





United Nations Development Programme

Project Document template for projects financed by the various GEF Trust Funds

Project title: Promoting Carbon Reduction Through Energy Efficiency (EE) Techniques in Iraq		
Country(ies): Iraq	**Implementing Partner (GEF Executing Entity):** UNDP Country Office in Iraq	**Execution Modality:** Direct Implementation (DIM)
Contributing Outcome (UNDAF/CPD, RPD, GPD): STRATEGIC PLAN OUTCOME 2: Accelerate structural transformations for sustainable development. UNSDCF OUTCOME 4.1: Strengthened and resourced policies and frameworks are implemented for managing natural resources (including trans-boundary issues), developing renewable resources, and increasing resilience to climate change, environmental stress and natural hazards, and man-made and natural disasters.		
UNDP Social and Environmental Screening Category: Substantial		**UNDP Gender Marker:** GEN 2: Gender is mainstreamed in all project activities
Atlas Award ID: 00128406		**Atlas Project/Output ID:** 00122419
UNDP-GEF PIMS ID number: 6487		**GEF Project ID number:** 10392
LPAC meeting date: 26/01/2022		
Last possible date to submit to GEF: 19/06/2021		
Latest possible CEO endorsement date: 19/12/2021		
Project duration in months: 60 months		
Planned start date: 1/07/2022		**Planned end date:** 30/06/2027
Expected date of Mid-Term Review: 01/11/2024		**Expected date of Terminal evaluation:** 31/03/2027
Brief project description: The main objective of this project is to promote low carbon development in Iraq through supporting the design of a regulatory framework for enhancing Energy Efficiency (EE) in buildings and the creation of an enabling environment for its operationalization. The development challenge which the project aims to address is the need for rapid expansion in the buildings sector, as part of the post-war reconstruction effort, while minimizing the load on the readily strained fuel-based electricity network. The business as usual scenario is that the development in the buildings sector will lead to higher GHG emissions.		

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The project's theory of change relies on the assumption that the essential ingredients for enhancing EE in buildings are present in Iraq, but require (1) proper integration in the procedure followed by public partners due to lack of streamlined intra-government collaboration on EE and limited technical and administrative capacity; (2) a focal point with a trained team dedicated to promoting EE in buildings; (3) standards and guidelines for the interventions promoted and the ways to assess them; and (4) effective communication with private partners and end-users on EE practices and benefits. Hence, the project builds upon existing work and develops a national framework within which past, present and future EE-related policies become aligned, complementing Iraq's efforts to reduce GHG emissions and bringing maximum benefit to the people of Iraq.

FINANCING PLAN	
GEF Trust Fund grant	USD 3,092,009
UNDP TRAC resources[1]	USD 300,000
(1) Total Budget administered by UNDP	**USD 3,392,009**
CO-FINANCIERS THAT WILL DELIVER PROJECT RESULTS INCLUDED IN THE PROJECT RESULTS FRAMEWORK (FUNDS NOT ADMINISTERED THROUGH UNDP ACCOUNTS)	
In-kind co-finance by the Government of Iraq: Ministry of Health and Environment (MoHEn)	USD 3,010,000
In-kind co-finance by the Government of Iraq: University of Baghdad (UoB), Ministry of Higher Education	USD 1,000,000
Cash co-finance by the Private Sector: Baghdad Renewable Energy and Sustainability Center (BRESC)	USD 23,000,000
(2) Total confirmed co-financing	**USD 27,010,000**
(3) Grand-Total Project Financing (1)+(2)	**USD 30,402,009**

SIGNATURES:
NOTE: IF THE PROJECT DOCUMENT IS IN FRENCH OR SPANISH, THE FINAL PROJECT DOCUMENT MUST BE CLEARED BY THE RTA BEFORE SIGNATURE.

Signature:	**Agreed by Government Development Coordination Authority**	**Date/Month/Year:**
Signature: 	**Agreed by UNDP**	**Date/Month/Year:** 18/7/2022

[1] This is not a mandatory requirement.

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LIST OF ACRONYMS AND ABBREVIATIONS

BEEC	Buildings Energy Efficiency Codes
BRESC	Baghdad Renewable Energy and Sustainability Center
CCM	Climate Change Mitigation
DFD	Data Flow Diagram
EE	Energy Efficiency
EEC	Energy Efficiency Center
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
GEF	Global Environment Facility
GHG	Greenhouse Gases
GRM	Grievance Redress Mechanism
KM	Knowledge Management
M&E	Monitoring and Evaluation
MEPS	Minimum Energy Performance Standards
MoCHPMW	Ministry of Construction, Housing, Municipalities, and Public Works
MoE	Ministry of Electricity
MoHEn	Ministry of Health and Environment
MoHESR	Ministry of Higher Education and Scientific Research
MoP	Ministry of Planning
MTR	Mid-term Review
MVE	Monitoring, Verification and Enforcement
NEEAP	National Energy Efficiency Action Plan
PIF	Project Identification Form
PIR	GEF Project Implementation Report
PPG	Project Preparation Grant
PPP	Public-Private Partnership
RCREEE	Regional Center for Renewable Energy and Energy Efficiency
SEP	Stakeholder Engagement Plan
SESA	Strategic Environmental and Social Assessment
SESP	Social and Environmental Screening Procedure
TE	Terminal Evaluation
ToC	Theory of Change
ToT	Training of Trainers
UNDP	United Nations Development Programme
UoB	University of Baghdad

II. DEVELOPMENT CHALLENGE

i. Infrastructure challenges in Iraq: Demographic, social and political context

The Republic of Iraq is located in the Western Asia and the Middle East. With a land area of 438,000 km^2, Iraq shares land borders with Iran, Jordan, Kuwait, Saudi Arabia, Syria, and Turkey. From 1970 to 2007, Iraq's population tripled, from 10 to 32 million persons (UN, 2013)[2] and reached 39.12 million in 2019, residing in 8.37 million households (MoP, 2020). The capital, Baghdad constitutes approximately 4.7% of the land area but is home to 19.9% of the population. Approximately 70% of the population resides in urban areas and 30% in rural areas. More than 50% of the urban population lives in slum-like conditions (UN, 2013). According to a survey conducted in 2016, the population in urban and rural areas is split almost evenly in terms of gender, i.e. 49.5% of the total population are women. In urban areas, the percentage of women in the population is 34.6%. Being a relatively conservative society, only 12.6% of women have paid jobs. Consequently, female-headed households represent a small percentage of total households, i.e. 11.4% in urban areas and 7.6% in rural areas (MoP, 2020).

Oil extraction has always been a pillar for the Iraqi economy. It accounts for almost 60% of GDP, 99% of export earnings and 90% of government revenues (WBG, 2017). Since the 1970s and up to 1990, a portion of the revenue from oil extraction was invested in infrastructure development, including electricity generation and supply. However, a series of political conflicts, including the wars in 1991 and 2003, the associated sanctions and subsequent armed conflicts have left the country with a severely degraded infrastructure. In addition to complete destruction of residential areas, electric grid connections and power stations damaged by aerial bombardment followed by decades of banned importation of equipment have never been completely restored.

According to a Damage and Needs Assessment Report covering nine cities in Iraq, including Baghdad, the total damage across all sectors amounts to 45.7 billion US dollars, of which 16 billion (35%) are in the housing sector and 7 billion (15.3%) in the power sector (WBG-DNA, 2018).[3] The human capacity has taken an equivalent hit, where 5 million Iraqis were forced to flee their homes due to armed conflicts. To-date, 3 million Iraqis continue to be displaced within Iraq, and over 260,000 are obliged to seek refuge in other countries (UNHCR, 2020).[4] Hence, while still classified as a Middle-Income Country, Iraq's Human Development Index (HDI) ranking is 120th out of 189 countries, the lowest in the region except for Syria and Yemen (UNDP-HDR, 2018).

In addition to country-specific challenges, the impacts of COVID-19 pandemic also affected the Iraqi economy and emphasized the need for resilience building strategies to accommodate the extended durations which people are now spending inside their households. Hence, while the health sector is prioritized, the crises provides an opportunity to showcase initiatives with significant potential to generate Global Environmental Benefits and encouraged parallel planning for green recovery, including energy access, efficiency and sustainability.

There is still much to be done to overcome the turmoil but one promising aspect of the Iraqi baseline is that it is presently among the youngest countries of the world, where 58% of the population are of ages between 15-64 (WBG-Data, 2018).[5] In addition, recent studies indicate a rapid increase in the use of technology with 78% of the population using mobile phones and 12% owning personal computers (UN, 2013). New studies correlating the investments in building human capital to economy-wide benefits make a good case for projects targeting the enhancement of knowledge production and sharing in different areas, including Energy Efficiency (EE).

ii. Supply-side challenges: Access and cost of electricity

Despite clear challenges, the last decade witnessed national and international reconstruction efforts especially in the buildings and power sectors. Between 2012 and 2018, electricity generation increased by almost 90%. According to the most recent Annual Report issued by the Ministry of Electricity (MoE), the available generation capacity in 2018 was 13 GW which produced a total of 82,130 GWh. However, the increase has not translated into the aspired sustainable development goals due to two sub-problems. The first relates to the energy mix in Iraq which relies almost entirely on fossil fuels and natural gas. In 2018, only 1.74% of the total electricity generation came from renewable sources (hydropower). Hence, the increase in power generation is resulting in higher GHG emissions.

[2] United Nations Iraq, Country Profile - http://www.uniraq.com/
[3] Iraq Restructuring and Development, Damage and Needs Assessment (DNA) of Affected Governorates, World Bank Group, 2018.
[4] UNHCR website - https://www.unhcr.org/iraq-emergency.html
[5] World Bank Group, Data - https://data.worldbank.org/indicator/

The second sub-problem is that the increase in generation capacity has not been accompanied by improvements in transmission and distribution networks. The official records on transmission losses in Iraq are among the highest in the world, reaching 62.5% of generated electricity (MoE, 2018). These losses represent technical issues, for lack of equivalent investment dedicated to retrofitting power stations and grid lines, as well as administrative losses, where electricity is consumed by unmetered and unbilled end-users. These losses, whether technical or administrative, mean that the GHG emissions per billed kilowatt-hour is even higher.

Furthermore, the tariff for consumers with grid access and an installed meter is heavily subsidized. This adds to the complexity of supply-side problems, where the revenue generation from selling electricity is not sufficient to make the necessary investments while the prevailing poverty does not leave much room for subsidy removal.

iii. Demand-side challenges: Electricity consumption in the buildings sector

As discussed above, the buildings and electricity sectors are facing major challenges. Considerable investments and governance are required to tackle these challenges and allow for sustainable socio-economic development. However, the supply-side baseline is only one side of the story. On the demand-side, the residential sector has historically dominated the electricity consumption, followed by the public sector. Data from the MoE shows that the total electricity sold to end-users in 2018 is 39.59 GWh. Residential consumption amounted to 59% of the total consumption. Combined with public buildings, the buildings sector represents 73.8% of the total consumption.

In parallel, peak demand has increased by 80%. The expansion in power generation capacity was not sufficient to bridge the gap between the peak demand and available supply and solve the problem of frequent power cuts lasting for extended hours in different governorates. This led to the increase in the use of off-grid diesel generators, hence, further increase in GHG emissions. This increase is counter-productive from a climate change perspective, where cooling of interior spaces is the major source of consumption of energy in building. As climate change brings longer summers and hotter weather year-round, the demand for cooling is expected to increase and therefore the impact of energy efficiency in buildings is expected to be larger. Hence, the demand for the projects outputs and objectives is expected to be greater in the coming decades.

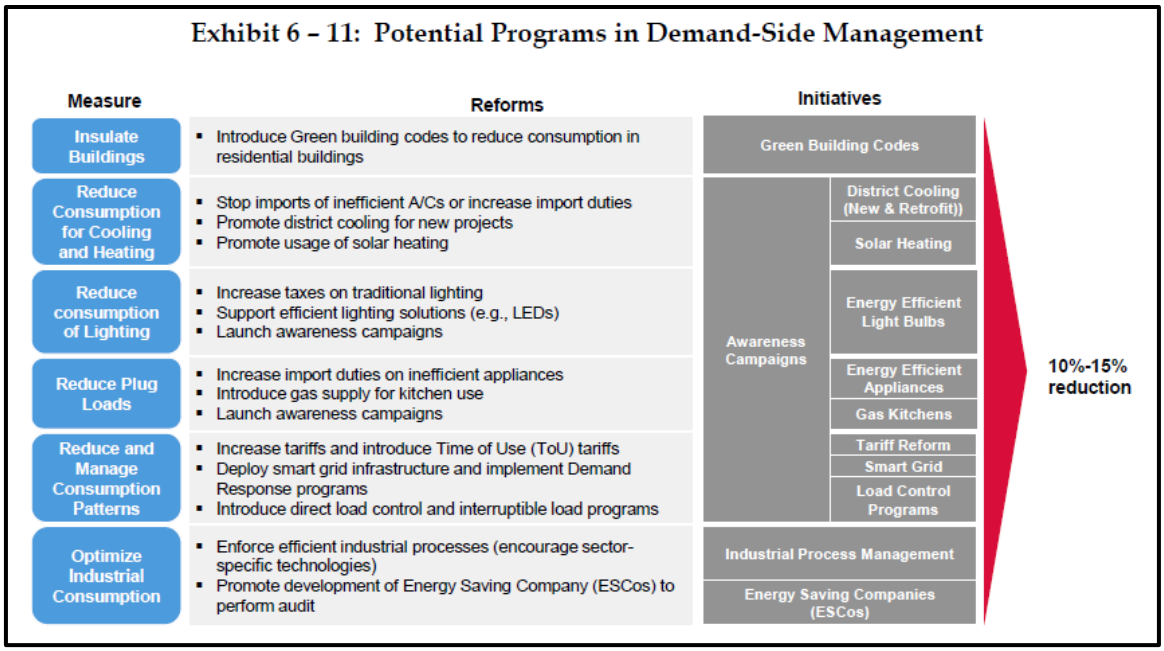
iv. Alignment with national priorities and plans

Addressing the challenges described above is consistent with national strategies. The Government of Iraq has been actively seeking to advance EE practices and create an enabling environment for low carbon development in the buildings sector. These steps are evidenced by the development of the following key documents:

- National Energy Efficiency Action Plan (NEEAP): This was developed by a high committee for EE, headed by the Ministry of Electricity (MoE) and chaired by representatives from other ministries. The first phase of the NEEAP was developed for the period from 2013 to 2015, targeting a saving of 5% of the national energy consumption, the plan includes proposed actions for the different sectors, including the buildings sector. The latest report was released by the committee in 2018. However, it was reported that implementation and follow up of this action plan fell short of the drafted plan.
- National Energy Building Code: In 2014, the Iraqi ministries developed voluntary building code, including recommendations for thermal insulation and regulations for “Green Buildings”. It was issued by the Council of Arab Ministers of Housing.
- The Intended Nationally Determined Contribution (INDC) to the UNFCCC:

Housing	1. Use energy efficient lighting technologies; 2. Use thermal insulation technologies; 3. Issue green building codes; and 4. Use cost-effective building designs to ensure optimal use of solar lighting and energy.	1. Implement photoelectric energy technologies for the electricity distributed to small zones and towns; 2. Integrate building designs using smart meters; 3. Integrate photoelectric solar energy in buildings; and 4. Enhance the production and use of domestic environment-friendly construction materials.

- The Integrated National Energy Strategy (INES) for Iraq, where EE in building is one of the measures to reduce energy needs from the demand side:



v. Barriers to EE enhancement in Iraq

Other programmes were also developed by the public and private sectors. They faced common barriers which must be studied before embarking on new projects. The following figure presents the outcome of the desk review of data collected by the project and discussions with stakeholders during the consultation workshop. As shown in the figure, one major barrier recognized by the project is that there is presently no common framework within which all programmes and initiatives can operate, and no focal point responsible for intra-government coordination. Therefore, the design of a regulatory framework that takes a holistic approach to EE in buildings is envisioned to act as a catalyst for operationalizing existing policies and achieving many of the pre-set goals by the Government of Iraq. This approach includes adding executive regulations to existing policies, establishing a knowledgeable focal point to enhance the coordination between different beneficiaries of EE activities, and developing suitable mechanisms for information flow, data gathering, knowledge sharing, monitoring and evaluation, combined with reinforcement of national capacity and expertise in the public and private sectors.

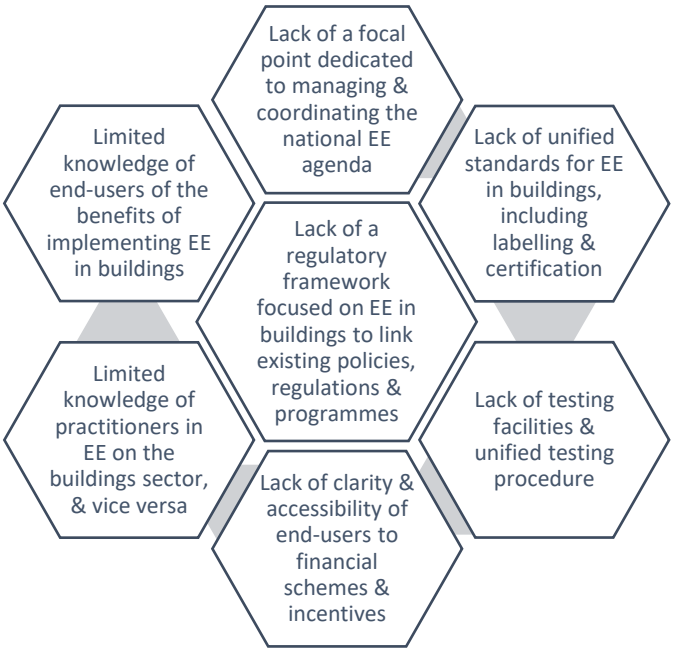


Figure 1: Barriers to EE enhancement in the Iraqi buildings sector

In conclusion, there are many development challenges facing Iraq, including the challenge to undertake post-war reconstruction while minimizing environmental impact. Efforts have been made to achieve low carbon development in the buildings sector and to reduce GHG emissions more generally. The aim of this project is not to promote EE in the abstract but rather to address and overcome the above mentioned challenges and support the Government of Iraq in making the best use of existing and future resources dedicated to developing the buildings sector while minimizing the negative impacts of increased energy consumption and therefore increased GHG emissions. The following sections of this document present the conceptualization of the problem, justification for the proposed strategy and the results framework outlining the main elements of project implementation, monitoring and evaluation.

III. STRATEGY

i. Solution Tree: Possible pathways and embedded assumptions

The problem which this project aims to contribute to solving is that the development in the buildings sector in Iraq results in a linearly proportional increase in GHG emissions. The project strategy rests on a set of assumptions shaping our understanding of the root causes of this problem. These assumptions are either self-evident given the information presented in the previous section, or gained credibly through discussions with national stakeholders during the data collection exercise and the stakeholders' consultation workshop, such as:

- Electricity consumption in buildings is a necessary part of modern, productive life, especially in the climate of Iraq and with the expectations of rise in temperature and heat waves due to global warming.
- The metering system in Iraq is facing several challenges, leading to lack of revenue generation from a considerable portion of electricity consumed by end-users.
- The cost of electricity is heavily subsidized by the Government leading to relatively low tariffs. This results in small incentive for end-users to consume power efficiently.
- Aspects of EE in buildings, such as thermal insulation, provide several advantages, such as a better indoor climate, and therefore, reduced electricity consumption. These advantages are historically proven to be important, but have become more obvious and impactful during the COVID-19 pandemic, where the difference between a household with stable and reliable access to electricity and one that doesn't directly translate to higher potential for education, work opportunities and health protection through self-isolation.
- Reduced electricity consumption has a five-fold benefit: reduced cost to the user; reduced operational cost to the public utility because of reduced demand; reduced capital costs to the utility because the reduced growth in loads requires less infrastructure development; reduced pollution as a result of power generation; and reduced environmental impact due to extended product lifetime.

More specifically, the strategy entails the assumption that specific items help promote low carbon development in the buildings sector and that they are presently missing in Iraq, those are:

- Although there is a recently developed building code, there remains a critical need for the introduction of appropriate regulatory mechanisms for EE in buildings, including Building Energy Efficiency Codes (BEEC), Minimum Energy Performance Standards (MEPS), as well as an accompanying system for Monitoring, Verification and Enforcement (MVE).
- There is no holistic work plan or a clear information flow diagram to ensure smooth collaboration between parties on the implementation of the NEEAP and other EE-related programmes.
- None of the national stakeholders presently has a mandate to act as a focal point for EE in buildings or has assumed the responsibility of acting as a coordinating agency on EE programmes and initiatives.
- There is general lack of public awareness by end-users and energy stakeholders of the benefits of energy efficiency and the importance of incorporating thermal insulation in the design of buildings, as well as the eligibility criteria of available financing schemes and incentive mechanisms designed to promote EE.

Further, the strategy relies on assumptions shaping the expected impacts of the proposed activities, these are:

- The project will gain Government support throughout its full duration (five years).
- Private sector developers are open to using new designs and updating their supply chain with engineering offices and manufacturers who can provide EE-friendly drawings and material.
- If the BEEC, MEPS and the regulatory procedure are appropriately demonstrated such that contractors and end-users become familiar with how to become compliant and why compliance is beneficial; consumers will adopt EE in buildings within the present enforcement apparatus, i.e. without the need for new laws.
- The barrier of initial cost can be lessened through emphasizing existing financial schemes for EE in buildings and mainstreaming EE in presently available financing schemes in the banking sector, i.e. without the need for directly subsidizing EE measures or introducing new financial mechanisms.

Like most problems, there are alternative solutions that can be implemented to overcome the high GHG emissions in the buildings sector in Iraq. In Iraq, electricity consumption figures indicate that the buildings sector (i.e. residential and governmental buildings) contribute to more than 60% of the electricity consumption nation-wide. This leads to high GHG emissions and a continuously increasing load on the electivity infrastructure, which is already strained due to aging and conflict-related damage. Nevertheless, the need to increase the number of buildings in Iraq is a critical part of the post-war reconstruction effort and a main priority for the Government of Iraq. This project aims to

overcome this paradox and delink the increase in the number of buildings from a consequent increase in GHG emissions.

When studying the root causes for the increased GHG in the buildings sector, three issues were identified as the main contributors to the problem:

1- Cause (1): Inefficiencies in the power generation capacity and the reliance on fossil fuel for energy production. This is combined with remarkably high records of distribution losses which is also linked to unmetered consumption and inefficiencies in tariff collection from end users. This is a major issue for the Government of Iraq and requires the development of projects to support EE on the supply-side.

2- Cause (2): Inefficient appliances dominating the market, leaving consumers with limited options to select from in terms of energy-efficient technologies. However, Iraq does not have a manufacturing capacity. The market for electric appliances relies on imported equipment. The intervention to tackle this root cause requires working with the importation authorities to develop a formula that will enable the enforcement of EE regulations on imported equipment without reducing the attractiveness of the country as a profitable market for international companies and manufactures.

3- Cause (3): High electricity consumption in buildings due to the adoption of designs and material that are neither energy-smart nor responsive to the national codes developed to ensure that buildings in Iraq are adaptive to the environment and resilient to climate change.

Since the causes are diverse and require engaging with different parties with dedicated plans for each, they cannot be all addressed under one project. The UNDP and Ministry of Construction decided to focus on Cause (3) and work towards improving EE in buildings. This is perceived as one of the critical steps required to reduce GHG emissions from the buildings sector, while encouraging the increase in the number of constructions and the enhanced livelihoods for the people residing in these buildings. Furthermore, the focus on EE in buildings is in line with the building-back-better agenda and ensures that new buildings are eco-friendly and more sustainable that traditional constructions. The project component, outcomes and outputs were designed to reflect this approach and ensure the achievement of tangible results at project end by expanding the regulatory framework of EE in buildings, enhancing the management and coordination capacity of the government by establishing a focal point to oversee all EE-related developments and programmes in the buildings sector, and dedicating resources for the knowledge production and dissemination on EE in buildings to raise awareness among end users and encourage adoption and replication by the private sector.

The following figure shows the solution tree developed for this project.

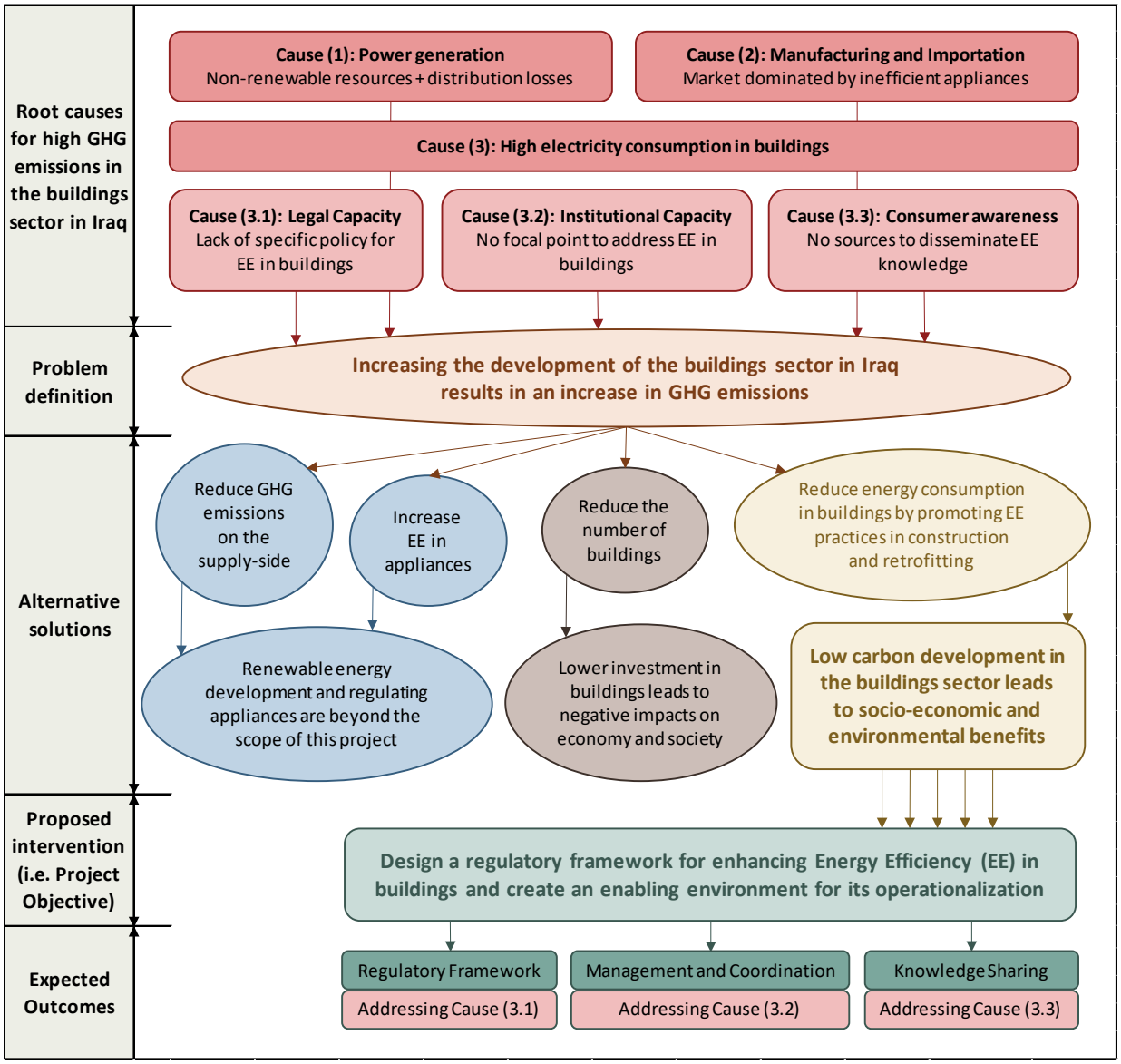


Figure 2: Solution Tree Diagram - An outline for problem definition and possible solutions

ii. Theory of Change (ToC): Fundamental hypothesis and causal chain

The objective of this UNDP-GEF project is to promote low carbon development in the Iraqi buildings sector. To achieve this objective, the project aims to induce change in two arenas. The first is the regulatory framework, which represents the set of policies, legal references and performance standards guiding the work of different parties in buildings construction and domestic appliances trading. The second is the environment within which the framework can be operational, including building the national capacity of stakeholders, supporting market readiness, and raising public awareness both on the benefits of EE adoption and the available financial schemes they can apply for to finance their EE activities. The project will also use all possible opportunity, i.e. workshops, meetings, trainings and awareness events, to promote diversity and gender balance. Balanced representation of relevant stakeholders will be ensured by reaching out to both men and women and different groups through appropriate communication means and encouraging their participation.

To realize this objective, the project will tackle regulatory barriers related to construction and retrofitting activities, as well as create connections with private actors and demand-side stakeholders for technical support and awareness raising. The connections include intra-government collaboration, public-private partnerships, and facilitating the communication between the banking sector and the public. The following figure presents the main hypothesis of the project.

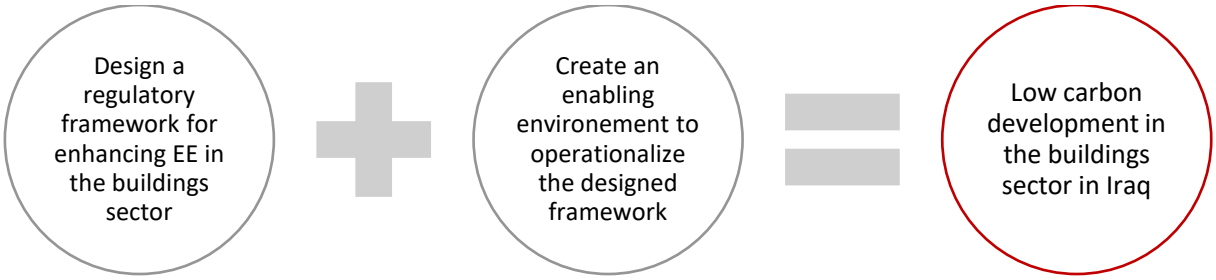


Figure 3: Fundamental hypothesis for project development

The proposed strategy in this Project Document builds upon the strategy presented in the PIF. It continues to be aligned with GEF focal area on Climate Change Mitigation (CCM-1-3). The project is also aligned with the UN's Sustainable Development Goals (SDGs) and contributes to achieving SDG-7 (Target 7.3) concerned with doubling the global rate of improvement in energy efficiency, as well as SDG-11 (Target 11.C) by offering technical assistance to promote sustainable buildings, and SDG-13 (Target 13.2) by contributing to integrating climate change measures into national policies, strategies and planning.

The following figure (Figure 4) presents the updated ToC for this project, including the ToC statement for the project objective, components, and outcomes, as well as the project outputs and the key assumptions embedded in the design of proposed activities.

iii. Socio-economic benefits

The project has numerous socioeconomic benefits, at the national, local and individual household levels, as listed specifically below.

- At the national level the project:
  - Helps reduce demand for electricity, thus relieving the burden on an already overburdened national electric system and allowing it meet a larger fraction of demand sooner.
  - Reducing the amount of fuel needed for power generation, both at the national grid level and in diesel-powered mini-grids which are a main or backup source of electricity for a large portion of the population.
  - Well-insulated buildings are more climate resilient, more comfortable to occupy in hot or cold weather.
  - Increased vocational training for energy auditors as well as installers and contractors who will do the work.
  - Of course, reduction of CO2 emissions as a direct result of reduced energy use.
- At the local level, the project:
  - Reduces fuel combustion, particularly in diesel generators, will result in reduced air pollution and reduced particulate matter, resulting in better health for the local population.
  - Reduces need for fuel transport to support mini-grids also means reduced congestion, and further reduced pollutants.
- At the individual house-hold level:
  - Reduces cost for cooling homes leaving additional income for other matters
  - Improves comfort in the home living space, particularly in the face of more extreme temperatures expected as a result of global warming.

iv. Estimation of GHG emission reduction in the buildings sector

The estimation of GHG mitigation has been re-calculated using GEF Tool for EE projects and actual baseline figures obtained from the national consultants and UNDP CO team. According to an analysis performed by USAID in 2013, the energy sector is the main source of GHG emissions in Iraq. The energy sector has also shown the largest total increase in GHG emissions over time, where it increased from 112 $MtCO_2e$ in 1991 to 261 $MtCO_2e$ in 2013.[6]

In the Project Identification Form (PIF), it was assumed that the project will lead to at least 1% reduction in the GHG emissions in the energy sector, i.e. 2,610 $ktCO_2e$/year. The detailed calculation conducted during PPG development relied on populating the GEF EE Tool with baseline data and assumptions obtained in consultation with national

[6] GHG Emissions Factsheet, USAID, 2017 - https://www.climatelinks.org/resources/greenhouse-gas-emissions-factsheet-iraq

partners. According to this calculation, it is estimated that by 2046, this project will result in GHG emission reduction of about 3.8 Million tCO_2e, i.e. approximately 190 $ktCO_2e$/year. This value translates to 0.07% annual reduction in the GHG emissions from the energy sector, which is considered by national parties to be more reasonable than the PIF assumption.

The calculation was based on the following data, obtained from a desk review and discussions with national partners:

- Grid electricity transmission and distribution loss rate is 62.5%, obtained from the Annual Report by MoE for 2018 showing 53% distribution losses, 6.5% transportation losses and 3% waste in generation plants,
- Grid electricity emission factor in Iraq is 0.82 tCO_2e/MWh, obtained from a Technical Paper by ECOMETRICA, issued in 2011 on Electricity-specific Emission Factors for Grid Electricity,
- Annual electricity consumption in households in Iraq is 78 kWh/m^2, obtained from the national team.
- Total population in 2019 is 39,127,889 persons, with 70% residing in urban areas, as reported by the MoP,
- Average area per household is 150 m^2, and the average occupancy per household is 6 persons, as reported by MoCHPMW, and
- Annual population growth rate is 2.3%, obtained from World Bank data for 2018 and considered to be a representative metric for forecasted increase in energy-consuming households over time, as opposed to the annual construction growth rate which potentially includes unoccupied buildings.

In addition, the following assumptions and estimates were developed in consultations with national parties:

- Different EE measures have different lifetimes. Based on the review of studies conducted in Iraq between 2016 and 2019, EE-related retrofitting activities in the buildings sector, such as thermal insulation, has the potential to achieve up to 68% reduction in the building's electricity consumption. As a conservative estimate, it is assumed that the retrofitting activities implemented as part of this project will result in 50% reduction in electricity consumption – compared to the building's annual consumption without retrofitting, and that the impact will stay in effect for the full length of the post-project analysis period (20 years).
- The compliance with the new codes will depend on successful project implementation, but also on other factors affecting law enforcement in Iraq more generally. As a conservative estimate, it is assumed that after the codes are approved by the government, 1% of the total buildings in urban areas will become compliant with the new codes and standards every year, either in the form of new buildings designed and constructed according to the new standards or through retrofitting activities implemented in existing buildings. The focus of the calculation on the buildings in urban areas is based on their relatively high electricity consumption, as opposed to rural households which usually contain less appliances, and the overall formality in the building requirements, such as land rights, licensing procedure, etc.
- The retrofitting of EEC building to demonstrate the impacts of implementing EE measures is expected to have a spillover effect. As a conservative estimate, it is assumed that the retrofitted EEC building will be at least 300 m^2, and will result in the retrofitting of at least 10 buildings per year during the project lifetime, and the retrofitting of at least five buildings per year and the construction of at least five buildings per year in accordance with the developed framework after the approval of Executive Regulations at project end, i.e. 31 buildings retrofitted during Years 3 to 5 of implementation, in addition to 200 buildings replicating the EE measures implemented in EEC during the 20 years analysis period.

Using the data and estimates above to calculate GHG reduction in accordance with GEF guidance (See Annex 12), the following are the projected direct and indirect GHG emissions reduction expected by the project:

- The total direct GHG emission savings from the retrofitting of 32 buildings during the 5 years' project implementation years is 531,628 tCO_2e. This amount will be realized at the end of the 20 years' lifetime for project activities, i.e. year 2046.
- The indirect bottom up emission savings due to project activities is calculated as 3,978,632 tCO_2e

The number of direct beneficiaries from project activities is estimated to be 28,000 persons, based on the outcome-level targets set in the results framework, with an overarching goal of ensuring that around 50% of the beneficiaries are females. In addition, the following is an estimation of the number of in-direct beneficiaries:

- Urban population in 2019 is 27,389,522 persons, as reported by the MoP
- Percentage compliance with building codes is assumed to be 1%

Therefore, the consequential project benefits are expected to reach approximately 274 thousand in-direct beneficiaries per year.

