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PROJECT INCEPTION REPORT

“NATIONALLY APPROPRIATE MITIGATION ACTIONS IN THE CONSTRUCTION SECTOR IN MONGOLIA” PROJECT



June 2017

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ACRONYMS AND ABBREVIATIONS

AWP	Annual Work Plan
BCNS	Building Codes Norms and Standards
BEEC	Building Energy Efficiency Center (of MUST)
BEEP	Building Energy Efficiency Project (prior UNDP GEF project that was Implemented in Mongolia from 2009 to 2013)
CDC	Construction Development Center (of MCUD)
CHP	Combined Heat and Power (power plants)
CO	Country Office
CO ₂ -eq.	Carbon Dioxide Equivalent
CPAP	Country Programme Action Plan
EA	Executing Agency
EE	Energy Efficiency
EOP	End of Project
ERC	Energy Regulatory Committee (of Mongolia)
Gcal	Gigacalorie (4.184 Gigajoules or 1,162.2 kWh)
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GOM	Government of Mongolia
IA	Implementing Agency
HOB	Heat Only Boilers
K	Kelvin (zero K is absolute zero or -273.15C, a Kelvin has the same magnitude as a degree Celsius)
KWth	Kilo Watt Thermal
MARCC	Mongolia Assessment Report on Climate Change
M&E	Monitoring and Evaluation
MCUD	Ministry of Construction and Urban Development
MDG	Millennium Development Goals
MoE	Ministry of Energy
MET	Ministry of Environment and Tourism
MNET	Ministry of Nature, Environment and Tourism (restructured into MEGD from December 2014)
MNT	Mongolian Tugrik or Tögrög
MTR	Mid Term Review
Mt	Million Tonnes
MTE	Mid-Term Evaluation
Mtoe	Million ton of oil equivalent
MUST	Mongolian University of Science and Technology
MW	Megawatt

NAMA	Nationally Appropriate Mitigation Action (as introduced at UNFCCC COP 17 meeting in Durban)
NGOs	Non-Governmental Organizations
MRV	Measuring Reporting and Verification
NPC	National Project Coordinator
NPD	National Project Director
PIMS	Project Information Management System (of UNDP)
PIR	Project Implementation Reports
PMC	Project Management Cost
PMU	Project Management Unit
PPR	Project Progress Reports
PEB	Project Executive Board
RCU	Regional Coordination Unit (of UNDP, for Mongolia the relevant Asia-Pacific RCU is based in Bangkok)
RE	Renewable Energy
RTA	Regional Technical Advisor (of the UNDP Asia-Pacific Region)
SNC	Second National Communication (to the UNFCCC)
tCO _{2e}	Ton of carbon dioxide equivalent
TOR	Terms of Reference
UNDAF	United Nations Development Action Framework
UNDP	United Nations Development Programme
UNEP	UN Environment Programme
UNFCCC	UN Framework Convention on Climate Change

EXECUTIVE SUMMARY

The project agreement on Nationally Appropriate Mitigation Actions in the construction sector in Mongolia was signed between Government of Mongolia (GOM) and the United Nations Development Programme (UNDP) in June 2016. The executive partner of the project is Ministry of Construction and Urban Development (MCUD). The responsible parties for the implementation of the project are the Ministry of Energy (MOE), Ministry of Environment and Tourism (MET), Energy Regulatory Commission (ERC) and other related public, private and academic institutions.

Since signing of the project agreement, the project has faced almost 10 months of delay in inception and kick-off due to restructuring of the government and institutional arrangement after the parliamentary election. Thus the project inception phase was postponed and held from April to June 2017. During the project inception phase, several meetings, bilateral discussions, workshops and field visits were held with/among the government agencies, experts, and potential demonstration project beneficiaries to document the changes to the baseline since 2016 and required changes in project activities in order to achieve the overall objective of reducing GHG emissions from the construction sector.

There are no major changes in the overall baseline situation though some minor changes in the project activities, demonstration project and monitoring indicators. This report documents the changes to the baseline, and proposed changes to the outputs and activities proposed in the initial proposal. It sets out the project implementation arrangements as agreed between the main partners to the project, and the annual work plans for 2017.

1. BACKGROUND AND INTRODUCTION TO THE PROJECT INCEPTION

1.1 Project Background

Country Background

Mongolia has been one of the fastest growing economies in the past decade, riding on the back of large stock of resources and immense Foreign Direct Investment (FDI) inflows to the mining sector. Real Gross Domestic Product (GDP) growth averaged 9% over the past decade, and per capita income had more than quadrupled, to over \$4,000. Mining accounts directly for 20% of the economy, while the total share, including indirect impacts, is likely much higher— mineral exports account for over 40% of GDP.¹ The economic reforms have also stimulated rapid growth in the construction sector as well as in the energy consumption pattern. Throughout the capital city, large building construction projects and high-rise commercial and residential buildings have become a widespread and common scene.

Around 64% of the Mongolian population lives in Ulaanbaatar (UB), Erdenet and Darkhan cities. Ulaanbaatar alone accounts for almost 45% of the country's population. According to the National Statistical Office of Mongolia, the population in 2015 was 2.972 million, and this is forecasted to increase to 3.642 million in 2035.

Construction Sector

The current housing options in Mongolia range from Gers (or felt tents), small affordable apartments to ultra-luxury houses, apartments and penthouses. Rural migrants generally settle in Ger area around UB city. Crowded Gers without access to heat grid and sewage system intensify environmental problems in UB with smoke from coal stoves for Ger space and water heating. The Government of Mongolia (GOM) has been trying to relocate these Ger residences to apartments with proper infrastructure in the City by providing low interest loan (8%) and other housing programs i.e. 100,000 housing program. With low income population move from Ger to mid-rise apartment and high income population move to high rise apartment and detached houses, the trend of housing in Ulaanbaatar is projected to shift towards mid-rise apartments and detached houses while Gers foreseen to be diminished. Mid-rise apartments will constitute a large share of the housing in the future.

Energy demand - Nearly about 96% of electrical and heat energy generation is based primarily on coal. The single biggest coal consumers are the Combined Heat and Power Plants (CHPs) and Heat Only Boilers (HOBs). Electricity and heat production increased by 6.75% and 4.3% respectively from 2013. In 2014, the country used 6897.4 million kWh of electricity, of which 76.5% came from Combined Heat and Power plants, 2.8% from renewable energy resources, 0.6% from diesel generators and 20.15% from imports out of which 389.98 million kWh was from Russia and 999.26 million kWh from China.²

¹ <https://www.imf.org/external/pubs/ft/wp/2015/wp1590.pdf>

² Source: Ministry of Energy

GHG emission - The energy sector is by far the largest contributor with almost 64% of total GHG emissions in 2010. At current rates, Mongolia's GHG emissions is expected to increase four times the 2006 levels by 2030 and account for approx. 82% of the total to 51.2 Mt CO₂-eq. So far, commercial and residential sectors together contribute to over 11% of the overall CO₂ emissions, which is higher than that from the transport, industrial and agricultural sectors.³ Despite that, there is dearth of data on energy consumption and GHG emission from end-use sub-sectors such as the construction and building sectors.

Project Rational and Policy Conformity

The project is in line with the Government of Mongolia (GOM) policies and measures to mitigate GHG emission. The State Policy on Energy (Parliament resolution No 63, 2015) stated that GOM sets target to reduce building heat loss by 20% by 2020 and 40% by 2030, compared to 2014 levels. The Technology Needs Assessment (TNA) 2013 provides specific measures to realize this goal by improving insulation for existing panel apartment buildings of 18,184 households in UB. The investment needed is estimated at 90 million USD.

Moreover, the project will contribute to the achievement of the Green Development Policy's Objective 1 "Promote resource efficient, low greenhouse gas emission and waste less production and services". The project also addresses the Sustainable Development Goal (SDG) 7, 11 and 13. NAMAs in Construction Sector in Mongolia proposes to support GOM's NAMA intent to the UNFCCC. Mongolia's NAMA concepts identify 21 mitigation options in four major GHG emitting sectors including energy, industrial process, agriculture, and forestry. Out of these concepts, four focus on energy efficiency in the construction sector.

Project Benefits

The project aims to develop an umbrella approach that will incentivize low emission and sustainable development in the construction sector in Mongolia. It takes a comprehensive approach and expands the operational and financial scope of the previous and ongoing projects, such as the UNDP-GEF BEEP, to cover additional and more ambitious target areas. It is envisioned that this approach to efficient buildings could, in the future, be nested into a more holistic approach to the urban sustainable development. Therefore, a NAMA in the context of the proposed project offers a framework to achieve broad based and comprehensive climate change mitigation activities. The Project is structured around three components anticipated to support the achievement of the project objective, i.e. to facilitate market transformation for energy efficiency in the construction sector through the development and implementation of NAMA.

³ INDC and SNC

The project is expected to bring following benefits:

- Through establishment of energy consumption and GHG emission database systems, which will complement the recently approved EC Law, the policy makers in Mongolia are fully aware of EE potential in the construction sector, and commit to more stringent enforcement of the BCNS, and all new buildings meet 100% of the BCNS requirements.
- Improved confidence in benefits (economic, environmental and social) of applying of basic and commercially best available EE technologies to meet or even go beyond the BCNS EE requirements in all building types through proven results from a number of successful building demonstration projects based on practical and accurate MRV systems.
- Enhanced awareness and strengthened capacity within private and public actors and financial institutions on basic and “beyond code” EE building designs, as well as NAMA development and implementation through a number of capacity development activities and dissemination of project successes, among others.
- New and improved fiscal incentives, financial products, as well as financial evaluation tools to support EE in the construction sector are introduced stimulating building owners/managers’ interest in EE investments. Construction of curtain wall buildings are code compliant with triple (or ideally quadruple – 4 pane) glass with low-e and argon or krypton gas fill and insulated glazing framing elements and insulation of any non-transparent glazing façade elements.

Most of the new buildings that will be built in Mongolia will adopt better design approaches and commercially best available EE technologies to fully comply with, or even more efficient than the BCNS EE requirements. This will reduce the energy intensity from 165 kWh/m² per year to a level 155 kWh/m² per year as measured by BEEP. The percentage of new buildings, which are fully compliant with the BCNS EE requirements, will increase to 100% by end-of-project. In addition, 5% of the new buildings will go beyond the code requirements and achieve 20% lower energy intensity than the full compliant level. This is possible considering that the newly approved EC Law has legitimized the EE requirements in Mongolia, and EE construction materials and equipment are also locally available and accessible. This will be reinforced through the adoption of supporting MRV systems, together with the capacity building programs. Moreover, it is also envisaged that, through the results of new financial mechanism, demonstration projects and dissemination activities, the percentage of the total building stock to implement EE projects will dramatically increase by end-of-project.

The estimated annual electricity and GHG emission savings from the construction sector in Mongolia by end-of-project in 2020 will be 18.7 GWh, and 10,709 tCO₂e respectively.

1.2 Project Objectives, Outcomes and Outputs

The objective of this project is to facilitate market transformation for energy efficiency in the construction sector through the development and implementation of NAMA. The project comprises 3 components:

- Component 1: Establishment of Baseline Energy Consumption and GHG Emission in the Construction Sector
- Component 2: Development and Implementation of NAMA in the Construction Sector
- Component 3: Measurement, Reporting and Verification (MRV) system for NAMA

The abovementioned components will address the barriers and expected outcomes of the three components are the following:

- Effective EE policy making informed by robust energy consumption monitoring and reference baselines for the construction sector
- Prioritized NAMA in the construction sector developed and funded for implementation
- Effective climate change mitigation policies strengthened by NAMA impacts ascertained through the established MRV system

The abovementioned outcomes will all collectively lead to greater implementation of NAMA in the construction sector in Mongolia, and will be realized through the delivery of complementary outputs that would result from the activities that will be carried out under the Project.

