

## Central project evaluation – executive summary

# Energy Efficient Building Refurbishment (EEP)

Project title	Energy Efficient Building Refurbishment		
Country/region/global	Mongolia		
Sector and CRS code	23183 – Energy saving and energy efficiency (100%)		
Project number	2018.2119.8		
Commissioning party	German Federal Ministry for Economic Cooperation and Development (BMZ), co-financier Swiss Agency for Development and Cooperation (SDC)		
Lead executing agency/implementing partner organisations	Ministry of Energy, Municipality of Ulaanbaatar (MUB)		
Development cooperation (DC) programme	Energy Efficiency in Mongolia		
Implementing organisations of the DC programme	Kreditanstalt für Wiederaufbau (KfW), Physikalisch-Technische Bundesanstalt (PTB), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH		
Project value	EUR 8,149,928 (of which EUR 3,649,928 is co-financed by SDC)		
Project term	January 2019 – March 2022		
Reporting year CPE	2021	Sample year CPE	2019

### Context of the project

Mongolia is characterised by extreme climatic conditions with short summers and long, extremely cold winters. Of the country’s 3.2 million inhabitants (2019), 1.5 million live in the capital, Ulaanbaatar. At present, the population in the ger districts is estimated to be around 800,000, 52 percent of whom are female.

Mongolia’s increasing demand for energy and its hazardous air pollution, which affects the health of its population, is putting pressure on the government to take energy conservation seriously. Energy efficiency features prominently in Mongolia’s National Green Development Plan, which was approved by Parliament in June 2014. The Plan states that the Government will increase investment in energy efficiency and green development by 2 percent of GDP annually for an unspecified number of years.

The Ministry of Energy, Municipality of Ulaanbaatar (MUB) gives special priority to the topic of energy efficiency due to the link between a more efficient use of energy in buildings and its effect on health, comfort and air quality.

Increasing energy efficiency is a key objective of the Green Development Strategic Action Plan for Ulaanbaatar 2020.

The city also draws on existing national policy documents and regulations such as the Energy Efficiency Act and the National Energy Efficiency Plan, which were passed by Parliament in November 2015 and September 2017 respectively.

As it is responsible for managing municipal investment in public buildings, MUB can create favourable conditions for improving energy efficiency in public and private buildings by improving its public investment management (PIM) through the promotion of good governance and transparency.

Figure 1: Project region (Source: GIZ).



## Brief description of the project

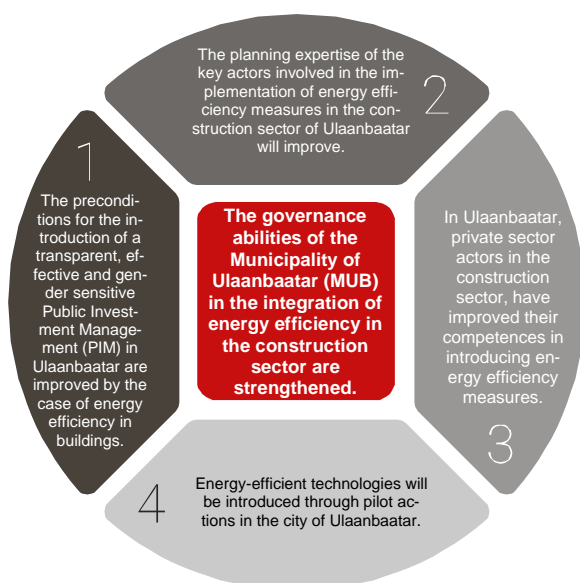
As part of the development cooperation programme Energy Efficiency in Mongolia and on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has been implementing in close collaboration with MUB the project Energy Efficient Building Refurbishment in Mongolia (EEP). The project ran from 2019 to 2021. It had a budget of 8.149.928 Euro, of which 3,649,928 Euro was provided by the Swiss Agency for Development and Cooperation (SDC). This project is the focus of this evaluation. The project is ongoing until the end of March 2022.

The project objective is: “The governance capacity of the Municipality of Ulaanbaatar for the integration of energy efficiency in the construction sector is to be strengthened.”

The project consists of the following four components:

- component 1 – Public Investment Management (PIM)
- component 2 - Local Energy Efficiency Action Plan (LEEAP)
- component 3 – Private Sector Involvement in Energy Efficiency (EE)
- component 4 – Thermo-Technical Refurbishment of Public Buildings (TTR).