Theory of Change: From Development Challenges to End Goal

End Goal	**Contribute to GEF focal area: Climate Change Mitigation (CCM-1-3) / Contribute to SDGs: 7, 11 & 13**							
Objective	**To promote low carbon development in Iraq through supporting the design of a regulatory framework for enhancing Energy Efficiency (EE) in buildings and the creation of an enabling environment for its operationalization**							
ToC Statement	Designing a regulatory framework that promotes enforcement of existing policies & regulations, facilitates the collaboration of relevant parties, & manages the dissemination of information between public entities, private partners & end-users of electricity, will enhance EE practices in new constructions & retrofitting activities, resulting in a reducing GHG emissions of buildings in Iraq							
Components	**Component 1:** Enabling regulatory and institutional framework is designed to promote EE in the buildings sector, including the development of Buildings Energy Efficiency Codes (BEEC) and Minimum Energy Performance Standards (MEPS) for buildings		**Component 2:** The Energy Efficiency Center (EEC) is established with mandate for advancing EE measures in the buildings sector through providing technical advice to the public, training to practitioners, and supporting the implementation of the proposed MVE procedure		**Component 3:** Individual and institutional capacity and EE technical knowledge and expertise are strengthened to enhance the ability of national parties to develop and operationalize EE policies, regulations, technical codes, and performance standards in the buildings sector		**Component 4:** Knowledge and expertise on EE in the buildings sector in Iraq is managed, guided by best practices from other countries, and the impacts of the developed regulatory and institutional framework is continuously monitored and evaluated	
Outcomes	**Outcome 1:** Appropriate regulatory & institutional framework is designed to catalyze existing policies & programs for promoting EE in buildings, including NEEAP operationalization	**Outcome 2:** Internationally recognized BEEC & MEPS for buildings are selected & localized to become suitable for Iraq, including the associating MVE	**Outcome 3:** Energy Efficiency Center (EEC) is established & capacitated to support the development of EE programs & applications in the buildings sector	**Outcome 4:** Testing facility & certification programmes are established under EEC to support the implementation of MVE procedure developed	**Outcome 5:** Coordination between national parties for the enforcement of existing policies & strategies, including the Iraqi building code, is strengthened	**Outcome 6:** The awareness of practitioners involved in the buildings sector, as well as end-users of electricity, on EE regulation & best practices is	**Outcome 7:** Knowledge Management system is developed & best practices are catalogued through conducting exchange missions to other countries	**Outcome 8:** Monitoring & Evaluation system is developed to track, & document progress & impacts, of EE initiatives to support the sustainability of EE interventions
Outcome ToC	Connecting existing regulations is more useful than creating another isolated island	Fair enforcement of EE policies & regulations requires standardizing the assessment criteria	Operationalizing the developed framework requires a focal point for EE in buildings	Fair enforcement of EE policies & regulations requires the ability to measure EE data	For the focal point to function effectively, the role of other parties needs to be defined	Engaging end-users in EE discussions will have an impact on their behaviour & investment	Sharing knowledge & learning from other countries is key to project sustainability	Regular monitoring of progress & evaluation of impacts ensures continuous
Outputs	1.1. Draft an Executive Regulation for EE in Buildings & submit for government approval. 1.2. Identify and operationalize elements of EE in buildings in the NEEAP.	2.1. Select & localize BEEC for buildings & submit for government approval. 2.2. Select & localize MEPS for buildings & submit for government approval.	3.1. Establish EEC under a PPP modality to be the focal point for EE activities in Iraq. 3.2. Capacitate staff at EEC to advise end-users & deliver training on EE in buildings.	4.1. Establish a testing facility in accordance with the proposed BEEC and MEPS. 4.2. Develop a certification programme for auditors & inspectors.	5.1. Develop & operationalize a Data Flow Diagram for EE in buildings. 5.2. Conduct policy-level training on policy, strategy, programs & applications.	6.1. Conduct technical training on EE in buildings. 6.2. Organize events & awareness campaigns. 6.3. Identify & promote financial schemes & incentives.	7.1. Develop a Knowledge Management System for the dissemination of data on EE in building. 7.2. Conduct & document exchange missions.	8.1. Setup an institutional mechanism to revise EE regulations. 8.2. Setup a system for M&E of EE programs in the buildings sector. 8.3. Conduct M&E training for EEC staff.
Key Assumptions	Existing policies & regulations are sufficient, but lacking focus & integration	Existing internationally recognized MEPS can be suitable for Iraq, with localization effort	It is possible to create a PPP in Iraq with the mandate of overseeing public sector activities	If a testing facility and certification system is established, the parties will rely on it for data	Entities involved in EE prefer collaboration over competition, but lack coordination	End-users are able to undertake EE measures if informed about the options & benefits	There are no restrictions by the government of Iraq on the dissemination of EE	There are no restrictions by the government of Iraq on the collection of EE data nation-wide
Barriers to low carbon development in the buildings sector in Iraq	**Legal, Policy & Regulatory Barriers**		**Institutional Barriers**		**Barriers to Knowledge Production & Sharing**		**Management & Sustainability**	
	EE Framework There are multiple policies & programmes that target EE, but no framework to connect them & streamline their goals	**EE Standards** There are no MEPS for EE in the buildings sector in Iraq and the existing building code does not cover all aspects of EE in	**Focal Point** There is no entity with a mandate for promoting EE & facilitating intra-government collaboration on EE in buildings	**Testing & Certification** There is no MVE system, no testing facilities & no database for trained professionals who can inspect EE in buildings	**Capacity Building** There is lack of understanding of data flow & procedure within the public sector, private companies & practitioners	**End-user Awareness** Awareness among end-users on the benefits of EE is low. There is no dissemination of data on financial schemes/ incentives	**Knowledge Sharing** There is presently no management system in place to expand the scope of knowledge sharing beyond direct beneficiaries	**M&E** There is no M&E system to ensure that future projects can build upon the impacts & findings of ongoing projects
Development Challenge	**The residential & governmental sectors in Iraq contribute to more than 60% of the electricity consumption nation-wide. The energy mix results in high GHG emissions from electricity generation. The development of the buildings sector is a crucial part in national & international post-war reconstruction efforts. However, the development of the buildings sector in Iraq contributes to an increase in GHG emissions**							

Figure 4: Theory of Change Diagram – A summary of the project strategy and casual chain analysis

IV. RESULTS AND PARTNERSHIPS

i. Expected Results

The main objective of this project is to promote low carbon development in Iraq through supporting the design of a regulatory framework for enhancing Energy Efficiency (EE) in buildings and the creation of an enabling environment for its operationalization. The development challenge which the project aims to address is the need for rapid expansion in the buildings sector, as part of the post-war reconstruction effort, while minimizing the load on the readily strained fuel-based electricity network. The business as usual scenario is that the development in the buildings sector will lead to higher GHG emissions. The project's theory of change relies on the assumption that the essential ingredients for enhancing EE in buildings are present in Iraq, but require: (1) proper integration in the procedure followed by public partners due to lack of streamlined intra-government collaboration on EE and limited technical and administrative capacity; (2) a focal point with a trained team dedicated to promoting EE in buildings; (3) standards and guidelines for the interventions promoted and the ways to assess them; and (4) effective communication with private partners and end-users on EE practices and benefits. Hence, the project builds upon existing work and develops a national framework within which past, present and future EE-related policies become aligned, complementing Iraq's efforts to reduce GHG emissions and bringing maximum benefit to the people of Iraq.

This section presents the components, outcomes and outputs comprising the project's strategy and expected results. It also includes proposed activities to help guide the project team during implementation. These activities are subject to change based on future developments on the national or sectoral levels.

Component 1. Enabling regulatory and institutional framework is designed to promote EE in the buildings sector, including the development of Buildings Energy Efficiency Codes (BEEC) and Minimum Energy Performance Standards (MEPS) for buildings

This component aims to create a practical framework for EE in buildings. It focuses on regulatory and institutional aspects for the framework to support the operationalization of existing policies and legislations, rather than develop new ones. In addition, the development of a regulatory framework will include the development of BEEC and MEPS, to provide guidance to developers during building construction and allow for energy monitoring during building use, respectively. The framework will be drafted in the form of a proposed Executive Regulation for EE in Buildings. The developed framework, codes and standards, shall take into account past and present COVID-19 risks and include a procedure for normal operation scenario, and another for the times during which there could be restrictions on mobility. This is to ensure that the potential adoption of the developed Executive Regulation is resilient to the continuity of COVID-19 risks and the eruption of similar risks in the future.

Outcome 1: Appropriate regulatory and institutional framework is designed to catalyze existing policies and programs for promoting EE in buildings, including the operationalization of the National Energy Efficiency Action Plan (NEEAP)

The framework aims to consolidate independent policies, codes, legal clauses, and technical standards relevant to EE in buildings, reflecting them in a comprehensive Executive Regulation for EE in Buildings, to be annexed under one of the approved national plans or readily enforceable laws. The framework will also include institutional aspects, engaging with the NEEAP to support its operationalization and enable EE development in the Iraqi buildings sector, as well as measures proposed for the buildings sector in Iraq to become more resilience to climate change and climate risks.

Output 1.1. An analysis of the existing policies, programmes and national plans is conducted, and an Executive Regulation for EE in Buildings is drafted and submitted for government approval.

- *Activity 1.1.1.* Existing policies, legislations, legal documents, and quality standards, applicable to the energy sector are identified and analyzed. The same is applied in the buildings sector.
- *Activity 1.1.2.* The policies, laws, and regulations of relevance to EE in buildings are identified and a list of the institutions involved in their development and enforcement is prepared.
- *Activity 1.1.3.* An assessment of the possible future effects of climate change on the buildings sector and how the resilience of buildings in Iraq to climate change risks can be strengthened is conducted.
- *Activity 1.1.4.* A regulatory and institutional framework is developed in parallel with a participatory Strategic Environmental and Social Assessment (SESA) in the form of an Executive Regulation for EE in

Buildings, formulating the best way to operationalize existing laws and filling the institutional gaps prohibiting their enforcement.

Activity 1.1.5. A stakeholders' consultation workshop is held to present the proposed framework, discuss the roles, and define future responsibilities of public and private institutions, as appropriate. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 1.1.6. The framework is updated based on the comments of stakeholders and is distributed for approval with notification letters to the assigned institutions confirming their understanding and willingness to undertake their envisioned roles and responsibilities.

Activity 1.1.7. A validation workshop to present the final framework to policymakers is held, including a description of how the framework is intended to work and recommendations for the policy or national plan most suitable for adopting the new Executive Regulation. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 1.1.8 The final draft of the Executive Regulations on EE in Buildings is developed and submitted for government approval.

Output 1.2. An analysis of the NEEAP in Iraq is conducted, and the elements required for its operationalization is provided to support rolling-out EE development with a focus on the buildings sector.

Activity 1.2.1. The NEEAP is studied to identify the strategic goals and outcomes relevant to EE in the buildings sector, analyzing the progress made since NEEAP development in these areas and the obstacles facing Iraq in achieving the planned outcomes.

Activity 1.2.2. A NEEAP Work Plan for EE in Buildings is drafted in parallel with a participatory SESA, based on the identified goals, with action items that aim to build upon previous activities and eliminate the obstacles, with recommendation for integrating the proposed action items under into existing forms and procedure used in the energy and buildings sectors.

Activity 1.2.3. A stakeholders' consultation workshop is held to present the proposed Work Plan, discuss the roles, and define future responsibilities of public and private institutions, as appropriate. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 1.2.4. The Work Plan is updated based on the comments of stakeholders and instructions on action items' integration is distributed for use by the institutions involved in implementation.

Activity 1.2.5. Periodical meetings are held with the representatives of stakeholders to report progress on the implementation of the NEEAP Work Plan, using project examples that have been affected by the integration, and document lessons learned for continuous development. All meetings shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Outcome 2: Internationally recognized BEEC and MEPS for buildings are selected and localized to become suitable for Iraq, including the associating Monitoring, Verification and Enforcement (MVE) procedure

One of the top-down strategies commonly employed by policy makers to improve EE in buildings is adopting a set of standards and codes, such as BEEC and MEPS, to enable the enforcement of the proposed regulations. BEEC serves to inform architects and contractors on aspects of passive design and help introducing smart solutions for building envelops. The developed BEEC will build upon the thermal insulation data presently available in the Iraqi buildings code, by studying other aspects thermal insulation requirements and provide recommendations on technologies for air conditioning, energy efficient lighting systems, service water heating, etc. The development process constitutes reviewing the best-practice in BEEC and localizing the most suitable codes for implementation in Iraq.

Complementary to BEEC, MEPS will be developed to promote EE practices and spread a culture of low-carbon development among inhabitants and real estate developers. The localization of BEEC and MEPS covers the associating MVE procedure, which includes performance labelling and certification schemes providing infographics to inform the public on energy use and efficiency - compared to standard levels. Labels and certificates can also include data on the estimated cost of energy consumption. The MVE procedure also include the adoption of a relevant testing procedure. The activities performed under this outcome will form the bases for Outcome 4, i.e. establishing a testing facility and a certification programmes for energy managers and auditors.

Output 2.1. Appropriate BEEC, including the associating labelling, certification scheme and testing procedure, is selected, localized, and submitted for government approval. This will include aspects of passive design and thermal insulation standards.

Activity 2.1.1. Identify at least two internationally recognized BEEC for buildings and prepare a comparative study analyzing their adoption in case study countries, highlighting the institutional infrastructure they require and the impact they had on energy consumption patterns. The findings should include a recommendation for the most suitable BEEC for localization in Iraq, along with conducting a participatory SESA to ensure environmental and social impacts identified in the Social and Environmental Screening Procedure (SESP) found in Annex 6 have been considered.

Activity 2.1.2. Identify the associating labelling and certification schemes for the selected BEEC and assess the potential for their localization.

Activity 2.1.3. Identify the associating testing procedure for the selected BEEC and assess the potential for its localization. This includes the identification of testing equipment required to ensure compliance with the proposed standards.

Activity 2.1.4. Organize a workshop with stakeholders to present the selected BEEC and discuss its adoption in the context of the proposed Executive Regulation for EE in buildings. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 2.1.5. BEEC for buildings in Iraq is drafted and submitted for government approval.

Output 2.2. Appropriate MEPS, including the associating labelling, certification scheme and testing procedure, is selected, localized, and submitted for government approval.

Activity 2.2.1. Identify at least two internationally recognized MEPS for buildings and prepare a comparative study analyzing their adoption in case study countries, highlighting the institutional infrastructure they require and the impact they had on energy consumption patterns. The findings should include a recommendation for the most suitable MEPS for localization in Iraq, along with conducting a participatory SESA to ensure environmental and social impacts identified in the SESP (Annex 6) have been considered.

Activity 2.2.2. Identify the associating labelling and certification schemes for the selected MEPS and assess the potential for their localization.

Activity 2.2.3. Identify the associating testing procedure for the selected MEPS and assess the potential for its localization. This includes the identification of testing equipment required to ensure compliance with the proposed standards.

Activity 2.2.4. Organize a workshop with stakeholders to present the selected MEPS and discuss its adoption in the context of the proposed Executive Regulation for EE in buildings. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 2.2.5. MEPS for buildings in Iraq is drafted and submitted for government approval.

Component 2. The Energy Efficiency Center (EEC) is established with mandate for advancing EE measures in the buildings sector through providing technical advice to the public, training to practitioners, and supporting the implementation of the proposed MVE procedure

Consolidating the effort of the different public, private, and international parties and bringing them together under a single framework requires the presence of a focal point dedicated to promoting the adoption of EE codes and standards, offering testing and certifications services, disseminating data on EE in buildings for awareness raising on technical benefits and financial opportunities, gathering data to evaluate market development, and undertaking capacity building activities to enhance EE practices in the buildings sector. Hence, this component is dedicated to the establishment of the Energy Efficiency Center (EEC); a center of excellence for EE in buildings that has administrative offices for staff, meeting rooms for information session and training workshops, as well as a testing facility to support the implementation of MVE procedure. The building selected for EEC establishment will be retrofitted as part of project piloting to showcase the benefits of adopting EE measures in the buildings sector. During the project review by GEFSEC, it was decided to add a second public building to the project piloting activities. The second pilot building will be a Training Center under the umbrella of Ministry of Education (MoEdu) located in Baghdad.

The detailed Procurement Plan for retrofitting of both buildings will be developed during Year 1 of project implementation. The Procurement Plan will take into account the risks associated to COVID-19 and the potential impacts on the mobility of people and equipment, and shall seek to obtain all products from local suppliers and provide material available in the domestic markets, as possible. In addition, Private Sector Risk Assessment will be conducted during Year 1 as may be required in accordance with the UNDP Guidelines. Moreover, all procurement to be done under this component will follow a competitive and transparent bidding and selection process. Supplier contracts shall include clauses for performance monitoring, servicing and training of relevant EEC staff. The preparation of the RFP requirements and the subsequent review and assessment of the proposals will include a third-party expert to verify that the subsidy does not exceed the incremental costs of the standard prices in the market that have the similar technical specifics.

Outcome 3: Energy Efficiency Center (EEC) is established and capacitated to support the development of EE programs and applications in the buildings sector

During the stakeholder consultations conducted as part of the PPG development, the following aspects were discussed in relation to EEC establishment:

- Ownership: To emphasize the role of the private sector in the deployment of EE measures in the buildings sector in Iraq, national stakeholders proposed that EEC is established as a Public-Private Partnership (PPP) between Baghdad University, the Ministry of Construction, Housing, Municipalities, and Public Works (MoCHMPW) and Baghdad Renewable Energy and Sustainability Center (BRESC), where government co-finance will be provided in the form of providing the building and covering staff salaries, while BRESC will support the operation with technical knowledge and expertise.
- Location: It has been agreed among stakeholders that the EEC will be situated in one of the state-owned buildings within Baghdad University, with an area of about 1,000 square meters. The UNDP CO team conducted a site visit to the proposed location. Please see the newly added Annex H of the CEO ER for more details on the selected building for EEC establishment. The selection of the exact building was agreed upon during a meeting between The MoHESR, Baghdad University and UNDP as per Annex 13-2. During Year 1 of project implementation, an assessment will be conducted to identify the retrofitting activities required for the EEC building, and the second piloting building, for both to become a showcase for best-practice in EE in buildings. This assessment will also be used to develop the detailed Procurement Plan for the project.
- Accessibility: The University of Baghdad (UoB) lies in the heart of Baghdad City and is publicly accessible from most of the main roads. Many academic and research institutions is next to UoB. As for most of the public buildings in Iraq some security measures are in place. However, these do not hinder the public from visiting UoB as it is open for the public.
- Funding for establishment (i.e. rental and retrofitting activities): The establishment funds will be provided by the GEF investment fund, in the form goods, material and services required for undertaking retrofitting activities for EE adoption in the selected premises.
- Funding for administrative costs (i.e. staff salaries): The details of the PPP agreement will be discussed during Year 1 of project implementation, but the preliminary discussions with stakeholders indicate that the operation of EEC will be the responsibility of the Baghdad University. Access will be given to the public and private sectors (including BRESC) as relevant to the EEC mandate. During project implementation, co-finance by the MoHEn will be used to cover staff salaries from various ministries engaged in the project activities, including EEC operation throughout the 5 years of the project. Specific staff salaries working within the EEC (on full time or part time basis), technical operation and building maintenance will be covered by Baghdad University co-finance (see the co-finance letters presented in Annex 13). The PPP will include suitable arrangements for post-project financial and operational arrangements.

As described, the establishment and operation of EEC during the project implementation does not constitute direct co-finance by the private sector. However, private sector co-finance will be used to replicate the adopted EE measures in 30 buildings during the project implementation. The replication aims to maximize the benefits of the GEF investment in EEC building and develop a knowledge base among practitioners and end users on retrofitting activities, the different EE measures and their benefit to reducing electricity consumption and GHG emissions.

During project review, the project modified the demonstration commitment to include a second public building to be retrofitted using GEF funds. The second pilot building will be a Training Center under the umbrella of MoEdu located in Baghdad, noting that it will be a public building with a surface area of about 500 square meters.

The following figure presents a proposed organizational structure for EEC, to be updated during implementation.

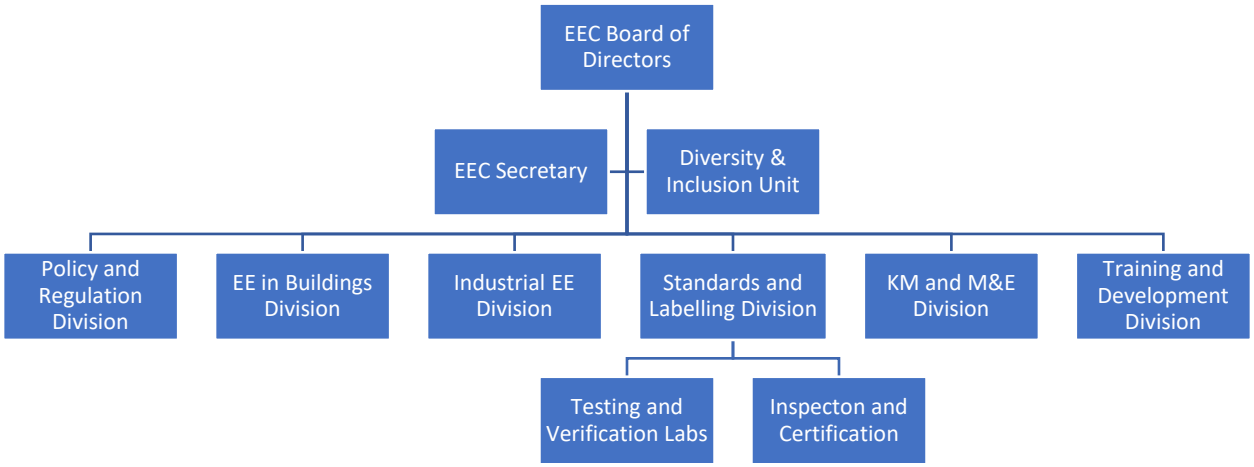


Figure 5: Proposed organizational structure for EEC

Output 3.1. EEC is established, legally and with physical presence, and is operational as the focal point for promoting EE in the Iraqi buildings sector.

Activity 3.1.1. The PPP for the establishment of EEC is signed by the parties, specifying EEC mandate, organizational structure, and the confirmed address for EEC physical presence. This includes developing the human resources policy and systems that address gender discrimination and harassment in the workplace. The establishment process also includes the development of rules and principles for access to building by staff and visitors, and a procedure to maintain reasonable capacity in line with COVID-19 considerations and any future events of similar nature.

Activity 3.1.2. A site assessment is conducted to identify the retrofitting activities required to transform the selected building to a showcase for EE in buildings, based on which a Procurement Plan is developed, and the procedure required for tendering of the engineering office and procurement of goods and material are undertaken. The activities will undergo a scoped Environmental and Social Impact Assessment (ESIA) to identified potential environmental and social impacts of their implementation (as identified in the project SESP found in Annex 6), such that an Environmental and Social Management Plan will be prepared to manage these impacts prior to commencement of the works. In addition, the contractor will undergo a SESP prior to their engagement to ensure compliance with SES.

Activity 3.1.3. Retrofitting activities are completed, potentially including adding thermal insulation to building envelop and following EE best practices in the selection of windows, cooling systems and indoor lighting plans, in accordance with the site assessment and the budget set for this activity (see budget note number 8 in Section IX below).

Activity 3.1.4. Job descriptions for EEC staff are drafted, in accordance with the organizational structure, and approved by the responsible parties, based on which hiring processes are completed with commitment to promoting diversity and gender balance.

Activity 3.1.5. The retrofitted building is officially opened for the public, announcing EEC as a focal point for EE in buildings and explaining its mandate to the public sector, private actors, and end-users.

Activity 3.1.6. The budget allowing the focal point to operate is identified, and an internal resource mobilization plan is developed to allow for sustainable operation and service continuity.

Output 3.2. Staff at the EEC are capacitated to inform decision-makers, advise investors, raise public awareness, and deliver general and technical training on EE in buildings.

Activity 3.2.1. Gender-responsive needs assessment for EEC staff is performed to identify the areas requiring capacity building.

Activity 3.2.2. Relevant training workshops are held to equip the designated personnel with the skills and tools necessary for performing the responsibilities of the focal point efficiently. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant target groups.

Activity 3.2.3. Design a performance review monitoring system to collect feedback from EEC staff on their work, using gender-disaggregated data gathering methodologies. The system will be designed by the UNDP-GEF project and adopted by EEC as a sustainable way for seeking feedback from supervisors on the work of their teams and vice versa. The information collected shall be integrated in the design of future training plans for EEC staff to ensure continuous individual and institutional development of the EEC.

Activity 3.2.4. Design a satisfaction survey form, using gender-disaggregated data gathering methodologies, to collect feedback from the people interacting with EEC staff, including questions on the services offered, problems faced and ideas for improvement. The forms will be designed by the UNDP-GEF project and adopted by EEC. The information collected shall be integrated in the design of future training plans for EE staff.

Outcome 4: Testing facility and certification programmes are established under EEC, in accordance with the proposed BEEC and MEPS, to support the implementation of the framework's MVE procedure

As mentioned in Outcome 2, the proposed BEEC and MEPS will include MVE procedure in the form of certification schemes and testing procedure. The scope of adoption of these procedures on new buildings and retrofitting activities will be defined in the Executive Regulation to be developed under Outcome 1, with the overall goal being to monitor the energy performance of buildings, verify compliance with codes and standards, and enforce regulations as relevant. EEC will be mandated to issue annual MVE reports to EE stakeholders, but the inspection frequency will be identified for each type of testing/certification.

Output 4.1. A testing facility containing suitable equipment to measure energy consumption behavior in the buildings sector and perform regular inspection for buildings, in accordance with the proposed BEEC and MEPS, is established at the EEC and operated by EEC staff.

Activity 4.1.1. Baseline assessment for in-country capacity to undertake the required testing procedure is assessed, identifying the testing equipment required for establishing a testing facility.

Activity 4.1.2. The output of the baseline assessment is presented to stakeholders, including a description of the testing equipment to be purchased for the establishment of an EE testing facility. All consultations shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 4.1.3. Procurement activities are undertaken to purchase the required equipment, in accordance with the findings of the baseline assessment, the Procurement Plan developed under Output 3.1, and the budget set for this activity (see budget note number 8 in Section IX below).

Activity 4.1.4. EEC staff working in the testing facility are trained on the use of the purchased equipment and on the issuance of inspection reports in accordance with the proposed MVE procedure. All training workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant target groups.

Activity 4.1.5. A user manual for the purchased equipment is developed including technical information on use and maintenance, as well as procedural information linking the equipment to the MVE system developed as part of the proposed Executive Regulation for EE in buildings. The manual will be issued in two versions: English and Arabic.

Output 4.2. Certified Energy Management and Building Auditors Programmes are adopted by EEC, where Energy Managers are capacitated to conduct building inspections and make recommendations for optimizing EE in buildings nation-wide.

Activity 4.2.1. Internationally recognized programmes for certifying Energy Managers and Building Auditors are reviewed, and the most suitable programmes for implementation in Iraq are selected. The selection criteria will include the programmes that are adaptive to COVID-19, i.e. have developed procedure for performing audits while maintain minimal contact with residents and maintaining social distancing recommendations, can accommodate possible travel restrictions and are willing to offer online certifications and remote-learning programmes.

Activity 4.2.2. Agreements between EEC and training providers are signed in preparation for the first round of training for future inspectors. The certification will be issued upon successful completion of the theoretical and practical components of the training, i.e. attending the training sessions and completing independent audits for at least two buildings.

Activity 4.2.3. Training service is operational, graduating Certified Energy Managers and Building Auditors. All training workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant target groups.

Activity 4.2.4. Certified personnel conduct audits for buildings and start issuing reports to EEC in accordance with the proposed MVE procedure.

Activity 4.2.5. An analysis of the accreditation requirements that would enable EEC to provide inspectors with certification directly is performed to facilitate the certification of more inspectors in the future.

Component 3. Individual and institutional capacity and EE technical knowledge and expertise are strengthened to enhance the ability of national parties to develop and operationalize EE policies, regulations, technical codes, and performance standards in the buildings sector

Nation-wide change in EE practices requires the commitment of all national parties involved in the buildings sector. The public sector is planned to drive the change through the proposed regulatory framework, but the private actors and communities have an equally critical role in realizing the aspired change. This component focuses on the human factor of project success and defines how EEC, as a newly established focal point, can contribute to facilitating the intra-government and public-private collaboration between stakeholders and develop national capacities and public awareness on EE in buildings. The outcomes under this component aim to build the institutional capacity of the public sector, by offering policy-level training and supporting tools to enhance intra-government collaboration. They also aim to build the capacity of present and future practitioners through technical training and create a well-informed public able to demand services in compliance with EE best practices. Furthermore, as part of the work under this component, the UNDP-GEF project team will support EEC engagement with existing financing mechanisms and incentive schemes offered by the government and international donor agencies, loans facilitated by commercial banks, and ongoing initiatives by NGOs, to raise awareness on possible opportunities for financial support and bridge the entities providing finance to their potential beneficiaries.

The number of people to be trained under Components 2 and 3 are listed in the mid-term and end of project targets in the results framework table (see Annex A of the CEO ER). The total for all training workshops is estimated to be about 30 persons at mid-term review, with a plan to reach about 150 persons at project end. There is an additional figure of about 600 persons targeted for participation in general training sessions and marketing events by the EEC once operational. The organization of these training will take in consideration diversity aspects and will be used as an opportunity to promote gender equality and women participation in the EE sector. Training workshops and consultation sessions will also take in consideration the involvement of public and private sector actors, in order to provide participants with networking opportunities and ensure the sustainability of the collaboration between different national partners.

It is noted that the implementation of activities under this component will take into account the social distancing recommendations and prioritize the health and safety of trainers and participants in the choice of venue and maximum capacity for attendees. Hence, while training sessions would typically include 25-30 participants, possibly smaller numbers for technical training, the UNDP CO as the project's implementing partner will be open to adding more training rounds as may be needed, in order to reduce the number of participants per round as appropriate to the training venue. On-line meetings and virtual events will also be utilized to replace in-person meetings whenever possible to reduce the risks associated to COVID-19 on the project's progress and timeline.

Outcome 5: Coordination between national parties for the enforcement of existing policies and strategies, including the Iraqi building code, is strengthened

Output 5.1. Develop a Data Flow Diagram (DFD) consistent with the proposed Executive Regulation for EE in Buildings to advocate intra-government collaboration and obtain consensus of the parties on the DFD and the manuals to use for staff training.

Activity 5.1.1. Identify the entities to be involved in the implementation of the proposed framework and associating MVE procedure, defining the responsibilities of each based on their mandate.

Activity 5.1.2. Develop a DFD for EE in buildings as the government's road map to intra-government cooperation on the operationalization of the proposed regulatory framework, including a suite of timely and appropriate procedure interlinking the relevant authorities. The DFD will be developed by the UNDP-GEF project and presented for adoption by the relevant national partners under the overall coordination support and monitoring of EEC.

Activity 5.1.3. In consultation with stakeholders, produce the final DFD and support tools for reporting and data exchange by the different entities. All consultations shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 5.1.4. Prepare a manual standardizing the reporting schedule per the DFD and the follow-up actions to be taken in case of missing data or inconsistencies in the reporting by different parties.

Output 5.2. Policy-level training on the proposed regulatory and institutional framework for EE in buildings is conducted, targeting decision makers, public officials, and national experts.

Activity 5.2.1. Identify the parties and institutions responsible for the enforcement of existing regulations and codes, and potentially involved in operationalizing the proposed Executive Regulation.

Activity 5.2.2. Develop information packages and training material on the proposed framework and how each group can support its operationalization, and consequently, enhancing EE in buildings.

Activity 5.2.3. Design a survey form, using gender-disaggregated data gathering methodologies, capturing the information to be collected for the purpose of assessing the effectiveness of the training activities and ensuring continuous improvement.

Activity 5.2.4. Conduct training workshops for individuals from the target institutions, ensuring sound representation of management level and operational staff. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant target groups.

Activity 5.2.5. Undertake regular surveys, using gender-disaggregated data gathering methodologies, at the end of each training to collect feedback from participants and document the findings.

Outcome 6: The awareness of practitioners involved in the buildings sector, as well as end-users of electricity, on EE regulation and best practices is strengthened

Output 6.1. Technical training on EE in buildings is conducted targeting students, technicians, contractors, civil engineers, and architects. This will constitute a Training of Trainers (ToT) workshops to enhance the sustainability of knowledge sharing.

Activity 6.1.1. Review curricula at schools, universities, and vocational training centers to propose suitable integration of information on EE in buildings, with focus on courses on science, technology and engineering. Present the resulting report to the relevant ministries and institutions.

Activity 6.1.2. Develop profession-specific handbooks and training material suitable for the different groups required to adhere to the new regulations, explaining the developed codes and standards, the benefits of EE practices and the services offered by EEC to promote EE in buildings.

Activity 6.1.3. Design a survey form, using gender-disaggregated data gathering methodologies, capturing the information to be collected for the purpose of assessing the effectiveness of the training activities and ensuring continuous improvement.

Activity 6.1.4. Conduct training workshops for individuals from the target groups who will be integrating the new regulation in their work. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant target groups.

Activity 6.1.5. Conduct ToT to representatives from the institutions in regular contact with the target groups in Baghdad and other cities to ensure the delivery of training is accessible and affordable. Training delivery will be done in cooperation with RCREEE. The criteria for selecting trainers will be having good track record at organizations known to follow global standard in training provision and sound experience in the region. All training workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant target groups.

Activity 6.1.6. Undertake regular surveys, using gender-disaggregated data gathering methodologies, at the end of each training to collect feedback from participants and document the findings.

Output 6.2. Awareness campaigns and events are organized to promote EE applications and programs, and relevant marketing material is developed to increase consumers' commitment to EE practices.

Activity 6.2.1. Develop information packages and promotion material for EE in buildings, including data on the programmes and financial schemes dedicated to promoting EE in buildings.

Activity 6.2.2. Design a gender-responsive nation-wide awareness raising plan with communication campaigns and public events that utilizes methods of communication tailored to different groups of stakeholders.

Activity 6.2.3. Design a survey form, using gender-disaggregated data gathering methodologies, capturing the information to be collected for the purpose of assessing the effectiveness of the awareness raising activities and ensuring continuous improvement.

Activity 6.2.4. Gender-responsive campaigns and events are organized to raise awareness on the new regulatory framework and the benefits of implementing EE measures in their buildings.

Activity 6.2.5. Undertake regular surveys, using gender-disaggregated data gathering methodologies, at the end of each event to collect feedback from participants and document the findings.

Output 6.3. Existing financial schemes and incentive mechanisms dedicated to promoting EE buildings investments and attracting the engagement of the banking sector, are identified, promoted, and monitored.

Activity 6.3.1. Assessment of financing mechanism previously implemented by the Government of Iraq and development banks and/or commercial banks are studied, and modifications are proposed to develop an implementable mechanism for EE in buildings such that gender aspects to be taken into account

Activity 6.3.2. Financial and human resources in the banking sector are mobilized to facilitate the operationalization of existing financing schemes and incentive mechanisms for EE-related activities.

Activity 6.3.3. Brochures and other written and online publications describing the available mechanisms and their eligibility criteria are developed in local languages and made available to potential beneficiaries with least access to finance in a gender-sensitive manner. The beneficiaries could be architects, construction companies or house owners, based on the target group for each mechanism to be promoted.

Activity 6.3.4. A system for collecting energy consumption data for beneficiaries is developed, using gender-disaggregated data gathering methodologies, to monitor the effectiveness of the activities facilitated by the available financing schemes and mechanisms on EE and GHG emissions.