2. PROJECT INCEPTION

This Project Inception Report was prepared following the inception workshops. From now onwards, this report is the key reference document for the project implementation, which will be shared with all key stakeholders for greater awareness and understanding of project objectives, outcomes, activities, timelines, budget and project management arrangements in general.

The Project Inception Workshop which was crucial to build a strong local ownership for the project results and to plan the first year annual work plan was held on 9th and 10th May 2017 with those with assigned roles in the project organization structure, UNDP country office and regional technical advisor, Ministries' representatives as well as other key stakeholders including representatives public, private, academic and non-governmental institutions.

2.1 Day 1: Internal Inception Session

- Objective:**
1. To build up a team feeling in which all four levels understand each other's roles (Project; UNDP CO, UNDP Regional and UNDP HQ)
 2. To fine tune Terms of Reference of team and outlining the roles and functions of each member and their lines of reporting
- Participants:**
- Core project team: RTA, UNDP PO, PMU, NPD
 - Project development specialist
 - Climate change project implementing unit, MET (only in the morning session)
- Venue:** The Internal inception session was held at the UN House, 6th floor, UNDP Mongolia.
- Date:** The session took place on May 9, 2017. It was organized by the PMU.

Discussion points

- I. GEF project implementation and inception guidance:
 - Key steps and processes in UNDP-GEF project implementation
 - Requirements and key activities in the inception phase
- II. Review of technical aspects of project:
 - Project log-frame
 - Review of indicators
 - Monitoring indicators
- III. AWP 2017
- IV. Demo projects:
 - Baseline and demo projects
 - Co-financing commitments as well as

- Project outputs and activities

V. Project management:

- Principles of adaptive management
- Rules and procedures for changes in project activities, outputs, outcomes, or objective
- Role of UNDP, including clarification on roles of CO, RCU, and UNDP/GEF/HQ;
- Roles of project oversight bodies, especially Programme Executive Board (PEB)

VI. Technical reporting:

- Requirements and procedures for QOR's, APR's, PIR's and
- Mid-term and final evaluations

VII. Financial management:

- Financial management – procedures for advances and reporting
- Rules concerning changes in budget lines
- Rules concerning tendering and awarding of contracts
- Requirements and procedures for audits

2.2 Day 2: External Inception Workshop

Objectives:

- To launch the official project implementation
- To provide all stakeholders with detailed overview of project goals, objectives, outcomes, indicators, monitoring and evaluation plan,
- To engage all stakeholders in the project implementation
- To create a common understanding and support of the project – its goals, objectives and implementation plans, and to explain the scope, phases, actions and products defined within the project.

Outcomes:

- Stakeholders had a shared understanding of the project and their respective roles
- Stakeholder input enhanced project direction and plans
- The project is well positioned for forward momentum

Date:

The workshop took place on May 10, 2017. It was organized by the PMU.

Venue:

The Inception Workshop was held at Blue Sky Hotel located at the center of Ulaanbaatar, Mongolia.

Participants:

Approximately sixty (60) representatives from governmental, business and industrial institutions, as well as academic and civil organizations, at the state and national level were invited. They are the core organizations involved in the implementation of NAMA related actions.

Moderator:

The inception workshop was moderated by Mr. Zanabazar.D, Director of Construction and Building Material Policy Implementation and Coordination Department, MCUD. Discussion session was moderated by Mrs. Khishigjargal.Kh, Program Analyst, UNDP.

Discussion points:

- I. GEF introduction and context for NAMA in construction sector was presented by Mrs. Milou Beerepoot, Regional Technical Specialist, UNDP
- II. Project overview and work plans were presented by Mrs. Bayarkham.B, National Project Coordinator (NPC) for the NAMA in construction sector project
- III. Presentation on NAMA in construction sector in general was made by Mr. Munkhbayar.B, Project Consultant
- IV. Discussions on stakeholder' expectation from the NAMA project, their contribution and support in implementing and establishing GHG inventory systems were held as briefly illustrated in the following table.

Stakeholders	Comments	Recommendations
Part I: Discussion on stakeholders' contribution to and expectation from the implementation of NAMA project		
Discussion issues by UNDP Programme Analyst Kh.Khishigjargal as moderator:		
<ul style="list-style-type: none"> To create common understanding of all related stakeholders enables for further cooperation As related to official launch, stakeholder's contribution to the project implementation 		
Questions for all stakeholders by moderator:		
What specific contributions will be done in this project implementation?		
How to apply those outcomes expected from NAMA project in your activity?		
Environment Department, City Mayor's office	<ul style="list-style-type: none"> In March 2017, Ulaanbaatar city has joined in "Building Efficiency Accelerator Partnership" held in Beijing, China. As related to Action Plan with reducing GHG emissions, climate change adaptation and investment, we are working on what activities are needed to carry out to achieve the objectives. In the early stage, there were several meetings with international and national stakeholders such as GGGI, GIZ "Building Energy Efficiency" Project and so on. Thus, there is considerable interest on NAMA project implementation for those mentioned issues. 	<ul style="list-style-type: none"> ✓ To coordinate NAMA project activities to local action plan. ✓ To develop further plan to link with "Heat Technical Reform" Program for building labeling and passport carried by Construction and Urban Development Department, Mayor's office.
UNDP Mongolia	<ul style="list-style-type: none"> In the project procurement, international and national expert, consultants will be recruited. As stated in AWP, to determine current level of GHG emission and energy consumed by construction sector as well as to gather all related data are prioritized. Establishing the database would be significant contribution to innovative idea for new energy efficiency and building heat efficiency. 	<ul style="list-style-type: none"> ✓ To identify key roles of stakeholders for gathering data from available sources. ✓ Develop training modules targeting decision makers and technical staff on data collection and GHG inventory system. ✓ To coordinate technology and information system among stakeholders activities. ✓ To resolve the heat loss, to reduce water and energy consumption as part of developing green building.
Green Building Council	<ul style="list-style-type: none"> According to Green development policy, Government of Mongolia, Ministries have been implementing and implemented many projects. Due to deficiency of integrated management, shared information regarding implemented actions and operations there might be 	<ul style="list-style-type: none"> ✓ To create the opportunity for productivity and timing in the framework of the project if we oversee the integrated and coordinated issues, information system as well.

Ministry of Environment and Tourism (MET)	<p>occurred the prevention of missing the possibilities to take an action.</p> <ul style="list-style-type: none"> • By initiative from MET, Green Building Council has been working on formulating assessment methodology for green building for 3 years. Although the system may be not perfect, this is the first attempt to develop evaluation system in Mongolia. • For reference, 60 percentage of green building assessment system include energy savings. • MET had involved in the preparation of NAMA Project document. As for MET, there is clear understanding of project goal and objectives. NAMA Project scope considers not only to reduce the GHG emission but also to formulate the complex policy document inclusive BCNS and inventory system. • In accordance with IPCC and UNFCCC guidelines and principles, T1 simplified method will be applicable for GHG inventory system in construction sector. The reason is difficult for obtaining detailed data in Mongolia. Due to unclear and insufficient amount of data, GHG emission will be calculated on the coal consumption. 	<ul style="list-style-type: none"> ✓ To strengthen capacity of collecting long-term inventory data and registering potential problems. ✓ To continue the mechanism for GHG inventory system established for the construction sector as outcome of NAMA project. ✓ To formulate policy document
Climate Change Projects' Coordination Unit, Nature Conservation Fund, MET	<ul style="list-style-type: none"> • MET are responsible for GHG inventory in Mongolia. The construction sector is within energy sector that are largest contributor to the CO2 emission produced by combustion/ burning/of coal and fuel. • IPCC Methodology on inventory system conducted on the direction from bottom to top simplified calculation on GHG emission. 	<ul style="list-style-type: none"> ✓ To create opportunity for making big contribution to GHG Inventory system at national level if MCUD could provide and gather all data related to GHG emission in construction sector. ✓ To establish GHG Inventory system in NAMA framework of strengthening capacity.
Ministry of Energy (MOE)	<ul style="list-style-type: none"> • In 2015, Law on Energy Conservation approved by the Government of Mongolia. According to this law, first stage of training program for preparing energy auditor to estimate energy loss was completed. Based on the identifying designated energy consumers consume more energy and produce GHG emission in the industry sector, energy auditor will conduct assessment step by step. • As for construction sector, the program and project are initiated and planned to be implemented through renewable energy use such as solar panel installed on the roof top within 4 years. In connection with 	

this, the working group for providing and supplying renewable energy system and network was established.

Part II: Discussion on establishment of GHG inventory system and coordination among the stakeholders

Discussion issues by moderator:

- To prioritize for establishment of database through applying methodology from bottom to top
- To coordinate the available data that gathered and collected from energy and heat consumers with the number of planned and existing buildings
- To develop institutional arrangement (IA) for NAMA development and implementation
- To develop training modules decision makers and targeting technical staff on data collection

Questions for all stakeholders by moderator:

What are the possibilities to establish core GHG emission database? Where?

How to coordinate procedures among the ministries and government agencies through applying those information and data?

Energy Regulatory Commission (ERC)	<ul style="list-style-type: none"> • Through the decline in energy demand, the project objective focuses on declining energy related GHG emission for construction sector. • Energy efficiency program could be supported by NAMA in the construction sector. 	<ul style="list-style-type: none"> ✓ To define arrangement for cooperation and collaboration among ✓ To develop Working Plan compliance with Law on Energy Conservation
Ministry of Construction and Urban Development (MCUD)	<ul style="list-style-type: none"> • The information about the number of commenced construction and building reported by daily. The collaboration with real estate agencies, we get the info regarding newly constructed buildings. 	<ul style="list-style-type: none"> ✓ To analyze all required data and information provided by MCUD regarding the building and construction
Environment Department, City Mayor's office	<ul style="list-style-type: none"> • As stated National Statistical Office, there are about 30 indicators related to Green Development Policy. • "Building Efficiency Accelerator" Project proposed methodology and mechanism for measuring GHG emission. It has not been determined yet whether to select heat plus tool or any other methods. 	<ul style="list-style-type: none"> ✓ To take advantage for establishing database and network to be centralized in UB City Mayor's office.

Part III: Discussion on stakeholders' experience/comments on energy efficient technologies

Discussion issues by moderator:

- To facilitate market transformation for energy efficiency in the construction sector through launching the advanced technology and techniques

Questions for all stakeholders by moderator:

Please share your experience on energy efficiency technologies for GHG emission reduction

Global Green Growth Institute (GGGI)	We have conducted heating energy assessment in Hovd, Bulgan as well as Arkhangai provinces (aimags). it is indicated that consumers are needed to adjust the consumption of heating by monitoring (metrics). The solution was that any influence is not applicable unless the end users able to monitor their utility. As for only metrics applied, the research finding presented that if install monitor 20% no additional adjustment.
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Ministry of Environment and Tourism (MET)

By cooperation with Government of Japan, there were Heat only boiler (HOB) projects implemented in 118th school in Ulaanbaatar and the secondary school in Bornuur soum, Tuv province. The benefits experienced were not only significantly reduce GHG emission but also reduce air pollution. As a result, the certain amount of data was gathered from those projects framework. Moreover, Demo Projects were implemented as well.

