from the extended periods of the review (this practice has not been reformed under GEF) and long periods taken to hire the project managers. This is one of the aspects to improve on under the new CPAP. Another one is related to sometimes formal nature of the Project steering committees, which should be made more effective in responding timely to emerging challenges (See Section 6 on Recommendations).

3.4. Sustainability

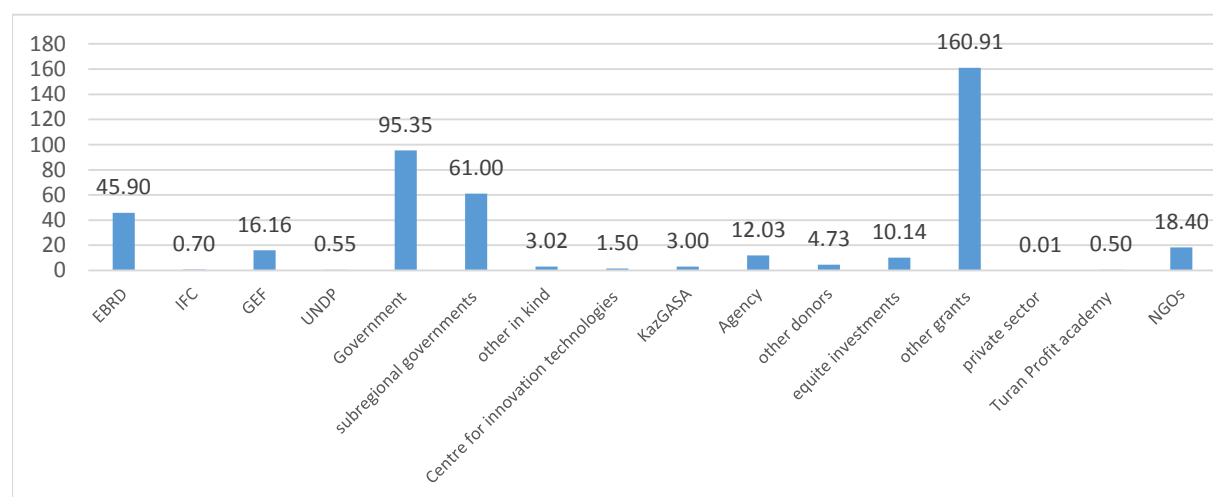
3.4.1. Design issues

Most of the projects had strong design elements which need to be present to promote the sustainability of the project results in the future: the basic model of "policy-pilots- capacity building- communication" is present in all the large GEF funded projects. Beyond this model, there are other essential ingredients (discussed below) which differed from project to project, but were strong overall.

3.4.2. Strong government commitment and Increased government cost sharing

The increasing shares of Government contribution in the funding of the budgets is a strong signal of government “ownership” and this in turn is a solid basis to believe that the Government will sustain the results and replicate. As shown in Figure 10, in the current portfolio the national Government provided approximately 111.85 mil USD and the subregional governments – 61.0 mil USD (**almost 173 mil USD in total**) to the portfolio as co-financing. And to reiterate 2 of the projects in the portfolio were among the first ones funded almost at 80% by the GoK (along with the integrated projects in Mangystau and Kyzylorda), under the tied grants modality.

Figure 10: Level and sources of co-financing, Mil USD



Source: Project documents

Next subsection brings some examples of replication. It could also be observed that the private sector has committed 10 mil USD: this is always a sign of healthy developments in any field as the private sector is more likely to be keen to get return/reward and more cautious. Also NGOs/academia are among the contributors, around 19 mil USD, which is also quite remarkable, and speaks of the innovations that the projects brought, which help to have a forward looking view and hence have better prospects of sustainability. Table 9 describes the total number of co-financing by project. Overall various stakeholder provided 196 Mil USD in co-financing

Table 9: The total amount of co-financing by projects, Mil USD

MHHWS	EEDCRB	EEL	CAST	Small cities	School No. 25	GG@GB
54.9 ¹	11.0 ²	28.6 ³	100.0 by the 5 th year end (likely) ⁴	0.8 ⁵	0.3 ⁶	0.3 ⁷
Total: 196.0						

Sources: (1) terminal evaluation (including from the National Program on Modernization of Housing and Municipal Infrastructure 2011-2020 with total budget 7,4 bil USD, of which **40% allocated for EE**); (2) MTR, (3) MTR, including from the State program, (4-7) final Reports

Government cost sharing does not however automatically translate into strong ownership. As is observed in the MTR of the CAST project, such commitment could have been stronger in that project

3.4.3. Evidence of increasing practice of replication outside the project

Review of the existing documents reveal increasing trend of replication. This happens mostly in the form of subnational governments (municipalities) allocating grants to the projects. Such cases are present in all three GEF funded projects related to residential and public sector and were described in the Section 3.2.2 on effectiveness.

The cases when the replication happens without the involvement of the project have a special value. And there are such examples again in all 3 projects. For example:

- **Under the EEL project**
 - In *East Kazakhstan region*: Akimats allocated funds from the local budget in the amount of \$ 50K for the modernization of street lighting. The city Ustkamenogorsk installed modern road lighting fixtures (420 pieces of LED lamps). In 2014 across the East Kazakhstan region 13,884 energy-saving lamps were installed in the amount of \$ 4.1 million.
 - In *Central Kazakhstan*: the local authorities planned funds for lighting system modernization in all the schools of the city of Kokshetau.
 - In *Pavlodar region*: 35% of schools were modernized to LED, investing \$3.3 million. 28 autonomous street lighting systems were installed (23K USD)
 - In *Northern Kazakhstan*: an automated system of street lighting control via the GSM network was put into operation covering 40 % of the total volume. All CFLs of 400W were replaced with LED saving annually 3.8 million KZT (21K \$US). 55 % of street and park lighting replaced by EE lighting
- In the case of the **MHHWS** the large scale replication resulted from the fact that the project was engrained in that state Program and it is hard to separate out the specific examples. One specific example is Kazakhstan Center for Housing and Utility Services publishing new guidance documents post project using the experience gained during the project,

3.4.4. Significant involvement at the policy /regulatory level,

Extensive engagement in policy level advice is another strategy boosting the potential for sustainability, since the policies and laws once approved are mandatory for implementation (unless the intentions of the government change drastically). The EEDCRB project provides one of the good examples of that: because of their universal reach across all new construction and buildings undergoing capital renovation, mandatory building codes have the potential to be the most effective instrument for broad transformation of the building sector toward greater energy efficiency. In Kazakhstan, there is a long tradition of such regulations, dating back to the Soviet era. The UNDP/GEF project supported a detailed assessment and recommendations regarding the entire process for design and construction of residential housing, with an eye toward improving integration and facilitating code compliance throughout. This assessment, in turn, led to the creation of a construction process roadmap (under review of the GoK).

3.4.5. Viability of partnerships mechanism

Several organizations (state bodies, NGOs, think tanks, etc.) were engaged in more than project as conduits for training. This helped them become more established and be increasingly stronger partners for UNDP: Kazakhstan Center for Housing and Utility Services is one such example.

Similarly, there are several municipalities which UNDP has engaged often in several projects (e.g. Karaganda in the case of ESCO model): these were more willing to test novel approaches, which has proved to be invaluable for UNDP.

Viable partnerships at both national and subnational levels has proven to be instrumental in many cases to promote the sustainability of the reforms being promoted by the project. For example, in the case of

EEDCRB project CHCALM and executive branches of local and municipal government (akimats) carried out compulsory energy audits of buildings before major repairs under regional development programs (modernization of housing and utility services), awarding energy performance certificate (“Energy Passport”).

3.4.6. Long term perspective

There are several examples demonstrating that the teams promoted very novel ideas, paving the ground for future reforms. Partnerships with some of the businesses was instrumental in this case. EEDCRB has one such example: while building codes push the entire construction sector toward greater energy efficiency by defining a new “floor” of energy performance, some early adopters are interested in pursuing even more energy-efficient design approaches and technology, beyond code requirements. Therefore, in addition to its work in support of development and implementation of building codes, the UNDP/GEF project “*Energy-Efficient Design and Construction of Residential Buildings*” (EEDCRB) promoted design guidance and voluntary standards. Together with the National Green Building Council (KazGBC), established in 2013, a new voluntary National Standard of Green Buildings was established. The standard will be used by the giant national holding company Samruk-Kazyna in selection of projects for state-funded construction programs. The construction of new buildings for EXPO 2017 has started in Astana. National companies responsible for these projects – JSC Astana EXPO 2017, Fund Samruk-Kazyna, and the BI Group – are constructing green residential quarters and exhibition pavilions, which, upon completion, will be certified in accordance with national and international green standards. An advanced system aimed at reducing water and energy consumption by 20 percent to be installed at the facilities. According to preliminary estimates, the project will cost 44 billion tenge (\$US240 million)⁴⁴

4. CONCLUSIONS

There were significant achievements for the Outcome in the part of energy efficiency in the residential and public sectors both in terms of policy and demonstration projects. Wherever targets were specified and measurement was possible the achievements surpassed the targets (reduction in GHG emissions, investment leveraged for the pilot projects). The policies and regulations drafted with the support of the projects were in their vast majority adopted by the Government: this is true in particular in relation to incorporating EE heating and hot water supply in the modernization of housing stock (where the project was instrumental in effectuating the respective Government Program), building codes (where many regulations developed by the project were adopted) and EE lighting (where the project had key contribution to the Government “Energy Efficiency (EE)-2020” program). The project had a strong contribution to developing the concept of transitioning to green economy. The project was instrumental in modernizing the systems of energy audit and the system of quality control for EE lighting products (latter is in progress). The numerous pilots completed by the project demonstrated the effectiveness of EE solutions and played a key part in building the knowledge base and awareness raising of the government, businesses and citizens. In a number of areas, the project played a pioneering role with the pilots (e.g. ESCO model and the model for small cities).