Component 4. Monitoring, evaluation and outreach on EE in the buildings sector in Iraq

Part of ensuring the sustainability of project activities and prolonging its impact beyond the project duration is to maintain a system of monitoring, evaluation, knowledge sharing, and knowledge dissemination. The sustainability of these systems requires the ability to maintain uninterrupted operation during COVID-19. Hence, it is proposed that the Knowledge Management (KM) system takes the form of an online portal, reducing in-person contact and ensuring the work can proceed in case there continues to be restrictions on mobility during project implementation. The information contributing to knowledge production should be collected in an organized manner and constantly feeding the design of new interventions. The outcomes under this component serve to ensure that knowledge management, monitoring and evaluation are accounted for as independent tasks, but also integrated in all aspect of project implementation.

The knowledge management approach rests on two main pillars: collecting knowledge, and distributing it. The intermediate, often unstated, step is the collation and organization of knowledge.

A central lesson from previous work has been that the organization of knowledge into an accessible, perpetual format is central both to is preservation and its dissemination, and to providing a framework into which knowledge can be continuously collected throughout the project lifetime and beyond. The UNDP team has recently completed the project: Catalyzing the Use of Solar Photovoltaic Energy Project (PIMS 5137, GEF ID: 5063), lessons from which will inform the present project.

As a result of the above, the first proposed output under the Knowledge Management Outcome is the establishment of a user-friendly online portal for energy efficiency. This is a direct outcome of the lessons learned from previous projects. The portal would serve three immediate outcomes:

a) Organizing the knowledge from the project into an easily accessible, persistent format.

b) Providing a framework for new knowledge to be deposited into.

c) By having all knowledge in a digital platform, providing a practical way to backup and save knowledge form the project.

The collection of knowledge will occur through two main channels: obtaining knowledge from the experience of others outside Iraq and obtaining knowledge from experience gained within Iraq as the project progresses.

Initially, it is expected that the main knowledge will come from outside Iraq. For this reason, a specific output (7.2) is dedicated to exchange missions and the cataloguing of knowledge from countries with successful EE practices. This knowledge would be captured in the online portal and help form its structure. This structure would in turn act as a mechanism to help capture knowledge generated within Iraq as the project moves forward.

The online portal, as the central repository of project knowledge, is critical to project success and longevity. For one, it serves as the central source for all stakeholders to access the latest regulations, guidance, and practices. It can serve as a mechanism to connect practitioners and consumers and to verify the credentials of certified auditors.

As a digital platform, it ensures the longevity of knowledge created. It also provides easy access. All those who receive training or come into contact with the project by other means can then refer to the portal for all relevant project information. The portal also amplifies the impact of project strategic communication. Instead of communicating large volumes of information, the project needs to communicate only two elements - the importance of energy efficiency, which should be self-evident to citizens in an energy starved country; and the address to access the portal. The portal also provides a means to assess the efficacy of strategic communication by evaluating visitors, measuring their engagement with the portal, and eventually capturing means to keep visitors engaged and updated, for example through mailing lists.

Finally, the online portal would serve as one of the central project contributions. By providing a central location for the publication of information and creation of a focal point for engagement of stakeholders it can provide a model in Iraqi society that can be replicated in several other fields and has been shown in other countries to be of tremendous public value.

Outcome 7: A Knowledge Management (KM) system is developed, and best practices are catalogued through conducting exchange missions to other countries

Output 7.1. A KM system is developed in the form of an online portal for the dissemination of EE in building practices, programs, code, and MVE procedure, on the national level.

- *Activity 7.1.1.* Develop a gender-responsive KM system, identifying the sets of data that provide useful information on EE in buildings and analyzing simple ways for their presentation to the public and the approval cycle required for using them in EEC publications.
- *Activity 7.1.2.* Design a user-friendly online portal for EE in buildings with English and Arabic pages to disseminate the available data and explain the proposed Executive Regulations to contractors and end-users.
- *Activity 7.1.3.* Develop innovative non-financial incentives for public and private sector actors, in a gender-responsive manner, through featuring their projects and success stories to encourage them to share information and contribute to knowledge production. Develop the same for end-users to boost their engagement in a social dialogue on EE in buildings and encourage them to fill the online surveys.
- *Activity 7.1.4.* Information on the KM system is incorporated in the training material for EEC staff and the communication plans with stakeholders and end-users.

Output 7.2. Exchange missions to relevant regional or international countries with advanced experience in EE buildings deployment are conducted and a best practices catalogue is developed.

- *Activity 7.2.1.* Assess existing EE regulations and administrative procedures in the region to select countries which has comparable legislations and can provide examples suitable for implementation in Iraq.
- *Activity 7.2.2.* Select the countries to which exchange missions can be conducted and prepare a trip plan prioritizing efficient use of the assigned budget to maximize the benefit from the missions.
- *Activity 7.2.3.* Conduct the missions, focusing on observing how different enforcement models work with other pieces of legislation and how the market responds to new regulations, to assess the potential for replication in Iraq. Exchange missions shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders. In case there are travel restrictions preventing the team's ability to conduct these missions, the budget will be utilized to organize on-line conferences to allow sharing of experience remotely.
- *Activity 7.2.4.* Benchmark regulatory frameworks for EE in buildings, documenting, in a gender-responsive manner, the experience from the missions conducted in best practice catalogues, developed in English and Arabic for publishing on the online portal and nation-wide dissemination.

Outcome 8: A Monitoring and Evaluation (M&E) system is developed to track and document progress and impacts of EE initiatives and support the sustainability of EE interventions in the buildings sector

Output 8.1. Set up an institutional mechanism to revise and update building energy performance standards regularly, including the development of guidelines for enforcing EE measures in building.

Activity 8.1.1. Develop an M&E system in line with the proposed regulatory framework and consistent with requirements under the M&E plan developed for this project (Annex 5). The system should be designed to collect, whenever possible, gender-disaggregated data related to participation in project activities and beneficiaries.

Activity 8.1.2. Organize a workshop with stakeholders to present the developed system and discuss the requirements for its adoption by EEC as part of its mandate. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 8.1.3. Prepare operation manuals and guidance notes for implementing the developed M&E System. The data collection strategy should be in line with the developed DFD under Outcome 5 and ensure collection of gender-disaggregated data.

Activity 8.1.4. Document the lessons learned that incorporate gender aspects through the implementation of the project to advise future projects and ensure continuous improvement in EEC operation.

Output 8.2. Set up an inventory mechanism and database management system for national energy balance, detailed consumption statistics and related Greenhouse Gas (GHG) emission in the buildings sector to monitor and evaluate EE programs.

Activity 8.2.1. Develop an inventory mechanism in line with the proposed regulatory framework and consistent with GEF requirements for GHG calculations.

Activity 8.2.2. Organize a workshop with stakeholders to present the developed mechanism and discuss the requirements for its adoption by EEC as part of its mandate. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant stakeholders.

Activity 8.2.3. Prepare operation manuals and guidance notes for implementing the developed scheme. The data collection strategy should be in line with the developed DFD under Outcome 5.

Activity 8.2.4. Document the lessons learned through the implementation of the project to advise future projects and ensure continuous improvement in EEC operation.

Output 8.3. Capacity building to EEC staff on aspects of M&E, including database management, data collection and reporting, is conducted.

Activity 8.3.1. Develop information packages and training material to build the capacity of EEC on operationalizing the developed KM and M&E systems.

Activity 8.3.2. Design a survey form, using gender-disaggregated data gathering methodologies, capturing the information to be collected for the purpose of assessing the effectiveness of the training activities and ensuring continuous improvement.

Activity 8.3.3. Conduct training workshops EEC staff, ensuring sound representation of management level and operational staff. Initial workshops will be conducted by the consultants in charge of developing the systems, including ToT workshops for department heads and national experts to ensure continuity in the delivery of training for new staff members. All workshops shall be used as an opportunity to promote diversity and gender balance, notwithstanding balanced representation of relevant target groups.

Activity 8.3.4. Undertake regular surveys, using gender-disaggregated data gathering methodologies, at the end of each training to collect feedback from participants and document the findings.

ii. Partnerships

Among the barriers blocking the advancement of EE in different sectors in Iraq, stakeholders emphasized the issue of duplication of effort by different parties. To respond to this barrier and learn from previous projects, the project is designed in a way that prohibits the potential for its implementation in isolation. The consolidation of effort by different parties is one of the main pillars of the project strategy and a necessary ingredient for successful implementation of project activities. The adoption of this strategy comes in recognition of the dedicated effort put by various government entities in Iraq to promoting low carbon development.

The following list highlights some of these parties and programmes:

- National Committee for the Renewable Energy and Energy Efficiency: Established under Order No. 54 for the year 2018 by the Council of Minister Secretariat (COMSEC), the committee has an outcome for issuing a "regulation on EE in buildings for the work of the National Investment Board". The purpose of the regulation is to make it a requirement for investors to follow the National Buildings Code. Members of the committee reported that financial incentives and soft loans are needed for the outcome to be achieved.
- Integrated National Energy Strategy (INES): Developed through the support of the World Bank managed Iraq Trust Fund, INES goes beyond Iraq's short-term focus of maximizing oil export and revenues, and seeks to diversify Iraq's economy, and create almost 10 million new jobs in the economy by 2030.
- Energy Efficiency Roadmap and Tariff Scheme Framework: Developed in 2013 by a consultant contracted by the UNDP, this roadmap is composed of a set of recommendations, including: (1) Installation of an Energy Agency to be responsible for the Energy Efficiency implementation; (2) Training and Education on EE; and (3) Awareness building to the public on energy usage, saving and efficiency. Other recommendations focused on electricity sector reforms and regulating the market for appliances. There were no results available for review at the time of developing this document.
- Electricity master plan for 2030: Adopted in 2013, this plan had an EE component targeting to decrease the losses in distribution network, supply chain losses and energy consumption.
- Intended Nationally Determined Contribution (INDC): This communication, under the UNFCCC, was submitted by the Iraqi Government ahead of the Paris Agreement, signed in December 2016. In the INDC, Iraq set targets to reduce GHG emissions by 14% below business-as-usual emissions by 2035. Of that reduction, 13% will be conditional and 1% will be achieved through an unconditional target.
- EE labelling for appliances: The Central Organization for Standards and Quality Control (COSQC), under the MoP, is presently heading a national committee for EE labeling of domestic appliances. Labels for air conditioners, refrigerators and washing machines have been issued. The committee is working to cover other appliances including lightening, air cooler, and TVs.

In addition to public policies and public sector programmes, some initiatives were undertaken by different parties:

- Baghdad Renewable Energy and Sustainability Center (BRESC): Established by private investment to raise awareness and provide training on sustainability. While focused primarily on renewable energy, BRESC was part of a campaign tackling EE through education on optimum temperature settings for air conditioners.
- The Energy and Environment Department at Al-Karkh University for Science is reported to have several EE-related thesis and scientific papers which provides innovative, contextualized, solutions.
- The Word Bank is currently developing a project to enhance and reinforce electricity sector in Iraq, the project includes a component aiming to improve the quality, reliability and efficiency of electricity services through the implementation of EE measures and programs on the supply side.

iii. Risks

Like any project, the implementation of the proposed strategy faces risks which threatens the achievement of the aspired results, hence, successful achievement of the project's objective. When identifying potential risks affecting project implementation, the risk level is also assessed to identify whether the risk is high, substantial, moderate, or low. The assessment of the risk level depends on the estimation of the likelihood and impact of the identified risk.

The project strategy has taken the identified risks in consideration and offers embedded mitigation measures in the design of outcomes and outputs. COVID-19 related risks were also assessed during the PPG development process and reflected in the Risk Register, with relevant mitigation measures integrated in the project design and presented throughout the document. More details on the type of risks potentially facing project implementation and the proposed mitigation measures are presented in UNDP Risk Register as Annex 7.

In addition, preliminary analysis and screening conducted during the project development phase via UNDP's SESP (found in Annex 6) identified potential social and environmental risks associated with project activities including, in particular, establishment and retrofitting an EE Center in Baghdad and implementation of EE regulations and NEEAP and adoption of EE standards for the building sector. According to the Environmental and Social Management Framework (ESMF) that was prepared for the project and is found in Annex 10, an ESIA would be developed for the retrofitting activities under Output 1.3 and an ESMP be put in place prior to commencement of these activities to address these risks. In addition, a SESA will be undertaken in a participatory manner ensuring local community engagement, in parallel to upstream of activities related to Outputs 1.1, 1.2, 2.1 and 2.2 to ensure they are in line with UNDP SES.

Also, all security personnel who will be engaged in the project will be trained on and commit to a Code of Conduct prepared for the project and reflecting SES requirements in light of the undertaken SESP.

In addition, the project will establish a Grievance Redress Mechanism (GRM), the full details of which will be agreed upon during the Inception Phase. The GRM will ensure that interested stakeholders are able to raise a grievance at any time to the PMU, the Implementing Partner (UNDP CO), or the GEF. Further information on GRM can be found in the UNDP Guidance Note on Social and Environmental Standards - Stakeholder Engagement – Supplemental Guidance: Grievance Redress Mechanisms, which can be found on the UNDP website.[7]

iv. Stakeholder engagement and south-south cooperation

Stakeholders engagement:

The project identification was based on the assessment of the national energy context and the analysis of the challenges and needs in Iraq, in consultation with Government authorities and private sector parties. The project team believes that the acceptance of the proposed framework by all actors in Iraq will lead to successful project implementation. Hence, the project idea embraced the need for the UNDP Iraq, as the implementing partner, to work closely with all national stakeholders, including private developers, architects, experts, as well as civil society organizations which can provide crucial support in raising national awareness, changing the common behavior necessary for voluntary endorsement of the proposed regulations prior to their enforcement.

During PPG development, additional consultation meetings were conducted with stakeholder from different entities, where representatives were invited to share their views on the obstacles facing low carbon development in the buildings sector and their suggestions for promoting EE in the buildings sector. These comments have been taken in consideration when developing the project strategy presented in this document.

As discussed in the Partnerships section, private sector is a crucial actor in the deployment of EE measures in the buildings sector in Iraq as it plays important roles as consultancy firms, auditors, architects, contractors, and suppliers of building material. Raising awareness is also more effective when the campaigns by the public and private sectors are aligned. Hence, the consultation sessions with stakeholders during PPG development involved Baghdad Renewable Energy and Sustainability Center (BRESC) as a representative of the private sector and a potential partner in the establishment of EEC. BRESC has been working on promoting renewable energy applications and EE practices. The company is leading several initiatives including training of engineers on EE labelling, awareness events on sustainability for primary school and higher grades. BRESC aims to invest in EE materials which has a market value inside and outside Iraq and is one of the co-financiers providing cash funds to support this project.

During implementation, the UNDP, in its capacity as an international donor and implementing agency working in Iraq, could also coordinate with donor-funded climate and energy initiatives dedicated principally to countries with crisis and fragile contexts. For example, the project plans to engage with the Regional Center for Renewable Energy and Energy Efficiency (RCREEE), a center of excellence in the region, to become a Responsible Party on this project. Such coordination and collaboration will strengthen this project as well as leverage regional best practices in achieving the policy outcomes for Iraq, and potentially in other countries where both organizations are active.

Additional details on the project's approach towards stakeholders' engagement can be found in the Stakeholder Engagement Plan (SEP) presented in Annex 9.

South-south cooperation:

One characteristic of the proposed project strategy is that it tries to build upon the progress made by different parties. The work under most outputs starts with an analysis or existing work or assessing if any exists. This approach promotes national-level collaboration but is also contingent to south-south cooperation and triangular cooperation. For example, the project does not include activities for developing new codes and standards. Instead, it focuses on the study and localization of existing – internationally recognized – codes and standards from other countries, as appropriate. Furthermore, the knowledge management and sharing outcome of the project allocates a budget for conducting exchange missions to other countries and summarizing the findings catalogues which would be made available to the public. From the assessment exercise performed to select the countries to visit, to conducting the

[7] UNDP Guidance Note on Social and Environmental Standards - Supplemental Guidance: Grievance Redress Mechanisms - https://info.undp.org/sites/bpps/SES_Toolkit/SES%20Document%20Library/Uploaded%20October%202016/Supplemental%20Guidance_Grievance%20Redress%20Mechanisms.pdf

visit in-person, to disseminating the knowledge nation-wide, the project aims to engage with regional platforms and gain better understanding of the most recent developments in the areas of EE in buildings.

The project will also attempt to play a role in advising similar projects in other countries. This is facilitated by the design of the knowledge management systems in the form of an online platform. This platform will better the reach out of the project team within Iraq but will also be accessible from anywhere in the world. With its Arabic page, the platform is expected to contribute to sharing up-to-date data on best practices and innovations of relevance to EE in buildings in a way that is not commonly available to Arabic speaking populations.

In addition, to bring the voice of Iraq to global and regional fora, the project will explore opportunities for meaningful participation in specific events where UNDP could support engagement with the global development discourse on EE in buildings. The project will furthermore provide opportunities for regional cooperation with countries that are implementing initiatives on EE in buildings in geopolitical, social, and environmental contexts relevant to the proposed project in Iraq, such as Morocco, Egypt, and Jordan.

v. Gender equality and Women's Empowerment

To enhance the gender impact of the project, a Gender Analysis and Gender Action Plan were prepared as part of the PPG development and can be found in Annex 11. The following summarizes the recommendations of the plan:

- Encourage national partners to ensure women's participation and their equal and active participation ensured in all project-related events including consultation processes, workshops and informative events, at the level of at least 30% of total participants, with special focus on young women professionals in the field of engineering, including university students and academics. This includes primarily the awareness raising activities regarding construction and retrofitting of buildings, as well as end-users of electricity in buildings, on EE regulation and best practices.
- Whenever possible, data collected throughout the duration of the project should be disaggregated by age and gender, including participants in events and project activities as well as monitoring and evaluation of the developed knowledge management framework on EE in the building sector in Baghdad.
- Capacity of all stakeholders including the project team and government partners will be increased on gender equality and the UNFCCC gender action plan.
- Ensure women representation within staff of the planned Energy Efficiency Center, to be provided with adequate technical training to meet job requirements.
- Ensure equal representation for men and women in activities related to capacity development in building codes & standards and technical knowledge in the EE buildings sector (covered under Component 3, Outcome 6).

vi. Innovativeness, Sustainability and Potential for Scaling Up

Innovativeness:

There are many EE techniques that have been deployed and proven to lead to energy savings, hence, a reduction in GHG emissions from buildings. To facilitate the adoption of EE measures by wider groups in the public and private sectors, the project will rely on EE technologies that are already known and have proven record of effectiveness. Nevertheless, innovative approaches will be embraced in the selection of the measures and technologies most appropriate for the context of Iraq, whether in terms of weather and environmental conditions, or designs that speak to the rich history and culture of Baghdad as a capital for modern architecture.

Specifically, the innovations proposed under the project are as below, none of which have previously been applied and implemented in the buildings sector in Iraq, and many not even within the general region:

- Establishment of BEEC, MEPS to be localized specifically for the context in Iraq, but based on best approaches elsewhere, with specific implementable guidance.
- The EEC as a model is an innovation as a partnership model, as a focal point for dissemination of knowledge, and as an implemented example of the knowledge to be disseminated.
- The EEC, as part of a university, is expected to trigger future learning opportunities and partnerships with academia. It is one of the projects innovations for such an entity to be serving an active public role as a focal point for Government, private sector, and the public, as well as being part of a learning institution.

- The project will establish a certification program for auditors, which provides innovations on several levels. Having a certification for the auditors that can be further replicated in other areas; creating demand for technical qualification through a regulatory framework supported by skill development.

Promoting Carbon Reduction Through EE Techniques in Iraq also offers a relatively innovative contribution to supply side problems, by reducing the demand per household and paving the way to a dialogue on subsidy restructuring, i.e. subsidizing electricity consumption versus subsidizing the implementation of EE measures to reduce consumption. Moreover, the M&E component of the project will help set up a dedicated energy and environmental database that integrate climate change information and objectives, with capacity building on efficient reporting and effective knowledge tracking and dissemination.

Sustainability:

From a strategic perspective, the implementation of EE measures in the buildings sector will systematically secure the energy system and have positive impacts on both environmental and economic sustainability. According to the IEA's latest analysis on EE, a global effort and commitment to deploy the appropriate EE policies could considerably drop GHG peak. Furthermore, promoting EE improvements and low-carbon development is in line with the recommended global response to COVID-19 crisis and help in reducing the risk of emerging infectious diseases in the future, while increasing the resilience of the ecologic and socio-economy systems to emergency situations. By focusing on creating an enabling regulatory and institutional framework the project is expected to support the Government of Iraq to develop and sustain low carbon development in the buildings sector.

From a climate change perspective, the selection of high-quality, climate-resilient, sustainable materials to be used in buildings will help support that the efficiency of buildings remains high during their lifetime. As the lifetime of building materials increase against climate risks, the energy consumed in the manufacturing of more material will decrease, reducing the overall GHG on the buildings sector supply chain further.

From an organizational perspective, and notwithstanding that implementation will follow a DIM modality, the project will be endorsed by the Ministry of Electricity in Iraq. This endorsement will guarantee the alignment of project implementation with national strategies and will facilitate the achievement of Outcome 2 focusing on the operationalization of the NEEAP. Furthermore, the results framework is structured to ensure sustainability of all activities performed in two ways. The first is dedicating investment and technical assistance funds for the establishment of a focal point for EE in buildings. During the baseline assessment exercise, it was clear that several programs and initiatives have common goals but lack the coordination required to consolidate their efforts. During the consultation meeting, stakeholders emphasized the need to avoid spending more years on developing new legal documents in the lack of the institutional framework and capacity to operationalize them. In response to these findings, the project favored to focus on filling this gap by prioritizing the establishment of EEC, and building its capacity to be fully operational by project end, over the development of new abstract laws with no strategy for their use in the foreseeable future.

The second is developing the project timeline such that EEC staff are engaged in the implementation of the proposed outputs and activities starting Year 3 of the project's lifetime. With the integration of EEC as a key player in the project while progressing, the transition arrangement, i.e. exit strategy, is transformed from being an output required at project end to an integrated aspect of project implementation and success. The embedded assumption in this aspect of project strategy is that involving EEC in the project while the work of the international consultants is ongoing will allow EEC staff to grow into the role required of them, as opposed to the model in which the implementing partner is solely accountable for results until the point of "handing over" to national parties. This becomes of particular importance for projects implemented under a DIM modality and sends a positive message to the Government of Iraq that the success of this UNDP-GEF project intersects with the successful collaboration between public and private partners on establishing and maintaining EEC as an operating PPP overseeing all matters related to EE in the Iraqi buildings sector.

Financially, the project aims to ensure sustainability of the project objective through Output 6.3, which focuses on identifying, promoting, and monitoring financial schemes and incentives mechanisms which can be deployed for enhancing EE in buildings. With regards to the financial sustainability of EEC operation, the establishment as PPP aims to allow the center to see finance for itself through the Government, international donors, or private sector companies. The PPP model also leaves room for the EEC to offer fee-based services after project closure, e.g. offering audit, training or technical advice, as long as it does not lead to conflict of interest with EEC mandates of overseeing the EE market and operating the testing facility for certification and labelling services.

Potential for scaling up:

Strong potential exists for the project to be replicated in other countries in the region to address the problems of power shortages and bridge the gap between the need to expand the construction sector and the damaged energy infrastructure. As a country in post-war reconstruction phase, Iraq's success in finding a regulatory and institutional framework that works in the context of multi-layered regulatory and institutional imperfections can lead the way to equally contextualized interventions suitable for adoption in neighboring countries in similar situations.

The capacity building and knowledge management component of the project will also contribute to the creation of a pool of national experts familiar with the best practices in the field of EE in buildings on the policy and technical levels. This will have positive impacts on social development and job creation within Iraq, but also facilitate the work of international developers in the region through finding young, skilled, and bilingual, individuals who can utilize the knowledge they have to advance EE projects in different countries.

The public awareness component also has a catalytic effect on local markets and is equally important to continuous development of the EE market in Iraq, where it leads to attracting new service providers and equipment suppliers, increasing competition and driving down prices for EE-conscious designs, contractors and building material.

V. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal(s): SDG 7: Ensure access to affordable, reliable, sustainable, and modern energy for all. SDG 11: Make cities and human settlements inclusive, safe, resilient, and sustainable. SDG 13: Take urgent action to combat climate change and its impacts.				
This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD): STRATEGIC PLAN OUTCOME 2: Accelerate structural transformations for sustainable development. UNSDCF OUTCOME 4.1: Strengthened and resourced policies and frameworks are implemented for managing natural resources (including trans-boundary issues), developing renewable resources, and increasing resilience to climate change, environmental stress and natural hazards, and man-made and natural disasters.				
	Objective and Outcome Indicators (no more than a total of 20 indicators)	**Baseline**	**Mid-term Target**	**End of Project Target**
Project Objective: To promote low carbon development in Iraq through supporting the design of a regulatory framework for enhancing Energy Efficiency (EE) in buildings and the creation of an enabling environment for its operationalization.	***Mandatory*** *Indicator 1: GEF Core indicator 11* Number of direct project beneficiaries disaggregated by gender (individual people)	Zero, since the project has not yet started	Female: 365 Male: 365 Total: 730 persons	Female: 1,400 Male: 1,400 Total: 2,800 persons In-direct beneficiaries: 274,000 persons/year
	Mandatory *Indicator 2*: *GEF Core indicator 6* GHG emission mitigated	Zero, since the project has not yet started	Direct emissions mitigated: 32,220 tCO_2e Indirect: 241,129 tCO_2e	Direct emissions mitigated: 531,628 tCO_2e Indirect: 3,978,632 tCO_2e
	Indicator 3: GEF Sub-Indicator 6.3 Energy saved in buildings that have been newly constructed or retrofitted following project development	Zero, since the project has not yet started	Direct energy saved: 87,048 GJ	Direct energy saved: 1,436,292 GJ
Project component 1	**Enabling regulatory and institutional framework is designed to promote EE in the buildings sector, including the development of Buildings Energy Efficiency Codes (BEEC) and Minimum Energy Performance Standards (MEPS) for buildings**			
Outcome 1 Appropriate regulatory and institutional framework is designed to catalyze existing policies and programs for promoting EE in buildings,	*Indicator 4:* The Executive Regulation for EE in Buildings in Iraq is developed	The Executive Regulation is not yet developed	First Draft of the Executive Regulation for EE in Buildings is developed and presented for stakeholders' consultation	Final Draft of the Executive Regulation for EE in Buildings is developed, incorporating comments by stakeholders, and submitted for government approval

including the operationalization of the National Energy Efficiency Action Plan (NEEAP).	*Indicator 5:* The extent to which the outcomes of the NEEAP have been integrated in the buildings sector in different forms, such as operation manuals, technical recommendations, permitting procedure, education curricula, design aspects and contractual obligations	The NEEAP exists but the integration process has not yet started	NEEAP Work Plan for EE in Buildings is developed and action items are integrated in different templates and documentation, as relevant	Project examples to support that there were measures taken by decision makers and end-users based on this integration
Outputs to achieve Outcome 1	1.1. An analysis of the existing policies, programmes and national plans is conducted, and an Executive Regulation for EE in Buildings is drafted and submitted for government approval. 1.2. An analysis of the NEEAP in Iraq is conducted, and the elements required for its operationalization is provided to support rolling-out EE development with a focus on the buildings sector.			
Outcome 2 Internationally recognized BEEC and MEPS for buildings are selected and localized to become suitable for Iraq, including the associating Monitoring, Verification and Enforcement (MVE) procedure.	*Indicator 6:* BEEC suitable for buildings design in Iraq developed, with the associated labelling scheme and testing procedure	Iraq has a building code, with data on thermal insulation. It does not include EE codes and passive design standards	First draft of the BEEC is developed and presented for stakeholders' consultation	Final draft of the BEEC is developed, incorporating comments by stakeholders, and submitted for government approval
	Indicator 7: MEPS suitable for building material in Iraq developed, with the associated labelling scheme and testing procedure	The MEPS are not yet developed	First draft of the MEPS is developed and presented for stakeholders' consultation	Final draft of the MEPS is developed, incorporating comments by stakeholders, and submitted for government approval
Outputs to achieve Outcome 2	2.1. Appropriate BEEC, including the associating labelling, certification scheme and testing procedure, is selected, localized, and submitted for government approval. This will include aspects of passive design and thermal insulation standards. 2.2. Appropriate MEPS, including the associating labelling, certification scheme and testing procedure, is selected, localized, and submitted for government approval.			
Project component 2	**The Energy Efficiency Center (EEC) is established with mandate for advancing EE measures in the buildings sector through providing technical advice to the public, training to practitioners, and supporting the implementation of the proposed MVE procedure**			
Outcome 3 Energy Efficiency Center (EEC) is established and capacitated to support the development of EE programs and applications in the buildings sector.	*Indicator 8:* EEC is operational in a building that has been retrofitted, and run by staff capable of providing the services in its mandate	The EEC is not yet established	The legal establishment of EEC is finalized, retrofitting of the building is completed, and key staff hired with clear job descriptions	EEC is fully operational, with 40 trained staff (50% men and 50% women) and evidence of effectiveness in the buildings sector in Iraq, including sound management of all ongoing activities under this project. Minimum of 4 workshops.

Outputs to achieve Outcome 3	3.1. EEC is established, legally and with physical presence, and is operational as the focal point for promoting EE in the Iraqi buildings sector. 3.2. Staff at the EEC are capacitated to inform decision-makers, advise investors, raise public awareness, and deliver general and technical training on EE in buildings.			
Outcome 4 Testing facility and certification programmes are established under EEC, in accordance with the proposed BEEC and MEPS, to support the implementation of the framework's MVE procedure.	*Indicator 9:* Periodical market inspection is conducted using the equipment in the testing facility	No inspections are conducted, since the testing facility is not yet established	Testing equipment purchased and 10 persons trained on using each (50% men and 50% women). Minimum of 1 workshop.	The first annual inspection report is issued, with recommendations for decision makers and end-users. Minimum of 2 workshops.
	Indicator 10: Number of certified Energy Managers and Building Auditors, able to use the adopted MVE procedure to audit EE in buildings, disaggregated by affiliation, age, and gender, provided that certification is issued upon successful completion of the theoretical and practical components of the training	No certifications obtained, since the MVE system is not yet developed	20 persons, each conducting audits for at least two buildings and issuing reports per the MVE procedure (50% men and 50% women). Minimum of 2 workshops.	100 persons, each conducting audits for at least two buildings and issuing reports per the MVE procedure (50% men and 50% women). Minimum of 6 workshops.
Outputs to achieve Outcome 4	4.1. A testing facility containing suitable equipment to measure energy consumption behavior in the buildings sector and perform regular inspection for buildings, in accordance with the proposed BEEC and MEPS, is established at the EEC and operated by EEC staff. 4.2. Certified Energy Management and Building Auditors Programmes are adopted by EEC, where Energy Managers are capacitated to conduct building inspections and make recommendations for optimizing EE in buildings nation-wide.			
Project component 3	**Individual and institutional capacity and EE technical knowledge and expertise are strengthened to enhance the ability of national parties to develop and operationalize EE policies, regulations, technical codes, and performance standards in the buildings sector**			
Outcome 5 Coordination between national parties for the enforcement of existing policies and strategies, including the Iraqi building code, is strengthened.	*Indicator 11:* Number of staff trained on the operationalization of the developed Data Flow Diagram (DFD), including data management, public-public and public-private cooperation on EE in buildings (disaggregated by affiliation, age, and gender)	No staff trained, since the DFD is not yet developed	An overarching DFD is developed in consultation with the entities involved in its implementation, including representatives from the private sector	The DFD is operationalized and 10 persons at each entity included in the chart receive training on its use (30% policy makers and 70% practitioners, as applicable, with 50% men and 50% women). Minimum of 4 workshops.
Outputs to achieve Outcome 5	5.1. Develop a Data Flow Diagram (DFD) consistent with the proposed Executive Regulation for EE in Buildings to advocate intra-government collaboration and obtain consensus of the parties on the DFD and the manuals to use for staff training. 5.2. Policy-level training on the proposed regulatory and institutional framework for EE in buildings is conducted, targeting decision makers, public officials, and national experts.			

Outcome 6 The awareness of practitioners involved in the buildings sector, as well as end-users of electricity, on EE regulation and best practices is strengthened.	*Indicator 12:* Number of participants in training workshops and marketing events, with surveys filled before and after participation to assess the effectiveness of the activities and collect information on how to improve, disaggregated by affiliation, age and gender	No workshops held, since the project has not yet started	200 participants filling surveys, including 50 persons receiving ToT certification (50% men and 50% women). Minimum of 4 workshops/events.	600 participants filling surveys, including 150 persons receiving ToT certification, with evidence showing that the results from previous surveys are studied and taken in consideration in planning new activities (50% men and 50% women). Minimum of 8 workshops/events.
Outputs to achieve Outcome 6	6.1. Technical training on EE in buildings is conducted targeting students, technicians, contractors, civil engineers, and architects. This will constitute a Training of Trainers (ToT) workshops to enhance the sustainability of knowledge sharing. 6.2. Awareness campaigns and events are organized to promote EE applications and programs, and relevant marketing material is developed to increase consumers' commitment to EE practices. 6.3. Existing financial schemes and incentive mechanisms dedicated to promoting EE buildings investments and attracting the engagement of the banking sector, are identified, promoted, and monitored.			
Project component 4	**Monitoring, evaluation and outreach on EE in the buildings sector in Iraq**			
Outcome 7 A Knowledge Management (KM) system is developed, and best practices are catalogued through conducting exchange missions to other countries.	*Indicator 13:* Number of people gaining access to the online portal and surveyed to assess the effectiveness of the system and collect information on how to improve, disaggregated by affiliation, age and gender	Zero access, since the online portal is not yet developed	500 persons (initial launching), including a short survey on the first visit	2,000 persons, with annual surveys and evidence showing that the results are studied and taken in consideration when updating the system
	Indicator 14: Number of catalogues developed to show-case best practices in EE in buildings and reflect the knowledge obtained via exchange missions (one catalogue per mission)	No catalogues developed, since the exchange missions are not yet conducted	One catalogue documenting the knowledge obtained from at least one exchange mission	Two catalogues documenting the knowledge obtained from at least two exchange missions to two different countries (one mission per country)
Outputs to achieve Outcome 7	7.1. A KM system is developed in the form of an online portal for the dissemination of EE in building practices, programs, code, and MVE procedure, on the national level. 7.2. Exchange missions to relevant regional or international countries with advanced experience in EE buildings deployment are conducted and a best practices catalogue is developed.			

Outcome 8 A Monitoring and Evaluation (M&E) system is developed to track and document progress and impacts of EE initiatives and support the sustainability of EE interventions in the buildings sector.	*Indicator 15:* The M&E system is operational and EEC staff are capable of issuing annual reports to advise policy makers and practitioners on aspects of improving EE in the buildings sector in Iraq	No reports issued, since the M&E systems is not yet developed	One report issued by the M&E team in accordance with the institutional and inventory mechanisms developed	Three reports issued by the M&E team in accordance with the institutional and inventory mechanisms developed, with evidence of follow-up activities on the recommendations in earlier reports
Outputs to achieve Outcome 8	8.1. Set up an institutional mechanism to revise and update building energy performance standards regularly, including the development of guidelines for enforcing EE measures in building. 8.2. Set up an inventory mechanism and database management system for national energy balance, detailed consumption statistics and related Greenhouse Gas (GHG) emission in the buildings sector to monitor and evaluate EE programs. 8.3. Capacity building to EEC staff on aspects of M&E, including database management, data collection and reporting, is conducted.			

VI. MONITORING AND EVALUATION (M&E) PLAN

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex 5 details the roles, responsibilities, and frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF Monitoring Policy and the GEF Evaluation Policy and other relevant GEF policies[8]. The costed M&E plan included below, and the Monitoring plan in Annex 5, will guide the GEF-specific M&E activities to be undertaken by this project.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

Additional GEF monitoring and reporting requirements :

Inception Workshop and Report: A project inception workshop will be held within 60 days of project CEO endorsement, with the aim to:

a. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.
b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.
c. Review the results framework and monitoring plan.
d. Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP and other stakeholders in project-level M&E.
e. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Social and Environmental Management Framework and other safeguard requirements; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.
f. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.
g. Plan and schedule Project Board meetings and finalize the first-year annual work plan. Finalize the ToR of the Project Board.
h. Formally launch the Project.