2.3 Day 3: Field Visit

Following the inception workshops, field visits were organized in order to introduce demonstration project sites and partnering agencies to the PMU, NPD and RTA, on May 11th, 2017. Field visit sites included:

- Ger area tour to Khailaast, 7 buudal and 100 ail districts
- School of Civil Engineering and Architecture, National University of Science and Technology
- Windows and Door Manufacturing Association

2.4 PEB Meeting

The first Project Executive Board meeting was held on April 17th, 2017 at Topaz Meeting Room at *the Blue-Sky Hotel and Tower*, Ulaanbaatar, Mongolia. The first PEB meeting had objectives to review and approve activities on AWP in 2017 and to provide overall guidance on the strategy for the effective coordination, implementation of the project activities as follows:

- a) To provide PEB members with detailed overview of project goals, objectives, outcomes and indicators
- b) To review and approve 2017 Annual Work Plan
- c) To review and discuss constraints and challenges
- d) To launch the project implementation.

As a result of meeting the following decisions made on:

1. Annual Work Plan for 2017
2. PEB Operating Procedure
3. Technical Advisory Group
4. Timing of the next PEB meeting

Recommendation of the meeting:

- The Project Executive Board members approved the AWP with the minor changes.
- The Project Executive Board urged the Project Management Unit to finalize the AWP according to the comments made.
- The Project Executive Board approved the establishment of Technical Advisory Group /TAG/ and supported to provide and include the relevant expert in TAG.

Project Executive Board members

PEB Chair:

1. S.Magnaisuren, State secretary, Ministry of Construction of Urban Development (MCUD)

PEB Co-chair:

2. Daniela Gasparikova, Deputy Resident Representative, UNDP Mongolia

PEB Members:

3. P.Bayarkhuu, Deputy Governor of Capital City, in charge of Infrastructure and Ger District Development
4. L.Batjargal, Director, Policy and Planning Department, MCUD
5. O.Lkhagvatseden, Director, Public Utilities Policy Implementation and Coordination Department, MCUD
6. D.Zanabazar, Director, Construction and Building Material Policy Implementation and Coordination Department, MCUD
7. B.Gunbold, Director, Urban Development and Land Affairs Policy Implementation, MCUD
8. N.Narantuya, Director, Monitoring Evaluation and Internal audit department, MCUD
9. S. Erdenebaatar, Head, Investment and Industry Division, MCUD
10. S.Amartuvshin, Head, Law Division, MCUD
11. B.Dorjsembed, Director, Development Financing Department, Aid Policy Division, Ministry of Finance
12. M.Angarag, Head of Division, Strategic policy & planning department, Renewable energy division, Ministry of Energy
13. Ts.Gerelt-Od, Officer, Climate Change and Foreign Cooperation Department, Ministry of Environment and Tourism
14. Ts.Atarjargal, Director, Energy Efficiency Department, Energy Regulatory Commission

PEB Secretary:

15. B.Bayarlkham, National Project Coordinator, NAMA project, UNDP Mongolia

2.5 Project Inception Overall Outcomes

The project inception related activities specially, the launching of the workshop can be described as very informative and very interesting both for the organizing (PMU) and for the participants from representatives from governmental, business and industrial institutions, as well as academic and civil organizations, at the state and national level the concerned by the project. The workshop was able to gather all parties involved in the field, thus allowed convergences of conflicting and complementary opinions.

In summary, outcome of inception phase including meetings, consultations, internal and external workshops and field visits are as follows:

- a) Assisted all partners to fully understand and take ownership of the project. Detailed out the roles, support services and complementary responsibilities of UNDP CO, UNDP region, the project team and the PEB as well. Discussed the roles, functions, and responsibilities within the project's decision-making

structures, including reporting and communication lines. The Terms of Reference for PEB was also discussed and approved by the PEB meeting.

- b) Based on the project results framework and the relevant GEF Tracking Tool, finalized the first annual work plan. Reviewed and agreed on the indicators, targets and their means of verification, and rechecked assumptions and risks.
- c) Provided a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget was agreed and scheduled.
- d) Discussed financial reporting procedures and obligations, and arrangements for annual audit.
- e) Discussed availability of potential demonstration projects and further institutional arrangements with the stakeholders.

3. CHANGES IN THE PROJECT ENVIRONMENT

3.1 Changes of Project Goals & Objectives

The goal of the project is the reduction of GHG emissions from the construction sector in Mongolia by developing a NAMA framework, with the objective to support appropriate climate change mitigation actions in the construction sector.

The objective of this project is to facilitate market transformation for energy efficiency in the construction sector through the development and implementation of NAMA.

There was no change suggested to the project goals and objectives during the inception workshop.

3.2 Changes of Project Period

In the project document, the project period is defined as from 2016 to 2019. However, since signing of the project agreement, the project has faced almost 10 months of delay in inception and kick-off due to restructuring of the government and institutional arrangement after the parliamentary election. Thus, the project inception phase was postponed and held from April to June 2017.

Therefore, it is expected that the project period will change as from April 2017 to July 2020 (an extension request for project prolongation will be submitted to the UNDP GEF Executive Coordinator in time). This results in changes in Atlas Budget year that the project year 1 refers to 2017, project year 2 refers to 2018 and the project year 3 refers to 2019.

3.3 Changes of Project Components

Based on the above strategic considerations, the project will focus on three components to realize the project objectives:

- Component 1: Establishment of Baseline Energy Consumption and GHG Emission in the Construction Sector
- Component 2: Development and Implementation of NAMA in the Construction Sector
- Component 3: Measurement, Reporting and Verification (MRV) system for NAMA

There is no change of the three main components of the project.

3.4 Changes of Project Outcomes and Activities

The project will contribute to the achievement of below mentioned outcomes, which all will collectively lead to greater implementation of NAMA in the construction sector in Mongolia, and will be realized through the delivery of complementary outputs that would result from the activities that will be carried out under the project:

- Effective EE policy making informed by robust energy consumption monitoring and reference baselines for the construction sector
- Prioritized NAMA in the construction sector developed and funded for implementation

- Effective climate change mitigation policies strengthened by NAMA impacts ascertained through the established MRV system

There is no change of the three main outcomes and outputs of the project. However, there are some minor changes in the project activities as described below.

Component 1: Establishment of Baseline Energy Consumption and GHG Emission in the Construction Sector (Total Cost USD 800,000; GEF Assistance USD 200,000)

Developing sector specific inventory systems can strengthen a country’s overall measurement abilities when the same processes are standardized and applied across other dimensions of GHG mitigation actions. The successful implementation of the activities under this component will deliver the necessary outputs that will contribute to the realization of the following expected outcomes: Effective policy making informed by robust energy consumption monitoring and reference baselines for the construction sector. This component will contribute towards significant enhancements to the national GHG inventory of the energy end use sector.

Changes to the Activities are shown in **red colour** below.

Expected Outcomes	Expected Outputs	Activities
Outcome 1: Effective EE policy making informed by robust energy consumption monitoring and reference baselines for the construction sector	Output 1.1: Designed and completed capacity building programs for decision makers and agencies on data collection and sustainable operation of the GHG inventory systems	<ul style="list-style-type: none"> • Activity 1.1.1: Develop training modules targeting decision makers on the imperative of data collection and GHG inventory system • Activity 1.1.2: Develop training modules targeting technical staff on data collection, establishment and operation of the GHG Inventory System • Activity 1.1.3: Implement the training programs • Activity 1.1.4: Conduct post training evaluation survey • Activity 1.1.5: Incorporate gender-specific topics or skills in the capacity building training modules related to construction sector • Activity 1.1.6: Ensure gender-balanced participation for trainings
	Output 1.2: Established and operational energy consumption and GHG inventory system for the construction sector with improved data availability and methodology	<ul style="list-style-type: none"> • Activity 1.2.1: Review existing national communications data inventory system to identify barriers, gaps, needs, lessons and challenges for data collection and compilation • Activity 1.2.2: Formulate GHG inventory protocols and procedures for the construction sector • Activity 1.2.3: Identify and select key focal points for the collection, compilation and management of baseline data • Activity 1.2.4: Develop institutional arrangements, and coordinate procedures among a broad range of stakeholders engaged in the construction sector • Activity 1.2.5: Collect, compile, quality check and analyze data

Expected Outcomes	Expected Outputs	Activities
		<ul style="list-style-type: none"> • Activity 1.2.6: Develop and test the inventory system and deploy a web-based data collection system • Activity 1.2.7: Develop and implement guidelines to regularly update and improve the inventory system • Activity 1.2.8: Develop and conduct training programs for data management staff to strengthen the data collection efforts for inventory at the energy end-use sectoral level
	Output 1.3: Defined and established reference baseline on energy consumption and GHG emission for the construction sector	<ul style="list-style-type: none"> • Activity 1.3.1: In partnership with national communication inventory team, define and develop parameters for reference baseline and emissions boundary • Activity 1.3.2: Estimate the reference baseline for energy consumption and associated GHG emissions • Activity 1.3.3: Test, verify and establish reference baselines for energy consumption in different types of buildings and GHG emissions in UB

Component 2: Development and Implementation of NAMA in the Construction Sector (Total Cost USD 4,705,110; GEF Assistance USD 821,022)

This component responds to the underlying policy, market and investment barriers to the development and implementation of feasible scaled up mitigation actions. The successful delivery of the outputs from the activities under this component will contribute to the development and implementation of prioritized NAMAs in the construction sector. The designed NAMA will be built on the success of the previous UNDP-GEF BEEP, which laid a foundation on the EE building code (the BCNS system) in Mongolia. The mitigation actions will also be strengthened by promoting beyond-the-code building designs, and applications of advanced EE technologies for the construction sector. Key activities under this component will include prioritization of energy efficiency measures and enabling market environment that will subsequently attract investments from the private sector.

Changes to the Activities are shown in **red colour** below:

Expected Outcomes	Expected Outputs	Activities
Outcome 2: Prioritized NAMA in the construction sector developed and funded for implementation	Output 2.1: Developed framework for evaluating appropriate climate change mitigation interventions; and identified priority climate change mitigation actions	<ul style="list-style-type: none"> • Activity 2.1.1: Develop methodology/standardized approach for preparing and updating abatement cost curves • Activity 2.1.2: Develop detailed marginal abatement cost curves (MACCs) • Activity 2.1.3: Develop training program and annual budget on the use and management of MACCs • Activity 2.1.4: Develop and implement selection criteria for prioritization of the most cost effective measures for inclusion in the NAMA

Expected Outcomes	Expected Outputs	Activities
		<ul style="list-style-type: none"> • Activity 2.1.5: Conduct policy studies to recommend a concerted policy framework to support implementation of priority measures • Activity 2.1.6: Incorporate gender-specific topics or skills in the capacity building training module • Activity 2.1.7: Ensure gender-balanced participation for trainings
	<p>Output 2.2: Completed operational structure for coordination among government agencies and key stakeholders for NAMA</p>	<ul style="list-style-type: none"> • Activity 2.2.1: Review and assess best practices and recommend options for institutional arrangements (IA) for NAMA development and implementation • Activity 2.2.2: Define roles and responsibilities of the entities that will be a part of the IA • Activity 2.2.3: Conduct stakeholder consultations to solicit feedback, refine and endorse the IA from supporting entities and stakeholders • Activity 2.2.4: Ensure gender-balance in decision making in developing institutional arrangement in the construction sector
	<p>Output 2.3: Completed capacity development of private and public sector actors on successful development and implementation of NAMAs; and in the supportive identification of financing options</p>	<ul style="list-style-type: none"> • Activity 2.3.1: Conduct need assessment and design of capacity development programs for private and public sector • Activity 2.3.2: Execute capacity development trainings for private and public sector participants to evaluate, formulate, implement and access financing for the NAMA
	<p>Output 2.4: Developed and implemented construction sector pilot NAMA</p>	<ul style="list-style-type: none"> • Activity 2.4.1: Finalize demonstration projects and conduct detailed energy audits • Activity 2.4.2: Prepare detailed design and implementation plans for each demonstration host • Activities 2.4.3: Procure energy efficient technologies and energy monitoring systems • Activity 2.4.4: Install and commission energy efficient technologies/applications for demonstration projects • Activity 2.4.5: Evaluate the pilot NAMA and develop criteria for categorizing NAMA as supported or voluntary • Activity 2.4.6: Clearly document and disseminate results and lessons from the demonstration projects • Activity 2.4.7: Support and promote gender-balance in appraising EE investments and projects
	<p>Output 2.5: Developed financial tools that support the implementation</p>	<ul style="list-style-type: none"> • Activity 2.5.1: Detailed feasibility analysis on NAMA financing options • Activity 2.5.2: Design and implement financial instruments to support scaled EE investments and measures

Expected Outcomes	Expected Outputs	Activities
	of NAMA in the construction sector	

Construction sector pilot NAMA demonstration projects

The output 2.4 aims to demonstrate successful implementation of pilot NAMA that constitutes a combination of new and retrofitted buildings complying fully with the existing energy codes as well as those that go beyond-the-code requirements.