With the project in Almaty on EE in transport, the project delivered a number of very important results so far, especially in the part of the Sustainable transport strategy for Almaty city 2013-2013 and transport model for municipality (with more planned during the 18 months’ extension).

The project contributed to the policy on RES through the Concept note on transitioning to green economy. Apart for 2 small pilots with solar panels, no separate project was implemented for RES and hence the target is not met, but that was well justified as the state policy on subsidized energy tariffs

⁴⁴ <http://www.astanatimes.com/2014/11/construction-green-housing-begins-astana/>

and no FITs for RES until recently did not ensure an environment which would be economically attractive for RES businesses

The fact that the Government and UNDP had 2 of the earliest cases of tied grants reiterates the finding that UNDP is a partner of choice for the Government for this portfolio. UNDP has forged successful partnerships with international development partners (EBRD in particular), local governments, businesses and NGOs. In many areas (e.g. in training, audits) UNDP has helped to establish sustainable mechanisms of training and certification.

The work done under this CPAP has laid an impressive foundation for the next CPAP: implementing the NAMA, and other projects which have already been agreed on (including in RES) thus continuing to contribute to the Government's agenda of moving to low carbon growth pattern

The portfolio benefitted from the high quality and hands on project management and portfolio level advice from the CO and IRH. The large levels of co-financing received is a testament of the appreciation of the role and work done by the team.

With only small adjustments UNDP CO will be well positioned in terms of SDGs making the work even more efficient.

5. LESSONS LEARNT

Based on the above analysis there are a few Lessons Learnt identified below.

- Right timing for the entry point into specific niche areas is crucial for success. The project on EE in municipal heating and hot water supply (MHHWS) is a good example (after its redesign) in that it coincided with the government starting the modernization of the housing stock, and the project seized the momentum;
- Being proactive in meeting government and Parliament representatives in various public fora; using well designed and active communications strategies, as well as being very proactive in partnership building (with various constituents) pays;
- It is important not to overcomplicate the design of the projects (and on the top of it, tie the components in multiple ways with each other) especially if there are multiple agencies involved and especially when entering a new thematic area. Otherwise there is a risk that several components will be affected when something specific does not work or gets substantially delayed;
- During the project design process attention to detail is very important capturing the extent of the training needed, availability of the trainers/consulting companies locally (which can then affect the smoothness of project implementation, complicate procurement, etc.), level of risks related to the internal workings of the future counterparts (was relevant for the startup phase of MHHWS and CAST), etc.;
- Systematic efforts aimed at capacity building in a sustainable way, involving various stakeholders pays and deserves a special attention and perseverance as not everything would go well every time; and
- There should be an allowance to fail also, especially in the pilot projects when trying various new concepts: some of these might not work and UNDP as an organization should embrace it, learning the valuable lessons.

6. RECOMMENDATIONS

Based on the above analysis there are a few recommendations below on how UNDP could adjust certain aspects of its work. These are separated by type: Operational and Thematic.

Operational Recommendations

1. Building partnerships.

- Resource mobilization becomes even more important than before. And hence there will be a need to be even more proactive in partnership building. This applies to traditional funding agencies but also, to other UN agencies, including those that do not have presence in the country (UNIDO, UNEP, etc.) as well as other organizations, to leverage the committed sources of funding as well as promote the ideas of the project. This happens most of the time, but needs to happen more

2. Respond to SDG positioning by improving monitoring and learning practices

- Partnerships have an even more emphasis now given the highlighted role in the SDGs. SDGs should be used for repositioning of the CO work in general and in this portfolio in particular. *As an example UNDP is well positioned to support developing a coherent set of mainstreaming measures for the implementation of the Concept on transitioning to Green Economy (e.g. through a multi-stakeholder forum for a green economy, green screening of public expenditure, green accounting, and environmental fiscal reform);*
- GEF funded projects have an emphasis on energy and environment related indicators. But UNDP, given its human development mandate can and should include social ones (*e.g. related to access to and affordability of the services for the poor, as well job creation*) to capture social and human development aspects through project level indicators. UNDP Istanbul regional Hub is now promoting this practice and the MHHWS project included 1 indicator on green jobs already. This practice should be applied across all the projects in the portfolio; and
- The pilots need to be evaluated routinely to capture not only the energy related outcomes, but also institutional, social, employment, etc. This is happening in some of the projects and not so much in others. It is recommended that this becomes a routine.

3. Have a more systematic approach to promoting gender balance and to considering special policy issues for social groups

- Identify aspect of the new policies from which the various social groups (including women) could benefit more and enhance if justified; and
- Identify aspects of the new policies and project strategy that might have unexpected negative impacts on vulnerable groups and address

4. Improve the effective monitoring and planning of the projects

- The PSCs should become truly effective platforms to mitigate the emerging risks in the projects, which are used to discuss also controversial issue (this was highlighted in the CAST MTR);
- The projects should have effective project planning tools (apart from the Annual workplans) in the form of time bound roadmaps, monitoring plans for various components. This was highlighted in 2 MTRs (EEL and CAST); and
- The processes for hiring project managers need to be expedited so that not to lose valuable time at the start of the projects

5. Use every possible avenue to promote the ideas of the project building support groups

- New project managers should receive some briefings/training on effective advocacy and communication. The successful examples should be shared across the projects better.

6. Improve CPAP indicators

- It is recommended that the CPAP indicators as well as project level indicators are harmonized to allow for aggregation. As the current Evaluation indicates this was not possible for some of the CPAP indicators. It should also be assured that there are relevant baselines and targets

Thematic Recommendations

1. *Given the new impetus towards greener economy, environmental fiscal reform is needed to shift incentives from 'brown' to green economic activities, and towards inclusive approaches; this will require specialized inter-agency expertise. Subsidies and other incentives will need a thorough review, notably in oil and gas, mining and agriculture. This is an area where UNDP could be very effective; and*
2. *Financial barriers.* The shortage of readily available and affordable debt financing is a key barrier to the uptake of EE projects in public facilities. Commercial banks are generally not familiar with financial and technical issues involved in EE projects and perceive the risks to lending to municipal and other public entities, as well as transaction costs of such projects, to be high. The excessively risk-averse bank behavior, high collateral requirements and lack of viable delivery mechanisms have also constrained EE financing. As with many post-Soviet states, a culture of municipal financing and credit is lacking, with many public entities reliant on state budget transfers to cover most if not all of their expenses and face borrowing restrictions. On the other hand, the state budget EE funding for municipal and public entities is potentially available but requires financing frameworks to be developed. Developing an enabling environment in this context was recommended in particular in the context of EEL project. This could be an area for UNDP to engage in.

ANNEXES

INDIVIDUAL CONSULTANT PROCUREMENT NOTICE

Date:

16 June 2015

Country: Astana, Kazakhstan

Description of the assignment: International expert on outcome evaluation in the practice area of energy and environment

Project name: UNDP Country Office

Period of assignment/services: 30 working days within July 2015 – October 2015

Application consists of proposal, CV, P11, cover letter and methodology, confirmation of interest and submission of financial proposal should be submitted to either www.jobs.undp.org or aliya.akhmetova@undp.org not later than 06 July 2015.

Any request for clarification must be sent in writing, or by standard electronic communication to the address or e-mail indicated above. The UNDP will respond in writing or by standard electronic mail and will send written copies of the response, including an explanation of the query without identifying the source of inquiry, to all consultants.

1. BACKGROUND

According to the Evaluation Plan of UNDP Kazakhstan for 2010-2015, an outcome evaluation is to be conducted to assess the impact of UNDP's development assistance in the Practice Area of Environment and Climate Change - outcome "The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies" (the Country Programme Action Plan (CPAP) and the Country Programme Document (CPD) for Kazakhstan for 2010-2015).