GEF Project Implementation Report (PIR):
The annual GEF PIR covering the reporting period July (previous year) to June (current year) will be completed for each year of project implementation. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR submitted to the GEF will be shared with the Project Board. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

GEF Core Indicators:
The GEF Core indicators included as Annex 14 will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to MTR and TE. Note that the project team is responsible for updating the

[8] See https://www.thegef.org/gef/policies_guidelines

indicator status. The updated monitoring data should be shared with MTR/TE consultants prior to required evaluation missions, so these can be used for subsequent ground-truthing. The methodologies to be used in data collection have been defined by the GEF and are available on the GEF website.

Independent Mid-term Review (MTR):
The terms of reference, the review process and the final MTR report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center (ERC).

The evaluation will be 'independent, impartial and rigorous'. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project under review.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final MTR report and MTR TOR will be publicly available in English and will be posted on the UNDP ERC by **01/11/2024**. A management response to MTR recommendations will be posted in the ERC within six weeks of the MTR report's completion.

Terminal Evaluation (TE):
An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center.

The evaluation will be 'independent, impartial and rigorous'. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by **31/03/2027**. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report's completion.

Final Report:
The project's terminal GEF PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information**:**
To accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[9] and the GEF policy on public involvement[10].

[9] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/
[10] See https://www.thegef.org/gef/policies_guidelines

Mandatory GEF M&E Requirements and M&E Budget:

Monitoring and Evaluation Plan and Budget: This M&E plan and budget provides a breakdown of costs for M&E activities to be led by the Project Management Unit during project implementation. These costs are included in Component 4 of the Results Framework and TBWP. For ease of reporting M&E costs, please include all costs reported in the M&E plan under the one technical component. The oversight and participation of the UNDP Country Office/Regional technical advisors/HQ Units are not included as these are covered by the GEF Fee.		
GEF M&E requirements	**Indicative costs (US$)**	**Time frame**
Inception Workshop and translation	9,000	Within 2 months from the date of First Disbursement
Inception Report	None	Within 90 days of CEO endorsement of this project.
M&E of GEF core indicators and project results framework	None	Annually and at mid-point and closure.
GEF Project Implementation Report (PIR)	None	Annually typically between June-August
Monitoring of Environmental and Social Management Framework (National SES Specialist)	20,000 ($4,000 annually for 5 years)	On-going
Supervision missions	6,000	Annually (costs for site visit meetings, audit mission travel and translation and printing of MTR and TE reports)
Independent Mid-term Review (MTR)	60,000	01/11/2024
Independent Terminal Evaluation (TE)	60,000	31/03/2027
TOTAL indicative COST	**155,000**	

VII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Roles and responsibilities of the project's governance mechanism:

Implementing Partner: The Implementing Partner for this project is UNDP.

The Direct Implementation Modality (DIM) is UNDP's standard working practice in Iraq. Hence, UNDP Iraq will be the Implementing Partner, responsible for project execution on behalf of the Government of Iraq and accountable for the disbursement of funds and the achievement of the project goals, according to the approved work plan. A UNDP staff member will be assigned with the responsibility for the day-to-day management and control over project finances. For quality assurance, M&E missions will be conducted at MTR and TE by independent consultants. Furthermore, the UNDP-GEF Regional Technical Advisor will provide an additional layer of oversight and will participate in regular project team calls to monitor progress and advise on project implementation.

The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

The Implementing Partner is responsible for executing this project. Specific tasks include:

- Project planning, coordination, management, monitoring, evaluation, and reporting. This includes providing all required information and data necessary for timely, comprehensive, and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- Risk management as outlined in this Project Document;
- Procurement of goods and services, including human resources;
- Financial management, including overseeing financial expenditures against project budgets;
- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

Responsible Parties:

Given their mandate and on-going involvement in EE projects in Iraq, the UNDP will sign a Responsible Party Agreement with the Regional Center for Renewable Energy and Energy Efficiency (RCREEE), under which a team from RCREEE will be dedicated to supporting the implementation of specific project activities, in partnership with the UNDP CO. RCREEE has regional experience which the project in Iraq can build upon. For example, RCREEE can support the design of surveys for the project team to use for data collection. RCREEE also has a large pool of EE experts in the region, and can support the development of ToRs and making recommendations for suitable candidates.

Based on the experience in the EE field and in the Arab region, RCREEE is expected to support the following outputs:

- Output 1.1: Partially Activity 1.1.3 – 1.1.7
- Output 4.2: Activity 4.2.1
- Output 5.2: Partially Activity 5.2.2 – 5.2.5
- Output 7.1: Partially Activity 7.1.1, 7.1.3, 7.1.4

Furthermore, RCREEE will be responsible for partially supporting all activities under Outputs 1.2, 2.1, 2.2, 6.1, 6.2, 6.3, 7.2, 8.2 and 8.3, noting that the term "partially" is used to refer to task allocation of 5-40% to RCREEE.

Project stakeholders and target groups:

To ensure sound management of project implementation and continuous engagement of stakeholders in all project activities, the UNDP Iraq will establish the following committees at project start:

- *Steering Committee/Project Board*
  Consisting of representatives from UNDP, the Ministry of Health and Environment (MoHEn) and Baghdad University, and the Ministry of Construction, Housing, Municipalities, and Public Works (MoCHPMW), to

oversee project development, governance, and M&E. Board meetings will be held annually. Additional meetings may be scheduled if required by the Responsible Parties during implementation.

- *Technical Committee*
  Consisting of representatives from all the stakeholders listed in Section IV, i.e. representatives of ministries, private sector, academia, and NGOs. This committee is expected to meet more frequently than the Project Board and will be responsible for looking into strategic issues to decide on the technical aspects of project implementation.
- *Consultancy Task Force:*
  Consisting of international & national experts taking the lead on specific technical assignments and collaborating to ensure the homogeneity of the overall output.

It should be noted that individuals assigned as representatives of Responsible Parties cannot be members of the Steering Committee. It should also be noted that members of the Steering and Technical committees representing public entities will not be paid from the project funds. The cost of their engagement will represent Government contribution to support project implementation.

The target groups under this project can be divided into four categories:

1) The public sector: As the UNFCCC and GEF Focal Point, the Ministry of Health and Environment (MoHEn) will be the Government agency with overall responsibility for the project. EE in buildings is mainly within the mandate of Ministry of Construction, Housing, Municipalities, and Public Works (MoCHPMW). However, building codes are usually developed in cooperation with other ministries including Ministry of Planning (MoP), Ministry of Electricity (MoE), Ministry of Higher Education and Scientific Research (MoHESR). Therefore, the 5 ministries will be invited to become members of the Project Board as Beneficiary Representatives.
2) The private sector: As a project partner and beneficiary, private sector companies will support the scaling up of EE technologies introduced by the project, in accordance the building code and other regulations. In addition, the private sector will play a vital rule in this project regarding the operation and maintenance of the Energy Efficiency Center (EEC). The private sector will be represented in the Project Board through Baghdad Renewable Energy and Sustainability Center (BRESC).
3) Selected academic institutions and NGOs engaged in EE initiatives and capacity building activities will be identified during Year 1 and invited to have representation in project implementation.
4) Consumers of electricity (individuals and NGOs working with end-users): As a direct beneficiary of the project, this group is considered as important as public and private sector entities and will be engaged in the public dialogue on EE in buildings during project implementation.

More data on stakeholder engagement is presented in Section IV and Annex 9 (Stakeholders' Engagement Plan).

UNDP:

UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

UNDP is the implementing partner for this project and a strict firewall will be maintained between the delivery of project oversight and quality assurance performed by UNDP and charged to the GEF Fee and project execution undertaken primarily by the Implementing Partner and charged to the project management costs.

Project organisation structure:

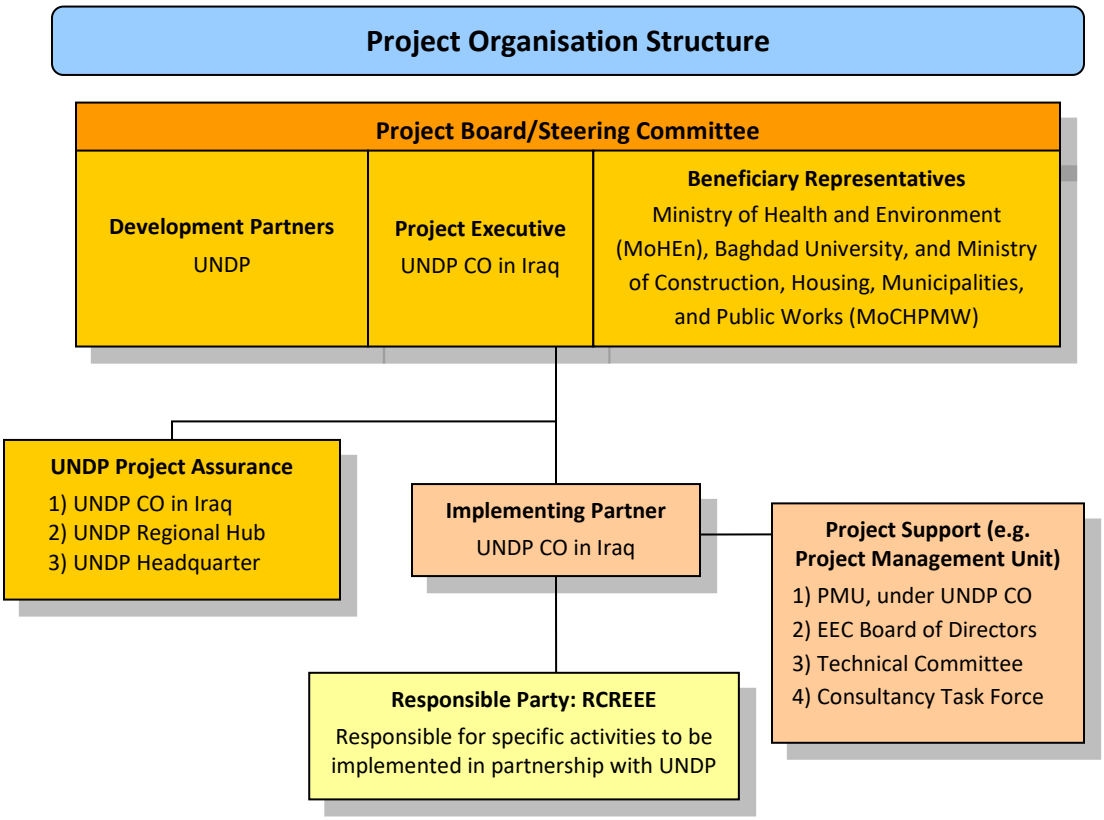


Figure 6: Project organizational structure for this UNDP- GEF project

The Project Board (also called Project Steering Committee) is responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- Agree on project manager's tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- Advise on major and minor amendments to the project within the parameters set by UNDP-GEF;
- Ensure coordination between various donor and government-funded projects and programmes;
- Ensure coordination with various government agencies and their participation in project activities;
- Track and monitor co-financing for this project;
- Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- Appraise the annual project implementation report, including the quality assessment rating report;
- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- Review combined delivery reports prior to certification by the implementing partner;
- Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Address project-level grievances;

- Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
- Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up;
- Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

The composition of the Project Board must include the following roles:

a. Project Executive: Is an individual who represents ownership of the project and chairs the Project Board. The Executive is normally the national counterpart for nationally implemented projects.

The Project Executive is: **Resident Representative at UNDP Iraq CO**

b. Beneficiary Representative(s): Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often civil society representative(s) can fulfil this role.

The Beneficiary representative(s) is/are:

- Technical Deputy Minister, MoHEn

- Representative of Ministry of Construction, Housing, Municipalities, and Public Works

c. Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project.

The Development Partner is: **Resident Representative at UNDP Iraq CO**

d. Project Assurance: UNDP performs the quality assurance and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed, and conflict of interest issues are monitored and addressed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three – tier oversight services involving the UNDP Country Offices and UNDP at regional and headquarters levels. Project assurance is totally independent of project execution.

Project extensions: The UNDP Resident Representative and the UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; the UNDP Country Office oversight costs in excess of the CO's Agency fee specified in the DOA during the extension period must be covered by non-GEF resources.

VIII. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is ***USD 30,402,009***. This is financed through a GEF grant of ***USD 3,092,009*** administered by UNDP, ***USD 300,000*** in cash co-financing to be administered by UNDP and additional support of ***USD 27,010,000***. UNDP, as the GEF Implementing Agency, is responsible for the oversight of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Confirmed Co-financing: The actual realization of project co-financing will be monitored during the mid-term review and terminal evaluation process and will be reported to the GEF. Note that all project activities included in the project results framework that will be delivered by co-financing partners (even if the funds do not pass through UNDP accounts) must comply with UNDP's social and environmental standards. Co-financing will be used for the following project activities/outputs:

Co-financing source	Co-financing type	Co-financing amount	Planned Co-financing Activities/Outputs	Risks	Risk Mitigation Measures
Ministry of Health and Environment (MoHEn) + University of Baghdad, Ministry of Higher Education	In-kind	USD 3,010,000 + 1,000,000	- Allocation of a 1,000 sq.m building to accommodate EEC. - Salaries of 20 staff of national technical team. - Office space and electricity. - Computers, stationary, internet and communication. - Provision of cars and transportation inside Baghdad. - Organizing international consultative meetings and workshops.	*Operational risks:* The largest component of government contribution is the salaries of the relevant civil servants and operational costs of existing facilities. There is low risk to these costs materializing since they are funded by federal and regional budgets. However, there is an operational risk related to ensuring that the funds are adding value to this project and its activities.	MoHEn and UoB will have representation in the Project Board as well as the project's Technical Committee. This is expected to allow the project team to create linkages between project activities and in-kind expenditures by the Government more effectively.
Baghdad Renewable Energy and Sustainability Center (BRESC)	Grant	USD 23,000,000	- Retrofitting a minimum of 30 buildings during the project duration. The retrofitting includes using modern techniques to demonstrate and promote EE in the buildings sector. - Entering into a PPP with the designated ministry for the establishment of EEC. - Collaborating with the UNDP on the operationalization of EEC during the project duration, and willingness to take over the operation and maintenance of the EEC building after project end in partnership with government parties. - Providing technical support on the review and development of standards and codes for EE in the buildings sector. - Participation in promotional and awareness raising events. - Collaboration on capacity building activities, including offering training facilities, documentation and expanding the reach out of the project activities.	*Political risks:* General elections is expected in the second half of 2021. The establishment of a new Cabinet after each election takes few months with some uncertainty during this period as to the change in Government Agenda and priorities. *Economic risks:* If a new economic crisis occurs in Iraq, there might be challenges for the investment to be materialized. *Security risks:* Iraq has successfully defeated ISIS in 2017, yet the threat of the return of fighters or supports of the ISIS continues to be a reason for concern.	UNDP Iraq has established a large network of technical national partners within all the related ministries including technical staff that are not related to political position. Furthermore, BRESC is planned to be partner with the government on the establishment of EEC. EEC will have the mandate of taking the lead on EE projects and agendas on behalf of public parties, which would enhance EEC's ability to operate with relative independence, including the ability to undertake EE projects as part of the disbursement of co-finance by BRESC. For security, UNDP has been implementing many projects during ISIS period between 2014 and 2017. The project will follow the security regulations and policies of UNAMI and UNDSS. In addition, project staff will be within the Green Zone in Baghdad. Coordination will be undertaken between UNDP, the PMU, BRESC

					and the newly established EEC to prepare an exclusion list of activities that may lead to physical resettlement, damage to cultural heritage sites and adverse impacts on Indigenous Peoples. Management measures described in the ESMP prepared for the EEC will be followed to the extent feasible.

Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board.

Should the following deviations occur, the Project Manager/CTA and UNDP Country Office will seek the approval of the BPPS/GEF team to ensure accurate reporting to the GEF:

a) Budget re-allocations among components in the project budget with amounts involving 10% of the total project grant or more;
b) Introduction of new budget items that exceed 5% of original GEF allocation.

Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

Audit: The project will be audited as per UNDP Financial Regulations and Rules and applicable audit policies. Audit cycle and process must be discussed during the Inception workshop.

Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. All costs incurred to close the project must be included in the project closure budget and reported as final project commitments presented to the Project Board during the final project review. The only costs a project may incur following the final project review are those included in the project closure budget.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. **Operational closure must happen with 3 months after posting the TE report to the UNDP ERC**. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Transfer or disposal of assets: In consultation with the Implementing Partner and other parties of the project, UNDP is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the project board following UNDP rules and regulations. Assets may be transferred to the government for project activities managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file[11]. The transfer should be done before Project Management Unit complete their assignments.

Financial completion (closure): The project will be financially closed when the following conditions have been met: a) the project is operationally completed or has been cancelled; b) the Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

[11] See https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Project%20Management_Closing.docx&action=default.

The project will be financially completed **within 6 months of operational closure or after the date of cancellation**. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the BPPS/GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

Refund to GEF: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the BPPS/GEF Directorate in New York. No action is required by the UNDP Country Office on the actual refund from UNDP project to the GEF Trustee.

IX. TOTAL BUDGET AND WORK PLAN

Total Budget and Work Plan			
Atlas Award ID:	00128406	Atlas Output Project ID:	00122419
Atlas Proposal or Award Title:	Promoting Carbon Reduction Through Energy Efficiency (EE) Techniques in Iraq		
Atlas Business Unit:	IRQ10		
Atlas Primary Output Project Title:	Energy Efficiency Policy		
UNDP-GEF PIMS No.:	6487		
Implementing Partner:	UNDP CO in Iraq		

Atlas Activity (GEF Component)	Atlas Implementing Agent	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Account Description	Amount Year 1 2021/2022 (USD)	Amount Year 2 2022/2023 (USD)	Amount Year 3 2023/2024 (USD)	Amount Year 4 2024/2025 (USD)	Amount Year 5 2025/2026 (USD)	Total (USD)	See Budget Note:
COMPONENT 1: Enabling regulatory and institutional framework is designed to promote EE in the buildings sector, including the development of Buildings Energy Efficiency Codes (BEEC) and Minimum Energy Performance Standards (MEPS) for buildings	**UNDP**	**62000**	**GEF**	71200	International Consultants	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ -	$ 160,000	1
				71300	Local Consultants	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 150,000	2
				75700	Training, workshop, conference	$ -	$ 10,000	$ 10,000	$ 15,000	$ 15,000	$ 50,000	3
				71600	Travel	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ -	$ 20,000	4
					Sub-total GEF	**$ 75,000**	**$ 85,000**	**$ 85,000**	**$ 90,000**	**$ 45,000**	**$ 380,000**	
					Total Component 1	**$ 75,500**	**$ 85,000**	**$ 85,000**	**$ 90,000**	**$ 45,000**	**$ 380,000**	
COMPONENT 2: The Energy Efficiency Center (EEC) is established with mandate for advancing EE measures in the buildings sector through providing technical advice to the public, training to practitioners, and supporting the implementation of the proposed MVE procedure	**UNDP**	**62000**	**GEF**	71200	International Consultants	$ 48,000	$ 30,000	$ 25,000	$ 25,000	$ -	$ 128,000	5
				71300	Local Consultants	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 150,000	6
				71400	Contractual services – Individuals	$ 80,000	$ 32,000	$ 10,000	$ 10,000	$ 10,000	$ 142,000	7
				72100	Contractual services - Companies	$ 50,000	$ 50,000	$ 50,000	$ -	$ -	$ 150,000	8
				72300	Material & Goods	$ -	$ 400,000	$ 200,000	$ 200,000	$ -	$ 800,000	9
				75700	Training, workshop, conference	$ -	$ -	$ 40,000	$ 40,000	$ 20,000	$ 100,000	10
				71600	Travel	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ -	$ 20,000	11
					Sub-total GEF	**$ 213,000**	**$ 547,000**	**$ 360,000**	**$ 310,000**	**$ 60,000**	**$ 1,490,000**	
		4000		71200	International Consultants	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000	12

Atlas Activity (GEF Component)	Atlas Implementing Agent	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Account Description	Amount Year 1 2021/2022 (USD)	Amount Year 2 2022/2023 (USD)	Amount Year 3 2023/2024 (USD)	Amount Year 4 2024/2025 (USD)	Amount Year 5 2025/2026 (USD)	Total (USD)	See Budget Note:
			GEF Agency: UNDP	71300	Local Consultants	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000	13
				71400	Contractual services – Individuals	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 100,000	14
				75700	Training, workshop, conference	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000	15
					Sub-total UNDP	**$ 35,000**	**$ 35,000**	**$ 35,000**	**$ 35,000**	**$ 35,000**	**$ 175,000**	
					Total Component 2	**$ 248,000**	**$ 582,000**	**$ 395,000**	**$ 345,000**	**$ 95,000**	**$ 1,665,000**	
COMPONENT 3: Individual and institutional capacity and EE technical knowledge and expertise are strengthened to enhance the ability of national parties to develop and operationalize EE policies, regulations, technical codes, and performance standards in the buildings sector	**UNDP**	**62000**	**GEF**	71200	International Consultants	$ -	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 160,000	16
				71300	Local Consultants	$ -	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 120,000	17
				71400	Contractual services – Individuals	$ -	$ -	$ 40,000	$ 40,000	$ 40,000	$ 120,000	18
				72100	Contractual services – Companies	$ -	$ 40,000	$ 40,000	$ 40,000	$ 30,000	$ 150,000	19
				75700	Training, workshop, conference	$ -	$ -	$ 40,000	$ 40,000	$ 40,000	$ 120,000	20
				71600	Travel	$ -	$ 5,000	$ 5,000	$ 5,000	$ 4,771	$ 19,771	21
					Sub-total GEF	**$ -**	**$ 115,000**	**$ 195,000**	**$ 195,000**	**$ 184,771**	**$ 689,771**	
		4000	**GEF Agency: UNDP**	71200	International Consultants	$ 3,000	$ 3,000	$ 5,000	$ 5,000	$ 5,000	$ 21,000	22
				71300	Local Consultants	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 15,000	23
				71400	Contractual services – Individuals	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 75,000	24
					Sub-total UNDP	**$ 21,000**	**$ 21,000**	**$ 23,000**	**$ 23,000**	**$ 23,000**	**$ 111,000**	
					Total Component 3	**$ 21,000**	**$ 136,000**	**$ 218,000**	**$ 218,000**	**$ 207,770**	**$ 800,770**	
COMPONENT 4: Monitoring, evaluation and outreach on EE in the buildings sector in Iraq	**UNDP**	**62000**	**GEF**	71400	Contractual services – Individuals	$ -	$ 20,000	$ 20,000	$ 15,000	$ 15,000	$ 70,000	25
				72100	Contractual services – Companies	$ -	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 80,000	26
				75700	Training, workshop, conference	$ -	$ 2,000	$ 2,000	$ 13,000	$ 13,000	$ 30,000	27
				71600	Travel	$ -	$ 25,000	$ -	$ 25,000	$ -	$ 50,000	28
					Sub-total KM	**$ -**	**$ 67,000**	**$ 42,000**	**$ 73,000**	**$ 48,000**	**$ 230,000**	

Atlas Activity (GEF Component)	Atlas Implementing Agent	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Account Description	Amount Year 1 2021/2022 (USD)	Amount Year 2 2022/2023 (USD)	Amount Year 3 2023/2024 (USD)	Amount Year 4 2024/2025 (USD)	Amount Year 5 2025/2026 (USD)	Total (USD)	See Budget Note:
				71200	International Consultants	$ -	$ -	$ 40,000	$ -	$ 40,000	$ 80,000	a
				71300	Local Consultants	$ 4,000	$ 4,000	$ 24,000	$ 4,000	$ 24,000	$ 60,000	b
				74200	Audio Visual & Print Prod Costs	$ -	$ -	$ 1,000	$ -	$ 1,000	$ 2,000	29
				75700	Training, workshop, conference	$ 7,000	$ -	$ -	$ -	$ -	$ 7,000	30
				71600	Travel	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 2,000	$ 6,000	31
					Sub-total M&E	**$ 12,000**	**$ 5,000**	**$ 66,000**	**$ 5,000**	**$ 67,000**	**$ 155,000**	c
					Total Component 4	**$ 12,000**	**$ 72,000**	**$ 108,000**	**$ 78,000**	**$ 115,000**	**$ 385,000**	
Project Management Cost (PMC)	**UNDP**	**62000**	**GEF**	71200	International Consultants	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000	32
				71400	Contractual services – Individuals	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 100,000	33
				72400	Communic & Audio Visual Equip	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 5,000	34
				72500	Supplies	$ 1,000	$ 700	$ 500	$ 500	$ 500	$ 3,200	35
				72800	IT Equipment	$ 2,000	$ 500	$ 500	$ 500	$ 500	$ 4,000	36
				74200	Audio Visual & Print Prod Costs	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,038	$ 10,038	37
					Sub-total GEF	**$ 31,000**	**$ 29,200**	**$ 29,000**	**$ 29,000**	**$ 29,038**	**$ 147,238**	
		4000	**GEF Agency: UNDP**	72800	IT Equipment	$ 500	$ 500	$ 500	$ 500	$ 500	$ 2,500	38
				74100	Professional services	$ 1,800	$ 1,800	$ 1,800	$ 1,800	$ 1,800	$ 9,000	d
				72400	Audio Visual & Print Prod Costs	$ 500	$ 500	$ 500	$ 500	$ 500	$ 2,500	39
					Sub-total UNDP	**$ 2,800**	**$ 2,800**	**$ 2,800**	**$ 2,800**	**$ 2,800**	**$ 14,000**	
					Total Project Management	**$ 33,800**	**$ 32,000**	**$ 31,800**	**$ 31,800**	**$ 31,839**	**$ 161,239**	
					SUB-TOTAL GEF	**$ 331,000**	**$ 848,200**	**$ 777,000**	**$ 702,000**	**$ 433,809**	**$ 3,092,009**	
					SUB-TOTAL UNDP	**$ 58,800**	**$ 58,800**	**$ 60,800**	**$ 60,800**	**$ 60,800**	**$ 300,000**	
					PROJECT TOTAL	**$ 389,800**	**$ 907,000**	**$ 837,800**	**$ 762,800**	**$ 494,609**	**$ 3,392,009**	

Summary of Funds:

	Amount 2021/2022	Amount 2022/2023	Amount 2023/2024	Amount 2024/2025	Amount 2025/2026	Total (USD)
GEF grant administered by UNDP	$ 331,000	$ 848,200	$ 777,000	$ 702,000	$ 433,809	$ 3,092,009
Grant co-finance by GEF Agency: UNDP	$ 58,800	$ 58,800	$ 60,800	$ 60,800	$ 60,800	$ 300,000
In-kind co-finance by the Government of Iraq: MoHEn	$ 1,600,000	$ 600,000	$ 610,000	$ 600,000	$ 600,000	$ 4,010,000
Grant co-finance by the Private Sector: BRESC	$ 2,000,000	$ 3,000,000	$ 6,000,000	$ 6,000,000	$ 6,000,000	$ 23,000,000
TOTAL	**$ 3,989,800**	**$ 4,507,000**	**$ 7,447,800**	**$ 7,362,800**	**$ 7,094,609**	**$ 30,402,009**

Budget note number	**Comments:** Budget note should be output based rather than input based. Even for individual consultants' outputs of the consultants must be clear. Include cost breakdown and calculation basis (e.g. daily fee and number of days/weeks, unit cost and number), as well as a total amount for the budget line.
a	Since this is a full-size project, USD 40,000 has been allocated for independent lead consultant to undertake the mid-term review and USD 40,000 for independent lead consultant to undertake the terminal evaluation.
b	Since this is a full-size project, USD 20,000 has been allocated for independent national consultant to undertake the mid-term review and USD 20,000 for independent national consultant to undertake terminal evaluation. The budget for M&E Local Consultants also include USD 20,000 for hiring an E&S Specialist to implement the project's ESIA/ESMP.
c	The total amount for Component 4 includes the M&E budget (USD 155,000) detailed in Section VI of this document, i.e. the USD 385,000 includes USD 80,000 for international MTR and TE Consultancies, USD 40,000 for local MTR and TE Consultancies, USD 20,000 for monitoring ESIA/ESMP implementation, USD 2,000 for the translation of the MTR and TE reports, USD 7,000 for the inception workshop and other M&E related workshops and conferences, and USD 6,000 for M&E related site visits, as described in budget notes a, b, 29, 30 and 31, respectively.
d	An estimated audit cost of USD 1,800 a year has been allocated by the UNDP CO.
1	Fees for International Consultants involved in drafting the EE Executive Regulations and developing MEPS for EE in buildings. This includes: - EE in Buildings Expert (20 weeks/year over 4 years, costing about USD 56,000), - EE Regulations and Policy Development Expert (20 weeks/year over 4 years, costing about USD 52,000), and - EE Standards Development Expert (20 weeks/year over 4 years, costing about USD 52,000).
2	Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 1. This includes: - EE National Experts (43 weeks/year over 5 years, costing about USD 64,500), - Regulations Development National Specialist (36 weeks/year over 5 years, costing about USD 49,500), and - Training Facilitators and Capacity Building National Specialists (36 weeks/year over 5 years, costing about USD 36,000).
3	Expenditures for organizing stakeholders' engagement conferences and round table discussions to reach consensus on the developed regulations and standards.
4	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 1.
5	Fees for International Consultants involved in advising the retrofitting of EEC building, the establishment of a testing facility, operationalizing the developed framework, developing certification and auditing programs, and providing ToT for EEC staff. This includes:

	- Energy Audit Expert (40 days over 1 year, costing about USD 26,000), - EE Equipment and Testing Expert (40 weeks over 1 year, costing about USD 26,000), - Organizational Development and Operationalization Expert (20 weeks/year over 4 years, costing about USD 40,000), and - Capacity Building and ToT Experts in Energy Management and Building Audits (24 weeks/year over 3 years, costing about USD 36,000).
6	Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 2. This includes: - National Consultant with engineering background (40 weeks/year over 2 years, costing about USD 40,000), - National Consultant with quality assurance background (32 weeks/year over 3 years, costing about USD 38,400), - National Consultant with HR background (32 weeks/year over 3 years, costing about USD 32,600), and - Capacity Building and ToT National Specialists (40 weeks/year over 3 years, costing about USD 39,000).
7	Fees for contractual service (individuals) to undertake the following activities: - USD 50,000: Undertake a Strategic Environmental and Social Assessment (SESA) and develop the project's Environmental and Social Management Plan (ESMP) in accordance with the UNDP Guidelines for Social and Environmental Safeguards (SES). The SESA and ESIA/ESMP should be developed during Year 1 of project implementation. Additional costs for ESIA/ESMP implementation is included under the project's M&E budget. - USD 92,000: Develop the Procurement Plan for the project. This includes providing details on all procurement activities, including defining the specifications for goods and material – in collaboration with other project consultants, and developing the tender documents and the procedure for the selection of the contractor to undertake the retrofitting activities. The work will entail providing support to the PMU on the evaluation of offers and other procurement logistics.
8	Fees for the contractor (contractual services – company) to undertake the retrofitting activities of EEC building, in accordance with the Procurement Plan to be developed during Year 1 of project implementation.
9	Budget for the purchase of goods and material for retrofitting of the building to be selected for EEC establishment (during Year 2 and 3), retrofitting of a second public building, and the purchase of testing equipment for establishing an EE laboratory (during Year 4). The Procurement Plan will be developed during Year 1 of implementation, when an assessment for both buildings conducted to identify the required retrofitting activities, and therefore the goods and material to be purchased.
10	Expenditures for organizing stakeholder consultation meetings and training to EEC staff to enhance their capacity to act as a focal point and develop their technical ability to operate and maintain the testing equipment.
11	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 2.
12	UNDP Co-finance for hiring international consultants for developing certification and auditing programs and providing ToT for EEC staff.
13	UNDP Co-finance for hiring local consultants for supporting international consultants on performing their duties and working closely with national stakeholders on the establishment of EEC.
14	UNDP Co-finance for PMU staff salaries (Project Manager and Project Coordinator) to ensure availability of resources to oversee the implementation of activities under Component 2.
15	UNDP Co-finance for organizing training to EEC staff to enhance their technical and administrative capacity to act as a focal point for EE in Iraq.
16	Fees for International Consultants involved in developing manuals for intra-government collaboration and training material for policy makers and end users. This includes: - Data Management Experts (35 weeks/year over 4 years, costing about USD 98,000), and - Capacity Building and ToT Experts (41 weeks/year over 3 years, costing about USD 62,000).
17	Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 3. This includes: - Intra-Government Collaboration National Specialist (34 weeks/year over 4 years, costing about USD 47,600), - Media and Communication National Specialists (31 weeks/year over 4 years, costing about USD 43,150), and - Capacity Building and ToT National Specialists (30 weeks/year over 3 years, costing about USD 29,250).

18	Fees for Contractual Services – Individuals to design and implementation of a multi-year awareness raising campaign.
19	Fees for Contractual Services – Companies to perform market analysis to identify and promote financial schemes and incentives which can help contractors and building owners finance the adoption of EE material and applying EE measures in their new and existing buildings. The responsibilities under this contract also include negotiating banks and other funding sources to mobilize resources for supporting national-level deployment of EE in buildings in Iraq.
20	Expenditures for organizing stakeholder consultation meetings and policy-level and consumer-level training, including ToT for professionals and practitioners.
21	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 3.
22	UNDP Co-finance for hiring an 'Intra-government Collaboration Expert' for developing the data flow diagram, preparing manuals for intra-government collaboration and training material for policy makers and end users.
23	UNDP Co-finance for hiring local consultants for supporting international consultants on performing their duties through providing information on national context and collecting official national data.
24	UNDP Co-finance for staff hired under Service Contracts to support the PMU and ensure availability of resources to oversee the implementation of activities under Component 3, noting that these hires would be additional to the main PMU staff members (Project Manager and Project Coordinator) hired using GEF funds (see budget note 31). Details on specific hiring needs will be determined during the implementation phase.
25	Fees for Contractual Services - Individuals to develop an interactive online portal, including data collection strategies through gamification and regular surveys.
26	Fees for Contractual Services – Companies to design project-specific KM and M&E systems, including the identification of the data sets that can be reflective of project achievements, and the associating templates, training manuals, catalogues, GHG inventory, and other tools which will be used by project staff and consultants during the project lifetime. The services under this contract will also include supporting the handover of these activities from the PMU to EEC staff at project end.
27	Expenditures for organizing stakeholder consultation meetings and capacity building workshops for EEC staff to train them on using the developed KM and M&E systems.
28	Travel expenses for the exchange missions conducted by national stakeholders to other countries.
29	Costs for translation and printing of the Mid-term Review (MTR) and Terminal Evaluation (TE) reports (as detailed in the M&E budget table presented in Section VI).
30	Expenditures for organizing the inception workshop and other M&E related workshops and conferences (as detailed in the M&E budget table presented in Section VI).
31	Travel expenses for M&E related site visits (as detailed in the M&E budget table presented in Section VI).
32	Placement of required international Project Management and Support capacities and systems for project implementation and monitoring. This includes: - International Lead Technical Advisor (10 weeks/year over 5 years, costing about USD 25,000).
33	Placement of required local Project Management and Support capacities and systems for project implementation and monitoring. This includes: - Local Project Manager (40 weeks/year over 5 years, costing about USD 60,000), - Local Project Coordinator (40 weeks/year over 5 years, costing about USD 25,000), and - Local Finance officer (24 weeks/year over 5 years, costing about USD 15,000).
34	Communication expenses by the project team.
35	Office supplies and stationery for the project team.
36	Software, computers, and IT tools for the project team.
37	Translation of documents and project reports from English to Arabic and Arabic to English, as appropriate.
38	UNDP Co-finance for software, computers, and IT tools for the project team.
39	UNDP Co-finance for printing of project reports.

X. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Iraq and UNDP, signed on **October 20, 1976**. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

This project will be implemented by the **UNDP Country Office in Iraq** ("Implementing Partner") in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

XI. RISK MANAGEMENT

1. UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)

2. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the [project funds][12] [UNDP funds received pursuant to the Project Document][13] are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

3. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).

4. UNDP as the Implementing Partner will: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.

5. In the implementation of the activities under this Project Document, UNDP as the Implementing Partner will handle any sexual exploitation and abuse ("SEA") and sexual harassment ("SH") allegations in accordance with its regulations, rules, policies and procedures.

6. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.

7. UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor and sub-recipient:

    a. Consistent with the Article III of the SBAA *[or the Supplemental Provisions to the Project Document]*, the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible party's, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
        i. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
        ii. assume all risks and liabilities related to such responsible party's, subcontractor's and sub-recipient's security, and the full implementation of the security plan.

    b. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the responsible party's, subcontractor's and sub-recipient's obligations under this Project Document.

    c. In the performance of the activities under this Project, UNDP as the Implementing Partner shall ensure, with respect to the activities of any of its responsible parties, sub-recipients and other entities engaged under the Project, either as contractors or subcontractors, their personnel and

12 To be used where UNDP is the Implementing Partner
13 To be used where the UN, a UN fund/programme or a specialized agency is the Implementing Partner

any individuals performing services for them, that those entities have in place adequate and proper procedures, processes and policies to prevent and/or address SEA and SH.

d. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

e. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

f. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.

g. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

   Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

h. UNDP will be entitled to a refund from the responsible party, subcontractor or sub-recipient of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of this Project Document. Such amount may be deducted by UNDP from any payment due to the responsible party, subcontractor or sub-recipient under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail any responsible party's, subcontractor's or sub-recipient's obligations under this Project Document.

   Where such funds have not been refunded to UNDP, the responsible party, subcontractor or sub-recipient agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

   Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

i. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts,

commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.

j. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

k. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled "Risk Management Standard Clauses" are adequately reflected, *mutatis mutandis*, in all its sub-contracts or sub-agreements entered into further to this Project Document.

XII. MANDATORY ANNEXES

1. GEF Budget Template
2. GEF Execution Support Letter
3. Project Map and geospatial coordinates of the project area
4. Multiyear Workplan
5. Monitoring Plan
7. UNDP Atlas Risk Register
8. Overview of technical consultancies/subcontracts
14. GEF Core indicators
15. GEF Taxonomy

Separate Annexes – included as part of the Project Document and submission package to the GEF:

6. Social and Environmental Screening Procedure (SESP)
9. Stakeholder Engagement Plan (SEP)
10. Environmental Social Management Framework (ESMF)
11. Gender Analysis and Gender Action Plan
12. GEF focal area specific annexes: GEF EE Tool for GHG emissions calculation
13. Additional agreements:
    - Annex 13-1: Letter of co-finance by the Government of Iraq (MoHEn)
    - Annex 13-2: Letter of co-finance by the Government of Iraq for EEC Building (UoB)
    - Annex 13-3: Letter of co-finance by the private sector (BRESC)
    - Annex 13-4: Letter of co-finance by the UNDP

Annex 1: GEF Budget Template

Expenditure Category	Detailed Description	Component (USDeq.)							Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Component 4*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
		Sub-component 1.1	*Sub-component 2.1*	*Sub-component 3.1*	*Sub-component 4.1*					
Equipment	Budget for the purchase of goods and material for retrofitting of the building to be selected for EEC establishment (during Year 2 and 3), retrofitting of a second public building (to be selected during the inception phase), and the purchase of testing equipment for establishing an EE laboratory (during Year 4). The Procurement Plan will be developed during Year 1 of implementation, when the exact location of the second building is finalized and an assessment for both buildings conducted to identify the required retrofitting activities, and therefore the goods and material to be purchased.		800,000			800,000			800,000	UNDP
Equipment	Communication expenses by the project team.					-		5,000	5,000	UNDP
Equipment	Software, computers, and IT tools for the project team.					-		4,000	4,000	UNDP
Contractual Services-Companies	Fees for the contractor (contractual services – company) to undertake the retrofitting activities of EEC building, in accordance with the Procurement Plan to be developed during Year 1 of project implementation.		150,000			150,000			150,000	UNDP
Contractual Services-Companies	Fees for Contractual Services – Companies to perform market analysis to identify and promote financial schemes and incentives which can help contractors and building owners finance the adoption of EE material and applying EE measures in their new and existing buildings. The responsibilities under this contract also include negotiating banks and other funding sources to mobilize resources for supporting national-level deployment of EE in buildings in Iraq.			150,000		150,000			150,000	UNDP

Contractual Services-Companies	Fees for Contractual Services – Companies to design project-specific KM and M&E systems, including the identification of the data sets that can be reflective of project achievements, and the associating templates, training manuals, catalogues, GHG inventory, and other tools which will be used by project staff and consultants during the project lifetime. The services under this contract will also include supporting the handover of these activities from the PMU to EEC staff at project end.				80,000				-	UNDP
Contractual services-Individual	Fees for contractual service (individuals) to undertake the following activities: - USD 50,000: Undertake a Strategic Environmental and Social Assessment (SESA) and develop the project's Environmental and Social Management Plan (ESMP) in accordance with the UNDP Guidelines for Social and Environmental Safeguards (SES). The SESA and ESIA/ESMP should be developed during Year 1 of project implementation. Additional costs for ESIA/ESMP implementation is included under the project's M&E budget. - USD 92,000: Develop the Procurement Plan for the project. This includes providing details on all procurement activities, including defining the specifications for goods and material – in collaboration with other project consultants, and developing the tender documents and the procedure for the selection of the contractor to undertake the retrofitting activities. The work will entail providing support to the PMU on the evaluation of offers and other procurement logistics.		142,000			142,000			142,000	UNDP
Contractual services-Individual	Fees for Contractual Services – Individuals to design and implementation of a multi-year awareness raising campaign.			120,000		120,000			120,000	UNDP
Contractual services-Individual	Fees for Contractual Services - Individuals to develop an interactive online portal, including data collection strategies through gamification and regular surveys.				70,000				-	UNDP
Contractual services-Individual	Placement of required local Project Management and Support capacities and systems for project implementation and monitoring. This includes: - Local Project Manager (40 weeks/year over 5 years, costing about USD 60,000), - Local Project Coordinator (40 weeks/year over 5 years, costing about USD 25,000), and - Local Finance officer (24 weeks/year over 5 years, costing about USD 15,000).							100,000	100,000	UNDP

International Consultants	Fees for International Consultants involved in drafting the EE Executive Regulations and developing MEPS for EE in buildings. This includes: - EE in Buildings Expert (20 weeks/year over 4 years, costing about USD 56,000), - EE Regulations and Policy Development Expert (20 weeks/year over 4 years, costing about USD 52,000), and - EE Standards Development Expert (20 weeks/year over 4 years, costing about USD 52,000).	160,000				160,000			160,000	UNDP
International Consultants	Fees for International Consultants involved in advising the retrofitting of EEC building, the establishment of a testing facility, operationalizing the developed framework, developing certification and auditing programs, and providing ToT for EEC staff. This includes: - Energy Audit Expert (40 days over 1 year, costing about USD 26,000), - EE Equipment and Testing Expert (40 weeks over 1 year, costing about USD 26,000), - Organizational Development and Operationalization Expert (20 weeks/year over 4 years, costing about USD 40,000), and - Capacity Building and ToT Experts in Energy Management and Building Audits (24 weeks/year over 3 years, costing about USD 36,000).		128,000			128,000			128,000	UNDP
International Consultants	Fees for International Consultants involved in developing manuals for intra-government collaboration and training material for policy makers and end users. This includes: - Data Management Experts (35 weeks/year over 4 years, costing about USD 98,000), and - Capacity Building and ToT Experts (41 weeks/year over 3 years, costing about USD 62,000).			160,000		160,000			160,000	UNDP
International Consultants	Since this is a full-size project, USD 40,000 has been allocated for independent lead consultant to undertake the mid-term review and USD 40,000 for independent lead consultant to undertake the terminal evaluation.					-	80,000		80,000	UNDP
International Consultants	Placement of required international Project Management and Support capacities and systems for project implementation and monitoring. This includes: - International Lead Technical Advisor (10 weeks/year over 5 years, costing about USD 25,000).					-		25,000	25,000	UNDP

Local Consultants	Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 1. This includes: - EE National Experts (43 weeks/year over 5 years, costing about USD 64,500), - Regulations Development National Specialist (36 weeks/year over 5 years, costing about USD 49,500), and - Training Facilitators and Capacity Building National Specialists (36 weeks/year over 5 years, costing about USD 36,000).	150,000				150,000			150,000	UNDP
Local Consultants	Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 2. This includes: - National Consultant with engineering background (40 weeks/year over 2 years, costing about USD 40,000), - National Consultant with quality assurance background (32 weeks/year over 3 years, costing about USD 38,400), - National Consultant with HR background (32 weeks/year over 3 years, costing about USD 32,600), and - Capacity Building and ToT National Specialists (40 weeks/year over 3 years, costing about USD 39,000).		150,000			150,000			150,000	UNDP
Local Consultants	Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 3. This includes: - Intra-Government Collaboration National Specialist (34 weeks/year over 4 years, costing about USD 47,600), - Media and Communication National Specialists (31 weeks/year over 4 years, costing about USD 43,150), and - Capacity Building and ToT National Specialists (30 weeks/year over 3 years, costing about USD 29,250).			120,000		120,000			120,000	UNDP
Local Consultants	Since this is a full-size project, USD 20,000 has been allocated for independent national consultant to undertake the mid-term review and USD 20,000 for independent national consultant to undertake terminal evaluation. The budget for M&E Local Consultants also include USD 20,000 for hiring an E&S Specialist to implement the project's ESIA/ESMP.					-	60,000		60,000	UNDP
Trainings, Workshops, Meetings	Expenditures for organizing stakeholders' engagement conferences and round table discussions to reach consensus on the developed regulations and standards.	50,000				50,000			50,000	UNDP

Trainings, Workshops, Meetings	Expenditures for organizing stakeholder consultation meetings and training to EEC staff to enhance their capacity to act as a focal point and develop their technical ability to operate and maintain the testing equipment.		100,000			100,000			100,000	UNDP
Trainings, Workshops, Meetings	Expenditures for organizing stakeholder consultation meetings and policy-level and consumer-level training, including ToT for professionals and practitioners.			120,000		120,000			120,000	UNDP
Trainings, Workshops, Meetings	Expenditures for organizing stakeholder consultation meetings and capacity building workshops for EEC staff to train them on using the developed KM and M&E systems.				30,000				-	UNDP
Trainings, Workshops, Meetings	Costs for translation and printing of the Mid-term Review (MTR) and Terminal Evaluation (TE) reports (as detailed in the M&E budget table presented in Section VI). Expenditures for organizing the inception workshop and other M&E related workshops and conferences (as detailed in the M&E budget table presented in Section VI).					-	7,000		7,000	UNDP
Travel	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 1.	20,000				20,000			20,000	UNDP
Travel	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 2.		20,000			20,000			20,000	UNDP
Travel	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 3.			19,771		19,771			19,771	UNDP
Travel	Travel expenses for the exchange missions conducted by national stakeholders to other countries.				50,000				-	UNDP
Travel	Travel expenses for M&E related site visits (as detailed in the M&E budget table presented in Section VI).					-	6,000		6,000	UNDP
Office Supplies	Office supplies and stationery for the project team.					-		3,200	3,200	UNDP
Other Operating Costs	Costs for translation and printing of the Mid-term Review (MTR) and Terminal Evaluation (TE) reports (as detailed in the M&E budget table presented in Section VI).					-	2,000		2,000	UNDP
Other Operating Costs	Translation of documents and project reports from English to Arabic and Arabic to English, as appropriate.					-		10,038	10,038	UNDP
Grand Total		380,000	1,490,000	689,771	230,000	2,789,771	155,000	147,238	3,092,009	

Annex 2: GEF execution support letter

Not applicable since the project is following a DIM modality, i.e. UNDP is the Implementing Partner responsible for project execution, as referenced in the LOA for the PIF.

Annex 3: Project map and Geospatial Coordinates of project sites



Proposed location for EEC at Baghdad University (location coordinates: **33°16'15.8"N 44°23'07.8"E**)



Annex 4: Multi Year Work Plan

Tasks	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Enabling regulatory and institutional framework is designed to promote EE in the buildings sector, including the development of Buildings Energy Efficiency Codes (BEEC) and Minimum Energy Performance Standards (MEPS) for buildings																				
Outcome 1 **Appropriate regulatory and institutional framework is designed to catalyze existing policies and programs for promoting EE in buildings, including the operationalization of the National Energy Efficiency Action Plan (NEEAP)**																				
1.1. An analysis of the existing policies, programmes and national plans is conducted, and an Executive Regulation for EE in Buildings is drafted and submitted for government approval.																				
1.2. An analysis of the NEEAP in Iraq is conducted, and the elements required for its operationalization is provided to support rolling-out EE development with a focus on the buildings sector.																				
Outcome 2 **Internationally recognized BEEC and MEPS for buildings are selected and localized to become suitable for Iraq, including the associating Monitoring, Verification and Enforcement (MVE) procedure**																				
2.1. Appropriate BEEC, including the associating labelling, certification scheme and testing procedure, is selected, localized, and submitted for government approval. This will include aspects of passive design and thermal insulation standards.																				
2.2. Appropriate MEPS, including the associating labelling, certification scheme and testing procedure, is selected, localized, and submitted for government approval.																				

Tasks	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 2: The Energy Efficiency Center (EEC) is established with mandate for advancing EE measures in the buildings sector through providing technical advice to the public, training to practitioners, and supporting the implementation of the proposed MVE procedure																				
Outcome 3 **Energy Efficiency Center (EEC) is established and capacitated to support the development of EE programs and applications in the buildings sector**																				
3.1. EEC is established, legally and with physical presence, and is operational as the focal point for promoting EE in the Iraqi buildings sector.																				
3.2. Staff at the EEC are capacitated to inform decision-makers, advise investors, raise public awareness, and deliver general and technical training on EE in buildings.																				
Outcome 4 **Testing facility and certification programmes are established under EEC, in accordance with the proposed BEEC and MEPS, to support the implementation of the framework's MVE procedure**																				
4.1. A testing facility containing suitable equipment to measure energy consumption behavior in the buildings sector and perform regular inspection for buildings, in accordance with the proposed BEEC and MEPS, is established at the EEC and operated by EEC staff.																				
4.2. Certified Energy Management and Building Auditors Programmes are adopted by EEC, where Energy Managers are capacitated to conduct building inspections and make recommendations for optimizing EE in buildings nation-wide.																				

Tasks	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 3: Individual and institutional capacity and EE technical knowledge and expertise are strengthened to enhance the ability of national parties to develop and operationalize EE policies, regulations, technical codes, and performance standards in the buildings sector																				
Outcome 5 **Coordination between national parties for the enforcement of existing policies and strategies, including the Iraqi building code, is strengthened**																				
5.1. Develop a Data Flow Diagram (DFD) consistent with the proposed Executive Regulation for EE in Buildings to advocate intra-government collaboration and obtain consensus of the parties on the DFD and the manuals to use for staff training.																				
5.2. Policy-level training on the proposed regulatory and institutional framework for EE in buildings is conducted, targeting decision makers, public officials, and national experts.																				
Outcome 6 **The awareness of practitioners involved in the buildings sector, as well as end-users of electricity, on EE regulation and best practices is strengthened**																				
6.1. Technical training on EE in buildings is conducted targeting students, technicians, contractors, civil engineers, and architects. This will constitute a Training of Trainers (ToT) workshops to enhance the sustainability of knowledge sharing.																				
6.2. Awareness campaigns and events are organized to promote EE applications and programs, and relevant marketing material is developed to increase consumers' commitment to EE practices.																				
6.3. Existing financial schemes and incentive mechanisms dedicated to promoting EE buildings investments and attracting the engagement of the banking sector, are identified, promoted, and monitored.																				

Tasks	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 4: Monitoring, evaluation and outreach on EE in the buildings sector in Iraq																				
Outcome 7 **A Knowledge Management (KM) system is developed, and best practices are catalogued through conducting exchange missions to other countries**																				
7.1. A KM system is developed in the form of an online portal for the dissemination of EE in building practices, programs, code, and MVE procedure, on the national level.																				
7.2. Exchange missions to relevant regional or international countries with advanced experience in EE buildings deployment are conducted and a best practices catalogue is developed.																				
Outcome 8 **A Monitoring and Evaluation (M&E) system is developed to track and document progress and impacts of EE initiatives and support the sustainability of EE interventions in the buildings sector**																				
8.1. Set up an institutional mechanism to revise and update building energy performance standards regularly, including the development of guidelines for enforcing EE measures in building.																				
8.2. Set up an inventory mechanism and database management system for national energy balance, detailed consumption statistics and related Greenhouse Gas (GHG) emission in the buildings sector to monitor and evaluate EE programs.																				
8.3. Capacity building to EEC staff on aspects of M&E, including database management, data collection and reporting, is conducted.																				

Annex 5: Monitoring Plan

This Monitoring Plan and the M&E Plan and Budget in Section VI of this project document will both guide monitoring and evaluation at the project level for the duration of project implementation.

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/ Collection Methods	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid-term Target	End of Project Target						
Project Objective: To promote low carbon development in Iraq through supporting the design of a regulatory framework for enhancing Energy Efficiency (EE) in buildings and the creation of an enabling environment for its operationalization.	*Mandatory Indicator 1: GEF Core indicator 11* Number of direct project beneficiaries disaggregated by gender (individual people)	Female: 365 Male: 365 Total: 730 persons	Female: 1,400 Male: 1,400 Total: 2,800 persons	The targets reflect the direct beneficiaries targeted by outcomes involving workshops and events. Other indirect beneficiaries include the population benefiting from reduced electricity loads and Government expenditure on power.	Overall reporting by consultants in charge of different outcomes, especially those involving training, surveys, or direct participation by individuals	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- Survey forms, attendance sheets for training workshops, and certifications issued to participants. - Project Closure QA Report	The main risk facing effective reach out to direct beneficiaries is that some of these outcomes rely on EEC establishment. The project aims to mitigate this by planning for early start on Outcome 3 and by providing several layers of capacity building for EEC staff.
	Mandatory Indicator 2: GEF Core indicator 6 GHG emission mitigated	Direct emissions mitigated: 32,220 tCO_2e Indirect: 241,129 tCO_2e	Direct emissions mitigated: 531,628 tCO_2e Indirect: 3,978,632 tCO_2e	GHG emissions mitigation will be achieved by the retrofitting of EEC building (direct mitigation) and the development of EE codes and standards (post-project mitigation).	Electricity consumption date is obtained from MoE and used to fill GEF EE tracking tool presented in Annex 12	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- Electricity consumption data and market information on buildings are collected and analyzed to update the baseline estimates and assumptions. - The M&E systems developed under Outcome 8 will be used to verify EE data in the buildings sector.	There are two main risks facing GHG mitigation and energy savings indicators: (1) Baseline assumptions, detailed in Annex 12, maybe inaccurate or incomplete, and (2) Consumption data is collected on sectoral levels. The project aims to mitigate this by dedicating resources to establish EEC as an entity able to track electricity consumption in compliant buildings on regular basis.
	Indicator 3: GEF Sub-Indicator 6.3 Energy saved in buildings that have been newly constructed or retrofitted following project development	Direct energy saved: 87,048 GJ	Direct energy saved: 1,436,292 GJ	Energy savings will be achieved by the retrofitting of EEC and other buildings during the project lifetime and the development of EE codes and standards for future adoption.	- Electricity consumption date obtained from MoE - Audits and inspection reports by EEC, when established	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established		

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/ Collection Methods	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid-term Target	End of Project Target						
Outcome 1 Appropriate regulatory and institutional framework is designed to catalyze existing policies and programs for promoting EE in buildings, including the operationalization of the National Energy Efficiency Action Plan (NEEAP).	*Indicator 4:* The Executive Regulation for EE in Buildings in Iraq is developed	First Draft of the Executive Regulation for EE in Buildings is developed and presented for stakeholders' consultation	Final Draft of the Executive Regulation for EE in Buildings is developed, incorporating comments by stakeholders, and submitted for government approval	The Executive Regulation refers to the document presenting the regulatory framework under which all project activities can fall in place, i.e. the establishment of the EEC, building codes and standards, knowledge sharing, and M&E procedure. The targets reflect the development stages of the regulation document.	- Reports submitted by the Consultants engaged in framework development - Minutes of stakeholders' consultation meeting(s)	Bi-annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- The new Executive Regulation document. - Interviewing stakeholders. - Evidence of submitting the final draft to the Government for their approval. - Annual reports by the Steering Committee. - Annual Project QA Report.	The main risk facing the achievement of this outcome is that the proposed Executive Regulation become a theoretical document, with no vision for enforcement. The project aims to mitigate this by starting on the operationalization aspect, such as management plans and the capacity for testing, in parallel to framework development. It is assumed that this strategy will allow the project team to monitor the development of the framework more closely and revisit the draft Executive Regulation to ensure it is implementable, prior to submission for government approval.
	Indicator 5: The extent to which the outcomes of the NEEAP have been integrated in the buildings sector in different forms, such as operation manuals, technical recommendations, permitting procedure, education curricula, design aspects and contractual obligations	NEEAP Work Plan for EE in Buildings is developed and action items are integrated in different templates and documentation, as relevant	Project examples to support that there were measures taken by decision makers and end-users based on this integration	The integration of NEEAP outcomes in the buildings sector is used as an indicator of operationalization. The targets represent the official integration in the documents, and the actual integration by people.	- Reports submitted by the Consultants engaged in the operationalization of the NEEAP and other policies - Minutes of stakeholders' consultation meeting(s)	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- The NEEAP Work Plan for EE in buildings - Official documents updated to include NEEAP outcomes. - Evidence from projects in the buildings sector showing that the integration induced positive change in implementation. - Annual reports by the Steering Committee. - Annual Project QA Report.	

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/ Collection Methods	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid-term Target	End of Project Target						
Outcome 2 Internationally recognized BEEC and MEPS for buildings are selected and localized to become suitable for Iraq, including the associating Monitoring, Verification and Enforcement (MVE) procedure.	*Indicator 6:* BEEC suitable for buildings design in Iraq developed, with the associated labelling scheme and testing procedure	First draft of the BEEC is developed and presented for stakeholders' consultation	Final draft of the BEEC is developed, incorporating comments by stakeholders, and submitted for government approval	The BEEC refers to the localized codes proposed for adoption in Iraq. It is developed as part of the proposed Executive Regulation for EE in Buildings. The targets reflect the development stages of the BEEC document.	- Reports submitted by the Consultants engaged in BEEC development - Minutes of stakeholders' consultation meeting(s)	Bi-annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- The final draft of the BEEC document. - Interviewing stakeholders. - Evidence of BEEC integration in the proposed Executive Regulation submitted to the Government for their approval. - Annual reports by the Steering Committee. - Annual Project QA Report.	The main risk associated to this outcome is that the BEEC and MEPS will be used as basis for selection of testing equipment and certification programmes in Outcome 4, prior to obtaining government approval. This risk is mitigated in two ways: (a) using internationally recognized BEEC and MEPS as a starting point is assumed to enhance the quality of the documents produced, increasing the potential for obtaining government approval without drastic changes, and (b) the frequency of monitoring progress is set as bi-annually to ensure that any changes are regularly noted by the project team and reflected in the procurement and consultancy activities under Outcome 4.
	Indicator 7: MEPS suitable for building material in Iraq developed, with the associated labelling scheme and testing procedure	First draft of the MEPS is developed and presented for stakeholders' consultation	Final draft of the MEPS is developed, incorporating comments by stakeholders, and submitted for government approval	The MEPS refers to the localized standards proposed for adoption in Iraq. It is developed as part of the proposed Executive Regulation for EE in Buildings. The targets reflect the development stages of the MEPS document.	- Reports submitted by the Consultants engaged in MEPS development - Minutes of stakeholders' consultation meeting(s)	Bi-annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- The final draft of the MEPS document. - Interviewing stakeholders. - Evidence of MEPS integration in the proposed Executive Regulation submitted to the Government for their approval. - Annual reports by the Steering Committee. - Annual Project QA Report.	

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/ Collection Methods	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid-term Target	End of Project Target						
Outcome 3 Energy Efficiency Center (EEC) is established and capacitated to support the development of EE programs and applications in the buildings sector.	*Indicator 8:* EEC is operational in a building that has been retrofitted, and run by staff capable of providing the services in its mandate	The legal establishment of EEC is finalized, retrofitting of the building is completed, and key staff hired with clear job descriptions	EEC is fully operational, with 40 trained staff (50% men and 50% women) and evidence of effectiveness in the buildings sector in Iraq, including sound management of all ongoing activities under this project. Minimum of 4 workshops.	The establishment of EEC and its success at becoming an operational focal point is a main component of the proposed framework. The targets reflect the legal and physical establishment, i.e. paperwork and retrofitting activities, as well as the actual operation that affects EE development in the buildings sector and support the sustainability of project activities.	- Legal documents of EEC establishment. - Organizational structure and job descriptions for staff. - Tender documents and reports by contractor on retrofitting activities.	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- Site visit to EEC. - Interviewing EEC staff. - Evidence of implementation of retrofitting activities as reported by contractors. - Annual reports by the Steering Committee. - Annual Project QA Report.	The main risk facing the achievement of this outcome is that the legal arrangement for establishing the EEC is obstructed by governmental limitations prohibiting the creation of a PPP with BRESC. It is assumed that the public sector in Iraq is open to long-term engagement with the private sector and accepts the involvement of BRESC in the critical mandates of EEC.
Outcome 4 Testing facility and certification programmes are established under EEC, in accordance with the proposed BEEC and MEPS, to support the implementation of the framework's MVE procedure.	*Indicator 9:* Periodical market inspection is conducted using the equipment in the testing facility	Testing equipment purchased and 10 persons trained on using each (50% men and 50% women). Minimum of 1 workshop.	The first annual inspection report is issued, with recommendations for decision makers and end-users. Minimum of 2 workshops.	The establishment of a testing facility becomes useful only when the equipment can be used by trained personnel to ensure compliance and inform policies.	- Records of training attendance - User manuals for purchased equipment. - First Inspection Report issued by EEC.	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- The testing facility exists with documents showing evidence of equipment purchase and ownership. - Interviewing EEC staff. - Site visits to sample buildings from those reported to have been inspected. - Annual reports by the Steering Committee. - Annual Project QA Report.	Targets are estimated on the assumption that the initial establishment of the facility will be completes during the first 3 years of project implementation. Hence, before TE, the testing facility would be fully operational, and EEC has issued at least one inspection report.

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/ Collection Methods	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid-term Target	End of Project Target						
	Indicator 10: Number of certified Energy Managers and Building Auditors, able to use the adopted MVE procedure to audit EE in buildings, disaggregated by affiliation, age, and gender, provided that certification is issued upon successful completion of the theoretical and practical components of the training	20 persons, each conducting audits for at least two buildings and issuing reports per the MVE procedure (50% men and 50% women). Minimum of 2 workshops.	100 persons, each conducting audits for at least two buildings and issuing reports per the MVE procedure (50% men and 50% women). Minimum of 6 workshops.	This training has a practical component, hence, the number of people achieving successful completion is used as an indicator of effective training provision.	- Reports submitted by the Consultants engaged in developing certification programmes and capacity building activities - Records of training attendance	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- Agreements with training providers. - Certificates issued to trainees, and the audit reports they issued during the practical component of their training. - Site visits to sample buildings from those reported to have been audited. - Annual reports by the Steering Committee. - Annual Project QA Report.	Targets are estimated on the assumption that certification rounds would be held bi-annually, attended by 20 persons per round. By Year 3, EEC should be operational and at least one training round is completed, followed by at least 4 more rounds before project end. This translates to 20 persons certified by MTR, and 100 persons by TE.
Outcome 5 Coordination between national parties for the enforcement of existing policies and strategies, including the Iraqi building code, is strengthened.	*Indicator 11:* Number of staff trained on the operationalizatio n of the developed Data Flow Diagram (DFD), including data management, public-public and public-private cooperation on EE in buildings (disaggregated by affiliation, age, and gender)	An overarching DFD is developed in consultation with the entities involved in its implementatio n, including representative s from the private sector.	The DFD is operationalized and 10 persons at each entity included in the chart receive training on its use (30% policy makers and 70% practitioners, as applicable, with 50% men and 50% women). Minimum of 4 workshops.	The DFD refers to the chart mapping the information exchange and interaction between the parties engaged in the operationalization of the proposed framework. The targets reflect the development stages of the regulation document, and its operationalization by trained staff.	- Reports submitted by the Consultants engaged in framework development - Minutes of stakeholders' consultation meeting(s)	Bi-annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- The final approved DFD. - Manual and training material developed for operationalizing the DFD. - Evidence of data exchanged in accordance with the developed DFD. - Annual reports by the Steering Committee. - Annual Project QA Report.	The main risk facing the achievement of this outcome is that no consensus is achieved on the roles and responsibilities of the different actors in the energy and buildings sectors in relation to EE in buildings. Targets are estimated on the assumption that continuous consultations will lead to an agreement by the parties.

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/ Collection Methods	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid-term Target	End of Project Target						
Outcome 6 **The awareness of practitioners involved in the buildings sector, as well as end-users of electricity, on EE regulation and best practices is strengthened.**	*Indicator 12:* Number of participants in training workshops and marketing events, with surveys filled before and after participation to assess the effectiveness of the activities and collect information on how to improve, disaggregated by affiliation, age and gender	200 participants filling surveys, including 50 persons receiving ToT certification (50% men and 50% women). Minimum of 4 workshops/ events.	600 participants filling surveys, including 150 persons receiving ToT certification, with evidence showing that the results from previous surveys are studied and taken in consideration in planning new activities (50% men and 50% women). Minimum of 8 workshops/ events.	Every training workshop and public event will have a survey forms to assess the effectiveness of the activities performed, hence, this indicator is concerned with the volume of data collected in surveys, not in the number of participants in the abstract.	- Reports submitted by the Consultants engaged in communication campaigns and capacity building activities - Records of training attendance - The awareness raising plan with schedule for events	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- Surveys filled by participants and trainees. - Handbooks developed for training workshops. - Brochures, information packages and promotional material developed for the awareness raising and communication campaigns. - Annual reports by the Steering Committee. - Annual Project QA Report.	Targets are estimated on the assumption that every year, at least one awareness raising event, one technical training workshop, and one ToT are conducted, attended by 100, 50 and 50 persons, respectively. By Year 3, EEC should be operational and at least one training round is completed, followed by at least 2 more rounds before project end. This translates to 200 persons surveyed by MTR, and 600 persons by TE.
Outcome 7 **A Knowledge Management (KM) system is developed, and best practices are catalogued through conducting exchange missions to other countries.**	*Indicator 13:* Number of people gaining access to the online portal and surveyed to assess the effectiveness of the system and collect information on how to improve, disaggregated by affiliation, age and gender	500 persons (initial launching), including a short survey on the first visit	2,000 persons, with annual surveys and evidence showing that the results are studied and taken in consideration when updating the system	The platform becomes useful when it is accessible, with evidence of being informative to users. Therefore, the number of people visiting the platform and providing feedback is used as an indicator that the reach out is achieved. The disaggregation will indicate the diversity and advise improvement to enhance inclusivity.	- Reports submitted by the Consultants engaged in KM system development - Data collection plans by EEC	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- Surveys filled by participants and trainees. - Virtual tour on the platform. - Annual reports by the Steering Committee. - Annual Project QA Report.	Targets are estimated per consultation with national stakeholders on the assumption that target groups from different cities in Iraq have internet access and the required knowledge to look for information online.

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/ Collection Methods	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid-term Target	End of Project Target						
	Indicator 14: Number of catalogues developed to show-case best practices in EE in buildings and reflect the knowledge obtained via exchange missions (one catalogue per mission)	One catalogue documenting the knowledge obtained from at least one exchange mission	Two catalogues documenting the knowledge obtained from at least two exchange missions to two different countries (one mission per country)	Conducting the missions may not necessarily result in knowledge production and sharing. The catalogues refer to the documents summarizing the outcomes of the exchange missions, hence used as an indicator instead of the number of missions or number of people attending the missions.	- Mission countries assessment report and selection criteria - Mission plans	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- The final catalogues. - Evidence of catalogues dissemination to share the knowledge obtained with national parties. - Interviewing people who attended the missions. - Annual reports by the Steering Committee. - Annual Project QA Report.	Targets are estimated on the assumption that the allocated budget will allow for conducting two exchange missions during the project lifetime.
Outcome 8 **A Monitoring and Evaluation (M&E) system is developed to track and document progress and impacts of EE initiatives and support the sustainability of EE interventions in the buildings sector.**	*Indicator 15:* The M&E system is operational and EEC staff are capable of issuing annual reports to advise policy makers and practitioners on aspects of improving EE in the buildings sector in Iraq	One report issued by the M&E team in accordance with the institutional and inventory mechanisms developed	Three reports issued by the M&E team in accordance with the institutional and inventory mechanisms developed, with evidence of follow-up activities on the recommendations in earlier reports	The ability to issue M&E reports in good quality is used as an indication on the successful operational of a good M&E system.	- Reports submitted by the Consultants engaged in M&E System development - Records of training attendance	Annually	National Project Coordinator, supported by M&E Officers from EEC, when established	- M&E reports. - Interviewing EEC staff members recorded to have received training on the developed system and responsible for its operation. - Annual reports by the Steering Committee. - Annual Project QA Report.	Targets are estimated on the assumption that M&E reports will be issued annually. By Year 3, EEC should be operational and at least one report is completed, followed by at least 2 more reports before project end. This translates to one report by MTR, and three by TE.

