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INVENTORY OF PUBLIC BUILDINGS – THE FIRST STEP FOR THE PROMOTION OF THE ENERGY EFFICIENCY OF PUBLIC BUILDINGS

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Role of inventory in improving energy efficiency of public buildings

- Creating a unified register of public buildings (offices of executive authorities or all administrative buildings)
- Centralized data collection and storage system
- Possibility to update data on the usable area of individual buildings and the sector as a whole
- Essential data to plan a national renovation program
- If the survey is used as a means of collecting data, it is possible to regularly update and refine data on energy consumption by public buildings, as well as compare key indicators of consumption efficiency by buildings for various government institutions.
- The data may be used for other national or local energy efficiency programs on public buildings. Buildings with the lowest energy efficiency will be prioritized for renovations and other energy efficiency measures.

Role of energy efficiency in country's economic development

Why is it advisable to firstly improve energy efficiency of public buildings?

Public buildings are significant energy consumers. Possibility to save budget

Easier to implement energy efficiency measures and monitor results

Significant potential to demonstrate energy efficiency benefits

Social effect

Role of energy efficiency in country's economic development

For countries with a high share of energy imports - possibility to reduce costs; energy security

For energy exporting countries - possibility of a significant increase in budget revenues by increasing export volumes

Economic activity: new jobs, new companies, technological development

Inventory of buildings for executive authorities – Georgian experience

- At the beginning of 2022, the Ministry of Economy and Sustainable Development conducted the first (pilot) inventory of the buildings for central government authorities.
- This was made as part of the commitment to implement the European Energy Efficiency Directive and the Georgian Energy Efficiency Law.
- In accordance with the national minimum energy efficiency requirements, the country is committed to annually renovate **1%** of administrative buildings with a usable area **of 250 m² and above** (before 2023-**500 m² and above**).
- In the absence of a unified database of public buildings, it was decided to conduct a pilot study in offices of executive authorities (ministries and key agencies).
- Data were collected for **175 buildings** with a total area of **741,673 m²** and a usable area of **594,605 m²**.
- Average energy consumption is **175 kWh/m²**.
- Average usable area of buildings is **3 400m²**
- In 2023, the Ministry initiated the second stage of the inventory in order to clarify and update the data, as well as take into account buildings with a usable area of 250 m² and more.

Inventory of administrative buildings – Georgian experience

- In 2022, after a pilot inventory of the buildings for executive authorities, an initial inventory of all administrative buildings that are owned and used by the state institutions was carried out.
- Due to the large amount of data, the inventory was based on administrative data, namely the state register.
- In addition to obtaining primary data, the purpose of the inventory was to explore the possibility of using administrative data for the inventory and to identify the main gaps and inaccuracies in the accounting system.
- The total area of all administrative buildings with a useful area of 500 m² and above totals to **6,412,621 m²**, and the area of buildings with a useful area of 250 m² and above is **6,902,937 m²**.
- Updated data were available only in 40% of cases.
- The register does not provide data on energy consumption.
- The register is an electronic database of the registered land plots and real estate available on these plots. In addition to the technical database, the register provides GIS data.

Special features and process complexity

- Buildings in the state register and database are not assigned an identification number, which makes it difficult, and in some cases impossible, to sort or analyze buildings.
- Heterogeneous data, lack of a centralized data collection system.
- Frequent inconsistency between the data obtained during the survey (inventory of executive authorities) and administrative data. A significant difference was observed in 40% of cases.
- Difficulties in obtaining data: many respondents found it difficult to indicate the useful area, the owner (in the case when several institutions occupied the same building), the total figures on the building, etc.
- Large amount of data written by hand. The need to automate the process, especially in the case of an inventory of administrative buildings.
- Rather low response rate in the first (pilot) inventory.

Improving inventory efficiency and data quality

1. Improved questionnaires based on previous inventory experience
2. Detailed structure of the executive authorities, taking into account all key and relevant agencies
3. List of contact persons – representatives of relevant institutions for effective communication.
4. Informing the Ministry of Economy and the State Register about the existing problems.
5. More accurate data was obtained during the second inventory due to increased awareness of respondents and more effective communication.
6. Creating a single working document with data from previous inventories to analyze data over time, clarify inaccurate data and to simplify data collection in each subsequent update of the inventory / register of public buildings. According to the Energy Efficiency Law, the register must be updated every year



THANK YOU!

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