UNDP Outcome 3 is also an integral part of Environment Sustainability - one of three pillars under the United Nations Development Assistance Framework (UNDAF) in Kazakhstan for 2010-2015 with its outcome "By 2015, communities, national, and local authorities use more effective mechanisms and partnerships that promote environmental sustainability and enable them to prepare, respond and recover from natural and man disasters." UNDP supports the Government of Kazakhstan in development and implementation of the comprehensive climate change adaptation and mitigation strategies that would enable the Government to move towards the Green Economy and utilize the potential of the Nurly Zhol Programme.

UNDP Country Office Kazakhstan (further referred to as UNDP) would like to evaluate its performance during 2010-2015 against the expected results in Outcome 3 and to receive an unbiased analysis of the effort-time ratio. These evaluation and analysis will help UNDP to draw the lessons learnt, and will be used to build up a more efficient strategy for next UNDAF 2016-2020.

With this regard, an Outcome Evaluation should show what has been and what has not been achieved, what the reasons for success or underperformance are and what improvements could be recommended for use in the next round of programmatic activities. The role of UNDP in assisting Kazakhstan in its development agenda should be particularly attenuated.

The outcome evaluation is conducted in 2015 towards the end of current programme cycle of 2010-2015 with a view to contributing to better and more effective performance in the next 2016-2020 programme.

2. OBJECTIVE AND SCOPE OF WORK:

The overall objective of the outcome evaluation will be to assess how UNDP's environment programme results contributed, together with the assistance of partners, to a change in development conditions. The purpose of the proposed evaluation is to measure UNDP's contribution to the outcome outlined above with a view to fine-tune the current UNDP environment programme, providing the most optimal portfolio balance and structure for the next programmatic cycle.

The evaluation will cover UNDP outcome 3 (Table 1.) under current CPAP period 2010-2015. This outcome evaluation will assess progress towards the outcome, the factors affecting the outcome, key UNDP contributions to outcomes and assess the partnership strategy. The evaluation will also assess the portfolio alignment and its relevance to the UNDAF 2010-2015.

Table 1.

Outcome 3: The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies	
Projects to be evaluated under the Outcome	
8.	Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25
9.	Removing barriers to energy efficiency in municipal heat and hot water supply
10.	Promotion of Energy-Efficient Lighting in Kazakhstan
11.	Energy efficient design and construction in residential sector
12.	City of Almaty Sustainable Transport
13.	Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana "Green Bridge" Initiative
14.	Development and probation of the Housing-Municipal Building Maintenance Services' Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection

Outcome status: Determine whether there has been progress made towards achieving the targets in Outcome 3 and identify the challenges to the attainment thereof. Identify innovative approaches and capacities developed through UNDP assistance. Assess the relevance of UNDP outputs to the Outcome.

Underlying factors: Analyze the underlying factors beyond UNDP's control that influenced the Outcome. Distinguish the substantive design issues from the key implementation and/or management capacities and issues including the relevance and nature of outputs, degree of stakeholders' and partners' involvement in the completion of outputs, and implementation strategies employed by the projects and UNDP.

Strategic Positioning of UNDP: Examine the distinctive characteristics and features of UNDP's environment programme and how it has shaped UNDP's relevance as a reliable partner. UNDP's position will be analysed in terms of communication, i.e. how UNDP articulates the need for its presence in the country, how UNDP meets partner needs by offering specific, tailored services to these partners, how UNDP mobilizes resources for the benefit of the partners. A specific attention should be given to the UNDP's comparative advantages over other development organizations in Kazakhstan.

Partnership strategy: Ascertain whether UNDP's partnership strategy has been appropriate and effective. Specific attention should be given to how new partnerships were formed, level of stakeholders' participation and efficiency of the partnerships. Examine the partnership among the UN Agencies and other donor organizations in the relevant field. The Evaluation will also aim at validating the appropriateness and relevance of the Outcome to the country needs, hence enhancing development effectiveness and/or decision making on UNDP future role in environment.

Lessons learnt: Identify lessons learnt, best practices and related innovative ideas and approaches in relation to the management and implementation of activities. Lessons learnt is the critical aspect of the Outcome Evaluation as it will be use to design a better implementation strategy for the programmatic cycle.

The consultants will pay particular attention to the following:

a) Relevance

- Extent to which UNDP support is relevant to Kazakhstan's low carbon development agenda and environmental priorities as articulated in the National Strategy of Kazakhstan 2030, Nurly Zhol Programme, sectoral development programs of relevant line ministries and the UNDAF.
- Relevance of programme and project design in addressing the identified environmental priority needs in CPAP 2010-2015.
- Extent of the progress towards the achievement of the targets in the Outcome.
- Extent of UNDP's contribution to mainstreaming the Outcome's targets in the national programmes.

b). Efficiency

- How much time, resources and effort it takes to manage the portfolio, what could be improved and how UNDP practices, policies, decisions, constraints and capabilities affect the performance of the Portfolio.
- Roles, engagement and coordination among the stakeholders.
- Synergies and leveraging with other programmes in Kazakhstan.
- Extent of synergies among UNCT programming and implementation.

c) Effectiveness, results and sustainability

- Extent of UNDP's effectiveness in producing results aligned with CPAP.
- Extent of UNDP achievement in national partners' capacity development, advocacy on environmental issues and climate change related policymaking.
- Contributing factors and impediments and extent of the UNDP contribution to the achievement of the outcomes through related project outputs;
- Extent of UNDP partnership with civil society and local communities to promote environmental awareness in Kazakhstan.

d) Sustainability

- Extent to which UNDP established mechanisms ensure sustainability of the policymaking interventions
- Extent of the viability and effectiveness of partnership strategies in relation to the achievement of the outcomes.
- Effective use of Environment portfolio to support appropriate central authorities, local communities and civil society in climate change related agenda in a long term perspective.
- Possible areas of partnerships with other national institutions, NGOs, UN Agencies, private sector and development partners.

Based on the above analysis, provide recommendations on how UNDP should adjust its partnership arrangements, resource mobilization strategies, working methods and/or management structures to ensure that the Energy and Climate Change related portfolio fully achieves its outcomes in the next UNDAF 2016-2020 period.

METHOTOLOGY

The Outcome Evaluation will involve all relevant stakeholders including but not limited to the UN, the governmental institutions, CSOs, private sector, multilateral and bilateral donors, and beneficiaries.

An Outcome Evaluator will undertake a number of field visits to selected project sites and will convene briefing sessions with the UN and Government officials, as well as with donors and partners. All relevant data should be disaggregated (by sex, age and location) where possible.

Based on the objectives mentioned above, An Outcome Evaluator will propose a methodology and plan for the assignment that will be approved by UNDP senior management. It is recommended that the methodology should take into account the following:

1. Desk Review

- a) Study UNDAF and the CPD/CPAP for a description of the intended outcome, the baseline for the outcome and the indicators and benchmarks used. Obtain information from the country office gathered through monitoring and reporting on the outcome. This will help to define whether change has taken place.
- b) Validate information about the status of the outcome from contextual sources such as project evaluation reports. To do this, the consultant may use interviews or questionnaires during the evaluation that seek key respondents' perceptions on a number of issues, including their perception of whether an outcome has changed.
- c) Base the evaluation on a review of relevant analytical documents, including the UN progress reports. The current status of and degree of change in the outcomes shall be assessed against the Country Analysis and the baselines for the outcome and the indicators and benchmarks used in relation to UNDAF, CPD and CPAP, relevant project/program documents, progress and monitoring reports of projects/programs, contextual information from partners.
- d) Study all relevant project reports, with a particular focus on the mission, progress. The project reports include the annual reports, respective project documents, Terminal and Mid Term evaluation reports, Annual Progress Report (APR)/Project Implementation Report (PIR). In addition, the evaluator could review project budget revisions, progress reports, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment.
- e) Undertake a constructive analysis of the outcome formulation itself (and the associated indicators). This is integral to the scope of outcome evaluation. The consultant can and should make recommendations on how the outcome statement can be improved in terms of conceptual clarity, credibility of association with UNDP operations and prospects for gathering of evidence.
- f) Conduct interviews with key informants including gathering the information on what the partners have achieved with regard to the outcome and what strategies they have used including focus group discussions.
- g) Undertake field visits to selected sites, meet with all relevant UNDP staff and the Government officials, donors and partners.

2. Primary Data collection

Data will be mainly collected from the existing information sources through a desk review that will include the comprehensive desk review and analysis of relevant documents, information, data/statistics, triangulation of different studies etc. This phase will be comprised of:

- Interviews with all Key Informants and Players
- Questionnaires where appropriate
- Field Visits to project sites and partner institutions where appropriate

3. Stakeholders

The evaluator will meet the following main development actors involved in the implementation of the Outcome 3:

- UNDP Kazakhstan
- Ministry for Energy
- Ministry for National Economy and Budget Planning
- Ministry for Investment and Development
- Ministry for Internal Affairs, Committee for Emergency Response and Disaster Risk Reduction
- Akimat of KyzylOrda Oblast
- Akimat of Almaty
- NGOs

The list of the partners is not exhaustive and will be supplemented upon the beginning of the actual Outcome Evaluation.