Annex 7: UNDP Risk Register

#	Description	Risk Category	Likelihood & Impact	Risk Treatment / Management Measures	Risk Owner
1	Inability to maintain the political will required to introduce a new Executive Regulation for EE in buildings and to enforce building codes and standards	Political	Without political will, the developed framework will not be approved, jeopardizing the sustainability of the project strategy. *Level: Substantial* *L = 3* *I = 5*	The Iraqi Government has the interest to implement this project. The stakeholders consulted during project development considered that this project will play a crucial role to close the gap between electricity supply and demand. Existing strategies at the national and local levels as well as legal frameworks will provide a conducive environment to execute EE development. During implementation, the project team will also ensure an inclusive, participatory approach at the local level, involving all key stakeholders. In addition to developing the data flow diagram to facilitate the collaboration on EE enhancement, a clear institutional arrangement will be established that facilitate coordination between the national, regional, and local levels of government.	UNDP CO, in their capacity as the project's Implementing Partner
2	Inability to link EE promotion to energy pricing strategy	Political	In the presence of high subsidies on electricity tariffs, rolling out of EE measures will be more challenging and less impactful. *Level: Moderate* *L = 4* *I = 3*	By involving all stakeholders in the energy and buildings sectors in the framework discussion, the project will promote an inclusive national energy debate and policy dialogue at high level. Based on the input to be obtained from the different parties, the proposed framework could potentially include government support schemes for the transition from high subsidies, to lower subsidized linked to efficient consumption in the buildings sector.	UNDP CO, in their capacity as the project's Implementing Partner
3	Lack of coordination amongst various stakeholders and partners involved in EE deployment in Iraq	Organizational	Without intra-government collaboration and consensus among stakeholders, rolling out of EE measures will be more challenging and less impactful. *Level: Moderate* *L = 1* *I = 5*	The integration of stakeholder consultations in different outcomes will support EE deployment in Iraq and staying in line with national strategies and programmes by other donors. The project management will include a steering committee comprising ministries and public entities involved in EE sector in addition to representatives from the private sector. Coordination responsibilities are also one of the pillars of EEC establishment, where it has been recognized during project development that continuous collaboration requires a dedicated focal point, mandated to ensure the alignment of the efforts put by different actors to promote EE in the buildings sector.	UNDP CO, in their capacity as the project's Implementing Partner

#	Description	Risk Category	Likelihood & Impact	Risk Treatment / Management Measures	Risk Owner
4	Lack of cooperation by the private sector	Organizational	Without private sector cooperation, rolling out of EE measures will be more challenging and less impactful. *Level: Moderate* *L = 3* *I = 3*	The private sector is a key player in the development of the buildings sector worldwide. Project developers are naturally profit-driven. They are required to comply with national laws but enforcing laws without their engagement could lead to their withdrawal from the market. Hence, the project will ensure engagement of the private sector by recognizing them as a partner in the establishment of EEC. The development of EEC as a PPP will help ensure that project and post-project EE-related activities can speak to the internationally changing market environment and encourage EEC to identify and promote new market opportunities and mutual benefit for project developers and end users.	UNDP CO, in their capacity as the project's Implementing Partner
5	Government and/or international donors will not provide financial incentives for rolling out EE in buildings, or lack agreement on a suitable financing instrument	Financial	Without financial schemes and incentives, rolling out of EE measures will be more challenging and less impactful. *Level: Substantial* *L = 3* *I = 4*	In its approach towards building upon existing work, the project does not intend to develop a new financing mechanism for EE in buildings, rather plans to engage with existing financing mechanisms and incentive schemes offered by the government and international donor agencies, loans facilitated by commercial banks, and ongoing initiatives by NGOs, to build the connection between the entities providing financing instruments and potential beneficiaries. Private sector engagement in the establishment of EEC will also support the engagement of investors and developers in the localization of codes and standards to ensure they're well suited for the Iraqi buildings sector.	UNDP CO, in their capacity as the project's Implementing Partner
6	The Government approves to the proposed framework but lacks the ability to effectively enforce the associating MVE procedure despite endorsement by stakeholders	Operational	Without a unified MVE procedure, the developed codes and standards cannot be operationalized. *Level: High* *L = 5* *I = 5*	This risk will be mitigated by (1) demonstrating the national economic benefits of the proposed changes to encourage voluntary adoption, and (2) carrying out capacity building activities for public officials and EEC staff. The establishment of a linkage between the policies and the MVE procedure requires early involvement of related ministries, achieved by integrating stakeholder consultations in all project outcomes. Actual case studies that show costs and the associated savings by implementation of EE measures will be explored during exchange mission. Information will be disseminated as part of the broader knowledge sharing activity.	UNDP CO, in their capacity as the project's Implementing Partner

#	Description	Risk Category	Likelihood & Impact	Risk Treatment / Management Measures	Risk Owner
7	Inability to establish EEC as a national focal point that has coordination mandates and a testing facility with procedure for inspection, labeling and certification	Operational	Without a focal point with tools for testing, some of the developed codes and standards cannot be operationalized. *Level: Substantial* *L = 2* *I = 5*	To mitigate this risk, the project outcomes have been expanded such that the outcomes related to EEC establishment, the development of MVE procedure, and the establishment of a testing facility, are emphasized. The capacity building activities have also been expanded to ensure different stakeholders are trained on the use of testing equipment, buildings' inspection, and reporting in accordance with the proposed MVE procedure, such that the knowledge production is not confined within the institutional setup of the EEC. In case the particular private sector company does not succeed in achieving its co-financing commitments, other similar companies are expected to utilize the deliverables from the projects. This includes investing in the areas related to the updated building code or the techniques adopted in the EEC building. For public sector co-finance, the amount is mainly provided to cover salaries of existing permanent staff whose time will be used in the EEC establishment and operation, and the implementation of other project-related activities, such as improving the building code, participating in awareness campaigns, committees, training programmes, etc. In case the co-finance is not realized, the project team will seek to mobilize resources from other ministries, as relevant.	UNDP CO, in their capacity as the project's Implementing Partner

8	Persistence of COVID-19 until project start and/or throughout project implementation, and/or spread of similarly communicable diseases among the population.	Other: Health	The implementation of the project during a pandemic can potentially lead to: - Change in national priorities and context - Procurement delays due to restrictions on imports - Exposure risks for the project team, consultants, partners, and communities during implementation *Level: Substantial* *L = 5* *I = 3*	In consideration of COVID-19, the project team followed the following approach during PPG development: - Regulations from the Government of Iraq and the United Nations Assistance Mission to Iraq (UNAMI) was followed, leading to the cancellation of the international consultant's field mission. - Preventive measures such as virtual meeting was used to ensure social distancing - Strict use of PPE during the events held physically. The UNDP CO intends to follow the same approach during project implementation and stay up-to-date with the new regulations or recommendations that may come out in the future. Similarly, the objective-level targets of the project have been revisited during PPG development to become more likely attainable. Additional mitigation measures were integrated in the project strategy as follows: - COVID-19 pandemic emphasized the need to prioritize the health sector. By maintaining the goal of reducing the gap between energy supply and demand as a high priority, the project supports COVID-19 response by facilitating social distancing conditions for people, i.e. enhance the living conditions in buildings, as well as save electricity in the domestic sector to be diverted to more reliable usage in health facilities. - Procurement of material and goods for retrofitting activities will consists of locally available products, unless otherwise advised by the consultants and contractors. For the procurement of testing equipment, the outcome dedicated to the establishment of a testing facility has been scheduled to start in Year 2 of project implementation. The activities involving procurement may be shifted further, as necessary, taking into consideration the 5 years implementation period. - The project will follow UN and host country regulations in terms of social distancing and travel restrictions, abiding by WHO guidelines for preventive measures.[14] In addition, the project will focus on virtual activities whenever possible, including online consultation meetings and capacity building workshops. The project budget also allocated fees for national consultants to support international consultants on all components. This strategy aims to engage	UNDP CO, in their capacity as the project's Implementing Partner

#	Description	Risk Category	Likelihood & Impact	Risk Treatment / Management Measures	Risk Owner
				national experts in project implementation to ensure its sustainability, but also to ensure continuity and enhance the ability of the project team to maintain the workflow whether the international consultants were able to conduct field missions or carried home-based assignments to comply with travel restrictions in their home countries and/or in Iraq. Furthermore, the project approach to knowledge sharing is to create an online platform. The reliance on remote knowledge dissemination serves to expand the reach out, but also to ensure continuity during pandemic crises without putting the different target groups at exposure risks. The above was analyzed form project design perspective. However, COVID-19 risks were also studied by the project team from an Environmental and Social perspective as part of the development of the project's SESP and ESMF (see Risk 4 in both documents on the Spread of communicable diseases such as COVID-19 among the population).	
9	Continuing security risks due to post-war challenges.	Other: Security	Lack of security imposes restrictions on mobility of people and goods. It also increases the risk of theft or damage, prohibiting the investment in equipment requiring upfront capital. *Level: High* *L = 4* *I = 5*	UNDP has been implementing many projects during ISIS period between 2014 and 2017. The UNDP Country Office is communicating with the Government of Iraq and most of its ministries on a daily basis and an UNDP will follow the security arrangement of the UN mission in Iraq in accordance with the security regulations and policies of UNAMI and UNDSS. In addition, project staff will be within the Green Zone in Baghdad. With regards to the investment in testing equipment, it has been agreed during stakeholder consultations that the testing facility will be situated in the EEC building. Security arrangement for the building will be developed if needed.	UNDP CO, in their capacity as the project's Implementing Partner

[14] WHO (2020). Considerations for public health and social measures in the workplace in the context of COVID-19 (https://apps.who.int/iris/rest/bitstreams/1277575/retrieve)

10	Possible effects of climate change on the environment and living conditions in Iraq	Social and Environmental	Possible effects of climate change include: - Increase in ambient temperature, leading to prolonged heat waves, erratic precipitation, higher than average temperatures and increased disaster intensity. - Intense droughts, declining precipitation, desertification, salinization, and the increasing prevalence of dust storms may also be observed. *Level: Moderate* *L = 4* *I = 2*	The Climate Risk Analysis for the project shows that: 1. The key aspects of the climate change projects/scenarios at the project location[15] indicate that many of the climate change impacts which are already evident includes rising temperatures, intensifying droughts, declining precipitation, increasing salinization, and the heightening prevalence of dust storms. Observed changes in Iraq's climate are well established. Averaged over the 1950-2010 period, average temperatures have been increasing at a rate of about 0.7°C per century. Over the same period, average rainfall in the southeast part of the country has been decreasing at a rate of about 0.88 mm/month per century while the number of rainy days has also been decreasing. The frequency of dust and sandstorms has also been increasing across Iraq, with dry and dusty winds from the northwest occasionally reaching 108 km/hour at 300 meters above ground from April to early June and again from later September through November. While the maximum number of annual dust storms during 1951-1990 was about 24, sources suggest that within the next ten years Iraq could witness 300 sand dust storms per year due to climatic changes within the region, especially decreases in annual rainfall, as well as the drying of marshland areas. Recurrent drought is also common throughout Iraq and has produced enormous economic, environmental, and social impacts. For example, the average number of drought episodes per decade in the Basrah region increased from 22 during 1990-2000 to 35 during 2000-2010,[16] sparking the development of drought risk management plans in coordination with multilateral organizations. 2. The above climate change impact on the project is assessed to be moderate during the project lifetime (Moderate risk - Impact from climate change may occur, but will be limited, transient or manageable. Financial, environmental and social underperformance or failure is unlikely. The system has the capacity to manage volatility, shocks, stressors or changing climate trends).	UNDP CO, in their capacity as the project's Implementing Partner

[15] See for example: Sissakian, V., Al-Ansari, N., and Knutsson, S., 2013. Sand and dust storm events in Iraq, Natural Science, Vol.5, No.10, 1084-1094; or Yu, Y., M. Notaro, O. V. Kalashnikova, and M. J. Garay, 2015, Climatology of summer Shamal wind in the Middle East, J. Geophys. Res. Atmos., 120, doi:10.1002/2015JD024063

[16] Agha, O., and Şarlak, N., 2017. Analysis of meteorological drought in Iraq using the Reconnaissance Drought Index (RDI). International Journal of Advanced Research 5(3):473-479.

				3. The project is located in Baghdad City. Baghdad City is exposed climate change risks mainly related to increase of ambient temperature during the summer season which may reach more than 50 °C. Baghdad City also suffers from a clear state of surface urban heat island (SUHI), were the temperature difference between urban built areas in comparison with surrounding rural areas is about 17 °C and has a high-risk level of climate change for B1, A2 and A3 IPCCC scenarios for 2050 and 2100 from increased temperature levels. The most vulnerable groups are the those with low-income levels, low access to infrastructure, elderly (above 65 years), young children (below 5 years) and the sick especially those in health centres. As mitigation measures the project will employ best practices EE technologies in two selected pilot buildings to mitigate the impact of the increasing temperatures[17,18]. Dedicating resources to enhance and promote EE in buildings is in line with Iraq's overall mitigation strategy for climate change. The adoption of BEEC and MEPS for buildings is both, a mitigation measure by helping reduce energy consumption and the consequent GHG emissions, as well as an effective form of adaptation to some climate change impacts, by providing buildings that enhances the living conditions for residents and users. The developed BEEC will introduce passive design aspects and climate-responsive building techniques to reduce the effect of heat and reduce demand on energy for cooling, while the MEPS will promote the use of eco-friendly building material, appropriate to the specific location of the buildings constructed. Taking in consideration Iraq's overall strategy towards mitigation and adaptation to climate change will also be part of the development of the regulatory and institutional framework through the SESA, especially since the project's approach to policy and regulations is to focus on operationalization rather than adding new laws and legislations. Lastly, the project has an outcome for raising awareness and reaching out to practitioners and consumers with information on EE in buildings. The knowledge sharing will reflect the country-specific climate change risks and attempt to direct people towards seeking to reside in buildings that reduce energy demand and support a low-carbon economy.	

#	Description	Risk Category	Likelihood & Impact	Risk Treatment / Management Measures	Risk Owner
11	Poor communities are economically affected by new EE requirements for buildings.	Social and Environmental	*Level: Moderate* *L = 3* *I = 3*	The Environmental and Social Management Framework (ESMF) requires the preparation of an ESMP at the beginning of the project. A participatory process will be undertaken with potentially affected communities to ensure that the proposed regulations will not affect vulnerable groups. This process will also ensure that awareness is raised on cost savings from adopting EE measures.	UNDP CO, in their capacity as the project's Implementing Partner
12	Limiting women's ability to benefit from the proposed project and reproduce discriminations against women	Social and Environmental	*Level: Moderate* *L = 3* *I = 3*	A Gender Analysis and Gender Action Plan have been developed during project preparation.	UNDP CO, in their capacity as the project's Implementing Partner
13	Occupational health and safety risks associated with the retrofitting activities	Social and Environmental	*Level: Moderate* *L = 2* *I = 3*	The ESMP will address the occupational health and safety risks associated with retrofitting of the EEC and include an Occupational Health and Safety Plan to ensure that workers are safe during the retrofitting activities.	UNDP CO, in their capacity as the project's Implementing Partner
14	Potential health and safety risks to the local community from exposure to hazardous material	Social and Environmental	*Level: Moderate* *L = 2* *I = 3*	The ESMP will address the risks associated with handling, disposal or recycling of existing building materials and devices/appliances such as old CFLs and FLs containing mercury, old and energy inefficient ACs for the retrofitting of the EEC. It will describe measures on safe handling, storage, and disposal of these hazardous material.	UNDP CO, in their capacity as the project's Implementing Partner

[17] "Climate change risk assessment in Baghdad: examining population vulnerability" M F Abdulateef, H A S Al-Alwan, 2021
[18] "Assessing of Climate Chang on Iraq using Meteonorm Weather Generator", Iqbal H. Abd AlKareem, 2016

#	Description	Risk Category	Likelihood & Impact	Risk Treatment / Management Measures	Risk Owner
15	Release of pollutants to the environment from the improper storage, transport, and disposal of generated waste	Social and Environmental	*Level: Moderate* *L = 2* *I = 3*	The ESMP will ensure proper handling and disposal of non-EE material, appliances, and devices from the EE center retrofitting activities. This includes the proper design and implementation of the EE retrofits that includes concerns on the disposal or recycling of existing building materials and devices/appliances such as old CFLs and FLs (containing mercury) and old energy inefficient AC units (containing banned refrigerants). The ESMP will adopt best practices outlined in the Basel Convention and ICF International (2018) prepared for the USEPA-ODS Destruction in the United States and Abroad.	UNDP CO, in their capacity as the project's Implementing Partner

Annex 8: Overview of Project Staff and Technical Consultancies

Consultant	Time Input	Tasks, Inputs and Outputs
For Project Management (See Budget Note 30)		
Local / National contracting		
Project Manager (PM) *Rate: $300/week*	40 weeks/year, over 5 years *Total value of about $60,000*	*The PM, together with the Lead Technical Advisor will be responsible for the overall management of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors.* *Duties and Responsibilities* • *Manage the overall conduct of the project.* • *Plan the activities of the project and monitor progress against the approved workplan.* • *Execute activities by managing personnel, goods and services, training and low-value grants, including drafting terms of reference and work specifications, and overseeing all contractors' work.* • *Monitor events as determined in the project monitoring plan, and update the plan as required.* • *Provide support for completion of assessments required by UNDP, spot checks and audits.* • *Manage requests for the provision of UNDP financial resources through funding advances, direct payments or reimbursement using the FACE form.* • *Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports.* • *Monitor progress, watch for plan deviations and make course corrections when needed within project board-agreed tolerances to achieve results.* • *Ensure that changes are controlled and problems addressed.* • *Perform regular progress reporting to the project board as agreed with the board, including measures to address challenges and opportunities.* • *Prepare and submit financial reports to UNDP on a quarterly basis.* • *Manage and monitor the project risks – including social and environmental risks - initially identified and submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;* • *Capture lessons learned during project implementation.* • *Prepare revisions to the multi-year workplan, as needed, as well as annual and quarterly plans if required.* • *Prepare the inception report no later than one month after the inception workshop.*

Consultant	Time Input	Tasks, Inputs and Outputs
		• *Ensure that the indicators included in the project results framework are monitored annually in advance of the GEF PIR submission deadline so that progress can be reported in the GEF PIR.* • *Prepare the GEF PIR;* • *Assess major and minor amendments to the project within the parameters set by UNDP-GEF;* • *Monitor implementation plans including the gender action plan, the ESMP and the SEP;* • *Monitor and track progress against the GEF Core indicators.* • *Support the Mid-term review and Terminal Evaluation process.* • *Add technical tasks as necessary*
Project Coordinator *Rate: $125/week*	40 weeks/year, over 5 years *Total value of about $25,000*	*Duties and Responsibilities* *Under the guidance and supervision of the PM, the Project Assistant will carry out the following tasks:* • *Assist the Project Manager in day-to-day management and oversight of project activities;* • *Assist the M&E officer in matters related to M&E and knowledge resources management;* • *Assist in the preparation of progress reports;* • *Ensure all project documentation (progress reports, consulting and other technical reports, minutes of meetings, etc.) are properly maintained in hard and electronic copies in an efficient and readily accessible filing system, for when required by PB, TAC, UNDP, project consultants and other PMU staff;* • *Provide PMU-related administrative and logistical assistance.*
Finance officer *Rate: $125/week*	24 weeks/year, over 5 years *Total value of about $15,000*	*Duties and Responsibilities* • *Keep records of project funds and expenditures, and ensure all project-related financial documentation are well maintained and readily available when required by the Project Manager;* • *Review project expenditures and ensure that project funds are used in compliance with the Project Document and GoI financial rules and procedures;* • *Validate and certify FACE forms before submission to UNDP;* • *Provide necessary financial information as and when required for project management decisions;* • *Provide necessary financial information during project audit(s);* • *Review annual budgets and project expenditure reports, and notify the Project Manager if there are any discrepancies or issues;* • *Consolidate financial progress reports submitted by the responsible parties for implementation of project activities;* • *Liaise and follow up with the responsible parties for implementation of project activities in matters related to project funds and financial progress reports.*

Consultant	Time Input	Tasks, Inputs and Outputs
International / Regional and global contracting		
Lead Technical Advisor *Rate: $500/week*	*10 weeks/year, over 5 years* *Total value of about $25,000*	*The Lead Technical Adviser will be responsible for providing overall technical backstopping and management support to the Project. The ToR for this role shall include the following responsibilities:* • *Ensure all technical reports, equipment, deliverables and any other products or specific terms of references that are produced or purchased by the project are at highest appropriate quality;* • *Facilitate access of UNDP technical teams as per their oversight role to any technical products and deliverables of key activities both in terms of ad hoc requests and standard procedures.*
For Technical Assistance		
Component 1: Enabling regulatory and institutional framework is designed to promote EE in the buildings sector, including the development of Buildings Energy Efficiency Codes (BEEC) and Minimum Energy Performance Standards (MEPS) for buildings		
Local / National contracting (see Budget Note 2)		
EE National Experts *Rate: $300/week*	43 weeks/year, over 5 years *Total value of about $64,500*	*The purpose of this consultancy is to support the overall project implementation with continuous technical support and advice. The experts will be involved for the full duration of the project under long-term consultancy contracts. The consultants will act as the technical arm of the UNDP CO and will be coordinating the work with national and international consultants involved in project implementation.*
Regulations Development National Specialist *Rate: $275/week*	36 weeks/year, over 5 years *Total value of about $49,500*	*The purpose of this consultancy is to support the international consultant on the task of developing new regulation, including support on data collection, translation of documents and interpretation during meetings. The national specialists will also be contributing to the domestication of the selected standards to align with existing policies, standards, codes, and climatic conditions in Iraq.*
Training Facilitators and Capacity Building National Specialists *Rate: $200/week*	36 weeks/year, over 5 years *Total value of about $36,000*	*The purpose of this consultancy is to support to the project team with conducting the necessary training workshops, stakeholder consultation meetings and other capacity building activities involved in creating social dialogue on the new EE framework and the associating standards with the goal of reaching consensus on the drafts to be submitted for government approval at project end.*
International / Regional and global contracting (see Budget Note 1)		
Energy Efficiency in Buildings Expert *Rate: $700/week*	20 weeks/year, over 4 years *Total value of about $56,000*	*The purpose of this consultancy is to study the buildings sector in Iraq and the most promising EE measures which the new regulation should promote, as well as the feasibility of implementing retrofitting activities to existing buildings.*

Consultant	Time Input	Tasks, Inputs and Outputs
EE Regulations and Policy Development Expert *Rate: $650/week*	20 weeks/year, over 4 years *Total value of about $52,000*	*The purpose of this consultancy is to analyze exiting regulations and policies of relevance to EE and buildings in Iraq, and develop an EE Executive Regulation focusing on EE in the buildings sector, taking into account the standards under development by other consultants.*
EE Standards Development Expert *Rate: $650/week*	*20 weeks/year, over 4 years* *Total value of about $52,000*	*The purpose of this consultancy is to study existing BEEC and MEPS and create a comparative analysis of their suitability for adoption in Iraq, followed by domestication of the selected BEEC and MEPS to be included as part of the EE Executive Regulations under development by other consultants.*
Component 2: The Energy Efficiency Center (EEC) is established with mandate for advancing EE measures in the buildings sector through providing technical advice to the public, training to practitioners, and supporting the implementation of the proposed MVE procedure		
Local / National contracting (see Budget Notes 6, 7 and 9)		
National Consultant with engineering background *Rate: $500/week*	40 weeks/year, over 2 years *Total value of about $40,000*	*The purpose of this consultancy is to oversee EEC building retrofitting activities and facilitate the communication and reporting between the international energy auditors and the contracting office implementing the works on the ground.*
National Consultant with quality assurance background *Rate: $400/week*	32 weeks/year, over 3 years *Total value of about $38,400*	*The purpose of this consultancy is to oversee the establishment and operation of the testing facility. This includes facilitating the communication and reporting between the international testing expert and the procurement team in charge of the logistics of purchasing equipment. It also includes involvement in the preparation of Arabic versions of the user manuals for the purchased equipment.*
National Consultant with HR background *Rate: $340/week*	32 weeks/year, over 3 years *Total value of about $32,600*	*The purpose of this consultancy is to support international consultants on performing their organziational development plans for EEC and working closely with national stakeholders on the establishment of EEC and the recruitment of suitable hires for the positions identified.*
Capacity Building and ToT National Specialists *Rate: $325/week*	40 weeks/year, over 3 years *Total value of about $39,000*	*The purpose of this consultancy is to support to the project team with conducting the necessary training workshops, stakeholder consultation meetings and other capacity building activities involved in the establishment of EEC, operating the testing facility and running the certification programme to be developed to provide ToT for energy managers and buildings auditors.*

Consultant	Time Input	Tasks, Inputs and Outputs
Contractual services – Individuals	$142,000 over 5 years	*These service providers will be responsible for:* - *Undertaking a Strategic Environmental and Social Assessment (SESA) and development of the project's Environmental and Social Management Plan (ESMP) in accordance with the UNDP Guidelines for Social and Environmental Safeguards (SES). The SESA and ESMP should be developed during Year 1 of project implementation. Additional costs for ESMP implementation is included under the project's M&E budget.* - *The development and implementation of all procurement activities under the project. The work constitutes developing a Procurement Plan for the project, including goods and materials for EEC retrofitting and equipment for the establishment of a testing facility, as well as managing the tendering processes and supporting the UNDP CO with managing the shipping, customs clearance and other logistics. The Procurement Plan will be reviewed and approved by the international consultants involved in both activities prior to the actual purchase of goods.* *It is recommended that the contract for these services is awarded to a consortium consisting of national and international experts, to ensure quality, contextualization, and knowledge production and transfer.*
Contractual services – Companies	$150,000 over 3 years	*This service provider will be responsible for the retrofitting of EEC building, including construction works and installation of new windows as may be required based on the recommendations of the Audit Expert. It is recommended that the contracts for these services are awarded to consortiums involving national and international companies and individuals, to ensure quality, contextualization, and knowledge production and transfer.*
International / Regional and global contracting (see Budget Note 5)		
Energy Audit Expert *Rate: $650/day*	40 days, over 1 year *Total value of about $26,000*	*The purpose of this consultancy is to perform an Energy Audit for the building to be selected for EEC establishment and provide detailed recommendations for the retrofitting activities required to transform it into a demonstration for best-practice for EE in buildings. The consultant will also be involved in the tendering for the contractor to undertake the retrofitting work and approving the Procurement Plan for EEC retrofitting.*
EE Equipment and Testing Expert *Rate: $650/week*	40 weeks, over 1 years *Total value of about $26,000*	*The purpose of this consultancy is to support the identification of suitable testing equipment in accordance with the developed standards and manage the procurement process for the establishment of testing facility within the EEC. The consultant will also be responsible for involved in reviewing the price offers from suppliers and approving the Procurement Plan for the testing equipment.*

Consultant	Time Input	Tasks, Inputs and Outputs
Organizational Development and Operationalization Expert *Rate: $500/week*	20 weeks/year, over 4 years *Total value of about $40,000*	*The purpose of this consultancy is to assess the resources and capacities required to operationalize the developed framework and support the organizational development of the EEC to be well-equipped to operate as a focal point to promote EE in general, and to support the UNDP CO with managing the implementation of this project.*
Capacity Building and ToT Experts in Energy Management and Building Audits *Rate: $500/week*	24 weeks/year, over 3 years *Total value of about $36,000*	*The purpose of this consultancy is to design a training programme for EEC staff, including those to be involved in its management and operation, the individuals hired to operate and maintain the equipment at the testing facility, as well as the team to be responsible for the certification programme designed to create the national capacity for energy management and auditing.*
Component 3: Individual and institutional capacity and EE technical knowledge and expertise are strengthened to enhance the ability of national parties to develop and operationalize EE policies, regulations, technical codes, and performance standards in the buildings sector		
Local / National contracting (see Budget Notes 17, 18 and 19)		
Intra-government Collaboration National Specialist *Rate: $350/week*	34 weeks/year, over 4 years *Total value of about $47,600*	*The purpose of this consultancy is to facilitate the operationalization of the developed DFD and support intra-government collaboration on data collection and exchange in relation to policies, programmes and initiatives addressing the issue of EE in the buildings sector.*
Media and Communication National Specialists *Rate: $348/week*	31 weeks/year, over 4 years *Total value of about $43,150*	*The purpose of this consultancy is to support the work of the service provider contracted to undertake awareness raising campaigns and act as the point of contact for their consultants and national stakeholders, including news media.*
Capacity Building and ToT National Specialists *Rate: $325/week*	30 weeks/year, over 3 years *Total value of about $29,250*	*The purpose of this consultancy is to support to the project team with conducting the necessary training workshops, stakeholder consultation meetings and other capacity building activities involved in the building the individual and institutional capacity to operationalize the developed framework and raising awareness to the importance of EE in buildings.*
Contractual services – Individuals	$70,000 over 3 years	*This service provider will be responsible for the design and implementation of a multi-year awareness raising campaign with the goal of creating a social dialogue on the proposed EE Executive Regulation, providing platforms for knowledge sharing on the technical aspects of EE in buildings, and promoting the implementation of EE measures to reduce energy consumption and the associating GHG emissions. It is recommended that the contract for these services is awarded to a consortium consisting of national and international experts, to ensure quality, contextualization, and knowledge production and transfer.*
Contractual services – Companies	$80,000 over 4 years	*This service provider will be responsible for performing a market analysis to identify and promote financial schemes and incentives which can help contractors and building owners finance the adoption of EE material and applying EE measures in their new and existing buildings. The responsibilities under*

Consultant	Time Input	Tasks, Inputs and Outputs
		this contract also include negotiating banks and other funding sources to mobilize resources for supporting national-level deployment of EE in buildings in Iraq. It is recommended that the contract for these services is awarded to a consortium consisting of national and international experts, to ensure quality, contextualization, and knowledge production and transfer.
International / Regional and global contracting (see Budget Note 16)		
Data Management Experts *Rate: $700/week*	35 weeks, over 4 years *Total value of about $98,000*	*The purpose of this consultancy is to develop a data flow diagram for to promote intra-government collaboration and facilitate the data flow in relation to EE programmes and initiatives. The development constitutes analyzing the data collected by entities in the baseline, identifying additional data required per the developed EE framework, design the DFD and work with the different parties on its operationalization. This role will be crucial for the sustainability of all project activities.*
Capacity Building and ToT Experts *Rate: $505/week*	41 weeks/year, over 3 years *Total value of about $62,000*	*The purpose of this consultancy is to support design training manuals and developing technical content for written publications, and later the online portal to be developed for knowledge dissemination.*
Component 4: Monitoring, evaluation and outreach on EE in the buildings sector in Iraq		
Local / National contracting (See Budget Notes b and 27)		
Project Monitoring and Evaluation Officer	*Full-time over 5 years* *Total value of about $10,000*	*<u>Duties and Responsibilities</u>* • *Monitor project progress and participate in the production of progress reports ensuring that they meet the necessary reporting requirements and standards;* • *Ensure project's M&E meets the requirements of the Government, the UNDP Country Office, and UNDP-GEF; develop project-specific M&E tools as necessary;* • *Oversee and ensure the implementation of the project's M&E plan, including periodic appraisal of the Project's Theory of Change and Results Framework with reference to actual and potential project progress and results;* • *Oversee/develop/coordinate the implementation of the stakeholder engagement plan;* • *Oversee and guide the design of surveys/ assessments commissioned for monitoring and evaluating project results;* • *Facilitate mid-term and terminal evaluations of the project; including management responses;* • *Facilitate annual reviews of the project and produce analytical reports from these annual reviews, including learning and other knowledge management products;*

Consultant	Time Input	Tasks, Inputs and Outputs
		• *Support project site M&E and learning missions;* • *Visit project sites as and when required to appraise project progress on the ground and validate written progress reports.*
Project Safeguards Officer *And* *Project Gender Officer*	*Full-time over 5 years* *Total value of about $20,000*	*<u>Duties and Responsibilities for the Safeguards role:</u>* • *Monitor progress in development/implementation of the project ESMP/ESMF ensuring that UNDPs SES policy is fully met and the reporting requirements are fulfilled;* • *Oversee/develop/coordinate implementation of all safeguard related plans;* • *Ensure social and environmental grievances are managed effectively and transparently;* • *Review the SESP annually, and update and revise corresponding risk log; mitigation/management plans as necessary;* • *Ensure full disclosure with concerned stakeholders;* • *Ensure environmental and social risks are identified, avoided, mitigated and managed throughout project implementation;* • *Work with the M&E officer to ensure reporting, monitoring and evaluation fully address the safeguard issues of the project.* *<u>Duties and Responsibilities for the Gender role:</u>* • *Monitor progress in implementation of the project Gender Action Plan ensuring that targets are fully met and the reporting requirements are fulfilled;* • *Oversee/develop/coordinate implementation of all gender-related work;* • *Review the Gender Action Plan annually, and update and revise corresponding management plans as necessary;* • *Work with the M&E officer and Safeguards Officer to ensure reporting, monitoring and evaluation fully address the gender issues of the project.*
National M&E Consultant to support the Mid-term Review	During year 3 *Total value of about $20,000*	*Contracted to support the MTR Consultant on performing the MTR for the project.*
National M&E Consultant to support the Terminal Evaluation	During year 5 *Total value of about $20,000*	*Contracted to support the TE Consultant on performing the TE for the project.*
International / Regional and global contracting (See Budget Notes a and 25, 26 and 27)		

Consultant	Time Input	Tasks, Inputs and Outputs
Environmental and Social Consultant to develop the ESMP for the project	During year 1 *Total value of about $5,000*	*Contracted at project start to develop the ESMP for the project, in accordance with the ESMF prepared as part of the PPG development.*
International M&E Consultant	During year 3 *Total value of about $40,000*	*Contracted to conduct the Mid-term Review for the project, including review of available document, field mission, interviews with stakeholders, providing recommendations, and issuance of the MTR report.*
International M&E Consultant	During year 5 *Total value of about $40,000*	*Contracted to conduct the Terminal Evaluation for the project, including review of available document, field mission, interviews with stakeholders, assessment of lessons learned, and issuance of the TE report.*
Contractual services – Individuals	$100,000 over 4 years	*This service provider will be responsible for the development of an interactive online portal, including data collection strategies through gamification and regular surveys. It is recommended that the contract for these services is awarded to a consortium consisting of national and international experts, to ensure quality, contextualization, and knowledge production and transfer.*
Contractual services – Companies	$150,000 over 4 years	*This service provider will be responsible for the design of project-specific KM and M&E systems, including the identification of the data sets that can be reflective of project achievements, and the associating templates, training manuals, catalogues, GHG inventory, and other tools which will be used by project staff and consultants during the project lifetime. The services under this contract will also include supporting the handover of these activities from the PMU to EEC staff at project end. It is recommended that the contract for these services is awarded to a consortium consisting of national and international experts, to ensure quality, contextualization, and knowledge production and transfer.*

Annex 9: **Stakeholder Engagement Plan**

1 OBJECTIVES OF THE PLAN

This document constitutes the Stakeholder Engagement Plan (SEP) for the project 'Promoting Carbon Reduction Through Energy Efficiency (EE) Techniques in Iraq', which aims to serve as a guide for involving the different stakeholders, as well as those who have some type of interest, in the activities of the project during its entire life cycle.

The Plan's objectives are as follows:

- Facilitate continuous, open, and culturally appropriate communication with the different stakeholders in relation to their activities, progress, and impacts, and results of the project.
- Promote the equal participation of men and women in the different project activities.

Implementing this SEP will facilitate the project's development, reducing the risk for potential conflicts among the interested parties and maximizing the benefits of the research, training, awareness-raising, and education, as the main components of the project.

2 IDENTIFICATION OF STAKEHOLDERS DURING THE PREPARATION PHASE (PPG)

The project identification was based on the assessment of the national energy context and the analysis of the challenges and needs in Iraq, in consultation with Government authorities and private sector entities. To ensure acceptance of the proposed project framework, the project concept embraced the need for the UNDP Iraq, as the implementing partner, to work closely with all national stakeholders, including private developers, architects, experts, as well as civil society organizations, who can provide crucial support in raising national awareness to bring about the necessary behavior change for voluntary adoption of the proposed regulations prior to their enforcement.

During PPG development, consultation meetings were conducted with stakeholders from various entities whose representatives were invited to share their views on the challenges facing low carbon development in Iraq and their suggestions for promoting EE in the buildings sector. This feedback has been taken in consideration for developing the project strategy presented in the Project Document. The following is a list of the stakeholders who have been engaged in the discussion to-date, with the expectation to expand the consultation further during project implementation:

- Ministry of Construction, Housing, Municipalities and Public work (MoCHPMW)
- Ministry of Health and Environment (MoHEn), including representatives from the Department of International Relations, and the Climate Change Center
- Ministry of Electricity (MoE), including representatives from the Department of Environment, and the Section of Energy Efficiency
- Ministry of Higher Education and Scientific Research, including representatives from the Renewable Energy Directorate for Science and Technology, and College of Science at University of Renewable Energy
- Prime Minister Advisory Committee for Energy
- Ministry of Planning (MoP)
- Ministry of Industry and Minerals
- Ministry of Commerce

The private sector is a crucial actor in the deployment of EE measures in the buildings sector in Iraq as it plays important roles as consultancy firms, auditors, architects, contractors, and suppliers of building material. Raising awareness is also more effective when the campaigns by the public and private sectors are aligned. Hence, the consultation sessions with stakeholders during PPG development involved Baghdad Renewable Energy and Sustainability Center (BRESC) as a representative of the private sector and a potential partner in the establishment of EEC. BRESC has been working on promoting renewable energy applications and EE practices. The company is

leading several initiatives including training of engineers on EE labelling, awareness events on sustainability for primary school and higher grades. BRESC aims to invest in EE materials which has a market value inside and outside Iraq and is one of the co-financiers providing cash funds to support this project.

Experience shows that civil society play a vital role in addressing sustainable energy development and environment challenges. Iraqi Government has the principal responsibility for meeting national commitments to the Convention on Climate Change and other global and regional environmental agreements. The civil society will support in translating these commitments into effective action and programs on the ground and will help in ensuring the public endorsement of the National Energy Efficiency Action Plan as they can act as a trusted intermediary entity between communities, government ministries, and the private sector. They could also coordinate with donor-funded climate and energy activities. Close co-operation is also foreseen with all involved national stakeholders and regional and international organizations.

The project will work closely with domestic banks in a consultative approach to develop financial measures and incentive mechanisms attractive for domestic banks.

During implementation, the UNDP, in its capacity as an international donor working in Iraq, could also coordinate with donor-funded climate and energy initiatives dedicated principally to countries with crisis and fragile contexts. For example, the project plans to engage with the work of the Regional Center for Renewable Energy and Energy Efficiency (RCREEE), a center of excellence in the region, and a potential partner to UNDP. Such coordination and collaboration will strengthen this project as well as leverage regional best practices in achieving the policy outcomes for Iraq, and potentially in other countries where both organizations are active.

Regular consultation and meetings will be conducted to present the project outputs and results and collect feedback and approval of national entities to align the project deliverables with the needs of Iraqis. Lessons learned from the project will be shared with all key government and private stakeholders and finally approved and endorsed at the national level.

Other stakeholders will include researchers in the buildings and climate sectors, engineers and architects, relevant educational institutions such as the Iraqi universities, and any relevant associations.

3 MANAGEMENT OF COMPLAINTS AND GRIEVANCES

The management of complaints and grievances is necessary to respond to any legitimate concern, complaint, or grievance that may arise related to the project activities.

