REGULATORY AND TECHNICAL FOUNDATIONS OF BUILDING ENERGY AUDITS IN THE REPUBLIC OF MOLDOVA: STANDARDS, PROCEDURES, AND BEST PRACTICES

Mariana HAIDUCOVA
Assistant Professor, Vice Dean, Faculty of Urban Planning and Architecture, Technical University of Moldova, e-mail: mariana.haiducova@fua.utm.md

Eugeniu BRAGUTA
Associate Professor, Dr., Interim Dean, Faculty of Urban Planning and Architecture, Technical University of Moldova, e-mail: eugeniu.braguta@fua.utm.md

Olga HAREA
Associate Professor, Dr., Faculty of Urban Planning and Architecture, Technical University of Moldova, e-mail: olga.harea@fua.utm.md

Diana ANDRONOVICI
Assistant Professor, Vice Dean, Faculty of Urban Planning and Architecture, Technical University of Moldova, e-mail: diana.andronovici@fua.utm.md

Abstract. The article analyzes the legal, normative, and procedural framework governing building energy audits in the Republic of Moldova, in the context of alignment with European energy efficiency directives. It presents the relevant national regulations, applicable technical standards, the authorization procedure for energy auditors, and the methodological stages of conducting audits for existing buildings. The study highlights the strategic role of energy auditors in reducing energy consumption and greenhouse gas emissions, as well as in facilitating access to financing for renovation projects. It also examines international best practices and national programs supporting the transition toward a sustainable built environment.

Key words: energy audit, building energy performance, regulatory framework, technical standards, audit methodology, energy efficiency policy, building sector, authorization of energy auditors.

1. Introduction

In the current context of intensified international efforts toward a low-carbon economy, energy efficiency in the building sector has become a strategic priority (Annunziata *et al*., 2014; Johnsson *et al*., 2025). Residential, public, and commercial buildings represent one of the largest energy consuming sectors worldwide, contributing significantly to greenhouse gas emissions and increasing pressure on energy resources.

The energy audit is a fundamental instrument for assessing the energy performance of buildings (Zanardo *et al*., 2018), providing an objective technical

diagnosis of how energy is consumed and identifying viable solutions for its optimization. Beyond its direct economic benefits, the energy audit serves as a cornerstone for public policy development (Palmer *et al*., 2013; Fresner *et al*., 2017), for attracting financing dedicated to energy efficiency, and for supporting the sustainable development of the built environment.

The Republic of Moldova has undertaken substantial efforts to consolidate the institutional and legislative framework governing energy audits. A key milestone in this process was the transposition of Directive 2012/27/EU on energy efficiency, implemented through Legal Act Nr. 139/ 2018, followed by a series of secondary regulations defining auditor qualification requirements and the methodological procedures for conducting audits. Together, these instruments establish the minimum conditions for performing energy audits, specify the competencies necessary for the authorization of energy auditors, and set the mandatory content and quality criteria for audit reports.

The main objective of this article is to examine the legal, normative, and procedural framework that regulates energy audits in the Republic of Moldova. The analysis focuses on the requirements for obtaining auditor authorization, the technical standards that apply to the auditing process, and the typical structure of an energy audit for existing buildings. In addition, the article highlights the role of energy auditors in improving the energy performance of the national building stock and in supporting the achievement of Moldova's energy-efficiency goals.

2. Legal and Normative Framework for Building Energy Audits in the Republic of Moldova

The establishment of an effective energy audit system requires the existence of a coherent and well structured legal framework that is well aligned with European energy efficiency policies and directives (Androutsopoulos *et al*., 2020). Such alignment ensures methodological consistency, facilitates the adoption of best practices, and supports the integration of national measures into broader regional objectives.

In the Republic of Moldova, the regulatory development process has accelerated in recent years, driven primarily by the transposition of key elements of European legislation and by the institutional strengthening of the bodies responsible for oversight and implementation within the energy-efficiency sector.

2.1. General Legal Framework

The foundation of the national regulatory framework in the field of energy efficiency is Normative Act No. 139 of 19 July 2018 on Energy Efficiency, which partially transposes the provisions of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency. This act establishes the principal obligations of stakeholders operating within the energy sector, defines the institutional architecture governing energy efficiency measures, and specifies the responsibilities associated with the execution and oversight of energy audits.

According to Article 3 of Normative Act No. 139/2018, an energy audit is defined as a *"systematic procedure designed to gather essential information on the current energy consumption profile of a building or group of buildings, an industrial process, an industrial or commercial installation, or a public or private service, and to identify and quantify cost-effective opportunities for energy savings, followed by the reporting of the results."*

Thus, the energy audit plays a key role in supporting decisions related to

renovation, modernization, or optimization of existing energy systems.