3. EXPECTED RESULTS AND PAYMENTS:

The Outcome Evaluator is expected to deliver the following:

- Initial Work Plan
- Evaluation Inception Report
- Draft Outcome Evaluation Report
- Final Outcome Evaluation Report

Deliverable	Content	Timing	Responsibilities
Initial Work Plan	Proposed schedule of evaluation mission's tasks, activities and deliverables	To be submitted with expression of interest	Outcome Evaluator to address the UNDP's comments UNDP CO to accept the Initial Work Plan if satisfied with the quality of deliverable.
Evaluation Inception Report	Should be prepared by the evaluator before going into the full-fledged data collection exercise (proposed methods, proposed sources of data, schedule of work)	Beginning of evaluation mission	Outcome Evaluator to address the UNDP's comments UNDP CO to accept the Evaluation Inception Report if satisfied with the quality of deliverable.
Draft Evaluation Report	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission	Outcome Evaluator to address the UNDP's comments UNDP CO to provide comments on the Draft Evaluation Report
Final Evaluation Outcome Report	Revised report	Within 1 week of receiving UNDP comments on draft	Outcome Evaluator to address the UNDP's comments UNDP CO to accept the Final Evaluation Outcome Report if satisfied with the quality of deliverable.

EVALUATION DELIVERABLES

The Evaluator will conduct a preliminary scoping exercise and come up with a short agenda (containing an evaluation matrix, evaluation protocols for different stakeholders, and a description of the methodology), to be discussed with the UNDP Country office and other stakeholders, before s/he start the evaluation itself.

The key product expected from each outcome evaluation is a comprehensive analytical report that includes, but is not limited to, the following components:

- Title and Opening page

- Executive summary
- Introduction
- Description of the intervention
- Outcome Results
- Conclusions and recommendations & Lessons
- Annexes

For more detailed information, please see the attached template in [Annex C](#).

The report should present clear, well-structured and supported findings, and provide concrete and implementable recommendations. UNDP should be able to share it readily with partners and it should generate consensus around the finding and recommendations.

When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (or have not) been addressed in the final evaluation report.

The draft and final evaluation reports are to be submitted in English.

EVALUATION TIMEFRAME

The total duration of the evaluation will be 30 days according to the following plan:

Activity	Timing	Completion Date (to be specified upon beginning of works)
Desk review	5 days	31 July 2015
Evaluation Mission	6 days	07 August 2015
Draft Evaluation Report	10 days	17 August 2015
Final Report	10 days	26 August 2015

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP CO in Kazakhstan. The UNDP CO will contract the Outcome Evaluator and will ensure timely provision of per diems and travel arrangements within the country for the Evaluator.

The Outcome Evaluator is an Independent Consultant who will report to the Deputy Resident Representative of UNDP Kazakhstan with delegated authority to the Evaluation Focal Point - Head of Energy and Environment Unit. Energy and Environment Programme Unit will be responsible for liaising with the Evaluator to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

Evaluator will work home/office-based with presence in UNDP premises as needed for the desk reviews, and will make travel arrangements in coordination with UNDP CO to visit Kazakhstan.

4. REQUIREMENTS FOR EXPERIENCE AND QUALIFICATIONS

The Outcome Evaluator shall have prior experience in evaluating similar outcomes, projects. Experience with GEF financed projects is an advantage. The evaluator selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The evaluator must present the following qualifications:

- Minimum Master's degree in environmental management, business administration, development economics, financial management
- Minimum 10 years of professional experience relevant to the sustainable development, climate change, energy efficiency and carbon emissions.
- Knowledge of the Central Asian economy and development priorities;
- Previous exposure to the international development organizations, in particular the UN.
- Previous experience with results-based monitoring and evaluation methodologies;
- Excellent English writing and communication skills, excellent Russian reading comprehension.

5. DOCUMENTS TO BE INCLUDED WHEN SUBMITTING THE PROPOSALS.

Interested individual consultant must submit the following documents/information to demonstrate their qualifications:

1. Filled and signed P11.
2. Personal CV including past experience in relevant field\area.
3. Methodology.
4. Cover letter, explaining why he/she consider himself/herself the most suitable candidate for the work.
5. Standard letter on confirmation of interest and submission of financial proposal.

6. FINANCIAL PROPOSAL

Lump sum contract

Please note that the **financial proposal is all-inclusive** and shall take into account various expenses incurred by the consultant/contractor during the contract period (e.g. fee, health insurance, vaccination and any other relevant expenses related to the performance of services...). The financial proposal shall specify a total lump sum amount, and payment terms around specific and measurable (qualitative and quantitative) deliverables (i.e. whether payments fall in instalments or upon completion of the entire contract). Payments are based upon output, i.e. upon delivery of the services specified in the TOR. In order to assist the requesting unit in the comparison of financial proposals, the financial proposal will include a breakdown of this lump sum amount (including travel, per diems, and number of anticipated working days).

- **Travel:** This position envisages one mission to Kazakhstan, Astana – 3 days, Almaty – 2 days, Kyzylorda region – 1 day.
- Dates of mission will be determined after contract signing.

All travel expenses should be included in total contract amount.

7. EVALUATION

1. Only shortlisted candidates will be considered for the Technical Evaluation. The shortlisting will be based on respective educational background and minimal requirements for work experience.
2. Individual consultants will be evaluated based on the following methodology:

Cumulative analysis

When using this weighted scoring method, the award of the contract should be made to the individual consultant whose offer has been evaluated and determined as:

a) Responsive/compliant/acceptable, and

b) Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.

** Technical Criteria weight: 70% - 500*

** Financial Criteria weight: 30% - 214*

Minimum passing score for technical evaluation is 70% which is 350 points

Criteria	Weight %	Max. points
<u>Technical:</u>		
Minimum Master's degree in environmental management, business administration, development economics, financial management	20	100
Minimum 10 years of professional experience relevant to the sustainable development, climate change, energy efficiency and carbon emissions	30	150
Knowledge of the Central Asian economy and development priorities;	15	75

Previous experience with results-based monitoring and evaluation methodologies	20	100
Previous exposure to the international development organizations, in particular the UN.	10	50
Knowledge of English; knowledge of Russian is an asset	5	25
Total technical score:	70%	500
Total financial score:	30%	214

ANNEX

ANNEX 1 - TERMS OF REFERENCES (TOR) – *[to be provided by procuring unit with the individual consultant procurement notice]*

ANNEX 2 - INDIVIDUAL CONSULTANT GENERAL TERMS AND CONDITIONS – *[to be provided by procuring unit with the individual consultant procurement notice]*

Development and probation of the Housing-Municipal Building Maintenance Services' Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection

Annex 2: Brief Information on the projects

Outcome 3: The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies				
Projects to be covered under those Outcome Evaluation		Brief description	Status	
	Removing barriers to energy efficiency in municipal heat and hot water supply (MHHWS)	The project objective is to reduce greenhouse gas emissions from the municipal heat and hot water supply systems in Kazakhstan and to lay down the foundation for the sustainable development of these services taking into account local as well as global environmental considerations. The project was designed to build the capacity and create incentives for the implementation of new institutional and financing mechanisms with the target to leverage new, local sources of financing for the energy efficiency investments needed. Within this framework, the project was designed to: ▪ assist the Government of Kazakhstan in reviewing and improving the legal and regulatory framework dealing with the heat and hot water supply sector, with a specific emphasis on the tariff issues and consumption based billing to motivate energy efficiency; ▪ build the capacity of the local heat supply companies to develop and manage their services on a commercial basis and to attract financing for the investments needed; • (iii) build the capacity of the local tenants and home owner associations to manage the heat and hot water supply services and to implement cost-efficient energy saving measures at the building level; ▪ (iv) introduce and gain experience on new institutional and financing arrangements such as Energy Service Companies (ESCOs) and reduce the risks and uncertainties of energy efficiency investments in the heating sector otherwise by facilitating the implementation of selected pilot activities, and • (v) monitor, evaluate and disseminate the project results and lessons learnt thereby facilitating their effective replication.	2007- 2013	GEF has provided a grant of 3.29 mil USD for project implementation. Planned co-financing of 7.18 mil USD consisted of the government of the Republic of Kazakhstan in kind support of 0.13 mil USD, and cash co-financing from Almaty municipality in the amount of 1 mil USD, Kokshetau municipality 3.19 mil USD, and private Kokshetau Power utility 2.86 mil USD. The total budget of the project was planned to be 10.47 mil USD. The actual cash co-financing provided was 54.8 mil USD, of which 48 mil USD by the National Program on Modernization of Housing and Municipal Infrastructure (as of 3/2013).
2.	Energy efficient design and construction in residential sector (EESCRB)	The goal of the project is to increase energy efficiency in new and renovated residential buildings in Kazakhstan, thereby reducing greenhouse gas emissions by transforming practices and markets in the building sector of Kazakhstan towards more energy-efficient design and construction. The project is structured into four components, each targeting specific barriers and stakeholders: Updating and implementation of state policies, including building codes, standards, and energy certification of buildings 1. Expansion of markets for energy-efficient construction materials and products 2. Education and outreach to professionals and the general public	2010-2015	• GEF grant of 4,568,500 USD • UNDP grant of 25,000 USD • Government of the Republic of Kazakhstan parallel co-financing of 24,850,340 USD, and

