

# Terms of Reference

## Aggregation of typical energy efficiency renovation projects in Eastern Europe, Caucasus and Central Asia

### 1. Background

Energy efficiency is part of Sustainable Development Goal 7, under which the global rate of improvement should be doubled by 2030<sup>1</sup>; moreover, the targets for emissions reductions set forth in the Paris Climate Agreement have put energy efficiency high on the political, industrial and civil society agenda, as an essential strategy for emissions reduction. The development of national policies on energy efficiency is gaining pace around the globe, namely encompassed in the National Determined Contributions and in policy and regulatory initiatives of individual countries. Policy developments put focus on creating a framework for further enhanced market design for energy efficiency products and secondary legislation to regulate sectoral operation. At the local level, however, energy efficiency actions are still often fragmented and small-scale, which limits their contribution towards achievement of the global objectives.

Standardization of relatively similar energy efficiency investment projects at the local (i.e. municipal or district) level could bring an opportunity to get volume and upscale energy efficiency implementation through a coordinated approach. Targeted technical assistance, including financial structuring assistance at the proposal identification and development stage, paired with long-term support to local authorities based on training, communications and awareness raising, an organized and standardized methodology for data collection, and consolidated project analysis, could bring economies and form a supply pipeline of energy efficiency investments to existing financing structures.

A number of regions demonstrate significant energy efficiency potential in existing buildings. Many countries, especially the Post-soviet states, have numerous buildings that were building in series and, therefore, have similar construction and engineering features and levels of energy consumption. This segment of buildings is vast and includes both residential and public buildings. It represents a good opportunity for creating an investment-grade portfolio of multiple similar projects for a large-scale energy efficiency renovation programme. At the same when improving energy efficiency in existing buildings, it is important that the maximum economically feasible potential is realised through proposed measures in order to avoid locking-in energy savings in the building's life cycle.

The Copenhagen Centre on Energy Efficiency is seeking a consultant to develop the methodology for identification and aggregation of typical building renovation projects into a sizable portfolio based on the required technical solutions.

### 2. The Copenhagen Centre on Energy Efficiency

The Copenhagen Centre on Energy Efficiency (Hereinafter referred to as “Copenhagen Centre”) is a research and advisory institution dedicated to accelerating the uptake of energy efficiency policies, programmes and actions

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<sup>1</sup> Target 7.3 of Sustainable Development Goal 7: “Ensure access to affordable, reliable, sustainable and modern energy for all” is to double the global rate of improvement in energy efficiency by 2030.

globally. The Copenhagen Centre serves as the Energy Efficiency Hub of the Sustainable Energy for All (SEforALL) Initiative. The Centre's prime responsibility is to support SEforALL's objective of doubling the global rate of energy efficiency improvement by 2030.

The Copenhagen Centre was established as a joint activity of the Danish Government, the United Nations Environment Programme (UNEP) and the Technical University of Denmark (DTU), and is dedicated to accelerating the uptake of energy efficiency policies and programmes at a global scale. The Copenhagen Centre is institutionally part of the UNEP-DTU Partnership (UDP).

UDP is a collaborating centre with UNEP and is a separate legal entity under the Technical University of Denmark (DTU) referring to the Danish Ministry of Science, Technology and Innovation, organised and existing under the laws of Denmark. This contract is with the legal entity DTU and therefore UNEP is not liable for claims of any kind arising out of the activities under this agreement.

### **3. Assignment**

Through its previous work in Eastern Europe, Caucasus and Central Asia, the Copenhagen Centre has identified that energy efficiency can be brought to the scale through implementation of a number of typical measures in numerous buildings around the region, which share similar construction and engineering characteristics, as well as the patterns of energy use.

The purpose of the current assignment is to develop a standardised methodology for aggregation of similar but fragmented projects in different locations into one investment portfolio. The methodology shall include the following components:

#### ***1. Identification of the building type for the portfolio***

The portfolio shall include buildings of the same type, characteristic to a number of buildings in different locations (within the same city, or in different cities, or in different countries). Buildings of the same type should have similar construction materials, configuration and features of the building envelope, HVAC systems, windows, etc. Portfolio can be created around typical non-residential (e.g. school) buildings.

#### ***2. Selection of projects to be included into the portfolio***

The developed methodology shall provide recommendations to the local experts and city authorities on the criteria and characteristics of buildings in accordance to which the portfolio can be formed. Developed methodology should become a basis for further decision making by local experts and city authorities. This tool is aimed to support local administrations in their work on selection of similar buildings suitable for energy efficient modernisation.

#### ***3. Suggestion of typical technical solutions***

The methodology shall include recommendations on typical technical solutions for energy efficiency modernisation for identified typical buildings.

The tentative structure of the assignment and the timeline is expected to be the following:

Assignment component	Duration in working days	Period
Preparation of the detailed work plan of methodology development. Development of the data collection template for conducting pre-feasibility assessment of energy efficiency renovation of typical municipal buildings applicable in Georgia, Ukraine, Belarus, Kazakhstan.	10	April 2018
<ul style="list-style-type: none"> <li>Development of the standardized methodology for pre-feasibility assessment of energy efficiency renovation of typical buildings and aggregation of the standardized projects into the investment pipeline (including a calculation algorithm for the assessment).</li> <li>Materials update based on the feedback from the review process.</li> </ul>	20 10	April – May 2018
Prepare publication "Methodological guidance for project development on energy efficiency renovation of typical buildings"	15	May – June 2018
Finalisation of methodological materials	2	June 2018
<b>In total</b>	<b>57</b>	<b>April – July 2018</b>

#### 4. Requirements

The consultant should fulfil the following requirements:

- 1) At least 10 years of work experience in development and implementation of energy efficiency projects in the building sector in Eastern Europe, Caucasus and Central Asia
- 2) Expertise in conducting energy audits and energy assessments in buildings
- 3) Experience in development and implementation of smart energy management systems in buildings
- 4) In-depth knowledge of the regional context (Eastern Europe, Caucasus and Central Asia) in relation to energy efficiency improvements in buildings, namely: related regulatory framework, barriers, key stakeholders, cost-effective technologies, sources of finance, commercial and legal issues, manufacturers, etc.
- 5) In-depth knowledge of international best-practices on energy efficiency improvements in buildings, including technical solutions, policy instruments, project structures and financing models, as well as understanding of their applicability for the regional context
- 6) Well-established expert and collaboration network at the national and local levels in Eastern Europe, Caucasus and Central Asia to provide the opportunity for potential replication of the project
- 7) Advanced communication skills, both oral and written, proven by the track record of presentations and publications
- 8) Professional project management skills, proven by the track record of successfully implemented projects
- 9) High level of professionalism in technical work, stakeholder relationships and dissemination of the results
- 10) Fluency in English and Russian

## **5. Application**

Quote with the outline of qualifications and relevant expertise, breakdown of activities and associated costs (indicating separately costs for staff, travel, materials, etc.) to be submitted to Ksenia Petrichenko at [ksepe@dtu.dk](mailto:ksepe@dtu.dk) by April 12.