Figure 2: Project objective/areas of intervention



## Assessment according to DAC criteria

### Relevance

The project objectives were well aligned with national and local development policies. Most importantly, they were well aligned with the National Energy Efficiency Action Programme of Mongolia 2018–2022, which was praised by the key partners and acknowledged as a good basis and practice for further scaling up to the provinces.

Essentially, every key partner organisation agreed that the project responded well to their practical needs and provided the policy support they needed. All participants (beneficiaries) in the Focus Group Discussions (FGDs), who represented teachers, staff of the school and kindergartens, and parents, gave the project the rating ‘5 – Most relevant’ in terms of its importance and relevance to actual needs.

The representatives of the households that received energy-efficient housing loans also acknowledged that the project objective responded well to their actual needs, regardless of the fact that some of them faced and continue to face problems relating to the performance of the construction company.

In general, the relevance of the project was well demonstrated at all levels of its implementation.

## Coherence

Energy efficiency is one of three stand-out priority areas of German development cooperation (Cooperation Strategy for Mongolia, 2012). The Swiss Agency for Development and Cooperation (SDC) aims to contribute to the empowerment of Mongolian citizens and institutions towards an equitable, green and prosperous society, leaving no one behind (Cooperation Strategy Mongolia 2018–2021).

The project fits completely into the domain of governance in the cooperation strategy, responding to both the expected outcomes of decentralisation and democratisation. It also corresponds to the mainstream theme of gender and governance through its focus on gender-responsive budgeting policies.

A donor coordination group including all major donors in Mongolia was set up. The aim of this group was to meet regularly and share updates.

The project also coordinated with the following projects implemented by other donors:

- the Citizens' Budget Manual for 2020 was developed with the World Bank's Mainstreaming Social Accountability in Mongolia (MASAM) project,
- the Urban Governance Project (UGP) implemented by the Asia Foundation (TAF), was supported in their project's capacity development framework by converting offline training modules into online training modules, preparing trainers and providing training at the MUB Training and Research Centre, and
- the renovation of kindergarten No. 147 with UNICEF's project Impact of Air Pollution on Maternal and Child Health to improve children and mothers' health in Ulaanbaatar.

## Effectiveness

The project objective indicators 1, 2 and 3 were fully achieved by the end of the project, whereas the specified objective indicators – the newly developed guidelines for a transparent, effective and gender sensitive public investment management (PIM) was used to select the schools for refurbishment in 2021. As the investment decision was made and the refurbishment work is in progress – refurbishment of one school has started and three were in the procurement process during the evaluation mission – indicator 1 is considered achieved.

Indicator 4 regarding the implementation of energy efficiency measures is not yet considered achieved as the lessons learned in other ger districts have yet to be transferred. However, there is still time the project is ongoing until March 2022 (as per cost-neutral prolongation).

According to the interviews, schools for refurbishment for the fiscal year 2022 have been rated and selected. If there are schools in other ger districts, then they can be recorded for this indicator. If the school and kindergarten refurbishment proposals are approved by the relevant authorities, details of the selected schools must be reviewed and replication of the practices in non-target ger districts should be identified. Indicator 4 could then be evaluated and added to the assessment. Currently, the achievement of indicator 4 is 0%.

Figure 3: Achievement of the project's objective indicators



## Impact

In the field of energy efficiency, the project strengthened the capacities of the construction and financing sector, which in turn resulted in policy adoption, integration of gender-sensitive public investments, and the scaling up of energy-efficient refurbishments throughout the country (outside the focus regions of the project).

Apart from the socio-economic and energy efficiency benefits of retrofitting public buildings and the work on good governance, the project contributed to the advancement of various other aspects, such as gender mainstreaming, gender-responsive budgeting, local budget and investment project information transparency, public investment project planning & monitoring (with involvement of citizens/parents), and asset management in Ulaanbaatar. Moreover, the public investment management (PIM) capacities of civil servants in Ulaanbaatar at district and city administration level as well as parents' involvement in schools/kindergarten operations have improved thanks to the project's capacity-building and coaching programmes. The project promotes political dialogue in the energy sector at national and city level.

Photo 1: Parental Participation (Source/©: GIZ EEP/2021).