Demonstration project No.1, retrofitting of the old laboratory building of the School of Civil Engineering and Architecture, is changed as retrofitting of the laboratory building of the Construction Development Centre of the MCUD.

Changes to the demonstration projects are shown in red colour below:

Pilot Project Host	Scope of NAMA Actions	Potential energy saving
Laboratory building of the Construction Development Center (CDC), MCUD	Retrofit the existing building of CDC to demonstrate full compliance with the BCNS EE requirements with following EE technologies: <ul style="list-style-type: none"> - Replace existing double glazed windows with more efficient triple glazed windows - Install energy efficient insulation on the existing non-insulated wall (58cm light weight concrete block) 	tbc
New laboratory building of the School of Civil Engineering and Architecture (SCEA)	Improve EE design of the new laboratory building to demonstrate beyond-the-code EE performance with following EE technologies: <ul style="list-style-type: none"> - Install energy efficient triple-glazed windows - Install EE ventilation system with heat recovery mechanical control providing 50% energy saving - Install Solar PV to power lighting and ventilation systems in restrooms 	65 MWh/yr
Central heating system of Soum, MCUD – location to be identified	Retrofit the existing central heating system of Soum with following EE technologies: <ul style="list-style-type: none"> - Replace Heat Only Boiler (HOB) with EE boiler with more than 75% combustion efficiency - Retrofit existing pipeline for heating network with new insulated pipeline - Install variable speed drives for pumping station - Install boiler feed water treatment units (the existing boiler is not equipped with treatment systems for feed water) - Install individual heating substation 	281 MWh/yr
New Commercial Building, Windows Manufacturer Association - location to be identified	Install highly insulated curtain wall systems sourced locally or produced by local manufacturers in a newly constructed building to be identified in collaboration with the Windows Manufacturer Association	30% from estimated baseline

Component 3: Measurement, Reporting and Verification (MRV) system for NAMA (Total Cost USD 600,000; GEF Assistance USD 200,000)

Accurate MRV is paramount for ensuring that implemented mitigation actions achieve progress towards emission targets. In addition, having a good MRV framework in place is likely to facilitate national planning, learning good practices, promote coordination and communication amongst emitting sectors and increase the likelihood of gaining international support for a NAMA. The Project will support developing a framework consisting of guidelines and methodologies for MRV of NAMAs.

Changes to the Activities are shown in **red colour** below:

Expected Outcomes	Expected Outputs	Activities
Outcome 3: Effective climate change mitigation policies strengthened by NAMA impacts ascertained through the established MRV system	Output 3.1: Defined key indicators (GHG and non-GHG) to be monitored for the selected mitigation actions	<ul style="list-style-type: none"> • Activity 3.1.1: Conduct in-depth assessment to determine key indicators and metrics for construction sector NAMA • Activity 3.1.2: Establish monitoring framework and define key parameters for demonstration projects to be measured, monitored, recorded and updated on the web-based inventory system in Outcome 1
	Output 3.2: Developed and implemented accurate MRV system for the construction sector NAMA	<ul style="list-style-type: none"> • Activity 3.2.1: Review best practices in MRV methodologies and guidelines based on established CDM methodologies, IPCC and UNFCCC NAMA guidelines and principles • Activity 3.2.2: Develop MRV standards and methodologies to measure, report and verify GHG and non-GHG indicators • Activity 3.2.3: Implement the MRV activities for the NAMA in prioritized and pilot demonstrations
	Output 3.3: Designed and completed capacity development in the implementation and institutionalization of the MRV system	<ul style="list-style-type: none"> • Activity 3.3.1: Commission need assessment and design of capacity development programs for MRV practitioners • Activity 3.3.2: Execute capacity development trainings for MRV practitioners • Activity 3.3.3: Design and conduct a post training evaluation survey of the trainees • Activity 3.3.4: Prepare communication and knowledge products highlighting the results of the MRV • Activity 3.3.5: Ensure equal opportunity for men and women in capacity building training on MRV system

3.4 Changes in key Indicators

There is no change in the project key indicators as shown in the table below.

Project Key Indicators

Indicator	Target
Direct cumulative CO ₂ eq emission reduction by End-of-Project, EOP (2020)	10,709 tCO _{2e}
Number of energy consumption and GHG emission inventory systems operational and adopted for the construction sector NAMA	1
Number of MOU to operationalize the data collection frameworks for the energy consumption and GHG inventory system by EOP	1
Number of public and private sector entities supporting the sustainable operation of the GHG inventory system by EOP	3
Number of prioritized NAMA in the construction sector developed and funded for the implementation by the project by EOP	1
Number of individual EE interventions that constitute the construction sector NAMAs by Year 4	4
Number of identified fully capable and qualified private and/or public sector entities that are interested in funding prioritized NAMA projects by Year 4	3
Number of MRV systems for construction sector emissions set up and operational by Year 2	1
Number of institutions adopting and operationalizing MRV systems of the pilot NAMA, by 2nd Quarter Year 3	2
Number of construction sector NAMA case studies using the approved MRV framework and incorporated in policy documents by EOP	3

4. REVISED PROJECT RESULTS FRAMEWORK

Changes to the Project Results Framework are shown in red colour below:

<p>This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: Improved sustainability of natural resources management and resilience of ecosystems and vulnerable populations to the changing climate.</p>
<p>Country Programme Outcome Indicators: Change in energy intensity of economy and greenhouse gas emissions per capita.</p>
<p>Primary applicable Key Environment and Sustainable Development Key Result Area: 1. Mainstreaming environment and energy</p>
<p>Applicable GEF Strategic Objective and Program: GEF-5 Climate Change Objective 2: Promote Market Transformation in Industry and the Buildings Sector</p>
<p>Applicable GEF Expected Outcomes: a) Appropriate policy, legal and regulatory frameworks adopted and enforced b) Sustainable financing and delivery mechanisms established and operational c) GHG emissions avoided</p>
<p>Applicable GEF Outcome Indicators: a) EE policies and regulations are adopted and enforced b) Volume of investment mobilized c) Number of EE projects d) Tonnes of CO₂ equivalent avoided</p>

Strategy	Indicator	Baseline	Targets	Source of Verification	Assumptions
GOAL: Reduced GHG emissions in the construction sector	<ul style="list-style-type: none"> Cumulative CO₂ emissions reduced from start of project to End-Of-Project (EOP), (tCO₂e) 	<ul style="list-style-type: none"> 2,014⁴ 3,521⁵ 	<ul style="list-style-type: none"> 10,709⁶ 18,722⁷ 	<ul style="list-style-type: none"> Project final and M&E report Reports published by MCUD and other relevant government agencies 	<ul style="list-style-type: none"> Commitment to EE in the construction sector by the government remains firm.

⁴ Cumulative CO₂ emission reduction and energy savings in the baseline scenario is a result of 1% annual reduction in baseline energy consumption due to adoption of EE technologies and EE investments in the construction sector in Mongolia in absence of GEF intervention. The calculation is based on the guideline and Excel spreadsheet tool published by GEF in March 2013.

⁵ Ibid 20

⁶ Cumulative CO₂ emission reduction and energy savings in the NAMA in Construction project scenario is a result of better compliance with the revised building code (from 80% without GEF intervention to 100% at the end of project), together with direct emission reductions from demonstration projects and their replications, and investments stimulated by the financial tools.

⁷ Ibid 22

Strategy	Indicator	Baseline	Targets	Source of Verification	Assumptions
	<ul style="list-style-type: none"> Cumulative heat and electrical energy savings due to the Project by EOP, MWh 			<ul style="list-style-type: none"> Reports published by project partners (e.g. Industry/Professional Associations, Building Managements and Developers) 	<ul style="list-style-type: none"> Participation of co-financiers and private sectors in the project remains strong Economic growth improved or at least remains constant
OBJECTIVE: To facilitate market transformation for energy efficiency in the construction sector through the development and implementation of NAMA	<ul style="list-style-type: none"> Number of construction sector NAMA developed and implemented by EOP % of new buildings that are fully or beyond BCNS compliance by EOP Number of people gainfully employed on EE in the construction sector in Mongolia by EOP 	<ul style="list-style-type: none"> 0 80% 0 	<ul style="list-style-type: none"> 1 100% 50⁸ 	<ul style="list-style-type: none"> Project final and M&E reports Reports published by MCUD and other relevant government agencies Pilot demonstration project reports Reports published by project partners (e.g. Industry/Professional Associations, Building Managements and Developers) 	<ul style="list-style-type: none"> Commitment to EE in the building sector by the government remains firm. Economic growth improved or at least remains constant

COMPONENT 1: Establishment of Baseline Energy Consumption and GHG Emission in the Construction Sector					
OUTCOME 1: Effective EE policy making informed by robust energy consumption monitoring and	<ul style="list-style-type: none"> Number of energy consumption and GHG emission inventory systems operational and adopted for the construction sector NAMA by Year 3 	<ul style="list-style-type: none"> 0⁹ 	<ul style="list-style-type: none"> 1 	<ul style="list-style-type: none"> Project final and M&E reports Reports published by MCUD, MEGDT, MOE and other 	<ul style="list-style-type: none"> Local stakeholder support in collecting and utilizing the energy consumption and

⁸ People employed by demo projects, financial institutions, and technical personnel involved in EE design and implementation in the construction sector

⁹ No energy consumption and GHG inventory system/framework for the construction sector adopted and used by MCUD

reference baselines for the construction sector	<ul style="list-style-type: none"> Number of MOU to operationalize the data collection frameworks for the energy consumption and GHG inventory system by EOP 	• 0	• 1	relevant government agencies	GHG inventory system remain firm
	<ul style="list-style-type: none"> Number of public and private sector entities supporting the sustainable operation of the GHG inventory system by EOP 	• 0	• 3 ¹⁰		
	<ul style="list-style-type: none"> Number and percentage of men and women participated in decision making meetings 	•	• 40%	<ul style="list-style-type: none"> Report on IA 	<ul style="list-style-type: none"> Participation of women in the decision-making increases
	<ul style="list-style-type: none"> Number and percentage of men and women participated in the capacity building trainings 	•	• 40%	<ul style="list-style-type: none"> Training reports List of participants by gender for each training 	<ul style="list-style-type: none"> Participation of women in the trainings remain strong