The same normative act also establishes the institutional framework required for implementing energy-efficiency policies, including: (1) responsibilities of the Government of the Republic of Moldova in the field of energy efficiency; (2) responsibilities of the Ministry of Energy as the central specialized authority in the energy sector; (3) responsibilities of the National Centre for Sustainable Energy (CNED); and (4) responsibilities of local public authorities.

This act operates in correlation with other relevant normative documents, including: (1) Normative Act No. 282/2023 on the Energy Performance of Buildings, which regulates minimum energy-performance requirements for new and existing buildings, including the obligation of energy certification; (2) Technical regulations and construction standards (including the SM EN 16247 and SM EN 15316 series), which support the practical implementation of measures proposed through energy audits; and (3) Urbanism and Construction Code No. 434 of 28.12.2023, particularly the sections concerning minimum energy-efficiency requirements and the use of renewable energy sources in buildings.

Overall, the national legal framework provides a foundation for developing energy auditing as a strategic instrument for improving the performance of the building stock. However, further improvements are needed to ensure full functionality, alignment with European best practices, and adaptability to local market conditions.

2.2. Technical Norms and Standards Applicable to Energy Audits

The implementation of energy audits in the Republic of Moldova must comply with a set of national technical norms and applicable European standards that define the methodology, performance indicators, and reporting requirements. These documents constitute the technical and legal foundation for conducting an accurate assessment of the energy performance of buildings.

At the national scale, the essential reference standards and regulations are NCM M.01.01 – Energy Performance of Buildings. Minimum Energy-Performance Requirements, NCM M.01.02 – Energy Performance of Buildings. Methodology for Calculating Building Energy Performance, SNiP 2.01.01-82 – Construction Climatology and Geophysics, CP E.04.05 – Design of Thermal Protection for Buildings, SNiP 2.04.05-91 – Heating, Ventilation, and Air Conditioning, and NCM C.04.02 – Natural and Artificial Lighting, among others.

Internationally and within the European regulatory framework, the relevant standards include: EN 16247-2 – Energy Audits. Part 2: Buildings, EN ISO 52016-1 – Energy Performance of Buildings. Energy Needs for Heating and Cooling, Internal Temperatures, and Sensible and Latent Heat Loads. Part 1: Calculation Methods, EN 15316-2 – Energy Performance of Buildings. Method for Calculating System Energy Requirements and System Efficiencies. Part 2: Emission Systems for Heating and Cooling (Modules M3-5, M4-5), EN ISO 52120-1 – Energy Performance of Buildings. Contribution of Building Automation, Controls, and Building Management. Part 1: General Framework and Procedures, and EN 15316-3 – Energy Performance of Buildings. Method for Calculating System Energy Requirements and System Efficiencies. Part 3: Distribution Systems (DHW, Heating, Cooling) (Modules M3-6, M4-6, M8-6).

Based on these documents, mandatory minimum requirements for preparing a

high-quality energy audit in the building sector have been established. These requirements are detailed in the Annexes to CNED Director's Order No. 21 / AB of 21 May 2024 (for public buildings) and No. 23 / AB of 13 June 2024 (for individual houses). The Annexes also define a common set of essential stages that must be followed throughout the energy-audit process, namely: (1) collection of all necessary input data related to the building or facility undergoing the energy audit; (2) measurement of the relevant energy-related parameters; (3) analysis of energy consumption and the associated costs, including the breakdown of the energy-use structure; (4) recalculation of the actual thermal-energy consumption for space heating during the heating season using standardized climatic data, (5) identification of potential measures for reducing energy consumption; (6) preparation of the building's energy balance; (7) economic and environmental assessment of the proposed energy-saving measures; and (8) preparation of the final energy audit report.

To ensure methodological uniformity and a high level of quality in the provision of energy-audit services, the aforementioned Annexes applicable to public buildings and individual houses introduce a standardized calculation tool in Excel format. This tool serves as the basis for preparing the Energy Audit Report, accompanied by a mandatory standard report template. These files are publicly available and can be downloaded from the official CNED website.

The structure of the report is rigorous and covers aspects such as the presentation of technical assessments, cost analysis of the proposed measure, and the mandatory inclusion of at least three scenarios for improving the building's energy performance. Compliance with this model is monitored in accordance with the Regulation on Energy Auditors and Energy Audits, approved by Government Decision No. 676 of 10 September 2020. This Regulation establishes the mechanisms for verifying the quality of completed energy audits and defines the consequences arising from non-compliance with the prescribed quality criteria.