## Efficiency

The use of project resources and the modes of delivery were reasonable. Given that the project is ongoing, the evaluation concluded that the project's overall expenses were in line with the cost plan as reflected in the table of the efficiency tool on the planned budget against expenditure. The budget analysis revealed that the overarching costs of the project were moderate. The project made intensive use of local expertise. International experts were deployed prior to the pandemic and in areas where local experts are not available. This approach helped lower costs while ensuring that knowledge remains available and continues to evolve at local level. The project made use of numerous instruments and experiences already developed in other TC projects. It mobilised reasonable amounts of financial resources (such as co-financing) from the partners for EE refurbishments, thus enhancing ownership among partners.

There are several public investment management capacity development projects, especially those fully or partially funded by SDC. For this reason, the efficiency of allocated instruments was compared with those projects. The project made an efficient contribution by developing guidelines for a transparent, effective and gender-sensitive PIM for the municipality to be developed and used as a pilot in the retrofitting of buildings in the education sector. MUB contributed financially to these activities. The project's own human and technical resources were deployed.

## Sustainability

Partners and stakeholders confirmed that thanks to the project, they have witnessed a significant improvement in capacity in terms of training and awareness-raising, adoption of new guidelines, tools and systems, creation of knowledge and practices, enhanced cooperation and partnership and the updating of relevant standards.

However, each of the key partners pointed out that further capacity-building for professional staff and experts on a more advanced level and an introduction to international practices and technologies are needed to further promote EE.

Other factors that are important for the promotion of sustainability include a sustainable cooperation and communication mechanism for stakeholders, promotion and advocacy of the project results, achievements and lessons learned to the government, public and stakeholders at various levels.

In general, in the legal and policy context, government commitment is stable and both the public and social demand for the integration of EE into construction and the interest of private and financial actors in it are growing. This creates a positive enabling environment.

The project evidently contributed to the updates of the regulation, standards and policies. Besides the most obvious contribution to the development of LEEAP, EEP contributed to the update of the building thermal norm standard and to the development of the Green Building Council. The Ministry of Finance expressed its interest in EEP's contribution to the update of the PIM procedure, which will further ensure EE's integration into PIM.

Overall, key stakeholders greatly valued GIZ's contribution to building capacity in energy and EE.

## Overall rating

The project's most obvious strength was definitely its technical national staff. All interviewees praised the project staff's knowledge of energy efficiency.

The partners also considered GIZ a trustworthy partner.

Despite the low prices consumers pay for energy and their lack of knowledge and motivation to invest in energy efficiency measures, the project found a way to overcome these barriers and enable investments in EE refurbishments and construction of new energy-efficient houses by developing blueprints and increasing the capacities of construction companies, public institutions, financial institutions and citizens.

Apart from energy savings and emission reductions, the project contributed to the improvement of indoor air quality, increased longevity of buildings, energy conservation norms (introduced energy labelling) and the introduction of energy audits.

Table 1: Rating of OECD/DAC evaluation criteria

Criteria	Score (Max. 100)	Rating 1 (highly successful) to 6 (highly unsuccessful)
Relevance	98	Level 1: highly successful
Coherence	95	Level 1: highly successful
Effectiveness	92	Level 1: highly successful
Impact	93	Level 1: highly successful
Efficiency	85	Level 2: successful
Sustainability	97	Level 1: highly successful
<b>Overall</b>	<b>93</b>	<b>Level 1: highly successful</b>

## Conclusions and factors of success and failure

The project's objectives were well aligned with the actual needs and policy directions of the partners, stakeholders, beneficiaries and government in general, which can be considered a key success factor. The project design and ToC were well developed and practical, and stakeholders acknowledged the experience and competence of the project team. Many interventions benefited from GIZ presence on the ground, which generated opportunities for activities where needed and desired – at the right time and in the right place. Notwithstanding major challenges in terms of time constraints and external factors, the project proved to be sufficiently flexible and adaptable and was therefore able to influence and contribute to policymaking and institution-building in the country.

The project showed a high degree of relevance in terms of alignment of thematic areas, goals and objectives with BMZ's mandates and the priorities set by Mongolia. The project had a clear approach to integrating gender issues into energy efficiency planning, investments and a multisectoral approach. An important advantage of the cooperation was the promotion of multi-stakeholder and intersectoral work, which resulted in more inclusive and participatory processes, as well as enhanced ownership in advocacy processes.