COMPONENT 2: Development and Implementation of NAMA in the Construction Sector					
OUTCOME 2: Prioritized NAMA in the construction sector developed and funded for implementation	<ul style="list-style-type: none"> Number of prioritized NAMA in the construction sector developed and funded for the implementation by the project by EOP 	• 0	• 1	<ul style="list-style-type: none"> Project final and M&E reports Pilot demonstration project reports 	<ul style="list-style-type: none"> Commitments of demonstration project hosts remain strong Economic growth improved or at least remains constant
	<ul style="list-style-type: none"> No. of individual EE interventions that constitute the construction sector NAMAs by Year 4 	• 1	• 4		
	<ul style="list-style-type: none"> No. of identified fully capable and qualified private and/or public sector entities that are interested 	• 1	• 3		

¹⁰ This indicator is changed because it is not consistent with Key Monitoring indicators in the Project document

	in funding prioritized NAMA projects by Year 4				
	<ul style="list-style-type: none"> Number of female beneficiaries in the demonstration projects 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 20 	<ul style="list-style-type: none"> Pilot demonstration project reports 	<ul style="list-style-type: none"> Commitments of demonstration project hosts remain strong

COMPONENT 3: Measurement, Reporting and Verification (MRV) system for NAMA					
OUTCOME 3: Effective climate change mitigation policies strengthened by NAMA impacts ascertained through the established MRV system	<ul style="list-style-type: none"> MRV system for construction sector emissions set up and operational by Year 2 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 1 	<ul style="list-style-type: none"> Project final and M&E reports Pilot demonstration project reports Reports published by project partners (e.g. Industry/Professional Associations, Building Managements and Developers) 	<ul style="list-style-type: none"> Commitments of demonstration project hosts remain strong Economic growth improved or at least remains constant
	<ul style="list-style-type: none"> No of institutions adopting and operationalizing MRV systems of the pilot NAMA, by 2nd Quarter Year 3 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 2 		
	<ul style="list-style-type: none"> Number of construction sector NAMA case studies using the approved MRV framework and incorporated in policy documents by EOP 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 3 		
	<ul style="list-style-type: none"> Number and percentage of men and women participated in the capacity building trainings 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 40% 	<ul style="list-style-type: none"> Training reports List of participants by gender for each training 	<ul style="list-style-type: none"> Participation of women in the trainings remain strong

5. TOTAL BUDGET AND WORKPLAN

As the project has faced almost 10 months of delay in inception and kick-off due to restructuring of the government and institutional arrangement after the parliamentary election, the project inception phase was postponed and held from April to June 2017. Therefore, there is a proposed change in project period as from April 2017 to July 2020. This results in automatic changes in Atlas Budget year that the project year 1 refers to 2017, year 2 refers to 2018 and the year 3 refers to 2019 as indicated in red colour below:

GEF Outcome/Atlas Activity	Responsible Party	Fund ID	Donor Name	Atlas Budgetary Account Code	Atlas Budget Description	Amount Year 1 - 2017 (USD)	Amount Year 2 - 2018 (USD)	Amount Year 3 - 2019 (USD)	Total (USD)	See Budget Note:
OUTCOME 1: Effective policy making informed by robust energy consumption monitoring and reference baselines for the construction sector	MCUD	62000	GEF	71200	International Consultants	49,500	44,000	11,000	104,500	1
				71300	Local Consultants	44,200	30,600	10,200	85,000	2
				71600	Travel	2,600	2,600	-	5,200	3
				75700	Training, Workshops and Conference	2,000	2,000	-	4,000	4
				74500	Miscellaneous Expenses	1,500	1,500	1,000	4,000	5
TOTAL OUTCOME 1						99,800	80,700	22,200	202,700	
Outcome 2: Prioritized NAMA in the construction sector developed and funded for implementation	MCUD	62000	GEF	71200	International Consultants	11,000	77,000	33,000	121,000	6
				71300	Local Consultants	40,800	93,600	26,800	161,200	7
				71400	Contractual Services - Individual	-	5,000	5,000	10,000	8
				71600	Travel	1,800	6,200	2,800	10,800	9
				72100	Contractual services - Companies	98,000	171,500	220,500	490,000	10
				72400	Communications and Publications	-	6,000	6,000	12,000	11
				75700	Training, Workshops and Conference	-	4,000	-	4,000	12
				74500	Miscellaneous Expenses	1,500	3,000	1,000	5,500	13
TOTAL OUTCOME 2						153,100	366,300	295,100	814,500	
OUTCOME 3: Effective climate change mitigation policies strengthened by NAMA impacts ascertained through the established MRV system	MCUD	62000	GEF	71200	International Consultants	-	49,500	33,000	82,500	14
				71300	Local Consultants	-	39,100	35,700	74,800	15
				71600	Travel	-	1,800	3,400	5,200	16
				72100	Contractual services - Companies	-	-	20,000	20,000	17
				72400	Communications and Publications	-	12,000	-	12,000	18
				75700	Training, Workshops and Conference	-	-	3,000	3,000	19
				74500	Miscellaneous Expenses	-	1,982	1,482	3,463	20
TOTAL OUTCOME 3						-	104,382	96,582	200,963	
Project Management Unit	MCUD	62000	GEF	71300	Local Consultants	6,000	6,000	6,000	18,000	21

GEF Outcome/Atlas Activity	Responsible Party	Fund ID	Donor Name	Atlas Budgetary Account Code	Atlas Budget Description	Amount Year 1 - 2017 (USD)	Amount Year 2 - 2018 (USD)	Amount Year 3 - 2019 (USD)	Total (USD)	See Budget Note:
				71600	Travel	1,000	1,000	1,200	3,200	22
				72500	Equipment and Furniture	4,000	2,500	2,000	8,500	23
				74100	Professional Services	3,000	3,000	3,000	9,000	24
				74500	Miscellaneous	4,000	4,500	4,500	13,000	25
TOTAL PROJECT MANAGEMENT						18,000	17,000	16,700	51,700	
PROJECT TOTAL						270,900	568,382	430,582	1,269,863	

5.1 AWP 2017 - Budget

Changes to the AWP are shown in red colour below:

EXPECTED OUTPUTS	PLANNED ACTIVITIES	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET			
		Q1	Q2	Q3	Q4		Funding Source	Account code	Budget description	Amount
<i>And baseline, associated indicators and annual targets</i>										
<i>List activity results and associated actions</i>										
OUTCOME 1: Effective EE policy making informed by robust energy consumption monitoring and reference baselines for the construction sector										
Output 1.1: Designed and completed capacity building development programs for decision makers and agencies on data collection and sustainable operation of the GHG inventory systems; Indicator: Number of trainees; Target: 15 participants trained	Activity 1.1.1: Develop training modules targeting decision makers on the imperative of data collection and GHG inventory system					UNDP CO	GEF	72100	Contractual services-Companies	24,750.00
						MCUD		71300	National consultant	5,400.00
						UNDP CO & MCUD		71400	Contractual services-Individual	11,875.00
	Activity 1.1.2: Develop training modules targeting technical staff on data collection, establishment and operation of the GHG Inventory System					MCUD	GEF	71300	National consultant	5,400.00
						PMU		74500	Miscellaneous	800.00
	Activity 1.1.3: Implement the training programmes					PMU	GEF	75700	Training	3,500.00
	Activity 1.1.4: Conduct post training evaluation survey					PMU	GEF	74500	Miscellaneous	800.00
	Activity 1.1.5: Incorporate gender-specific topics or skills in the capacity building training modules related to construction sector					UNDP CO	GEF	75700	Training	300.00
	Activity 1.1.6: Ensure gender-balanced participation in the trainings					UNDP CO	GEF	75700	Training	200.00
	Output 1.2: Established and operational energy consumption and GHG inventory system for the construction sector with improved data availability and methodology; Indicator: 1. Number of energy	Activity 1.2.1: Review existing national communications data inventory system to identify barriers, gaps, needs, lessons and challenges for data collection and compilation					UNDP CO	GEF	72100	Contractual services-Companies
						MCUD	71300		National consultant	6,200.00
						UNDP CO & MCUD	71400		Contractual services-Individual	7,075.00
						UNDP CO & MCUD	GEF	71400	Contractual services-Individual	11,875.00

consumption and GHG emission inventory systems operational and adopted for the construction sector NAMA by Year 3; Target: 1	Activity 1.2.2: Formulate GHG inventory protocols and procedures for the construction sector				PMU		74500	Miscellaneous	800.00	
	Activity 1.2.3: Identify and select key focal points for the collection, compilation and management of baseline data				UNDP CO & MCUD	GEF	71400	Contractual services-Individual	11,875.00	
	Activity 1.2.4: Develop institutional arrangements, and coordinate procedures among a broad range of stakeholders engaged in the construction sector						GEF	72100	Contractual services-Companies	-
							GEF	71300	National consultant	-
						PMU		74500	Miscellaneous	800.00
Activity 1.2.5. Collect, compile and quality check and analyze data						GEF	74500	Miscellaneous	800.00	
Total Outcome 1						GEF	72100	Contractual services-Companies	49,500.00	
							71300	National consultant	17,000.00	
							71400	Contractual services-Individual	42,700.00	
							75700	Training	4,000.00	
							74500	Miscellaneous	4,000.00	
							Sub-total		117,200.00	
OUTCOME 2: Prioritized NAMA in the construction sector developed and funded for implementation										
Output 2.1: Developed framework for evaluating appropriate climate change mitigation interventions; and identified priority climate change mitigation actions; Indicator: Number of prioritized NAMA in the construction sector developed and funded for implementation; Target: 1	Activity 2.1.1: Develop methodology/standardized approach for preparing and updating abatement cost curves				UNDP CO	GEF	72100	Contractual services-Companies	25,300.00	
					MCUD		71300	National consultant	5,400.00	
					UNDP CO & MCUD		71600	Travel	1,000.00	
							TRAC	74500	Miscellaneous	500.00
	Activity 2.1.2: Develop detailed marginal abatement cost curves (MACCs)				PMU	GEF	74500	Miscellaneous	800.00	
	Activity 2.1.3: Develop training program and annual budget on the use and management of MACCs				PMU	GEF	75700	Training	1,200.00	
					TRAC	74500	Miscellaneous	500.00		