Outcome 3: The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies				
Projects to be covered under those Outcome Evaluation		Brief description	Status	
		3. Demonstration projects embodying energy-efficient integrated building design		Other in-kind contributions 3,020,000 USD.
3.	Development and probation of the Housing-Municipal Building Maintenance Services' Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection (MBMSM in small Cities)	The Project is aimed at development and probation in a pilot territory (a small settlement – the settlement Prigorodnyi, the territory of which is in the structure of Astana, Esil district) of the Model of Modernization and subsequent efficient management of the housing and utilities services (HUS) maintenance services for maintenance of a safe residing of the local population, provision of qualitative Municipal Utilities Services to the population through increasing of economic feasibility, environmental friendliness and reliability of life-support systems (a housing-and-municipal infrastructure - first of all of the total systems of heating, water supply and electricity). The Project activities - A comprehensive analysis of an existing condition in the HUS settlement Prigorodnyi is carried out for determination of technical, and other measures on HUS modernization in the pilot settlement - The organizational and financial model is developed for reforming and a subsequent sustainable management of the HUS of the pilot settlement including a stage-by-stage reduction/liquidation of subsidies to cover losses of resources and costs of the HUS sector, creation of the corresponding service company for a sustainable management of the HUS sector of the pilot settlement. - Piloting is executed of the developed technical and organizational actions/solutions for reconstruction of the system of the centralized heat supply, water supply and water removal in the settlement Prigorodnyi and development of the system of the sustainable HUS management of the settlement - The system of monitoring and spread of knowledge, experience and practice of HUS modernization for small settlements are developed and proven in the pilot territory.	2013-2014	Program Budget: 975.132 USD GoK: 785732 USD UNDP: 189400 USD

Outcome 3: The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies				
Projects to be covered under those Outcome Evaluation		Brief description	Status	
4.	Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25 (School25 project)	The Project “Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25” aims at demonstrating the case of improvement of study conditions for pupils at a typical municipal building in Astana city as a part of the corporate approach in neutralizing the carbon footprint of a company (EBRD). The main objective of the project is to improve energy efficiency of the school based on the proposed recommendations of the energy auditors. The project will result in decrease of the annual budget allocation for the heat and electricity energy consumption for the school and improvement of thermal conditions for school children and personnel. This is especially actual in the condition of constant increase of the tariffs for energy sources as well as a deficit of the municipal heat supply capacity. It will as well decrease the negative effect for the environment with the GHG emissions decrease due to more rational heat consumption in the building	2013	Project budget: <u>\$224,023</u> Total resources required: <u>\$224,023</u> Total allocated resources: - EBRD: <u>\$ 204,023</u> - UNDP (in kind): <u>\$20,000</u>
5.	Promotion of Energy-Efficient Lighting in Kazakhstan (EEL)	The objective of the project is to achieve energy savings and avoided greenhouse gas (GHG) emissions via transformation of the lighting market in the RK, including implementation of a phase-out of ILs, while ensuring product quality and cost-effectiveness as well as safe disposition of spent mercury-containing lamps. The project is designed along four components. 1. Policy development and implementation, through: contributing to the Government “Energy Efficiency (EE)-2020” program; development of new standards, building and health codes, supporting the establishment of quality testing system for EE lighting products and a system of safe collection and disposal of mercury containing compact fluorescent lamps (CFLs) from the residential sector and reforms in the public procurement system to ensure that the procurement rules promote the use of EE lighting products; 2. Market development, through: product labelling regulations and implementing market stimulus measures, including, <i>inter alia</i> a discount program for low income households and a promotion campaign for LEDs in particular 3. Promotion and educational outreach, including a public awareness campaign for the general population and an awareness/training program for energy market professionals (e.g. energy auditors); 4. Demonstration projects embodying best practices and technology, including de-novo demonstration projects as well as adding an EE lighting component to the pre-existing before the commencement of the current projects initiatives	2012-2016	The project document planned that the government will provide a total co-financing of 27,403,502 US\$, and other donors another 1,168,836 US\$. Planned governmental co-financing included contribution: (a) by the MINT in the amount of 14,539,835 US\$ (cash and in-kind); (b) 6,868 US\$ (in-kind) from the MEP, and (c) 12,856,799 US\$ (cash and in-kind) from the Almaty City Administration or Almaty Akimat. Other planned co-financing included: Private sector - 654,000 US\$ from Philips Electronics, 500,000 US\$ from Turan-Profi Academy; NGOs - 9,341 US\$ and 5,495 US\$ from Maksat Association of Apartment Owners in Almaty and Women of the

Outcome 3: The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies				
Projects to be covered under those Outcome Evaluation		Brief description	Status	
				Sary-Arka respectively; and UNDP - 50,000 US\$.
6.	City of Almaty Sustainable Transport (CAST)	The objective of the project is to reduce the growth of the transport-related greenhouse gas emissions in the City of Almaty, while simultaneously improving urban environmental conditions by 1) improving the management of public transportation and air quality in Almaty; 2) building capacity in Almaty to holistically plan and implement improvements in the efficiency and quality of public transport; 3) building capacity to holistically plan and implement integrated traffic management measures in Almaty City; and 4) implementing a demonstration project that raises awareness and increases knowledge of sustainable transport.	2011-2015	Total Budget: \$ 81,412,000 GEF \$ 4,886,000 • EBRD \$ 45,726,000 • IFC \$ 700,000 • UNDP \$ 50,000 • Almaty City Admin \$ 30,050,000
7.	Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana “Green Bridge” Initiative (GG&GB)	This project is designed to provide institutional assistance in the development of partnerships among European, Asian and Pacific countries in the preparation of plans to transit from traditional models of economy to ‘green’ growth concepts for the implementation of the Green Bridge Astana Initiative and in pursuance of the Ministerial Declaration adopted by the Ministerial Conference on Environment and Development in Asia and the Pacific (2010), as well as by the Pan-European Ministerial Conference ‘Environment for Europe’ (2011). The Project objectives are: to develop implementation principles and mechanisms for the Green Bridge Partnership Programme, prepared in pursuance of the Astana Initiative; to provide assistance in fulfilling Kazakhstan’s commitments to support two thematic areas of the Astana Initiative; to build capacity, partnerships and public awareness on ‘green’ growth and Astana	2012-2013	Overall project budget: \$454,000 Required funds: \$454,000 Allocated funds: \$454,000 • RK Government \$294,000* • UNDP \$160,000 <i>* KZT equivalent as per the Cost-Sharing Agreement between the UNDP and the Government of Kazakhstan</i>

Annex 3: Results Framework for the Outcome from CPAP

Expected Outcome	Expected Output	Output Targets and Indicators	Implementing Partners
The Government, industries and civil society take steps to adapt to climate change and mitigate its impact through energy efficiency measures and climate change adaptation policies. Indicator: Level of awareness related to climate change Baseline: To be determined in 2010 Target: Increase by 30%	Comprehensive national climate change strategies (with a focus on economic sectors at risk, ecosystem vulnerability and adaptation needs) are developed, to be further integrated into national development plans and sustainable development strategies	Indicator: National low-carbon development policy and principles mainstreaming into national development strategy Baseline: No reference to climate change impact in any national development strategies Target: Developed national adaptation policy and low carbon development policy in line with post-Kyoto commitments	Ministry of Environmental Protection
	The Government and energy consumers are better equipped with knowledge, policies and pilot cases on renewable energy market regulations	Indicator: Enabling policy and institutional framework in place for on-grid renewable energy	Ministry of Industry and Innovative Technologies
		Indicator: The amount of GHG emissions to be reduced by the wind energy plants under construction Baseline: 0; Target: Over 1 million tons of CO ₂ to be reduced over the next 20 years by the wind energy projects under construction in the end of the project	
	The Government and energy consumers are better equipped with knowledge, policies and pilot cases on energy efficiency in sectors with high carbon dioxide emission levels.	Indicator: Legal and regulatory framework supportive of Energy Efficiency Indicator: Volume of EE investments in pilot cities Baseline: 0; Target: Financing for energy efficient initiatives leveraged in the amount of at least USD 10 million	Agency for construction and communal issues