Overall, the project's contribution to the intended outcomes by enhancing the capacities of all partners, stakeholders and beneficiaries was effective. The project result frameworks capture progressive changes. This means that achievements are measurable and were reported in accordance with SMART (specific, measurable, achievable, relevant, time-bound) criteria.

The project has reached and maintained considerable levels of efficiency over time, with high standards of quality and the utility of products and services.

## Recommendations

The project (GIZ) should invest in and develop a strategy for communication and dissemination to increase the use, benefits and sustainability of the knowledge generated within the project, including not only working tools and methodologies but also products (publications, databases, instruments and methodologies for studies, evaluations and diagnostic analyses); to increase potential benefits for interest groups as well as programme multiplier effects, and in particular to upscale EE refurbishments to other areas of the country.

The MUB should work to strengthen and integrate EE and gender equality into PIM, integrate methodologies and indicators into national information systems and enhance political dialogues and peer-to-peer experience.

The following recommended activities can be considered for future projects or project activities:

- the continuation of gender-sensitive trainers and training, disaggregation of data according to gender,
- the sustainable scaling up of LEEAP, in particular for smaller and remote municipalities,
- the sustainable scaling up of financing models/mechanisms for energy efficiency,
- the establishment of energy management systems within municipalities and the establishment of a holistic energy efficiency information system, incorporating different software approaches,
- the strengthening of local experts (i.e., training trainers, strengthening service providers, etc.),
- a focus on energy policy and strategic development (i.e. legal and regulatory framework implementation of energy certification and labelling, energy management information system, switching to actual consumption of district heating systems, etc.),
- support for the improvement of vertical and horizontal cooperation through networks, working groups, seminar, events, etc., and
- tapping into renewable energy and sustainable urban mobility projects.



## Approach and methods of the evaluation

The project had an enormous number of stakeholders at various levels of engagement. For this reason, the identified stakeholders were involved in the evaluation mission to capture their perspective on the project's achievements and the lessons learned to ensure the quality of evaluation results. The partners and stakeholders relevant to the effectiveness, efficiency, impact, sustainability and ownership of the project outcomes were actively involved throughout the evaluation process.

All respondents (interviews, FGDs) were interviewed. During the interview process, notes were taken and, when permission was given, the interviews were recorded. Thorough desk analyses of the documents and data provided by the partners and stakeholders were carried out to validate or enforce the interview findings.

The collected data and documents were analysed on the basis of the framework in the evaluation matrix, which itself derives from the theory of change and results model.

Depending on the OECD/DAC criteria, the evaluation design followed the analytical questions from the evaluation matrix, whereas the assessment of particular dimensions within a certain criterion was conducted with the analysis of the contributions of project activities to outputs and outcomes achieved using the contribution analysis.

Due to COVID-19 travel restrictions, the evaluation team conducted a semi-remote evaluation. Both evaluators conducted online interviews. The local evaluator also conducted a number of physical interviews. At the end of each day, the information was shared, discussed and triangulated by the two evaluators and a strategy was drawn up for the interviews to be held on the following day.

## Rating system

Projects are rated based on the OECD/DAC criteria of relevance, coherence, effectiveness, impact, sustainability, and efficiency. Each of the six criteria is rated on a scale of 1 to 100 (percentage system).

The project's overall score is derived from the average points awarded for the individual DAC criteria. The average value for the overall score is rounded according to mathematical convention. All DAC criteria are equally weighted for the overall score. Compared with the predecessor systems (6-point scale, 16-point scale), a 100-point scale has a number of advantages in that it allows differentiation, is commonly used internationally, is easy to understand and can readily be converted into other assessment systems.

Table 2: Rating and score scales

100-point scale (score)	6-level scale (rating)
92–100	Level 1: highly successful
81–91	Level 2: successful
67–80	Level 3: moderately successful
50–66	Level 4: moderately unsuccessful
30–49	Level 5: unsuccessful
0–29	Level 6: highly unsuccessful
Overall rating: The criteria of effectiveness, impact and sustainability are knock-out criteria: If one of the criteria is rated at level 4 or lower, the overall rating cannot go beyond level 4 although the mean score may be higher.	

Both the assessment dimensions within the OECD/DAC criteria and the determination of the overall score using a points system serve to increase the transparency of ratings while enabling better comparability between individual projects.

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