<p>Output 2.2: Completed operational structure for coordination among government agencies and key stakeholders; Indicator: Number of MOU to operationalize the data collection frameworks for the energy consumption and GHG inventory system by EOP; Target: 1</p>	Activity 2.1.4: Develop and implement selection criteria for prioritization of the most cost effective measures for inclusion in the NAMA				PMU	GEF	74500	Miscellaneous	800.00
	Activity 2.1.5: Conduct policy studies to recommend a concerted policy framework to support implementation of priority measures				PMU	GEF	74500	Miscellaneous	900.00
	Activity 2.1.6: Incorporate gender-specific topics or skills in the capacity building training modules related to construction sector				UNDP CO	GEF	75700	Training	300.00
	Activity 2.1.7: Ensure gender-balanced participation in the trainings				UNDP CO	GEF	75700	Training	200.00
	Activity 2.2.1: Review and assess best practices and recommend options for institutional arrangements (IA) for NAMA development and implementation				MCUD	GEF	71300	National consultant	5,400.00
					UNDP CO & MCUD		71600	Travel	800.00
						TRAC	74500	Miscellaneous	500.00
	Activity 2.2.2: Define roles and responsibilities of the entities that will be a part of the IA				PMU	GEF	75700	Training	400.00
					PMU	TRAC	74500	Miscellaneous	500.00
	Activity 2.2.3: Conduct stakeholder consultations to solicit feedback, refine and endorse the IA from supporting entities and stakeholders					GEF	72400	Communic & Audio Visual Equip	6,000.00
Activity 2.2.4: Ensure gender-balance in decision making in developing IA				UNDP CO	GEF	75700	Training	200.00	
<p>Output 2.3: Completed capacity development of private and public sector actors on successful development and implementation of NAMAs; and in the supportive identification of financing options; Indicator: Number of identified fully capable and qualified private and/or public sector entities that are interested in funding prioritized NAMA projects by Year 4; Target: 3</p>	Activity 2.3.1: Conduct need assessment and design of capacity development programs for private and public sector				UNDP CO	GEF	72100	Contractual services-Companies	25,300.00
					MCUD		71300	National consultant	5,400.00
					PMU		75700	Training	1,700.00
							74500	Miscellaneous	
	Activity 2.3.2: Execute capacity development trainings for private and public sector participants to evaluate, formulate, implement and access financing for the NAMA					GEF	72100	Contractual services-Companies	-
					71300		National consultant	-	
					71400		Contractual services-Individual	-	

Output 2.4: Developed and implemented construction sector pilot NAMA; Indicator: Number of individual EE interventions that constitute the construction sector NAMAs by Year 4; Target: 6	Activity 2.4.1: Finalise demonstration projects and conduct detailed energy audits					GEF	72100	Contractual services-Companies	-	
					MCUD		71300	National consultant	10,800.00	
	Activity 2.4.2: Prepare detailed design and implementation plans for each demonstration host						GEF	72100	Contractual services-Companies	-
						MCUD		71300	National consultant	10,800.00
								71400	Contractual services-Individual	-
	Output 2.5: Developed financial tools that support the implementation of NAMA in the construction sector; Indicator: Financial tool that support the implementation of NAMA in the construction sector; Target: 1	Activity 2.5.1: Detailed feasibility analysis on NAMA financing options				UNDP CO	GEF	72100	Contractual services-Companies	25,300.00
					MCUD	71300		National consultant	5,400.00	
Activity 2.5.2: Design and implement financial instruments to support scaled EE investments and measures						GEF	72100	Contractual services-Companies	-	
					PMU		74500	Miscellaneous	1,000.00	
Total Outcome 2							GEF	72100	Contractual services-Companies	75,900.00
								71300	National consultant	43,200.00
								72400	Communic & Audio Visual Equip	6,000.00
								71600	Travel	1,800.00
								75700	Training	4,000.00
								74500	Miscellaneous	3,500.00
								TRAC	74500	Miscellaneous
								Sub-total	136,400.00	
Project Management Unit	Office furniture, computer and equipment				PMU, MCUD	GEF	72200	Equipment and Furniture	8,500.00	
	Professional services				PMU	GEF	74100	Professional services	3,000.00	
	UNDP, DPC				PMU	TRAC	74500	Reimbursement Costs	13,000.00	
Total PMU									24,500.00	
TOTAL									278,100.00	

6. MONITORING FRAMEWORK AND EVALUATION

The project will be monitored through the following M&E activities. There is no change in the major M&E reporting tools including:

- (i) Inception report
- (ii) Project implementation work plan
- (iii) Quarterly progress report (QPR)
- (iv) Annual project review/project implementation reports (APR/PIR)
- (v) Site visit report
- (vi) Terminal evaluation

There is no change in the M&E budget as well, as provided in the following table.

6.1 M&E Work Plan and Budget

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team staff time</i>	Time frame
Inception Workshop and Report	<ul style="list-style-type: none"> ▪ Project Manager ▪ UNDP CO, UNDP GEF 	Indicative cost: 10,000	Within first two months of project start up
ARR/PIR	<ul style="list-style-type: none"> ▪ Project manager and team ▪ UNDP CO ▪ UNDP RTA ▪ UNDP GEF Directorate 	None	Annually
Periodic status/progress reports	<ul style="list-style-type: none"> ▪ Project manager and team 	None	Quarterly
Final Evaluation	<ul style="list-style-type: none"> ▪ Project manager and team, ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team) 	Indicative cost: 30,000	At least three months before the end of project implementation
Project Terminal Report	<ul style="list-style-type: none"> ▪ Project manager and team ▪ UNDP CO ▪ Local consultant 	0	At least three months before the end of the project
Audit	<ul style="list-style-type: none"> ▪ UNDP CO ▪ Project manager and team 	Indicative cost per year: 3000	One per program cycle and additional audit if any based on the adjusted risk rating
Visits to field sites	<ul style="list-style-type: none"> ▪ UNDP CO ▪ UNDP RCU (as appropriate) ▪ Government representatives 	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US\$ 54,000 (+/- 5% of total budget)	

Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from UNDP/GEF.

6.2 Project Monitoring and Evaluation Plan 2017

Changes to the M&E plan are shown in **red colour** below:

Project ID: PIMS5315 Project Title: Nationally Appropriate Mitigation Actions in the construction sector Mongolia project

Expected Results (Outcomes & Outputs)	Indicators	Baseline	Targets	Data Collection Plan				
				Source/Method of Collection	Schedule/ Frequency	Responsible Staff	Resources (\$)	Risks and Assumptions
Obtained from the CPAP and project Results Frameworks)	Obtained from the CPAP and project Results Frameworks)	At the project start date	At the project end date	Specific publication, evaluation, survey, field observation, interviews, etc	Monthly, quarterly, annually, etc	Staff member responsible for collecting and reporting data	Estimated cost of collecting and reporting data	Any risks or assumptions concerning data collection
CPAP Outcome: Improved sustainability of natural resources management and resilience of ecosystems and vulnerable populations to the changing climate	<ul style="list-style-type: none"> Cumulative CO2 emissions reduced from start of project to End-Of-Project (EOP), (tCO2e) 	<ul style="list-style-type: none"> 2,014¹¹ 	<ul style="list-style-type: none"> 10,709¹² 	<ul style="list-style-type: none"> Project final and M&E report Reports published by MCUD and other relevant government agencies Reports published by project partners 	Annually	NPC		<ul style="list-style-type: none"> Commitment to EE in the construction sector by the government remains firm Participation of co-financiers and private sectors in the project remains strong Economic growth improved or at least remains constant
	<ul style="list-style-type: none"> Cumulative heat and electrical energy savings due to the Project by EOP, MWh 	<ul style="list-style-type: none"> 3,521¹³ 	<ul style="list-style-type: none"> 18,722 		Annually	NPC		
CPAP Output: Capacities of vulnerable sectors and communities strengthened in climate change adaptation and mitigation	<ul style="list-style-type: none"> Number of construction sector NAMA developed and implemented by EOP 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 1 		Annually	NPC		<ul style="list-style-type: none"> Commitment to EE in the building sector by the government remains firm Economic growth improved or at least remains constant
	<ul style="list-style-type: none"> % of new buildings that are fully or beyond BCNS compliance by EOP 	<ul style="list-style-type: none"> 80% 	<ul style="list-style-type: none"> 100% 		Annually	NPC		
	<ul style="list-style-type: none"> Number of people gainfully employed on EE in the construction sector in Mongolia by EOP 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 50¹⁴ 		Annually	NPC		

¹¹ Cumulative CO2 emission reduction and energy savings in the baseline scenario is a result of 1% annual reduction in baseline energy consumption due to adoption of EE technologies and EE investments in the construction sector in Mongolia in absence of GEF intervention. The calculation is based on the guideline and Excel spreadsheet tool published by GEF in March 2013.

¹² Cumulative CO2 emission reduction and energy savings in the NAMA in Construction project scenario is a result of better compliance with the revised building code (from 80% without GEF intervention to 100% at the end of project), together with direct emission reductions from demonstration projects and their replications, and investments stimulated by the financial tools.

¹³ Ibid 20

¹⁴ People employed by demo projects, financial institutions, and technical personnel involved in EE design and implementation in the construction sector

Project Output 1: Effective EE policy making informed by robust energy consumption monitoring and reference baselines for the construction sector	<ul style="list-style-type: none"> Number of energy consumption and GHG emission inventory systems operational and adopted for the construction sector NAMA by Year 3 	<ul style="list-style-type: none"> 0¹⁵ 	<ul style="list-style-type: none"> 1 	<ul style="list-style-type: none"> Project final and M&E reports Reports published by MCUD, MET, MOE and other relevant government agencies 	Annually	NPC; Project lead consultant		Local stakeholder support in collecting and utilizing the energy consumption and GHG inventory system remain firm
	<ul style="list-style-type: none"> Number of MOU to operationalize the data collection frameworks for the energy consumption and GHG inventory system by EOP 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 1 		Annually	NPC; Project lead consultant		
	<ul style="list-style-type: none"> Number of public and private sector entities supporting the sustainable operation of the GHG inventory system by EOP 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 3 		Annually	NPC; Project lead consultant		
	<ul style="list-style-type: none"> Number and percentage of women participated in decision making meetings 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 40% 	Report on IA	Annually	NPC; Project lead consultant		<ul style="list-style-type: none"> Participation of women in the decision-making increases
	<ul style="list-style-type: none"> Number and percentage of women participated in the capacity building trainings 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 40% 	Training reports; List of participants by gender for each training	Annually	NPC; Project lead consultant		<ul style="list-style-type: none"> Participation of women in the trainings remain strong
Project Output 2: Prioritized NAMA in the construction sector developed and funded for implementation	<ul style="list-style-type: none"> Number of prioritized NAMA in the construction sector developed and funded for the implementation by the project by EOP 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 1 	<ul style="list-style-type: none"> Project final and M&E reports Pilot demonstration project reports 	Annually	NPC; Project lead consultant		<ul style="list-style-type: none"> Commitments of demonstration project hosts remain strong Economic growth improved or at least remains constant
	<ul style="list-style-type: none"> No. of individual EE interventions that constitute the 	<ul style="list-style-type: none"> 1 	<ul style="list-style-type: none"> 4 		Annually	NPC; Project lead consultant		

¹⁵ No energy consumption and GHG inventory system/framework for the construction sector adopted and used by MCUD

	construction sector NAMAs by Year 4							
	<ul style="list-style-type: none"> No. of identified fully capable and qualified private and/or public sector entities that are interested in funding prioritized NAMA projects by Year 4 	• 1	• 3		Annually	NPC; Project lead consultant		
	<ul style="list-style-type: none"> Number of female beneficiaries in the demonstration projects 	•	• 20	<ul style="list-style-type: none"> Pilot demonstration project reports 	Annually	NPC; Project lead consultant		Commitments of demonstration project hosts remain strong
Project Output 3: Effective climate change mitigation policies strengthened by NAMA impacts ascertained through the established MRV system	<ul style="list-style-type: none"> MRV system for construction sector emissions set up and operational by Year 2 	• 0	• 1	<ul style="list-style-type: none"> Project final and M&E reports Pilot demonstration project reports Reports published by project partners (e.g. Industry/Professional Associations, Building Managements and Developers) 	Annually	NPC; Project lead consultant		<ul style="list-style-type: none"> Commitments of demonstration project hosts remain strong Economic growth improved or at least remains constant
	<ul style="list-style-type: none"> No of institutions adopting and operationalizing MRV systems of the pilot NAMA, by 2nd Quarter Year 3 	• 0	• 2		Annually	NPC; Project lead consultant		
	<ul style="list-style-type: none"> Number of construction sector NAMA case studies using the approved MRV framework and incorporated in policy documents by EOP 	• 0	• 3		Annually	NPC; Project lead consultant		
	<ul style="list-style-type: none"> Number and percentage of women participated in the capacity building trainings 	•	• 40%					

7. PROJECT MANAGEMENT STRUCTURE

7.1 Terms of Reference for the PEB

Objectives

To provide guidance to and oversight of the Nationally Appropriate Mitigations Action (NAMA) in the Construction sector, Mongolia project. The primary functions of the PEB are to provide the necessary direction that allows the Project to function and achieve its policy and technical objectives, and to approve the annual Project plans and M&E reports. In addition, the PEB plays a critical role in project evaluations by quality assurance of the evaluation process and products, and using evaluations for performance improvement, accountability and learning.