Expected Outcome	Expected Output	Output Targets and Indicators	Implementing Partners
		Indicator: Average thermal energy and power consumption in new/renovated residential buildings Baseline: Thermal energy consumption on average: X (tbc); Power consumption on average: X (tbc) Target: Thermal energy demand reduced to an average of X kWh/m ²	
		Indicator: Power consumption reduced to an average of ____ kWh/ m ² Baseline: New building lifecycle CO ₂ emission X mln tons CO ₂ e Target: X mln tons CO ₂ e, or X tons CO ₂ e less than the baseline	
	Improved regulations and practices developed for Public Transport in the City of Almaty	Indicator: GHG emissions from ground public transport in Almaty Baseline: 9 MtCO ₂ ; Target: 7 mln t CO ₂ eq of emissions reductions directly and indirectly over 10-year influence period.	Almaty City Akimat
		Indicator: Efficiency of public transport Baseline: 21% of passengers use public transport Target: Share of passengers increases to about 40%	

Annex 4: Brief Information on the projects' budgets

Removing barriers to energy efficiency in municipal heat and hot water supply	Energy efficient design and construction in residential sector	Promotion of Energy-Efficient Lighting in Kazakhstan	City of Almaty Sustainable Transport	Development and probation of the Housing-Municipal Building Maintenance Services' Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection	Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana "Green Bridge" Initiative	Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25
2007-2013	2010-2015	2012-2016	2011-2015	2013-2013	2012-2013	2013
GEF has provided a grant of 3.29 mil USD for project implementation. Planned co-financing of 7.18 mil USD consisted of the government of the Republic of Kazakhstan in kind support of 0.13 mil USD, and cash co-financing from Almaty municipality in the amount of 1 mil USD, Kokshetau municipality 3.19 mil USD, and private Kokshetau Power utility 2.86 mil USD. The total budget of the project was planned to be 10.47 mil USD. The actual cash co-financing provided was 54.8 mil USD, of which 48 mil USD by the National Program on Modernization of Housing and Municipal Infrastructure (as of 3/2013).	• GEF grant of 4,568,500 USD • UNDP grant of 25,000 USD • Government of the Republic of Kazakhstan parallel co-financing of 24,850,340 USD, and • Other in-kind contributions 3,020,000 USD.	The project document planned that the government will provide a total co-financing of 27,403,502 US\$, and other donors another 1,168,836 US\$. Planned governmental co-financing included contribution: (a) by the MINT in the amount of 14,539,835 US\$ (cash and in-kind); (b) 6,868 US\$ (in-kind) from the MEP, and (c) 12,856,799 US\$ (cash and in-kind) from the Almaty City Administration or Almaty Akimat. Other planned co-financing included: Private sector - 654,000 US\$ from Philips Electronics, 500,000 US\$ from Turan-Profi Academy; NGOs - 9,341 US\$ and 5,495 US\$ from Maksat Association of Apartment Owners in Almaty and Women of the Sary-Arka respectively; and UNDP - 50,000 US\$.	Total Budget: \$ 81,412,000 GEF \$ 4,886,000 • EBRD \$ 45,726,000 • IFC \$ 700,000 • UNDP \$ 50,000 • Almaty City Admin \$ 30,050,000	Program Budget: 975.132 USD GoK: 785732 USD UNDP: 189400 USD	Overall project budget: \$454,000 • RK Government \$294,000* • UNDP \$160,000 <i>* KZT equivalent as per the Cost-Sharing Agreement between the UNDP and the Government of Kazakhstan</i>	Project budget: <u>\$224,023</u> Total resources required: <u>\$224,023</u> Total allocated resources: - EBRD: <u>\$ 204,023</u> - UNDP (in kind): <u>\$20,000</u>

Annex 5: Guide for the KIIs

	Interview questions	Categories of interviewees			
		UNDP	Government	International partners	NGOs
Relevance	How relevant is the UNDP support to Kazakhstan's low carbon development agenda and environmental priorities?	x	x	x	x
	How aligned is the UNDP support with UNDAF 2010-2015 and relevant for addressing the identified environmental priority needs in CPAP 2010-2015	x			
	What are the distinctive characteristics and features of UNDP's environment programme and how it has shaped UNDP's relevance as a reliable partner?	x	x	x	x
	Has UNDP's partnership strategy has been appropriate and effective?	x		x	x
	How relevant are UNDP's projects for achieving the overall goal Outcome 3?	x	x		
Effectiveness	How effective was UNDP in achieving progress towards the targets in the Outcome?	x	x		x
	What were/are the challenges in the attainment of the targets in the Outcome?	x	x		
	What are the innovative approaches and capacities developed through UNDP assistance?	x	x		x

	Interview questions	Categories of interviewees			
		UNDP	Government	International partners	NGOs
	How effective was UNDP in producing results aligned with CPAP?	x			
	How effective was UNDP in contributing to mainstreaming the Outcome's targets in the national programmes?	x	x		
	How effective was UNDP in national partners' capacity development, advocacy on environmental issues and climate change related policymaking?	x	x		x
	What were the contributing factors, both enabling and constraining UNDP contribution to the achievement of the outcomes through related project outputs?	x	x		x
	How effective was UNDP in building partnerships with civil society and local communities to promote environmental awareness in Kazakhstan?	x			x
Efficiency	How much time, resources and effort it takes to manage the portfolio, what could be improved?	x	x		
	How do UNDP practices, policies, decisions, constraints and capabilities affect the performance of the Portfolio?	x	x		
	How efficient was UNDP in engaging and coordination among the stakeholders?	x	x	x	x
	Were the necessary synergies built and other relevant programmes in Kazakhstan leveraged?	x	x	x	x

	Interview questions	Categories of interviewees			
		UNDP	Government	International partners	NGOs
	What is the extent of synergies built within UNCT programming and implementation?	x			
Sustainability	To what extent do UNDP established mechanisms ensure sustainability of the policymaking interventions?	x	x	x	xx
	How viable are the partnership strategies in relation to the achievement of the outcomes?	x	x	x	x
	How effective was UNDP in using Environment portfolio to support appropriate central authorities, local communities and civil society in climate change related agenda in a long term perspective?	x	x	x	x
Lessons Learnt	What are the best practices and related innovative ideas and approaches in relation to the management and implementation of activities?	x	x		
	How UNDP should adjust its partnership arrangements, resource mobilization strategies, working methods and/or management structures to ensure that the Energy and Climate Change related portfolio fully achieves its outcomes in the next UNDAF 2016-2020 period?	x	x	x	x

Annex 6: Schedule of the meetings

November	Time	Subject
15 November		Arrival
16 November	10:00-11:00	Zhanetta Babasheva Ms. , Resources Monitoring Associate. United Nations Development Programme
	11.00-13.00	Meeting with the project manager Alexandr Beliy regarding the project “ Removing barriers to energy efficiency in municipal heat and hot water supply ”
17 November	11.00-12.00	Meeting with the project manager Syrym Nurgaliyev “ Energy Efficiency in Lighting ”
	12:00-1300	Meeting with Indira Chermanova , Former staff of the Agency for ZHkKH, currently a private sector rep
		Meeting with Tkenov Adilet Maksutovich, National Chamber of ZhKkH , Deputy Head
	13:00-14:00	Meeting with Eldos Avakanov, Public Chamber on EE
18 November	11.00-12.00	Ilzhas Alibekov, Head of the Department of the EE in the Committee on industrial development
	12:00-13:00	Meeting with the Portfolio Manager, OIC Head of Energy Efficiency Unit” Rasul Rakhimov
	13.00-15.00	Ainur Sospanova, head of the Department on EE in the Ministry of Energy regarding 2 projects: - Assistance to the Republic of Kazakhstan in strengthening interregional cooperation for the promotion of green growth and the implementation of the Astana “Green Bridge” Initiative “Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25”.
	15:00-16:00	Meeting with the project manager Alexandr Beliy “ Energy efficient design and construction in residential sector ”

November	Time	Subject
19 November	10.00-13.00	Visit to School 25 (the main object of the project “Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25”. Meeting with the stakeholders together with the project manager Alexandr Beliy “Demonstration of improvement of energy efficiency of public buildings at the example of the School No.25”
	14.30 – 16:00	Meeting with the project manager Alexandr Beliy: “Development and probation of the Housing-Municipal Building Maintenance Services’ Modernization and Management Model for small populated areas to ensure safety, improve quality of life of the population and contribute to the environmental protection”
	16:00-17:00	Alman Shopaeva, EE expert in housing infrastructure, UNDP/GEF and RK project
20 November	9:00-9:30	Abbas Offarinov, EBRD
	11:00-11:45	Khamrayev Sadr Artemovich, Transport Holding Deputy Director
	12.00-13.00	Skype/phone call with the project manager, Yelena Yerkovich, “City of Almaty Sustainable Transport”
	15:00-15:30	De briefing, Munkhtuya Altangerel, DRR
	15:30-16:30	Wrap up meeting with Zhanetta Babasheva
Nov 21		Departure
After the trip		Stanislav Kim, former Head of Energy and Environment Practice of UNDP CO