3.1 Roles and Responsibilities

These concerns, complaints, or grievances may be received by any person linked to the Project. As such, it will be the responsibility of the Implementing Partner to assign the persons who will serve as the link between those potentially affected and the project.

Addressing the complaints and grievances will be the responsibility of a team comprising a representative of the implementing partner (UNDP), a representative of MoHEn and a representative of the project technical staff. The team will be responsible for the following:

- Address any concern, complaint, or grievance received.
- Follow up with a response/solution to the concern, complaint, or grievance.
- Interact with the claimant.
- Close the complaint or grievance in accordance with the claimant.
- Monitor and evaluate the effectiveness of the mechanism.

3.2 Process

Table 1 presents the procedure for recording, managing, and closing out concerns, complaints, or grievances.

Table 1: Procedure for addressing complaints and grievances

Action	Procedure	Response Time	Form of Communication
Receipt of complaint	Record in the form designed for this action	Immediate	-Telephone -In person

Action	Procedure	Response Time	Form of Communication
			-Email
Step 1	Transfer recorded complaint to the team that addresses the complaints and grievances	Same day as recording the complaint	-Email
Step 2	Analyze the complaint	No more than 1 day after receiving the complaint	-Email -Telephone -In person
Step 3	Response/solution	In the case of complaints that are considered serious: immediately after analyzing the complaint or grievance, a preliminary response will be given to the affected party while investigation takes place. In the case of complaints/grievances that require a site visit, no more than 2 days after the site visit. In the case of complaints/grievances that are easily resolved, a response may be given immediately to the affected party.	-In person -Email -Telephone
Step 4	Closure	Immediately after the solution is implemented and feedback is obtained from the affected party.	-In person
Step 5 (if occurs)	Denial of closure by the affected party	After denial, alternatives will be provided to the affected party for a secondary solution or the corresponding legal procedure.	-In person

4 PROJECT STAKEHOLDER ENGAGEMENT PLAN

Table 2 on the following page presents the stakeholders who will be involved in implementation of the project and their type, in addition to their roles and the project activities they are expected to participate in. This forms the project's SEP which should be implemented and followed upon throughout the project life.

5 MONITORING AND EVALUATION

The Project Board / Steering Committee will monitor the compliance of the Stakeholder Engagement on a regular basis. This will be provided at least quarterly during the first three years of the project and biannually following that. The results of compliance with the SEP will be provided in the project annual report. The Terminal Evaluation will be carried out at the end of the project by the implementing partner at the national level and will include an evaluation of SEP implementation.

Table 2: Project Stakeholder Engagement Plan

Stakeholder	Stakeholder Type	Expected Role and responsibility in project implementation	Activities
UNDP	International organisation	• Implementing Partner (GEF Executing Entity) for this project • Responsible for project implementation in close collaboration with all stakeholders.	• Contribute to the implementation of all project activities/outputs • Ensure implementation of the Gender Action Plan and Environmental and Social Management Framework • Coordinate various donor and NGO efforts and ensure synergy with the project
MoHEn / Department of International Relations, and the Climate Change Center	Government agency	• Focal point for GEF and environmental related issues such as GHG emissions, nationally and international agreements. • Member of the Steering Committee/Project Board • Overall responsibility for the project	• Follow up on all project activities
MoCHPMW	Government agency	• Authorized ministry related to construction, housing, and municipalities, such that EE in buildings is within its mandate and thus will oversee EE activities • Developing legal frameworks, policies and regulations that are transferred to regional and local levels • Develop building codes in cooperation with other ministries. • The Energy Efficiency Center (EEC) will be established as a Public-Private Partnership (PPP)	• Contribute to developing regulatory and institutional framework EE in buildings (Activity 1.1.3) • Participate in stakeholders' consultation meetings (Activity 1.1.4, Activity 1.2.3, Activity 2.1.4, Activity 2.2.4, Activity 8.1.2, Activity 8.2.2), validation workshop (Activity 1.1.6) and periodic meetings (Activity 1.2.5) • Confirm roles and responsibilities in the legal framework (Activity 1.1.5) • Sign PPP for the establishment of EEC (Activity 3.1.1)

Stakeholder	Stakeholder Type	Expected Role and responsibility in project implementation	Activities
		between the MoCHPMW and BRESC.	• Contribute to development of Data Flow Diagram (DFD) (Activity 5.1.3) • Potential participation in training on the proposed regulatory and institutional framework for EE in buildings (Activity 5.2.4)
MoE / Department of Environment, and the Section of Energy Efficiency	Government agency	• Endorsing the project to guarantee the alignment of project implementation with national strategies • Coordinate with MoCHPMW on developing building codes	• Participate in stakeholders' consultation meetings (Activity 1.1.4, Activity 1.2.3, Activity 2.1.4, Activity 2.2.4, Activity 8.1.2, Activity 8.2.2), validation workshop (Activity 1.1.6) and periodic meetings (Activity 1.2.5) • Confirm roles and responsibilities in the framework (Activity 1.1.5) • Contribute to development of DFD (Activity 5.1.3) • Potential participation in training on the proposed regulatory and institutional framework for EE in buildings (Activity 5.2.4)
Ministry of Higher Education and Scientific Research / Renewable Energy Directorate for Science and Technology	Government agency	• Coordinate with MoCHPMW on developing building codes • Benefit from research on EE in buildings	• Participate in stakeholders' consultation meetings (Activity 1.1.4, Activity 1.2.3, Activity 2.1.4, Activity 2.2.4, Activity 8.1.2, Activity 8.2.2), validation workshop (Activity 1.1.6) and periodic meetings (Activity 1.2.5) • Confirm roles and responsibilities in the framework (Activity 1.1.5) • Contribute to development of DFD (Activity 5.1.3) • Potential participation in training on the proposed regulatory and institutional framework for EE in buildings (Activity 5.2.4)
Ministry of Planning (MoP)	Government agency	Coordinate with MoCHPMW on developing building codes	• Participate in stakeholders' consultation meetings (Activity 1.1.4, Activity 1.2.3,

Stakeholder	Stakeholder Type	Expected Role and responsibility in project implementation	Activities
			Activity 2.1.4, Activity 2.2.4, Activity 8.1.2, Activity 8.2.2), validation workshop (Activity 1.1.6) and periodic meetings (Activity 1.2.5) • Confirm roles and responsibilities in the framework (Activity 1.1.5) • Contribute to development of DFD (Activity 5.1.3) • Potential participation in training on the proposed regulatory and institutional framework for EE in buildings (Activity 5.2.4)
Ministry of Industry and Minerals Ministry of Commerce	Government agency	Coordinate with the private sector and improve their engagement in the project when needed	• Participate in stakeholders' consultation meeting is held to present the proposed legal framework (Activity 1.1.4) and validation workshop (Activity 1.1.6) • Confirm roles and responsibilities in the framework (Activity 1.1.5) • Potential participation in training on the proposed regulatory and institutional framework for EE in buildings (Activity 5.2.4)
Regional Center Renewable Energy and Energy Efficiency	Intergovernmental organisation	• Center of excellence in the region • Partner to support leveraging regional best practices in achieving the policy outcomes for Iraq.	• Potential for providing training for future inspectors (Activity 4.2.2 and Activity 4.2.3) • Participate in awareness raising on EE regulation and best practices (Activity 6.1.3) and potential participation as trainers in ToT (Activity 6.1.4) • Participate in knowledge sharing, success stories and social dialogue on EE buildings (Activity 7.1.3)
Private sector including SMEs, researchers, engineers and architects	Private sector	• Support the scaling up of EE technologies introduced by the project, in accordance with the	• Potential for providing and participating in training for future inspectors (Activity 4.2.2 and Activity 4.2.3) and

Stakeholder	Stakeholder Type	Expected Role and responsibility in project implementation	Activities
		building code and other regulations. • Play a vital rule in the operation and maintenance of the Energy Efficiency Center (EEC). • Benefit from research on EE in buildings	conducting audits for buildings (Activity 4.2.4) • Potential participation in training on the proposed regulatory and institutional framework for EE in buildings (Activity 5.2.4) • Participate in awareness raising on EE regulation and best practices (Activity 6.1.3) and potential participation as trainers in ToT (Activity 6.1.4) • Participate in knowledge sharing, success stories and social dialogue on EE buildings (Activity 7.1.3)
BRESC	Private sector	• Private company specialising in renewable energy and sustainability development and member in RCREEE representing the private sector. • EEC will be established as a PPP between MoCHPMW and BRESC	• Participate in all activities related to Outcome 3 and Outcome 4 on the establishment of the EEC
Banking sector	Private sector	• Engagement to provide financial schemes and incentive mechanisms to promote EE buildings investments	• Participate Resource mobilization activities for implementation of financial mechanisms (Activity 6.3.2)
NGOs active with EE or climate change initiatives	Non-governmental organisation	• Help raise awareness and knowledge on EE • Support in ensuring public endorsement of the NEEAP	• Participate in awareness raising on EE regulation and best practices (Activity 6.1.3 And Activity 6.2.4) • Participate in knowledge sharing, success stories and social dialogue on EE buildings (Activity 7.1.3)
Women's Organisations	Non-governmental organisation	• Help raise awareness and knowledge on EE in gender inclusive manner	• Participate in awareness raising on EE regulation and best practices (Activity 6.1.3) • Contribute to ensuring that awareness raising plan and campaigns and events are gender-sensitive and adopt different approaches to reach

Stakeholder	Stakeholder Type	Expected Role and responsibility in project implementation	Activities
			both men and women (Activity 6.2.2 and 6.2.4) • Participate in knowledge sharing, success stories and social dialogue on EE buildings (Activity 7.1.3)
Individual consumers of electricity	Community	• Direct beneficiary of the project • Engaged in the public dialogue on EE in buildings	• Participate in awareness raising on EE regulation and best practices (Activity 6.1.3 And Activity 6.2.4) • Participate in knowledge sharing, success stories and social dialogue on EE buildings (Activity 7.1.3)
Donors of other projects (ex. World Bank)	Funding Agency / International organization	• Coordinate between the various relevant projects in Iraq to benefit from lessons learned and avoid duplication of activities	• Participate in knowledge sharing, success stories and social dialogue on EE buildings (Activity 7.1.3)

Annex 11: Gender Analysis

Introduction

The United Nations (UN) founding Charter states in Article 1 that the Organization aims to "To achieve international co-operation … in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion." In 2015, the UN adopted Agenda 2030 for Sustainable Development, "a plan of action for people, planet and prosperity", outlining 17 Sustainable Development Goals (SDGs) on which to focus development work. For all these goals, women have a critical role to play. Many of the targets set within these SDGs specifically address women's equality and empowerment. In addition, SDG 5: "Achieve gender equality and empower all women and girls" is the stand-alone gender goal dedicated to achieving these ends.

Gender Mainstreaming in UNDP

Gender equality is central to UNDP support to countries to implement and achieve the 2030 Agenda and SDGs. UNDP's Strategic Plan 2018-2021 adopted 6 signature solutions to 3 development strategies. One of these solutions is to "strengthen gender equality and the empowerment of women and girls" (Signature Solution 6). Along with the Strategic Plan, UNDP introduced its third Gender Equality Strategy for 2018-2021, which provides detailed guidance for UNDP business units on how to mainstream gender perspectives in operationalizing the 6 signature solutions for 3 development challenges and the signature solution on gender equality and women's empowerment.

The priority areas for Signature Solution 6 are:

- Removing structural barriers to women's economic empowerment, including women's disproportionate burden of unpaid care work;
- Preventing and responding to gender-based violence;
- Promoting women's participation and leadership in all forms of decision-making;
- Strengthening gender-responsive strategies in crisis (conflict and disaster) prevention, preparedness and recovery.

In its Country programme document for Iraq (2020-2024), UNDP committed to mainstreaming gender and youth in all programming through dedicated strategies and monitoring based on gender and age-disaggregated data. The document also stated that the UNDP gender marker and environmental screening guidelines will be used to monitor country programme expenditures and improve planning and decision-making. With the goal of supporting economic growth in Iraq, UNDP will also elaborate a sustainable livelihoods strategy that targets women and youths.

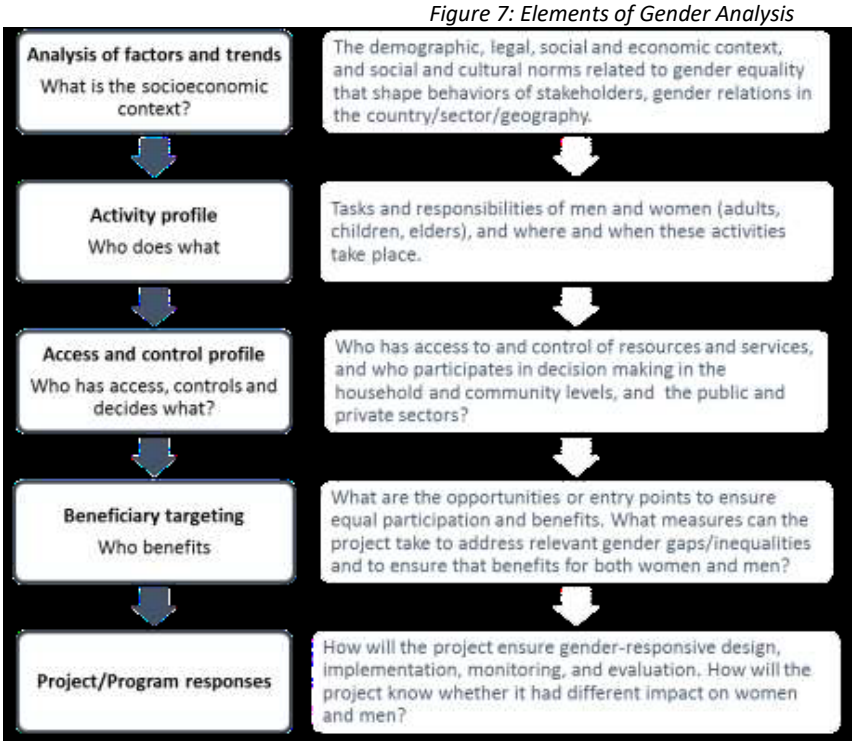
Gender Mainstreaming in GEF

The GEF has long recognized gender equality as a cross-cutting priority that is integral to the GEF's ability to achieve global environmental benefits. The GEF Policy on Gender Equality seeks to ensure equal opportunities for women and men to participate in, contribute to and benefit from GEF-financed activities. It further outlines GEF's ambition to shift from a gender-aware, "do no harm" approach to a gender-responsive, "do good" approach. The Policy specifies gender-responsive actions, from design

to implementation; and monitoring and evaluation to ensure that GEF programs and projects are not only designed with a good understanding of relevant gender differences, roles and needs, but also that they actively pursue activities that contribute to equal access to and control over resources and decision making while empowering women and girls.

The GEF requires that all medium- and full-size projects have conducted a gender analysis and action plan or equivalent socioeconomic assessment at or prior to CEO Endorsement/Approval request. Elements of the gender analysis are described in Figure 1 below.

Figure 7: Elements of Gender Analysis



Source: GEF (2018). Guidance to Advance Gender Equality in GEF Projets and Programs

There are some action domains that can be considered an integral part of a Gender Action Plan, such as those actions that:

- Provide equal access to and control over resources and information, such as gender and age-appropriate training and communication material;
- Give equal voice and representation in decision making, such as quotas for women in community resource management groups;
- Reduce women's workload, such as introducing labor-saving technologies and tools; and
- Engage at policy level, such as review of the existing sectorial policies to identify entry points for women's empowerment[19].

[19] GEF (2018). Guidance to Advance Gender Equality in GEF Projets and Programs. Available at http://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.54.Inf_.05_Guidance_Gender_0.pdf

Scope of the Gender Analysis and Action Plan

This document constitutes the gender analysis and action plan developed within the framework of "UNDP-GEF Project Promoting Carbon Reduction Through Energy Efficiency (EE) Techniques in Iraq" which aims to promote low carbon development in Baghdad through supporting the design of a regulatory framework for enhancing EE in buildings and the creation of an enabling environment for its operationalization. The project framework is comprised of the following four components:

- **Component 1:** Enabling policy, institutional, and legislative framework to promote EE and support the development of EE programs and applications in the building sector is designed.
- **Component 2:** A focal point is established with mandate for advancing EE and sustainable measures in the buildings sector through providing technical advice, promoting financial incentives and implementing a system for Monitoring, Verification and Enforcement (MVE) for EE in buildings.
- **Component 3:** Strengthening individual and institutional national capacity development, expertise, building codes & standards and technical knowledge in the EE buildings sector.
- **Component 4:** Knowledge and expertise on EE in the building sector in Baghdad is managed, guided by best practices from other countries, and the impacts of the developed framework is continuously monitored and evaluated.

The main focus on the project is therefore on climate change and energy efficiency, in line with UN SDG 13: "Take urgent action to combat climate change and its impacts". One of the targets of this SDG is to "Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities".

This document therefore aims to analyze gender relations and propose actions that ensure the outputs of this project take gender issues into account. The proposed actions also aim to reduce gender inequality and promote equal benefits in Iraq through all project activities. This analysis will thus directly support gender mainstreaming and social inclusion efforts, taking into account gaps in needs, roles, benefits, impacts, risks, differential access to and control over resources of women and men in the project. This analysis will therefore mainstream gender issues into implementation of the project in a manner that "identifies gender differences, promotes shared power, control of resources, decision making and empowers women and girls"[20]. The analysis is developed in order to:

- Collect gender-related information and sex-disaggregated beneficiary data to determine baseline conditions;
- Inform or form part of the project's Social and Environmental Screening procedure (SESP);
- Integrate gender considerations into the project theory of change;
- Determine project activities required to respond to gender risks, differences, gaps, and

[20] GEF (2017). GEF Policy on Gender Equality

opportunities; and

- Support the formulation of indicators relating to sex disaggregation and gender sensitivity, to be included in project results framework[21].

This analysis was prepared using a thorough literature review about available statistical and analytical reports on the socioeconomic profile of Iraq, information and data obtained from the PPG team and experts and feedback from stakeholders about Stakeholder Workshop held on 10 June 2020 in which technical and professional staff from related government ministries and departments and private sector organizations participated.

Gender and Climate Change

In 2019, UN Women published a report on Gender Equality in the 2030 Agenda for Sustainable Development. In this report, it highlighted the important role women and girls play in the fight against climate change, stressing the need to incorporate it into the SDGs.

According to the report, "the 2030 Agenda holds the potential to transform the lives of women and girls all over the world even though the challenges are daunting. The large-scale extraction of natural resources, climate change and environmental degradation are advancing at an unprecedented pace, undermining the livelihoods of millions of women and men, particularly in the developing world".

The report stated that the engagement of women as stakeholders and planners in ensuring access to the resources to all is key to successful action on climate change. Examples range from the role of women in building resilience against natural disasters to being key agents in supporting low-emissions development.

As for Iraq, it is considered as one of the most vulnerable countries to climate change in the region. The future impact of climate change is therefore expected to be significant for Iraqis in general and for vulnerable groups in particular, especially women and girls. Iraq is already starting to face major challenges resulting from the increase in average temperature and the steady decline in annual rainfall rates, which is affecting many sectors where women are employed, such as health and agriculture[22].

A Note on COVID-19

According to a UN Policy Brief, the impacts of COVID-19 are exacerbated for women and girls as follows:

- Job insecurity, lower savings, and lower earnings are all features of the gender gap as females struggle more than males.
- Although evidence indicates that men are disproportionately impacted by the health impacts of COVID-19, women are suffering from reallocation of resources and priorities in the health sector, including sexual and reproductive health services.
- With children out of school and health services overwhelmed, women are carrying the brunt of the unpaid care work at home.

[21] GEF (2018). Guidance to Advance Gender Equality in GEF Projets and Programs.
[22] Republic of Iraq (2019). National Review of the Implementation of Beijing +25 Declaration and Platform for Action.

- Restricted movement, social isolation and lockdown measures have led to an exponential increase in gender-based violence

These impacts have worsened the condition of women, especially in contexts of fragility, conflict, and emergencies, where social cohesion and institutional capacity are already undermined[23].

Gender Equality in Iraq

In 2019, Iraq ranked 120th out of 188 countries the UN Human Development Index and 123rd on the UN Gender Inequality Index (GII) in 2017[24]. The 2015 UNDP Human Development Report on Iraq states that "Iraq needs to accelerate efforts to meet the national targets for gender equality", acknowledges some improvement on this front since 1990. However, despite this improvements, there are still "gross inequalities in access to paid employment in some regions, and significant gaps between men and women in the labor market Sexual violence and exploitation, the unequal division of unpaid care and domestic work, and discrimination in public decision making, all remain huge barriers." The report pointed out that even though more women are now in public office than ever before, women leaders across all regions are needed to strengthen policies and laws to achieve gender equality in the country.

Policy, Administrative and Legal Framework

Iraq's National Development Plan (2018-2022) issued by the Ministry of Planning sets gender equality as a key priority, asserting that "the gender gap still undermines the foundations of development construction" and has led to "low participation of women in economic, social and political activities and their limited role in the legislative and political institutions" in the country. Iraq ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1986, with reservations to Article 2(f) and (g), 16 and 29(1). The convention calls on states to modify or abolish existing laws and penal codes that discriminate against women.

Adopted in 2005, Iraq's new Constitution, Article 14, states that all Iraqis are equal before the law and prohibits discrimination based on sex. Article 1 of the Labor Law No 37 of 2015 asserts this principle of non-discrimination while article 4 of the same law affirms the provision of decent work for all without discrimination.

However, despite these assertions, some elements in the law still limit women's economic choices. For example, Articles 85(2) and 86 put conditions on women working in certain sectors that require hard labor, night-time work, or hazardous tasks.

Established in 2003 and abolished in 2015, Iraq's Ministry of State of Women's Affairs adopted two national strategies:

- National strategy to combat violence against women (2013–2017) (updated to become the National strategy to combat gender-based violence for 2018-2030)
- National strategy for the advancement of the status of Iraqi women (2014–2018)

[23] UN (2020). Policy Brief: The Impact of COVID-19 on Women

[24] UNDP (2019). Human Development Report: Human Development Indicators for Iraq. Available at http://hdr.undp.org/en/countries/profiles/IRQ

- National Action Plan for Implementation of the United Nations Security Council Resolution 1325: Women, Peace and Security (2014-2018), noting that the second UNSCR 1325 National Action Plan has been developed through support from UN Women and is awaiting endorsement by the Iraqi government

Both strategies currently face several challenges including the political, economic and insecurity conditions prevailing in the country and traditional stereotypes about women's role in society that have proven difficult to change[25].

In 2017, two years after abolishing the Ministry of State of Women's Affairs, the General Secretariat of the Council of Ministers established the Women's Empowerment Directorate, which is responsible for the following:

- Coordination with gender units in government institutions and women's offices in governorates;
- Mainstreaming gender and women's political, social and economic empowerment in government plans and policies;
- Researching and reporting on the impact of social development programs;
- Reviewing legislation from a gender perspective;
- Following up the implementation of gender-related national plans and strategies; and
- Raising gender awareness and liaising with international forums in support of women's issues.

However, as a subdivision of the General Secretariat of the Council of Ministers with no portfolio, the Directorate was not granted any decision-making power and its recommendations are non-binding.

During the same period, two committees were also created: the Standing Committee for the Advancement of Iraqi Women (in 2008 and abolished in 2019) and the Standing Committee for Rural Women (in 2017). In addition, overlapping responsibilities and conflicts of interest existed between them. This led to fragmented efforts to implement national policies and plans for women and did not contribute positively towards the enhancement of the status of women in Iraq[26].

Political Participation

The last parliamentary elections in Iraq were held on May 12, 2018, in which a total of 2,011 female candidates participated, guaranteed at least 83 seats as part of the 25 percent female quota. However, this representation is not translating into political influence, which is constrained by "an entrenched culture of male dominance in politics and in society more broadly, the lack of early nurturing for leadership, and the absence of structures that support and enhance women's leadership". In fact, women MPs have repeatedly complained that they lacked power in their own parties and have been excluded from "senior party positions, policy discussions and decision-making"[27].

[25] UN Women / Oxfam / Government of Japan (2018). Gender Profile – Iraq: A situation analysis on gender equality and women's empowerment in Iraq.
[26] Republic of Iraq (2019). National Review of the Implementation of Beijing +25 Declaration and Platform for Action.
[27] Wilson Center (2019). Women MPs in the Iraqi Parliament (found at https://www.wilsoncenter.org/blog-post/women-mps-the-iraqi-parliament)

UNDP's 2014 Human Development Report for Iraq contends that the performance of women MPs in the first and second parliamentary rounds for 2010 and 2014 has been inadequate as they "failed to fulfill voters' expectations, did not stand up for women's rights, did not use their platform to tackle key issues, and failed to present initiatives to enhance their potentially visionary role." However, the report also warns that "women's performance should not be separated from the performance of parliament as a whole, which was also weak considering the long list of laws waiting to be legislated, among them important laws such as those relating to labor and social protection, as well as oil and gas. Parliament also did not tackle their discriminatory approach towards women parliamentarians, who are excluded from party leaders' negotiations on political and security issues, and from chairing parliamentary committees, save those on family and social issues"[28]

A case in point, the committee for amending the Iraqi Constitution in 2005 had only two women out of 27 members, only 7 percent representation. Around 28 percent of the members of the specialized committees in 2010 were women, slightly higher than their representation in parliament. Women's participation has been mostly in committees related to health, education, services, the situation of women and children, and human rights (at 30% or more). However, and despite a steady increase in parliamentary committee representation, women have never been represented in the Security and Defense Committee, the National Reconciliations and Impunity Committee or the Labor and Social Affairs Committee. In contrast, in 2018, women were represented in the Legal, the Finance and Economy and the Investment and Reconstruction Committees at 23, 29 and 23 percent, respectively. The situation reflects poorly on the role of women in parliament and risks undermining the effectiveness of committees by limiting the presence of women leading discussions and participating in decision-making. Women can offer a different type of decision making and oversight that is currently lacking due to the dominance of males over the political process[29].

Iraq's High Commission for Human Rights has 14 members, one third of which are women. The commission's effectiveness has been challenged by the political deadlock and endless concessions of the same political blocs represented in parliament[30].

In the Council of Ministers, there are only two female ministers out of 22. One is for migration and displaced [31] and the other for housing and construction, municipalities and public works which coincidentally is one of the Executing Entities for this project. Between 1999 to 2009, this Minister also served in Kurdistan Regional Government as Minister of Municipalities, Reconstruction and Development[32]. In addition, there are three women deputy ministers for the ministries of Planning, Labour and Social Affairs, and Finance.

[28] UNDP (2015). Iraq Human Development Report 2014.
[29] UN Women / Oxfam / Government of Japan (2018). Gender Profile – Iraq: A situation analysis on gender equality and women's empowerment in Iraq.
[30] Ibid.
[31] Syriac Press (2020). Iraqi Prime Minister Kadhimi visits villages and towns in Nineveh Plains (found at https://syriacpress.com/blog/2020/06/12/iraqi-prime-minister-kadhimi-visits-villages-and-towns-in-nineveh-plains/)
[32] Al Monitor (2020). Meet Iraq's new Cabinet (found at http://www.al-monitor.com/pulse/originals/2020/05/iraq-new-cabinet-mustafa-kadhimi-economy-security-covid19.html#ixzz6OTkS1Ruz)

Demography and Living Conditions

It is estimated that Iraq's population is more than 39 million, half of whom are women. About 71 percent live in urban areas, with 13 percent of urban households having over ten occupants. The age structure in Iraq is such that the majority, around 59 percent of the population, are under 24 years old. The population is composed of several ethnic and religious minorities, including Christians, Kurds, Turkmens, Assyrians and Yazidis, while 96 percent are Muslim[33].

The last few decades have been devastating for the people of Iraq, who have endured several crises and conflicts including sanctions, an invasion, outbreaks of violence and lack of stability, and most recently the expansion of ISIS. This has led to severe economic stagnation and reduced access to essential services in addition to the creation of approximately 1.4 million internally displaced persons (IDP)[34]. For example, it has been estimated that about 60 percent of Iraqi households suffer from the lack of at least one of the following: access to adequate water supply and sanitation, 12 hours a day of publicly provided electricity, and food security. The repercussions have been particularly harsh on Iraqi women and girls, who have witnessed decreased access to education, healthcare and employment compared to the 1960s-1980s[35]. A 2015 survey found that 8 in 10 women in Iraq have encountered some form of sexual harassment throughout their life.[36]

Education

There are significant gender gaps in education in Iraq, such that one in three girls between the ages of 12 and 14 is not enrolled in school, and one in ten has never attended school. Gross school enrollment rates for girls are much lower than those for boys at all education levels primary (by 19 percent), intermediate (by 32 percent), and secondary school respectively (by 15 percent). It is therefore not surprising that the rate of illiteracy among Iraqi women (24 percent) is more than twice as high as that of men (11 percent)[37].

Young women living in rural areas are among the most affected, such that 50 percent of women between the ages of 15 and 24 are considered functionally literate, compared with over 70 percent of their urban dwelling counterparts[38].

In terms of higher education, women are under-represented in the scientific research. Evidence has shown that researchers in the field are provided with less support and promotion opportunities than

[33] UN Women / Oxfam / Government of Japan (2018). Gender Profile – Iraq: A situation analysis on gender equality and women's empowerment in Iraq.
[34] UNOCHA Website (2020). Iraq. Available at https://www.unocha.org/iraq
[35] UN Women / Oxfam / Government of Japan (2018). Gender Profile – Iraq: A situation analysis on gender equality and women's empowerment in Iraq.
[36] ICSSI / Iraqi Social Forum / Karibu Foundation / Fondation Assistance Internationale (2015). A New Study Reveals Facts about the Phenomenon of Sexual Harrassment. Presented at the Iraqi Women Journalists Forum in 2015. Available at: http://www.iraqicivilsociety.org/wp-content/uploads/2015/10/Shahrazad-Study-FINAL.En .pdf
[37] World Bank (2017). Iraq Systematic Country Diagnostic.
[38] UNESCO (2011). Promoting Gender Equality in Iraq. Available at http://www.unesco.org/new/fileadmin/MULTIMEDIA/FIELD/Iraq/pdf/Publications/EN%20-%20Gender%20Equality%20Fact%20Sheet%20-%20Final%20(24.11.2011).pdf

their male counterparts. As the percentage of women who graduate in STEM fields is very high across the region, this indicates a clear drop between graduation and employment and research[39].

In general in Iraq, the main challenges to continuing education, especially girls' education:

- Customs, traditions and patriarchal culture;
- Parent unwillingness to send their daughters to schools due to distance between school and home and the deteriorating security situation in some areas;
- Deterioration of educational infrastructure and lack of schools, especially in rural areas.
- Lack of training programmes and financial resources to ensure quality educational staff[40].

Employment and Economic Life

In 2017, female workers constituted 12.6 per cent of the total Iraqi women aged 15 years and above, compared to 72.7 percent for males. In addition, female unemployment is higher than that of males at 31 percent and 10.9 percent, respectively. In fact, the percentage of women participating in the labor force is among the lowest in the region, at 14.5 percent compared to 72 percent for males[41].

The Iraqi working population is highly dependent on the public sector, which employs about 40 percent of the total labor force in the country, such that 60 percent of women workers are in the public sector[42]. Women whose educational levels are low are primarily self-employed and usually work for low pay in the informal private sector. These women generally do not have access to benefits such as health insurance, maternity leave, or pensions[43]. Iraqi women's participation is relatively high in education, health, real estate and agriculture sectors but considered low in most other sectors, including transport and retail[44].

As for young people (aged 15–24 years) in Iraq, they have a high unemployment rate, estimated at 18 percent. However, the rate of unemployment for females in that group is much higher than that for males, at 27 percent and 17 percent, respectively[45].

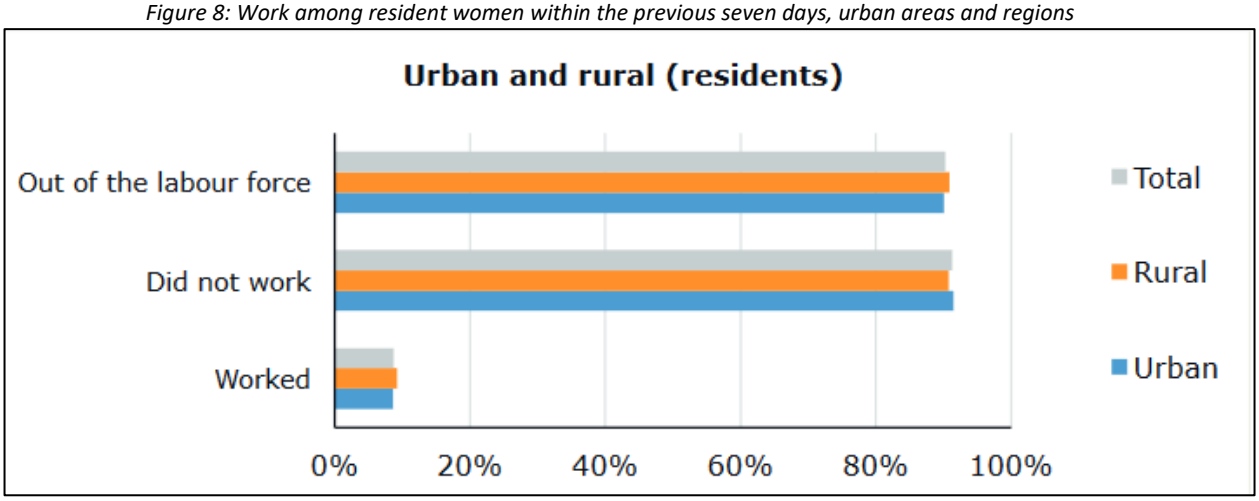
In addition to the disparity in employment rates, the wage gap between women and men is also striking, less so for the public sector, where on average, in 2012, males earned 20 percent more than women. However, in the private sector, this gap is eight times wider than the public sector gap in the public sector[46]. In addition, women in Iraq are not likely to become senior managers in private firms as only 1.1% of senior managers in Iraq are women. This rate is higher in large firms, where females

[39] IAU / OCHA (No date). Iraqi Women: Facts and Figures. Available at http://www.unis.unvienna.org/pdf/factsheets/Iraqi_Women_Facts.pdf
[40] Republic of Iraq (2019). National Review of the Implementation of Beijing +25 Declaration and Platform for Action.
[41] Ibid
[42] UN Women / Oxfam / Government of Japan (2018). Gender Profile – Iraq: A situation analysis on gender equality and women's empowerment in Iraq.
[43] World Bank (2017). Iraq Systematic Country Diagnostic.
[44] World Bank (2013). Gender and Private Sector Development in Iraq.
[45] UN Women / Oxfam / Government of Japan (2018). Gender Profile – Iraq: A situation analysis on gender equality and women's empowerment in Iraq.
[46] World Bank (2017). Iraq Systematic Country Diagnostic.

constitute 11% of senior managers. These rates are generally lower than those for the Middle East and North Africa region[47].

Labor participation for women did not vary by urban and rural setting or by geographic area, as can be seen Figure 2.

Figure 8: Work among resident women within the previous seven days, urban areas and regions



Source: Vulnerability Assessment study

The most cited obstacles facing women and girls include constraints due to traditional women's roles in the household and childcare responsibilities, limited access to education, illiteracy, and lack of vocational skills and qualifications, limited access to the labor market and employment with low wages[48]. This has lead to further marginalization and isolation of women within society, limiting their exposure to different communities and thus potential opportunities[49].

Some micro-finance opportunities exist for women, particularly IDPs and rural inhabitants. Civil society and international organizations have attempted to ensure economic empowerment for women in their projects and interventions but challenges persist. These include lack of skill and experience to manage and sustain a business, in addition to social pressure for women to yield control of their financing to the male member of the household. Informal bias toward men for allocating resources such as financing, inheritance and land is another impediment[50].