Operations

The PEB will provide overall guidance for effective implementation of the NAMA project through approval or revision of annual work plans (AWPs) and budgets, as well as through overall monitoring and evaluation of progress made.

In addition:

- Secretarial support to coordinate and organize the PEB meetings will be provided by the Programme Management Unit (PMU).
- Meetings will be held two times a year or more regularly if needed at which AWPs and budgets, as well as other pertinent issues will be discussed.
- If necessary, some certain issues can be discussed and approved by PEB through online meeting.
- Meeting dates for subsequent meetings will be decided at each PEB meeting with confirmation of dates being provided at least two weeks in advance of meetings.
- All meeting documents will be circulated in English and Mongolian, at least in three working days in advance of the meeting.
- Written comments to all meeting-documents circulated should be received prior to the meetings by the PMU.
- Translation services will be provided to allow participants to communicate in either Mongolian or English.
- PEB meetings will proceed only if there is quorum (50%+1).
- PEB meeting minutes will be prepared by the PMU, and minutes will be available in English and Mongolian. Hard copies will be circulated to PEB members no later than two weeks after a PEB meeting.

- PEB members shall return their written and signed comments on the meeting minutes within 5 working days of their reception. In case of no feedback, the meeting minutes will be approved considering that there is no comment.

Decision-making

The Programme Executive Board will make decisions based on an absolute majority (50%+1).

Responsibilities

The PEB Members are responsible for:

- Reviewing and approving these Terms of Reference (TOR) and making adjustments as and when required
- Bringing the stakeholder concerns to the PEB
- Reviewing, providing recommendations on and approving AWP's and budgets.
- Reviewing the NAMA project's progress
- Reviewing the monitoring of the implementation of the NAMA project
- Providing guidance on conflict resolution related to any conflict occurring within NAMA project implementation
- Reporting NAMA project progress to their respective stakeholders

Duration and timing

The PEB is established as part of the management structure of the NAMA project. It will cease to operate on the date of termination of the Project.

Observers

Meetings of the PEB are open to Observers, according to the following conditions:

- Attendance of observers is by invitation only, to be decided and agreed by PEB members in advance of each PEB meeting.
- Invitations will be issued by the PMU on behalf of PEB co-chairs.
- Observers may not participate in discussions at PEB meetings, except at the invitation of the co-chairs.
- Observers may receive all advance documentation and information provided to PEB members, and submits comments thereupon, with the exception of documents classified by PEB members as restricted.
- Observers have no voting rights.

Designation

PEB members may extend an invitation to internal and external technical advisers from their respective organizations to attend the meeting, as and when the need arises, and

for a limited length of time. PEB members may designate alternates to attend if they are not available.

7.2 Technical Advisory Group (TAG)

Necessity of establishing TAG

Objective of establishing the TAG is to provide technical support to the Project Management Unit (PMU) in evaluating the performances of project deliverables.

Proposed composition

TAG comprises a flexible network of national and international experts on issues related to EE building design for cold climate, EE building codes and related regulations, EE building materials, EE financial, and M&V, building operation and maintenance, etc.

TAG members may be invited from Government departments, private sector representatives, national consultants, universities and colleges, and research and development institutes. Occasionally, TAG members could be hired to provide technical advisory service on particular issues related to the project.

Operations

TAG will work on specific ad-hoc assignments, primarily via Internet communication.

TAG is chaired by the National Project Director.

8. ANNEXES

8.1 Agenda of the workshops

8.1.1 Internal inception session agenda

Time	Session	Presenter
09:00 – 09:10	<u>Opening and introduction round</u> <ul style="list-style-type: none"> Goals of the international inception workshop Introduction of participants (roles and responsibilities) 	Khishigjargal.Kh, Programme Analyst
09:10 – 09:30	<u>I. GEF project implementation and inception guidance:</u> <ul style="list-style-type: none"> Key steps and processes in UNDP-GEF project implementation Requirements and key activities in the inception phase 	Milou Beerepoot, Regional Technical Advisor
09:30 – 10:00	Discussion and Q&A on GEF project implementation and inception guidance	
10:00 – 10:30	<u>II. Review of technical aspects of project:</u> <ul style="list-style-type: none"> Project log-frame Review of indicators Monitoring indicators <u>III. AWP 2017</u>	Bayarlkham.B, National Project Coordinator
10:30 – 11:00	Discussion and Q&A on technical aspects & AWP	
11:00 – 11:10	Coffee break	
11:10 – 11:30	<u>IV. Demo projects:</u> <ul style="list-style-type: none"> Baseline and demo projects Co-financing commitments as well as Project outputs and activities 	Munkhbayar.B, Project development specialist
11:30 – 12:00	Discussion and Q&A on demo projects and co-financing commitments	
12:00 – 12:40	Lunch break	
12:40 – 13:10	<u>V. Project management:</u> <ul style="list-style-type: none"> Principles of adaptive management Rules and procedures for changes in project activities, outputs, outcomes, or objective Role of UNDP, including clarification on roles of CO, RCU, and UNDP/GEF/HQ; Roles of project oversight bodies, especially Programme Executive Board <u>VI. Technical reporting:</u> <ul style="list-style-type: none"> Requirements and procedures for QOR's, APR's, PIR's and Mid-term and final evaluations 	Milou Beerepoot, RTA
13:10 – 13:40	Discussion and Q&A on project management and technical reporting	

13:40 – 14:00	<u>VII. Financial management:</u> <ul style="list-style-type: none"> • Financial management – procedures for advances and reporting • Rules concerning changes in budget lines • Rules concerning tendering and awarding of contracts • Requirements and procedures for audits 	Khurelbaatar.G, Programme Associate
14:00 – 14:30	Discussion and Q&A on financial management	
14:30 – 15:00	<u>Briefing of the session</u> <ul style="list-style-type: none"> • Identification and reflection of any adjustments required in the project document • Summary of the internal inception session 	Milou Beerepoot, RTA

8.1.2 External inception workshop agenda

Time	Session
09:30-10:00	Registration and Refreshment
10:00-10:20	WELCOMING REMARKS - His Excellency Mr. Lkhamsuren.Sh, Vice Minister of Construction and Urban Development Her Excellency Mrs. Daniela Gasparikova, UNDP Deputy Resident Representative
10:20-10:25	WORKSHOP INTRODUCTION Zanabazar.D, Director of Construction and Building Materials Policy Coordination Department, MCUD, National Project Director - Workshop Objectives - Agenda Review - Stakeholders introduction
PRESENTATIONS	
10:25-11:40	GEF introduction and context for NAMA in construction sector Milou Beerepoot, Regional Technical Advisor, UNDP RCU Q&A
10:40-10:55	Project overview Bayarlkham.B, National Project Coordinator, NAMA project Q&A
10:55-11:10	NAMA in construction sector Munkhbayar.B, Project Consultant Q&A
11:10-11:40	DISCUSSION Facilitator: Khishigjargal.Kh, Programme Analyst, UNDP Mongolia
11:40-11:50	WRAP-UP Zanabazar.D, National Project Director - Summary of the workshop - Closing remarks and thanks
11:50-12:00	Group photo session
12:00-13:00	Lunch

8.2 List of workshop participants

No.	Institution	Department/Division	Invitees
PROJECT STEERING COMMITTEE (PSC)			
1	MCUD	State Secretary and PSC Chairman	S.Magnaisuren
2	UNDP	UNDP Deputy Resident Representative	Daniela Gasparikova
3	MCUD	Director, Construction and Building Material Policy Implementation and Coordination Department and NPD	D.Zanabazar
4	MCUD	Director, Monitoring Evaluation and Internal Audit Department	N.Narantuya
5	ERC	Director, Energy Efficiency Department	Ts.Atarjargal
6	MET	Officer, Climate change and international cooperation department	Ts.Gerelt-Od
MINISTRY OF CONSTRUCTION AND URBAN DEVELOPMENT (MCUD)			
7	MCUD	Senior Officer, Public Utilities Policy Implementation and Coordination Department	O.Enkhtuya
8	MCUD	Senior Officer, Construction and Building Material Policy Implementation and Coordination Department	G.Tsermaa
9	MCUD	Officer, Investment and Industry Development Division	B.Bilgute
10	Construction Development Center (CDC)	Deputy Director and General Engineer	B.Enkbold
11	CDC	Head, Division of Construction and Building Material	B.Bat-Erdene
12	CDC	Head, Public utility and norm normative division	D.Altankhuyag
13	CDC	Head, Building and Subscribers Division	E.Munkhsukh
MINISTRY OF ENVIRONMENT AND TOURISM (MET)			
14	MET	Officer, Climate Change and International cooperation department	Ts.Anand
15	MET	Project Manager, CCPI Unit, NCF	B.Tegshjargal
MINISTRY OF ENERGY (MOE)			
16	MOE	Officer, Renewable Energy Division, Strategic Policy & Planning Department	G.Uemaa
17	ERC	Specialist, Energy Conservation Department	Khiimorisain
18	ERC	Specialist, Building Energy Conservation Department	B.Tsolmon
19	National Power Transmission Grid	General engineer	D.Chinbat
MINISTRY OF FINANCE (MOF)			
20	MOF	Officer, Development Financing Department, Aid Policy Division	E.Dulguun
UB CITY			
21	UB City Mayors office	Head of Division, Engineering Department	B.Tserenbaljid

22	UB City Mayors office	Director, Strategic Planning Department	Ulziibayar
23	UB City Mayors office	Director, Environment and Department	E.Battulga
24	UB City Mayors office	Director, Air Quality Unit	Ch.Batsaikhan
25	UB District Heating Company	Research Development Division	A.Burenbold
26	UB District Heating Company	Engineer	M.Dorjpalam
27	UB District Heating Company	Measurement Unit (in charge of payment, measuring)	D.Altannavch
28	UB Electricity Distribution Network	Supply and Service Unit	Ch.Zorigbaatar
29	UB Electricity Distribution Network	Manager, Energy Efficiency	G.Ganzaya
30	Capital City Housing Corporation	Senior officer	T.Otgonjargal
31	UB City	Head, Ger infrastructure department	J.Ganbaatar
32	UB City	Deputy director, Ger infrastructure department	Batbileg
STATE INSPECTION AGENCY (SIA)			
33	SIA	Head, Construction & Buildings Monitoring Division	T.Naran-Erdene
34	SIA	Head, Energy, metrology inspection division	A.Byambadorj
NATIONAL STATISTICAL OFFICE (NSO)			
35	NSO	Demographic & Social Statistics Department	Terbish
36	NSO	Statistician, Building, Economical	X.Ариунаа
PRIVATE & FINANCIAL INSTITUTIONS			
37	Xac bank	Officer, Eco Banking Department	A.Bayarmaa
38	Mongolian Banking Association (MBA)	Chairman of the MSFI Steering Committee	D.Tumurkhuu
39	MBA	Manager , In charge of Project and Cooperation	E.Nomindari
40	Siemens Mongolia Rep Office	Senior Sales Manager, Power and Gas PG SCNISP	Ts.Sainbayar
41	EEC Company	Director	J.Dorjpurev
42	Windows & Doors Manufacturing Association (WDMA)	Head	S.Ganzorig
43	WDMA	Member of the Board	D.Altangerel
44	WDMA	Director	B.Otgonbayar
45	Mongolian Building Engineering Association	In charge of Energy Efficiency center	P.Javzanpagma
46	Mongolian Building Engineering Association	Manager, Executive unit	Kh.Khongorzul
47	Green Building Council	Board member	D.Nergui
48	Green Building Council	Director	Batjav
ACADEMIC AND RESEARCH INSTITUTIONS			