Annex 7: State Programs

The Energy Saving Program-2020 (Program 2020)	The Energy Saving Program-2020 (Program 2020) which aims to mobilize US\$ 6,570 million for energy savings consisting of US\$ 0.8 million from the Republican Budget, US\$ 27 million from local budgets and US\$ 6,500 million from private sources. The program aims at reducing energy intensity of the Gross Domestic Product in the Republic of Kazakhstan and increasing energy efficiency through the reduced energy use and inefficient use of fuel and energy resources. Specifically concerning sustainable urban development, the Program 2020 targets (i) large-scale public awareness on energy efficiency issues, (ii) development and use of economic and non-economic mechanisms to motivate energy saving and energy efficiency, (iii) development of mechanisms for ESCO operation in the country; (iv) personnel training on energy saving and energy efficiency; (v) reduced energy use by the transport sector; (vi) reduced per unit costs for generation of 1 kWh, 1 Gcal of heat and heat use per 1 m² in the housing sector. The Program-2020 aims to reduce average energy consumption per 1 m² by 30% and losses in the district heating network by 3.6%. In construction, it plans to ensure 100% of energy efficient construction starting 2015. In the transport sector, the Program has an indicator of reduced fuel use by 30%. In the public sector, the Program sets a target of reduced energy use by 25%. Efficiency in lighting is to be achieved through (i) reduced utility costs for electricity by 60%⁴⁵ and (ii) 100% use of energy saving lamps. Also, the Program envisages the creation of 20 training centers for continuing education in energy conservation and efficiency. A. On the energy efficient housing and utility sector, the Program focuses on the successful completion of thermal upgrade of residential buildings and rehabilitation of the engineering infrastructure. For this particular matter, the National Modernization Fund will be used as a financial mechanism for loans and leasing. The Fund will provide reimbursable loans and redemption leasing to utilities and the utility sector in general; attract private investments; assist with financial recovery of unprofitable enterprises and conduct a financial monitoring of investment projects. B. On energy efficient construction, the Program aims at making construction standards more stringent and introducing measures on green construction. Such measures include the revision of norms for energy use for newly constructed buildings, an inventory of energy efficient construction materials, goods and equipment to be used during the design of projects for construction of buildings and engineering infrastructure, promotion of class A and B buildings. C. Among measures in achieving energy efficiency in the transport sector, the Program calls for (i) including elements of energy efficient transport infrastructure development into Regional Development Programs and (ii) developing financial incentives for consumers to buy fuel-efficient cars. D. In the public sector, the key focus is to create favorable conditions for ESCO creation and operations. Also, the Program lists a number of mandatory activities that should be implemented by municipalities to achieve energy efficiency in the public sector: (i) phase-in energy audits of public buildings; (ii) development and implementation of standard (off-the-shelf) energy saving measures for public organizations; (iii) development of norms for heat and electric energy use for public institutions by types of construction and use of buildings. Public institutions can access financial resources of the National Modernization Fund and use this revolving mechanism to finance energy saving measures. E. On efficient lighting, the Law on Energy Saving and Energy Efficiency introduces a phase-in ban on the use of incandescent lamps. Given favourable price changes for LED lamps and pertaining problems related to disposal of mercury containing lamps, the Program-2020 proposes to replace incandescent lamps with LED lamps. More specific measures include the following: (i) upgrade of indoor lighting in public buildings, (ii) upgrade of street lighting in towns and settlements; (iii) proposals for energy efficient labeling for lighting products; (iv) demonstration projects on energy efficient lighting; (v) proposals for amending standards (SNIps) for lighting; (vi) proposal for setting limits on production and sale of mercury containing lamps; (vii) upgrade of electric lighting and power supply systems in multi-apartment buildings; (viii) utilization of mercury containing lamps.

⁴⁵ Although the logic is commonly stated the other way round (i.e. cost savings are achieved through efficiency), this is the way it is stated in the Program. It appears to be assumed that energy saving measures will reduce costs.

	As part of the Program's implementation, the Kazakhstan association of energy audits has been created and now includes 13 organizations and 6 training centers for continuing education in energy auditing and/or assessment of realized energy saving and improved energy efficiency, and creation and operationalization of an energy management system. Related, the Committee of Technical Regulation and Metrology of the Ministry of Industries and New Technologies of RK adopted a standard ISO 50001-2012 "Energy management systems. Requirements and application guideline" and developed a methodology for energy audits in buildings.
Comprehensive Energy Saving Plan for 2012-2015	The Comprehensive Energy Saving Plan for 2012-2015 was developed by the Ministry of Industry and New Technologies (MINT) as a working mechanism for implementation of the Energy Saving Program-2020. The Comprehensive Energy Saving Plan consists of 47 measures, including 25 inter-sectoral measures, 5 pilot projects, and 24 measures in the spheres of industry, electricity and heat generation, and housing and utility services. In particular, the Plan includes development of EE and thermal modernization indicators for major repair works in public buildings; design of a financing mechanism for EE projects and incentives for attracting private investments for installation of automated systems of heat supply and regulation and thermal repairs in multi-apartment buildings; creation of a position of an energy manager in Oblast Akimats and Akimats of Almaty and Astana. As part of the Comprehensive Energy Saving Plan, MINT developed a methodology for development of comprehensive energy saving plans
National Program for Modernization (NPM) for Residential and Communal Sector for 2011-2020⁴⁶.	To address the challenges with urban infrastructure described above, the Government of Kazakhstan has adopted a National Program for Modernization (NPM) for Residential and Communal Sector for 2011-2020⁴⁷. Program goals are to (a) decrease the share of buildings in need of capital renovation from current 32% down to 22% by 2015; and (b) upgrade/refurbish 24,400 km of communal networks (heat and hot water supply, electricity, and gas) to minimize resource losses in the system. All envisaged investments in building retrofit and infrastructure upgrade under NMP will comply with energy efficiency regulations and standards as mandated by the new EE Law. To operationalize the National Program for Modernization of Residential and Communal Sector for 2011-2020, in 2013 the Government established a National Fund for Urban Modernization to act as a mediator between the government, apartment owners and service companies. The Fund is still in its infancy but is designed to operate on a revolving basis by providing long-term (up to 7 years) low interest loans to BMCs and Associations of Apartment Owners (AAOs), utility service companies and ESCOs for implementation of priority urban infrastructure upgrade projects, jointly defined by BMCs/AAOs, residents and municipalities. Sources of financing include three types of financing: government, private sector and development institutes. The target level of capitalization is set at 75 billion tenge or US\$ 415 million, of which investment projects in the utility sector are expected to comprise 62% or US\$ 260 million; interest-free loans for thermal renovations of residential buildings will account for 16% or US\$ 66 million and installation of automated heat points - 22% or US\$ 89 million. At the moment, one person from the Ministry of National Economy officially works as NMF staff. In 2014, the Fund received 8 billion tenge or about US\$ 44 million as part of the government's contribution to the Fund to provide loans to energy providers or heat supply companies to invest in the purchase and installation of automated heat points. Though initial capitalization of the Fund is being mobilized from the Government (via NMP), the target is to secure at least 50% of fund's resources from extra-budgetary sources. The Government has requested UNDP-GEF support for designing and implementing the revolving scheme, including the strategy on funding diversification. Also, during the PIF development stage, the Eurasian Development Bank (EADB) expressed interest in joining these efforts and establishing a dedicated credit line for municipal energy efficiency and renewable energy projects with initial allocation of US\$ 25 million. Center for Utilities Modernization and Development under the Ministry of National Economy has been designated as the principal body in charge of the implementation of Housing and Public Utilities Modernization Fund, and the designated entity for operation and management of the HPU Modernization Fund. The Ministry of National Economy and its Center therefore plays a critical role in directing HPU Modernization Fund funding to priority climate change mitigation actions in cities and ensuring that the public funding can serve to catalyze investment from the private sector. Under the NMP, the Government will support the establishment of and capacity building for Building Management Companies (BMCs) on a PPP basis, which is the main mechanism to bring in private actors in urban sector management. The goal is to increase private investment in the sector from the current 19% up to 50%. Via CCHCALM, the Government aims to provide technical assistance to BMCs, such as for business planning, training of staff, development and signature of public service contracts with

⁴⁶ The first stage of Program implementation in 2011-2016 envisages allocation of USD 1.6 billion (237 bln KZT) from the national budget and additional 43 million USD from the regional budgets. Provision of 640 mln USD has already been confirmed in the tri-annual state budget for 2011-2013 approved by the Parliament and the President.