A silver lining of the multiple crises that Iraqis have had to endure may be a softened stance on many social restrictions toward the work of women. Some studies have found that the recent conflict lead to shifts in the gendered division of labor, leading to increased tolerance of women working in new sectors. A major example is women involved in micro-businesses. However, even though this entry into the labor market has been driven by the need for income, empowerment is not necessarily the end result. Women have stated that they are facing new forms of abuse, including being forced to work but

[47] World Bank (2013). Gender and Private Sector Development in Iraq.
[48] UN Women / Oxfam / Government of Japan (2018). Gender Profile – Iraq: A situation analysis on gender equality and women's empowerment in Iraq.
[49] UN Inter-Agency Information and Analysis Unit. 2014. http://nina-iraq.com/wp-content/uploads/2014/03/Women-In-Iraq-Fact-sheet-English.pdf
[50] UN Women / Oxfam / Government of Japan (2018). Gender Profile – Iraq: A situation analysis on gender equality and women's empowerment in Iraq.

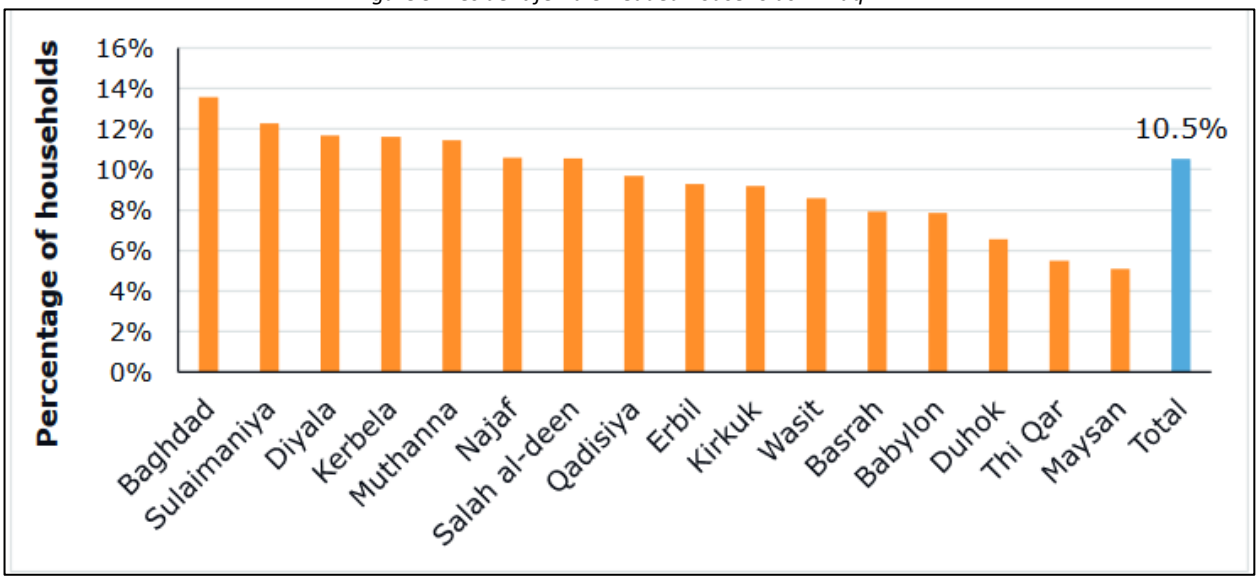
having no control over their income or working conditions. In addition, their gendered role in the household has not changed[51].

Female Headed Households

In Iraq, it is estimated that 10% of households are headed by women, with the majority (85 percent) being widowed. In comparison, 98 percent of male household heads were married[52]. An assessment of these households was conducted by the International Organization for Migration (IOM) in 2011 confirming critical issues related to access to work, food insecurity, and inadequate shelter[53]. However, another study concluded that although Female-headed households (FHH) were more food insecure than male-headed households, the differences between them were small. On the other hand, FHH had significantly higher rates of underemployment compared with male-headed households. Geographically, the highest percentage of resident female headed households is in the governorate of Baghdad, as shown in Figure 3[54].

[51] Ibid.
[52] WFP (2016). Comprehensive Food Security and Vulnerability Analysis.
[53] IOM (2011). Iraq Special Report: Female Headed Households. Available at https://reliefweb.int/sites/reliefweb.int/files/resources/Full%20Report_278.pdf
[54] WFP (2016). Comprehensive Food Security and Vulnerability Analysis.

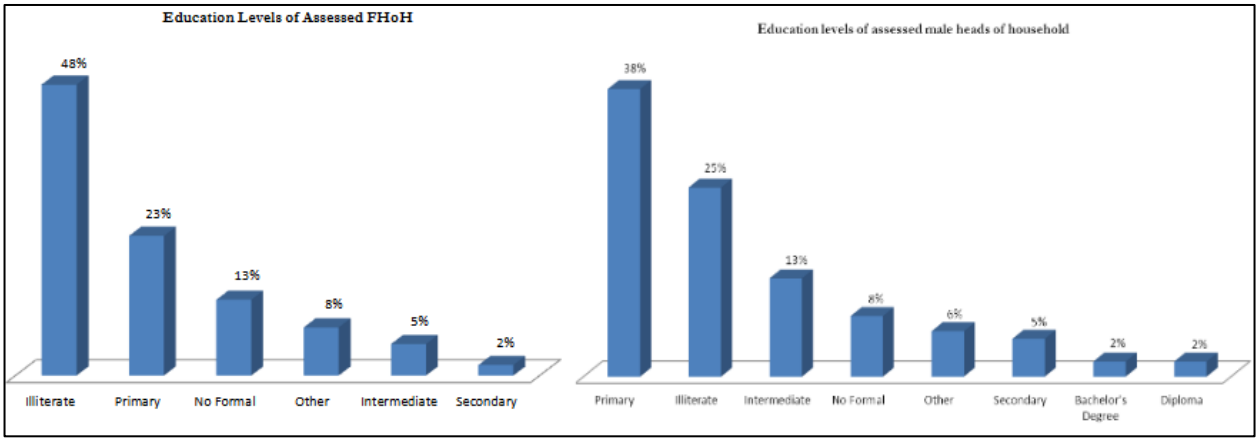
Figure 9: Resident female-headed households in Iraq



Source: WFP (2016). Comprehensive Food Security and Vulnerability Analysis.

FHHs are particularly disadvantaged in terms of their level of education and access to the labor market, as female heads of household are considerably less educated than male heads of households, as can be seen in Figure 4, where 48 percent of female heads of households are illiterate compared with 25% of males. In some rural areas, female illiteracy rises to 95%. This is clearly an obstacle to awareness of and ability to access work, rights and benefits[55].

Figure 10: Education Level of Female and Male Heads of Households



Source: IOM (2011). Iraq Special Report: Female Headed Households

According to the study by IOM in 2011, only 2% of female heads of household hold regular jobs while th erest are either unemployed (21%), retired (3%), or doing odd jobs (6%). The maojrity, however, are unable or unwilling to work (66%). Of those employed, 27% work in unskilled jobs. Unskilled labor

[55] IOM (2011). Iraq Special Report: Female Headed Households. Available at https://reliefweb.int/sites/reliefweb.int/files/resources/Full%20Report_278.pdf

is thus the most common employment for female heads of households, and includes work in bakeries, house cleaning, and local produce selling at the markets. The second most common secotr is agriculture, although women complain of its unsuitability due to its physically demanding nature and long hours depriving them from caring for their children. Almost all of assessed women working as skilled labor are tailors. The assessment also found a "desire among female heads of households to learn new skills that would make them more eligible for employment"56.

Women and **Electricity**

Unreliable electricity in Iraq is a major deterrent to most economic activities. However, Iraqi women are disproportionately affected by this problem, increasing the already wide gender gaps in economic opportunities, business performance, access to education, and freedom of movement and security. As mentioned earlier, Iraqi women with lower levels of education are often self-employed or work in the informal sector with access to electricity seen as a major obstacle to running a business. This found to be in true in a World Bank survey of over 100 female business owners, entrepreneurs, students, and key experts, who described how lack of a reliable electricity supply reduces income and productivity of women's small sized businesses, discouraging them from continuing their education and engaging in income-generating activities. According to this study, Iraqi women have abandoned home-based businesses, such as sewing and handcrafting, as a direct result losses incurred due to frequent power outages. Below are testimonials from the study[57]:

> *"I established a small kitchen and became successful. When my husband recovered, he started supporting me because he saw the economic value of my work. He is now responsible for buying the groceries for the kitchen. But without electricity, the production of my kitchen is down by almost 80 percent"*
>
> *"I can…quadruple [my] net profit with efficient and reliable electricity," 32-year-old female salon owner*

Lack of reliable power supply also overwhelmingly affect women as primary caretakers in the household, responsible for chores such as cleaning and cooking. During summer, for example, cooking without air conditioning or proper ventilation leads to increased incidents of skin disease and other heat-related illnesses. Additionally, internally displaced women living in slum areas do not have meters installed in their homes, and end up resorting to alternative electricity connections that unsafe and illegal. Women have expressed a decreased sense of security and limited mobility due to unreliable power supply, particularly in relation to lighting in public spaces. According to a social

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[56] IOM (2011). Iraq Special Report: Female Headed Households. Available at https://reliefweb.int/sites/reliefweb.int/files/resources/Full%20Report_278.pdf

[57] Canpolat, E. & Maier, E. (2019). Powering women in Iraq. Published on Sustainable Energy for All, a World Bank blog, on August 27, 2019. Available at: https://blogs.worldbank.org/energy/powering-women-iraq

worker: "It is impossible for women to leave the house at night alone, even in emergencies. She has to be with a male relative because it is too dark in the streets"[58].

The World Bank project entitled *"Electricity Services Rehabilitation and Enhancement Project for the Benefit of the Southern Electricity Directorate"* conducted focus group discussions (FGDs) and in-depth interviews 2018 in Basra. The aim of these discussions and interviews was to understand the impacts of lack of reliable power supply on Iraqi women's economic and social well-being. The key findings of the qualitative research are as follows:

- Lack of access to reliable electricity service negatively affects income levels of women engaged in economic activities and hampers women's ability to engage in income-generating activities.
- FHHs are found to be particularly vulnerable.
- Poor electricity service also increases women's drudgery and negatively impacts their health outcomes.
- Electricity service reliability and quality problems also impact women's sense of security and safety and contribute to increased risk of forms of gender-based violence (GBV).
- Unreliable electricity impacts women's ability to engage in educational activities.
- Illegal electricity use is widespread among low-income women.
- Women lack information about energy efficiency measures and electricity bill payment options[59].

Women Organizations in Iraq

Measures for women participation during implementation of any project should be taken to ensure a gender responsive perspective. Table 1 below presents a sample list of women organizations in Iraq that may be engaged in livelihoods activities and provide vocational trainings to women.

Table 3: Sample of Women Organizations in Iraq

NGO	Description
Sewan Women's Empowerment organization	The aim of this organization is to improve women legal rights through empowering her in the economic, social, education, political and cultural fields. The organization conducts several vocational trainings and awareness raising sessions in the Kurdistan Region, Essian and Dawudye. http://www.sewan-women.org/projects
Rafidain Women Organization for Culture and Training	The Rafidain Women's Organization for Culture and Training develops programs, events, meetings and seminars in cooperation with international civil society organizations in an effort to create of a better life for women. http://rafidain-women.simplesite.com/442133469
Women Rehabilitation Organization	Founded in 2003, WRO is a non-profit, non-government and independent organization dedicated to working towards the protection and advancement of all members of societies across Iraq and the Kurdistan Region of Iraq (KRI).

[58] Canpolat, E. & Maier, E. (2019). Powering women in Iraq. Published on Sustainable Energy for All, a World Bank blog, on August 27, 2019. Available at: https://blogs.worldbank.org/energy/powering-women-iraq

[59] World Bank (2018). Electricity Services Rehabilitation and Enhancement Project for the Benefit of the Southern Electricity Directorate: Environmental and Social Management Framework.

NGO	Description
	As one of the largest NNGOs in Iraq, WRO supports the needs of Syrian refugee, Iraqi IDP, and host community women, men, and children in prevention and response to GBV and increasing their access to quality economic, protection, food, health, education, shelter and legal services. https://www.wroiraq.org/
Women for Women International-Iraq	This organization works with local organizations in Northern Iraq to support displaced Syrian and Yezidi women that were forced to escape from their homes due to war and conflict. The organization provides psychosocial support services and life and business skills training to help women overcome severe emotional trauma, teach them about their rights, and acquire new business and vocational skills. https://www.womenforwomen.org/where-we-work/iraq
Women Empowerment Organization	The aim of this organization is to prevent and respond to GBV. The framework of this organization also includes the provision of social and psychological counselling, and legal assistance for GBV survivors. The organization has conducted a variety of trainings and workshops with Kurdistan Regional Government ministries, community and religious leaders, judges and police officers to enhance women's rights and protection. https://weoiraq.org/

Findings and Recommendations

In summary, women are affected within the energy sector that the project aims to support on two levels: (1) lack of real decision-making power at all levels of government, and to some extent the private sector, from national to local, despite quotas set for that purpose; and (2) inability to operate freely within society as a result of unreliable power supply. This leads to lack of feasibility of running a home business common for women to movement restrictions resulting from safety concerns due to lack of lights at night. Although these issues cannot be resolved by the project, they should be taken into consideration during project implementation such that the following recommendations are proposed:

- Encourage national partners to ensure women's participation and their equal and active participation ensured in all project-related events including consultation processes, workshops and informative events, at the level of at least 30% of total participants, with special focus on young women professionals in the field of engineering, including university students and academics. This includes primarily the awareness raising activities regarding construction and retrofitting of buildings, as well as end-users of electricity in buildings, on EE regulation and best practices.
- Whenever possible, data collected throughout the duration of the project should be disaggregated by age and gender, including participants in events and project activities as well as monitoring and evaluation of the developed knowledge management framework on EE in the building sector in Baghdad.
- Capacity of all stakeholders including the project team and government partners will be increased on gender equality and the UNFCCC gender action plan.

- Ensure women representation within staff of the planned Energy Efficiency Center, to be provided with adequate technical training to meet job requirements.
- Ensure equal representation for men and women in activities related to capacity development in building codes & standards and technical knowledge in the EE buildings sector (covered under Component 3, Outcome 6).

Gender Action Plan

To adopt the recommendations outlined in the gender analysis and address gender gaps identified in the country as they related to the "UNDP-GEF Project Promoting Carbon Reduction Through Energy Efficiency (EE) Techniques in Iraq", the following Gender Action Plan (Table 2) shall be implemented. This plan aims to ensure gender mainstreaming of project activities and equal participation of men and women whenever possible, presenting the actions that need to be implemented and indicators to be monitored to ensure its effectiveness. At project level, indicators to be monitored include:

- Total number of beneficiaries (estimated to be 2,800 at end of project distributed between 1,400 women and 1,400 men)
- Proportion of data disaggregated by gender
- Gender distribution of participants in all conferences, workshops and stakeholder meetings.

Table 4: Gender Action Plan

Outcome	Outputs	Gender Action	Indicator
Project Component 1. Enabling regulatory and institutional framework is designed to promote EE in the buildings sector, including the development of Buildings Energy Efficiency Codes (BEEC) and Minimum Energy Performance Standards (MEPS) for buildings			
Project Outcome 1: Appropriate regulatory and institutional framework is designed to catalyze existing policies and programs for promoting EE in buildings, including the operationalization of the National Energy Efficiency Action Plan (NEEAP).	**Output 1.1.** An analysis of the existing policies, programmes and national plans is conducted, and an Executive Regulation for EE in Buildings is drafted and submitted for government approval.	- Encourage women representation in stakeholders' consultation meeting (Activity 1.1.4) and validation workshop (Activity 1.1.6) to discuss draft of Executive Regulation for EE in Buildings - Gender aspects to be taken into consideration in the analysis and how women can be targeted beneficiaries of proposed policies	- Percent women participation at the consultation meeting and validation workshop - Analysis incorporates gender aspects
	Output 1.2. An analysis of the NEEAP in Iraq is conducted, and the elements required for its operationalization is provided to support rolling-out EE development with a focus on the buildings sector.	- Encourage women representation in stakeholders' consultation meeting (Activity 1.2.3) and periodic meetings (Activity 1.2.5) to discuss Work Plan for rolling out the NEEAP. - Gender aspects to be incorporated into the operationalization process	- Percent women participation at the stakeholder' consultation meeting and periodic meetings - Gender aspects addressed in operationalization of NEEAP
Project Outcome 2: Internationally recognized BEEC and MEPS for buildings are selected and localized to become suitable for	**Output 2.1** Appropriate BEEC, including the associating labelling, certification scheme and testing procedure, is selected, localized, and submitted for government approval. This will include aspects of passive design and thermal insulation standards.	- Include and encourage women's participation in selection and analysis of internationally recognized BEEC for buildings (Activity 2.1.1, 2.1.2, 2.1.3) - Encourage women participation in stakeholder workshop to present and discuss selected BEEC (Activity 2.1.4)	- Proportion of team undertaking identification and analysis of BEEC who are women - Percent women participation in stakeholder workshop

Outcome	Outputs	Gender Action	Indicator
Iraq, including the associating Monitoring, Verification and Enforcement (MVE) procedure.	**Output 2.2** Appropriate MEPS, including the associating labelling, certification scheme and testing procedure, is selected, localized, and submitted for government approval.	- Include and encourage women's participation in selection and analysis of internationally recognized MEPS for buildings (Activity 2.2.1, 2.2.2, 2.2.3) - Encourage women participation in stakeholder workshop to present and discuss selected MEPS (Activity 2.2.4)	- Proportion of team undertaking identification and analysis of MEPS who are women - Percent women participation in stakeholder workshop
Project Component 2: The Energy Efficiency Center (EEC) is established with mandate for advancing EE measures in the buildings sector through providing technical advice to the public, training to practitioners, and supporting the implementation of the proposed MVE procedure			
Project Outcome 3: Energy Efficiency Center (EEC) is established and capacitated to support the development of EE programs and applications in the buildings sector.	**Output 3.1** EEC is established, legally and with physical presence, and is operational as the focal point for activities concerned with EE in the Iraqi buildings sector.	- Encourage qualified women to submit their credentials for consideration for EEC staff (Activity 3.1.3) - Ensure that hiring process does not discriminate based on gender (Activity 3.1.3) - Establish a Gender Unit within the EEC structure to ensure sustainability of gender mainstreaming	- Proportion of hired staff for EEC who are women - Gender Unit established, staffed and has clear mandate
	Output 3.2 Staff at the EEC are capacitated to inform decision-makers, advise investors, raise public awareness, and deliver general and technical training on EE in buildings.	- Ensure female EEC staff are offered training opportunities (Activity 3.2.2) - Training of all staff members on gender equality and the UNFCCC gender action plan (Activity 3.2.2) - Ensure HR system is developed in place safeguarding workers and addressing workplace harassment and discrimination (Activity 3.2.3) - Develop clear policy on safeguarding workers and addressing workplace sextual harassment (SH), preventing sexual exploitation and abuse (PSEA) and discrimination - Satisfaction survey to be designed to give anonymity and ensure complaints regarding harassment and discrimination are properly addressed and handled (Activity 3.2.4)	- Percent women participation in training workshops - Gender sensitization training held - HR system in place addressing gender discrimination and harassment - Policy on SH, PSEA and discrimination in place - Satisfaction survey allows for anonymity - Number of complaints related to harassment and discrimination and proportion of complaints resolved

Outcome	Outputs	Gender Action	Indicator
Project Outcome 4: Testing facility and certification programmes are established under EEC, in accordance with the proposed BEEC and MEPS, to support the implementation of the framework's MVE procedure.	**Output 4.1** A testing facility containing suitable equipment to measure energy consumption behavior in the buildings sector and perform regular inspection for buildings, in accordance with the proposed BEEC and MEPS, is established at the EEC and operated by EEC staff.	- Encourage women participation in stakeholder meetings to discuss baseline assessment (Activity 4.1.2) - Training opportunities given to qualified female EEC staff on use of purchased equipment and issuing inspection reports. (Activity 4.1.4)	- Percent women participation in stakeholder meetings on baseline assessment - Percent women participation in training
	Output 4.2 Certified Energy Management and Building Auditors Programmes are adopted by EEC, where Energy Managers are capacitated to conduct building inspections and make recommendations for optimizing EE in buildings nation-wide.	- Encourage women participation in decision making on selecting certification programme (Activity 4.2.1) - Encourage and support women to become Certified Energy Managers and Building Auditors (Activity 4.2.3) - Encourage certified female auditors to conduct building audits (Activity 4.2.4)	- Percent women participation in stakeholder meetings for selecting certification programme - Percent female auditors obtaining certificate and conducting building audits
Project Component 3: Individual and institutional capacity and EE technical knowledge and expertise are strengthened to enhance the ability of national parties to develop and operationalize EE policies, regulations, technical codes, and performance standards in the buildings sector			
Project Outcome 5: Energy Efficiency Center (EEC) is established and capacitated to support the development of EE programs and	**Output 5.1** Develop a Data Flow Diagram (DFD) consistent with the proposed Executive Regulation for EE in Buildings to advocate intra-government collaboration and obtain consensus of the	- Encourage women participation in developing DFD for EE in buildings (Activity 5.1.2) - Ensure meaningful consultation with female stakeholders on DFD (Activity 5.2.4)	- Proportion of team developing the DFD who are women - Percent of stakeholders consulted who are women

Outcome	Outputs	Gender Action	Indicator
applications in the buildings sector.	parties on the DFD and the manuals to use for staff training.		
	Output 5.2 Policy-level training on the proposed regulatory and institutional framework for EE in buildings is conducted, targeting decision makers, public officials, and national experts.	- Encourage women to participate in training workshops from target institutions (Activity 5.2.4) - Conduct training on gender equality and the UNFCCC gender action plan (Activity 5.2.4)	- Percent women participation in training - Gender sensitization training held
Project Outcome 6: The awareness of practitioners involved in the buildings sector, as well as end-users of electricity, on EE regulation and best practices is strengthened	**Output 6.1** Technical training on EE in buildings is conducted targeting students, technicians, contractors, civil engineers, and architects. This will constitute a Training of Trainers (ToT) workshops to enhance the sustainability of knowledge sharing.	- Ensure equal women participation in training workshops (Activity 6.1.3) - Encourage women participation in ToT (Activity 6.1.4)	- Percent women participation in training - Percent women receiving ToT certification
	Output 6.2 Awareness campaigns and events are organized to promote EE applications and programs, and relevant marketing material is developed to increase consumers' commitment to EE practices.	- Ensure awareness raising plan and campaigns and events are gender-sensitive and adopt different approaches to reach both men and women through engaging with women NGOs such as those in Table 1 (Activity 6.2.2 and 6.2.4) - Ensure survey design and implementation is gender-sensitive and is disseminated in a manner that reaches both men and women (Activity 6.2.3 and 6.2.5)	- Percent women participation in awareness raising activities and events - Percent women participation in survey - Marketing material tailored to home businesses

Outcome	Outputs	Gender Action	Indicator
		- Tailor some of the marketing material to home businesses which are dominated by women to improve their energy consumption practices	
	Output 6.3 Financial schemes and incentive mechanisms to promote EE buildings investments, including attracting the engagement of the banking sector, are identified, promoted, and monitored.	- Ensure that gender aspects are included in the assessment of the previous financing mechanism and if adequate measures had been in place to ensure women participation (Activity 6.3.1) - Ensure method of disseminating brochures is designed to reach women owned businesses (Activity 6.3.3)	- Gender aspects included in assessment - Proportion of women-owned businesses receiving brochure on financial schemes and incentive mechanism
Project Component 4: Knowledge and expertise on EE in the buildings sector in Iraq is managed, guided by best practices from other countries, and the impacts of the developed regulatory and institutional framework is continuously monitored and evaluated			
Project Outcome 7: A Knowledge Management (KM) system is developed, and best practices are catalogued through conducting exchange missions to other countries.	**Output 7.1** A KM system is developed in the form of an online portal for the dissemination of EE in building practices, programs, code, and MVE procedure, on the national level.	- Ensure KM system is gender-sensitive and includes approaches that reaches both men and women (Activity 7.1.1) - Encourage women to share projects and success stories to be featured in the KM portal (Activity 7.1.3)	- Gender sensitive KM system in place - Proportion of featured projects and stories by women
	Output 7.2 Exchange missions to relevant regional or international countries with advanced experience in EE buildings deployment are conducted and a best practices catalogue is developed.	- Encourage women participation in assessment of EE regulation and selection of comparable countries (Activity 7.2.1) - Encourage women to participate in exchange missions (7.2.3) - Document experience of women who participate in exchange missions (Activity 7.2.4)	- Proportion of team member assessing legislation who are women - Percent women participation in exchange missions - Percent women sharing experiences

Outcome	Outputs	Gender Action	Indicator
Project Outcome 8: Testing facility and certification programmes are established under EEC, in accordance with the proposed BEEC and MEPS, to support the implementation of the framework's MVE procedure.	**Output 8.1** Set up an institutional mechanism to revise and update building energy performance standards regularly, including the development of guidelines for enforcing EE measures in building.	- Ensure collection of gender disaggregated information is included in M&E system whenever possible (Activity 8.1.1 and 8.1.3) - Encourage women participation in stakeholder workshop for M&E system (Activity 8.1.2) - Incorporate gender aspects in lessons learned (Activity 8.1.4)	- M&E system includes collection of gender-disaggregated information - Percent women participation in stakeholder workshop - Gender aspects incorporated in lessons learned
	Output 8.2 Set up an inventory mechanism and database management system for national energy balance, detailed consumption statistics and related Greenhouse Gas (GHG) emission in the buildings sector to monitor and evaluate EE programs.	- Encourage women participation in inventory development (Activity 8.2.1) - Encourage women participation in stakeholder workshop on inventory mechanism (Activity 8.2.2)	- Percent of team developing the inventory who are women - Percent women participation in stakeholder workshop
	Output 8.3 Capacity building to EEC staff on aspects of M&E, including database management, data collection and reporting, is conducted.	- Encourage female EEC staff participation in training workshops (Activity 8.3.3) and their feedback is obtained through the surveys (Activity 8.3.4)	- Percent women participation in training workshops

Annex 14: GEF Core indicators

Core Indicator 6	**Greenhouse gas emission mitigated**					***(Metric tons of CO_2e)***
			Expected metric tons of CO_2e (6.1+6.2)			
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)		*78,300*	*531,628*		
	Expected CO2e (indirect)		*156,600*	*3,978,632*		
Indicator 6.2	Emissions avoided Outside AFOLU					
			Expected metric tons of CO_2e			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)		*78,300*	*531,628*		
	Expected CO2e (indirect)		*156,600*	*3,978,632*		
	Anticipated start year of accounting			*2027*		
	Duration of accounting			*20 years*		
Indicator 6.3	Energy saved					
			MJ			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			563,760	*1,436,292,000*		
Core Indicator 11	**Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**					***(Number)***
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Female	*25,000*	*1,400*		
		Male	*25,000*	*1,400*		
		Total	*50,000*	*2,800*		

Annex 15: GEF 7 Taxonomy

Level 1	Level 2	Level 3	Level 4
☒**Influencing models**			
	☒ **Transform policy and regulatory environments**		
	☒ **Strengthen institutional capacity and decision-making**		
	☒**Convene multi-stakeholder alliances**		
	☒ **Demonstrate innovative approaches**		
	☐**Deploy innovative financial instruments**		
☒**Stakeholders**			
	☐**Indigenous Peoples**		
	☒**Private Sector**		
		☐Capital providers	
		☐ Financial intermediaries and market facilitators	
		☒Large corporations	
		☒SMEs	
		☒Individuals/Entrepreneurs	
		☐Non-Grant Pilot	
		☐Project Reflow	
	☒**Beneficiaries**		
	☒**Local Communities**		
	☒**Civil Society**		
		☐Community Based Organization	
		☒ Non-Governmental Organization	
		☒Academia	
		☒ Trade Unions and Workers Unions	
	☒**Type of Engagement**		
		☒Information Dissemination	
		☒Partnership	
		☒Consultation	
		☒Participation	
	☒**Communications**		
		☒Awareness Raising	
		☒Education	
		☒Public Campaigns	
		☒Behavior Change	
☒ **Capacity, Knowledge and Research**			
	☒**Enabling Activities**		
	☒**Capacity Development**		
	☒**Knowledge Generation and Exchange**		
	☐**Targeted Research**		
	☐**Learning**		
		☐Theory of Change	
		☐Adaptive Management	
		☐Indicators to Measure Change	
	☐**Innovation**		
	☒**Knowledge and Learning**		
		☒Knowledge Management	
		☐Innovation	
		☒Capacity Development	

		☒Learning	
	☒ **Stakeholder Engagement Plan**		
☒**Gender Equality**			
	☒**Gender Mainstreaming**		
		☒Beneficiaries	
		☐Women groups	
		☒Sex-disaggregated indicators	
		☐Gender-sensitive indicators	
	☒**Gender results areas**		
		☐Access and control over natural resources	
		☒Participation and leadership	
		☐Access to benefits and services	
		☒Capacity development	
		☒Awareness raising	
		☒Knowledge generation	
☒**Focal Areas/Theme**			
	☐**Integrated Programs**		
		☐ Commodity Supply Chains (Good Growth Partnership)	
			☐ Sustainable Commodities Production
			☐Deforestation-free Sourcing
			☐Financial Screening Tools
			☐High Conservation Value Forests
			☐High Carbon Stocks Forests
			☐Soybean Supply Chain
			☐Oil Palm Supply Chain
			☐Beef Supply Chain
			☐Smallholder Farmers
			☐Adaptive Management
		☐ Food Security in Sub-Sahara Africa	
			☐Resilience (climate and shocks)
			☐Sustainable Production Systems
			☐Agroecosystems
			☐Land and Soil Health
			☐Diversified Farming
			☐ Integrated Land and Water Management
			☐Smallholder Farming
			☐Small and Medium Enterprises
			☐Crop Genetic Diversity
			☐Food Value Chains
			☐Gender Dimensions
			☐Multi-stakeholder Platforms
		☐ Food Systems, Land Use and Restoration	
			☐Sustainable Food Systems
			☐Landscape Restoration
			☐Sustainable Commodity Production
			☐Comprehensive Land Use Planning
			☐Integrated Landscapes
			☐Food Value Chains
			☐Deforestation-free Sourcing
			☐Smallholder Farmers
		☐Sustainable Cities	
			☐Integrated urban planning
			☐Urban sustainability framework
			☐Transport and Mobility
			☐Buildings

			☐ Municipal waste management
			☐ Green space
			☐ Urban Biodiversity
			☐ Urban Food Systems
			☐ Energy efficiency
			☐ Municipal Financing
			☐ Global Platform for Sustainable Cities
			☐ Urban Resilience
	☐ **Biodiversity**		
		☐ Protected Areas and Landscapes	
			☐ Terrestrial Protected Areas
			☐ Coastal and Marine Protected Areas
			☐ Productive Landscapes
			☐ Productive Seascapes
			☐ Community Based Natural Resource Management
		☐ Mainstreaming	
			☐ Extractive Industries (oil, gas, mining)
			☐ Forestry (Including HCVF and REDD+)
			☐ Tourism
			☐ Agriculture & agrobiodiversity
			☐ Fisheries
			☐ Infrastructure
			☐ Certification (National Standards)
			☐ Certification (International Standards)
		☐ Species	
			☐ Illegal Wildlife Trade
			☐ Threatened Species
			☐ Wildlife for Sustainable Development
			☐ Crop Wild Relatives
			☐ Plant Genetic Resources
			☐ Animal Genetic Resources
			☐ Livestock Wild Relatives
			☐ Invasive Alien Species (IAS)
		☐ Biomes	
			☐ Mangroves
			☐ Coral Reefs
			☐ Sea Grasses
			☐ Wetlands
			☐ Rivers
			☐ Lakes
			☐ Tropical Rain Forests
			☐ Tropical Dry Forests
			☐ Temperate Forests
			☐ Grasslands
			☐ Paramo
			☐ Desert
		☐ Financial and Accounting	
			☐ Payment for Ecosystem Services
			☐ Natural Capital Assessment and Accounting
			☐ Conservation Trust Funds
			☐ Conservation Finance
		☐ Supplementary Protocol to the CBD	
			☐ Biosafety

			☐ Access to Genetic Resources Benefit Sharing
	☐ **Forests**		
		☐ Forest and Landscape Restoration	
			☐ REDD/REDD+
		☐ Forest	
			☐ Amazon
			☐ Congo
			☐ Drylands
	☐ **Land Degradation**		
		☐ Sustainable Land Management	
			☐ Restoration and Rehabilitation of Degraded Lands
			☐ Ecosystem Approach
			☐ Integrated and Cross-sectoral approach
			☐ Community-Based NRM
			☐ Sustainable Livelihoods
			☐ Income Generating Activities
			☐ Sustainable Agriculture
			☐ Sustainable Pasture Management
			☐ Sustainable Forest/Woodland Management
			☐ Improved Soil and Water Management Techniques
			☐ Sustainable Fire Management
			☐ Drought Mitigation/Early Warning
		☐ Land Degradation Neutrality	
			☐ Land Productivity
			☐ Land Cover and Land cover change
			☐ Carbon stocks above or below ground
		☐ Food Security	
	☐ **International Waters**		
		☐ Ship	
		☐ Coastal	
		☐ Freshwater	
			☐ Aquifer
			☐ River Basin
			☐ Lake Basin
		☐ Learning	
		☐ Fisheries	
		☐ Persistent toxic substances	
		☐ SIDS : Small Island Dev States	
		☐ Targeted Research	
		☐ Pollution	
			☐ Persistent toxic substances
			☐ Plastics
			☐ Nutrient pollution from all sectors except wastewater
			☐ Nutrient pollution from Wastewater
		☐ Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		☐ Strategic Action Plan Implementation	
		☐ Areas Beyond National Jurisdiction	
		☐ Large Marine Ecosystems	
		☐ Private Sector	
		☐ Aquaculture	
		☐ Marine Protected Area	

		☐ Biomes	
			☐ Mangrove
			☐ Coral Reefs
			☐ Seagrasses
			☐ Polar Ecosystems
			☐ Constructed Wetlands
	☐ **Chemicals and Waste**		
		☐ Mercury	
		☐ Artisanal and Scale Gold Mining	
		☐ Coal Fired Power Plants	
		☐ Coal Fired Industrial Boilers	
		☐ Cement	
		☐ Non-Ferrous Metals Production	
		☐ Ozone	
		☐ Persistent Organic Pollutants	
		☐ Unintentional Persistent Organic Pollutants	
		☐ Sound Management of chemicals and Waste	
		☐ Waste Management	
			☐ Hazardous Waste Management
			☐ Industrial Waste
			☐ e-Waste
		☐ Emissions	
		☐ Disposal	
		☐ New Persistent Organic Pollutants	
		☐ Polychlorinated Biphenyls	
		☐ Plastics	
		☐ Eco-Efficiency	
		☐ Pesticides	
		☐ DDT - Vector Management	
		☐ DDT - Other	
		☐ Industrial Emissions	
		☐ Open Burning	
		☐ Best Available Technology / Best Environmental Practices	
		☐ Green Chemistry	
	☒ **Climate Change**		
		☐ **Climate Change Adaptation**	
			☐ Climate Finance
			☐ Least Developed Countries
			☐ Small Island Developing States
			☐ Disaster Risk Management
			☐ Sea-level rise
			☐ Climate Resilience
			☐ Climate information
			☐ Ecosystem-based Adaptation
			☐ Adaptation Tech Transfer
			☐ National Adaptation Programme of Action
			☐ National Adaptation Plan
			☐ Mainstreaming Adaptation
			☐ Private Sector
			☐ Innovation
			☐ Complementarity
			☐ Community-based Adaptation
			☐ Livelihoods
		☒ **Climate Change Mitigation**	
			☐ Agriculture, Forestry, and other Land Use
			☒ Energy Efficiency

			☐ Sustainable Urban Systems and Transport
			☒Technology Transfer
			☐Renewable Energy
			☐Financing
			☐Enabling Activities
		☐**Technology Transfer**	
			☐ Poznan Strategic Programme on Technology Transfer
			☐ Climate Technology Centre & Network (CTCN)
			☐Endogenous technology
			☐Technology Needs Assessment
			☐Adaptation Tech Transfer
		☐**United Nations Framework on Climate Change**	☐Nationally Determined Contribution
	☒ **Rio Markers**		
		☐Paris Agreement	
		☒Sustainable Development Goals	
		☐Climate Change Mitigation 0	
		☐Climate Change Mitigation 1	
		☒Climate Change Mitigation 2	
		☐Climate Change Adaptation 0	
		☐Climate Change Adaptation 1	
		☐Climate Change Adaptation 2	