49	MUST	Dean of School of Civil Engineering and Architecture	E.Ninjarav
50	BEEC	Senior lecturer, Environmental Engineering Department & Director, BEEC	B.Munkhbayar
51	BEEC	Engineer	J.Gankhuyag
52	Energy Economics Institute	Research Officer	D.Baasansuren
53	Energy Development Center	Head, Planning and Inspection Division	B.Erdenebat
54	Customer service center	Senior officer, Khan Uul district	Tserenkhand
55	Customer service center	Senior officer, Chingeltei district	Gantsetseg
INTERNATIONAL ORGANIZATIONS			
56	GGGI	GGGI Mongolia	Unurtsetseg
57	GIZ Mongolia	Project Director, Energy Efficiency Project	Bjorn Wahlstedt
58	GIZ Mongolia	Senior Manager, Energy Efficiency Project	Michael Timm
59	GIZ Mongolia	Project manager	Byambasuren
60	UNDP	RTA, UNDP Regional Office	Milou Beerepoot
61	UNDP Mongolia	Programme Analyst, UNDP Mongolia	B.Bunchingiv
62	UNDP Mongolia	Programme Analyst, UNDP Mongolia	Kh.Khishigjargal
63	UNDP Mongolia	UNDP Communications	Jargalsaikhan.P
64	JICA Mongolia	Programme Officer	Ch.Munkhmanlai
65	JICA Mongolia	Project Formulation Advisor, Environmental projects	Yoshino Satomi

8.3 Inception media coverage

Inception workshop was covered by a numerous media and broadcasters including Mongolian National Broadcasting TV (MNB), Bloomberg TV, Mongolian National Radio and an internet news provider www.shuud.mn.



PRESS RELEASE

PROJECT OFFICIAL LAUNCH AND INCEPTION WORKSHOP

Ulaanbaatar, Mongolia – May 10, 2017, United Nations Development Programme (UNDP) and the Ministry of Construction and Urban Development (MCUD) conducted the project inception workshop on building energy efficiency and low emission approaches in Mongolia’s construction and housing sector in the Crystal conference hall, Blue Sky hotel and tower, to introduce key stakeholders to the launch of the project “Nationally Appropriate Mitigation Actions in the construction sector, Mongolia” (NAMA) implemented by the MCUD with cooperation of the Ministry of Environment and Tourism (MET), the Ministry of Energy (MOE) and the UNDP. This project will be implemented over a 40 months period with the budget of \$8.1 million which is financed by the Global Environment Facility (GEF), the Government, the private sector and the UNDP.

About 100 stakeholders gathered to discuss climate change in the country and to prioritize key impact of the GHG emission in the construction sector and its inventory system that are most vulnerable in their institutional, technical and individual capacity.


This objective will be achieved by removing barriers to increased adoption of energy efficiency technology in construction sector through three components: i) establishment of baseline energy consumption and GHG emission; ii) development and implementation of NAMA; iii) measuring, reporting and verification (MRV) system for NAMA. As a consequence of implementing this project, there will be achievement for GHG emission reductions through the displacement of electricity heat generation from coal power plants and CHPs and increased energy efficiency in the construction sector.

In the workshop, the project objectives, outcomes and monitoring indicators were discussed. The workshop featured live discussion and presentation on energy efficiency, low emission capacities of the governmental and non-governmental agencies and institution in Mongolia, where they emphasized their common understanding on existing situation, barriers and possible solutions. The findings of the workshop acknowledged that stakeholders had shared understanding of the project and their respective roles and enhanced project direction and plans as well as the project was well positioned for forward momentum.


Project Management Unit

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 <http://www.mn.undp.org/content/mongolia/en/home/operations/projects/>

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8.4 Workshop photos (10 May 2017)





8.5 Field visit photos (11 May 2017)



Ger area tour to Khailaast, Denjiin 1000 and 100 ail regions



Window and door manufacturing workshop



Inspection of ger heating stove at local ger household in Khailaast



Interview with workshop owner on insulation



Observation and interview with local tire service workshop owner regarding its heating equipment



Meeting with university administrative on potential demo projects

8.6 Project factsheet



БАРИЛГА, ХОТ
БАЙГУУЛАЛТЫН ЯАМ



“Nationally Appropriate Mitigation Actions (NAMA) in the Construction Sector in Mongolia”

Brief Information

Programme period: 2017-2020
Executing entity:
 Ministry of Construction and Urban Development
 Government of Mongolia
Implementing/responsible partners:
 Ministry of Environment and Tourism, Ministry of Energy and UNDP

Project Finance

Total budget: (required) \$8,169,863
 Total allocated resources:

- GEF \$1,269,863
- Government \$3,350,000
- Private sector \$3,450,000
- UNDP \$100,000

Global Benefits

- Direct cumulative emission reduction by EOP: 10,709 tCO₂e
- Direct emission reduction over project lifetime: 64,219 tCO₂e

SDGs:



Project Brief Description and Outputs

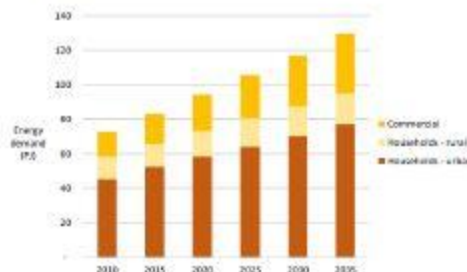
The objective of the project is to facilitate market transformation for energy efficiency in the construction sector through the development and implementation of Nationally Appropriate Mitigation Actions (NAMA) in Mongolia. This objective will be achieved by removing barriers to increased adoption of energy efficiency technology in construction sector through three components:



Increasing Energy Demand in the Construction Sector

With an increase in housing demand from economic growth and a surging rural to urban migration, the construction sector had been thriving reciprocally over the past decade. The projection of housing demand based on the population growth rate indicates approx. 140,000 apartment units will be constructed between 2020 and 2030, which translates to around 14,000 new units annually. As the building stock continues to grow, energy demand simultaneously escalates.

Figure 1. Energy demand in the buildings sector, reference scenario, PJ (10¹⁵ joules)



Source: Strategies for Development of Green Energy Systems in Mongolia (2013-2035), GGGI, 2015

Urban household energy use dominates energy demand in the buildings sector, which is projected to nearly double between 2010 and 2035, despite the combination of energy efficiency improvements and ongoing shift away from less-efficient biomass heating fuels (GGGI, 2015).

National Benefits

- ❖ Long term reduction of energy cost to households help lessen household expenditure and improve their financial conditions;
- ❖ Reduced energy usage contributes to lower demand from coal fired heat-only boilers and power plants, hence, significantly reducing air pollution. This leads to improvements in health benefits for the entire population;
- ❖ Improved living comfort and quality of life of building occupants;
- ❖ Reduced GHG emissions thereby reducing the long term risk of climate change;
- ❖ Increased demand of EE construction materials/technologies which will support local manufacturers and businesses leading to better employment prospects and eventually improved local economy;
- ❖ Improved access to energy efficiency financing in the construction sector leading to EE investments;
- ❖ Enhanced capacities and skills of people, specifically women, employed in the construction sector

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Energy Consumption and GHG Emission by the Construction Sector

The energy sector is by far the largest contributor with almost 52% of total GHG emissions in 2012 (MEGD, MARCC-2014). At current rates, Mongolia's GHG emissions is expected to increase four times the 2006 levels by 2030 and account for approx. 82% of the total to 51.2 Mt CO₂-eq.

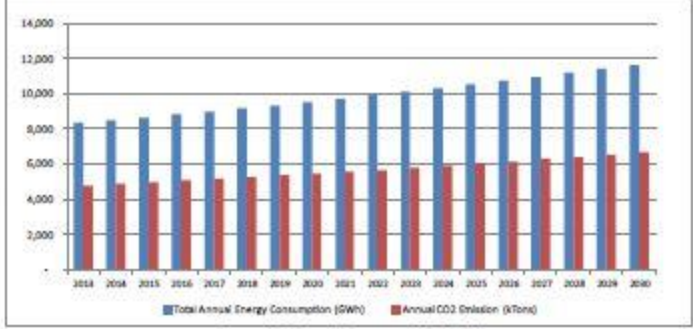
Table 1. Construction sector's energy consumption and GHG emissions

	2015	2020	2030
Energy consumption by the construction sector (GWh/yr)	8,641	9,526	11,636
Baseline GHG emission (million tCO ₂ e)	4.94	5.45	6.66

Source: NAMA project document, UNDP, 2016

Construction sector consumed 8,641 GWh of energy that resulted in 4.94 million tCO₂e greenhouse gases in 2015. If this BAU outcome continues, projection shows that GHG emissions in Mongolia construction sector will increase to approximately 5.45 million tonnes CO₂e in 2020 and 6.66 million tonnes CO₂e in 2030. This is based on growth of energy consumption in construction sector to meet the expected demands from 9,526 GWh in 2020 and 11,636 GWh in 2030.

Figure 2. Estimations of annual energy consumption and GHG emission 2013-2030



Source: NAMA project document, UNDP, 2016

What is Nationally Appropriate Mitigation Actions (NAMA)?

NAMA, firstly used in the Bali Action Plan, under the UNFCCC, Dec 2007, refers to a set of policies and actions that countries undertake as part of a commitment to reduce GHG emissions. NAMA recognizes that:

- ❖ Different countries, different NAMAs on the basis of equity and in accordance with common but differentiated responsibilities and respective capabilities
- ❖ Developing countries will effectively implement national action depends on the effective implementation of the commitments by developed countries in provision of financial resources and transfer of technology
- ❖ NAMAs shall be based on MRV framework

EXPECTED RESULTS AND INDICATORS

10.709 tCO₂e cumulative emissions reduced by EOP	Energy consumption and GHG emission inventory system become operational and adopted for the construction sector NAMA by Year 3	6 individual EE interventions that constitute construction sector NAMA by Year 4	MRV system for construction sector emissions set up and operational by Year 2
18.722 MWh cumulative heat and electrical energy savings by EOP	4 public and private sector entities supporting the sustainable operation of GHG inventory system by EOP	3 identified fully capable and qualified private/public entities that are interested in funding prioritized NAMA projects by Year 4	2 institutions adopting and operationalizing MRV systems of the Pilot NAMA, by Year 3
100% of new buildings fully or beyond in-compliance with BCNS by EOP	50 people gainfully employed on EE in the construction sector		3 construction sector NAMA case studies using the approved MRV framework and incorporated in policy document by EOP