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	municipal authorities, preparation of bankable investment projects. BMCs will adopt an ESCO model for implementation of energy efficiency measures under Energy Performance Contracts (EPCs) with residents and/or public authorities. Such a model has been piloted in Astana, where Astana-Kyzmet (with 50% private sector participation) has implemented an energy efficiency retrofit of a nine-floor residential building based on an EPC signed with Association of building's Apartment Owners. At the moment, Astana-Kyzmet manages six (6) residential buildings and its operational budget is about US\$ 2,800 per month (AK charges 14 cents/m² for its services) which is just enough to cover costs of a manager, an accountant, some technical services (e.g. an electrician, a plumber). Under the NMP Program, the government established another MMC--Managing Company Karaganda-Kyzmet, Ltd.--in Karaganda but at present there is no operational activity. The plan is to have MMCs established in all key cities across Kazakhstan, i.e. 10-15 companies by 2015. Their primary objective is to implement priority urban modernization projects and thus ensure adequate management, upgrade and maintenance of municipal infrastructure and provision of quality and reliable services to urban residents (e.g. waste management, building management, heat and hot water supply, public lighting). Two construction companies in Astana—StroyInvest and Berekele-Shanyrak—created affiliated companies in the form of limited partnerships for managing several newly constructed residential buildings during the warranty period. After its expiration, management responsibilities will be shifted to condominiums or AAOs/CAOs (whichever type residents will opt for). During 2012-2013, 935 residential buildings underwent thermal modernization, over 900 energy passports were developed, over 131 km of district heating network, 517 km of power lines, 520 km of gas pipelines and 14 boiler houses were repaired. In the public sector, 2.6% (or 580 buildings) of total public buildings were renovated with some elements of thermal modernization. Automated heat exchangers were installed in 1,214 buildings.
the Concept ⁴⁸ for Transition of the Republic of Kazakhstan to Green Economy	ME is also undertaking the implementation of the Concept⁴⁹ for Transition of the Republic of Kazakhstan to Green Economy that lays out goals and targets and general approaches for achieving sustainable development in the country. The Concept identifies seven key areas in which to undertake sustainable-development initiatives: water resource management, sustainable agriculture, energy efficiency, power sector development, waste management, air pollution reduction, and ecosystem management. Fundamental to Transition to Green Economy is the idea that in addressing the sustainability of key sectors, there will be synergies found across a variety of cross-cutting issues, including climate change, good governance, environmental sustainability, gender equality, and human rights. The Concept was approved in May 2013, and the follow up Action Plan was approved by the Government in August 2013. Please refer to Annex D for details on the Concept.

⁴⁸ In Kazakhstan legislation, a 'Concept' introduces a new policy to the government and public, followed by the development of an action plan. 'Strategy' constitutes a policy plan which will be legislated and accepted as the government vision for a specific number of years. The 'Concept' is essentially a blueprint for a strategy, which becomes viable only if there is a follow-up action plan reflected in and accounted for by the national budget

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Annex 8: Relevant Laws

The Law on Energy Saving and Energy Efficiency	Came into force in June 2012 includes provisions for funding energy saving measures from the state budgets of all levels and establishing the State Energy Register, mandatory energy audit of the companies consuming more than 1,500 toe per year, and the introduction of the responsibility for complying with the Law. The Law requires the adoption of at least 22 identified subordinate regulatory acts that establishes the requirements of energy efficiency for buildings, vehicles, electric motors, energy saving accreditation, energy audits, and energy efficiency expertise. The Law on Energy Saving and Energy Efficiency also includes the establishment of the State Energy Register (Article 9 of the Law) that serves as the principal mechanism for ensuring the delivery of Government ambitions through monitoring the energy use of energy consuming entities including government agencies, major industrial enterprises and other large consumers. The procedure for the creation and maintenance of the SER is stipulated by the Rules for creation and maintenance of the State Energy Register approved by governmental decree #143 dd 18 February 2013. The SER includes: • Name, address and main type of activity of an entity of SER • Total volume of extraction, generation, use, transportation and losses of energy resources and water and its monetary equivalent during one calendar year; • Energy saving and EE Plan developed by the entity of SER following the energy audit as well as any amendments to the Plan; • Achieved results of the Energy saving and EE Plan developed by the entity of SER following the energy audit during the reporting period; • Actual energy use per unit of production and/or use of energy resources for heating per unit of area of buildings/facilities; • A copy of energy audit; • A note on the coverage by automated metering devices of energy use Combined Heat and Power systems and large boilers located in cities are also covered by the registry in addition to industrial enterprises and plants such as metallurgical, chemical, cement. Small boilers, if they are part of a larger city network that exceeds the 1,500 toe per year threshold - even if they are not connected to the city's central network – are also subject to monitoring and reporting under SER and are regarded as part of the city's heat supply network. This is true for all cities and towns. The SER covers urban level power and heat generating facilities, which partially overlaps with the project's scope. Urban transport, waste management and water sectors are not subject to SER. In addition to major industries, SER includes public entities like government buildings, schools, hospitals, etc. for the purpose of energy audits and energy saving plans. As of December 2013, the SER included 11,802 entities. Based on the data of the SER, the authorized body provides an analysis and forecast of energy intensity of the Gross Domestic Product and efficiency of energy use in the Republic of Kazakhstan. Bylaws under the Law on Energy Saving mandate municipalities to develop energy saving plans as part of city-level development plans⁵⁰, and, under this Law a Governmental Decree was adopted on 15 August 2012, which establishes the mechanism for evaluating the activities of the local authorities in the field of energy efficiency and savings. The local authorities are obliged under this law to submit an annual report for 8 determined criteria (i.e. policies in the field of energy efficiency, amount of energy meters purchased and installed, energy audits for public buildings, thermal modernisation of buildings, modernisation of street lighting, etc.).
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⁵⁰ The Law puts a special emphasis on promoting energy efficiency in the urban environment. It mandates city authorities to incorporate energy efficiency measures in the urban development plans, as well as to undertake regular energy audits and ensure implementation of energy saving measures in all municipally-owned and operated buildings and facilities. The Law also authorizes city managers to monitor municipal energy consumption and its compliance with established norms and standards. It also mandates introduction of energy management system in enterprises and facilities with annual energy use in excess of 1,500 toe, such as the district heating plants.

Law on Renewable Energy Sources (RES Law):	Adopted in 2009, the RES Law is another important element of the national climate change mitigation policy in Kazakhstan. The Law has a number of provisions specifically aimed at promoting the use of RES in cities, and their integration in urban development plans and strategies. First, the Law requires that urban development plans take into consideration the use of RES resources for power and heat supply and specifically calls for the development of programs aimed at RES-based electrification of remote urban settlements where centralized grid supply is not economically feasible. Also, according to the Law, local authorities are responsible for approval of the construction of RES plants with overall capacity below 25MW and RES-based district heating facilities
he Law on Transport dd 21 September 1994 № 156-XIII (with changes and amendments as of 12 January 2012),	Concerning transport infrastructure and management, tests forth the legal, economic and institutional framework that covers all types of transport including urban transport. In particular, the law determines responsibilities of city and oblast akimats in regard to public transport, rules and conditions for transport service provision, responsibilities of transport companies, transport safety requirements, tariff policies, rights of passengers, state regulation and transport oversight. Also, relevant transport regulations include the Law on road traffic safety №29 (dd 15 July 1996) and the Law on automobile transport № 476-I (dd 04 July 2013 with changes and amendments as of 15 July 2011).
Environmental Code of the Republic of Kazakhstan dd 09 Jan 2007 № 212-III (with changes and amendments as of 11 April 2014),	Concerning solid waste management, the Environmental Code of the Republic of Kazakhstan dd 09 Jan 2007 № 212-III (with changes and amendments as of 11 April 2014), sets out Institutional aspects of municipal solid waste management (Chapter 41, article 292), in particular describing responsibilities of local governments, and the responsibilities and rights of waste producers (article 283). The Code, together with the Law on Self-Governance determine umbrella competences. The Municipalities (Akimats), for example, are empowered to enact legislation (regulations) and are obliged to monitor the companies providing waste collection services, although it has no contractual relationships with any of the waste collection companies. Municipal administrations bear the overall responsibility for organizing the waste management services, under the control of regulatory institutions. The Natural Resource and Ecology Administration is the focal point for waste management, being often the owner of the public waste collection companies and the landfill sites (like in Astana where Astana Akimat is the owner of Gorkommunkhoz). Akimats are actively involved in the planning and strategic decisions concerning landfill operations and waste collection services provided by public companies.