National legislation also specifies the cases in which an energy audit is mandatory. According to Normative Act No. 139 / 2018 on Energy Efficiency, an audit is required for large enterprises, once every four years, for public buildings undergoing major renovations or other interventions that may affect energy performance and for beneficiaries applying for non-reimbursable funding for energy-efficiency projects.

It is also important to note that, in recent years, the government has encouraged the expansion of energy auditing into the residential sector through public policies: (1) providing support measures for vulnerable consumers, and (2) promoting financial-support mechanisms through the Energy Efficiency Fund for the Residential Sector of Moldova (FEERM) and other national or international financing instruments.

2.3. Regulatory Framework for the Authorization of Energy Auditors

Energy audits are carried out by qualified energy auditors under transparent and non-discriminatory conditions. Their activity is regulated by Law No. 139 / 2018 on Energy Efficiency and by the Regulation on Energy Auditors and Energy Audits. This Regulation defines the minimum requirements for obtaining the status of energy auditor, as well as the procedures for certification and registration in the Electronic Register of Energy Auditors for the Buildings category, which is administered by CNED.

According to the provisions of the Regulation, individuals may become energy auditors for the categories Buildings, Industry, or Transport if they cumulatively meet the following conditions: (1) they are citizens of the Republic of Moldova or hold temporary or permanent residence rights on the territory of the Republic of Moldova, and (2) they possess higher education in an energy-related and/or technical field relevant to the category for which qualification is requested and meet the minimum requirements established for that field. Applicants whose higher education in an energy-related and/or technical field was completed more than five years prior to the qualification request and who do not meet the minimum requirements must submit a certificate of completion of a training or refresher course specific to the auditor category for which qualification is wanted. This certificate must be issued by an accredited educational institution or by CNED and must not be older than two years.

In accordance with points 5(9), 5(10), and 5(11) of the Regulation on Energy Auditors and Energy Audits, CNED is responsible for establishing and approving or updating when necessary the list of university specializations in the energy and/or technical fields that automatically meet the requirements for the qualification and registration of energy auditors. This list is provided in Order No. 07/AB of 4 April 2024. The qualification of energy auditors is confirmed through their registration in the Electronic Register of Energy Auditors, which is publicly accessible and periodically updated, ensuring transparency regarding the competencies and professional status of active specialists. According to the most recent data, the number of auditors registered in the Electronic Register under the Buildings category, as of 06.08.2025, is 119.

To obtain this qualification and be registered in the Electronic Register, the applicant must submit electronically to CNED an application and a self-declaration prepared in accordance with the model established by CNED called "declaration on qualification and registration", signed either manually or electronically.

CNED examines the submitted documents within 15 days and, if no objections, issues an order regarding the qualification and registration of the applicant in the Electronic Register of Energy Auditors. If any doubts arise regarding the authenticity of the documents submitted, CNED is empowered to request the presentation of the original documents for the purpose of verifying the information provided.

The order regarding qualification and registration and/or the refusal of qualification and registration is communicated to the applicant by email within 10 days from its issuance. The applicant has the right to contest the order in accordance with the provisions of the Administrative Code of the Republic of Moldova No. 116/2018.

Energy-audit services are provided on the basis of a contract between the beneficiary and a commercial entity employing one or more energy auditors registered in the Electronic Register, with competencies relevant to the audited object or facility. Service costs are freely determined through negotiation, depending on the complexity of the work and analyses performed, and are reflected in a cost estimate.

In the course of their professional activity, energy auditors are required to comply with the Code of Conduct for Energy Auditors, approved by the Ministry of Energy, and to use and apply the guidelines, instructions, and templates approved by CNED.

3. Procedural Framework for Energy Audits in Existing Buildings

Conducting an energy audit for existing buildings requires following a clearly defined methodological sequence designed to assess the building's current energy performance and to identify feasible improvement measures. In the Republic of Moldova, this procedure is regulated by the Annexes to CNED Order No. 21/AB of 21 May 2024 (for public buildings) and No. 23/AB of 13 June 2024 (for individual houses).

3.1. Stages of the Energy Audit Process

The energy audit process for existing buildings begins with the selection of an authorized energy auditor registered in the Electronic Register of Energy Auditors approved by CNED. After the service contract is signed, the auditor coordinates with the beneficiary the preparatory steps of the activity. During this phase, instructions may also be provided regarding access to the building and compliance with safety rules during measurements, particularly when operating equipment is involved. Once this preparatory stage is completed, the actual energy audit procedure begins, unfolding through several interconnected stages described below, designed to ensure a comprehensive assessment of the building's energy performance.

3.1.1. Collection of general information on the building subject to the energy audit

The energy auditor gathers information on the technical characteristics of the building, the types of systems installed (heating, ventilation, hot water, lighting), historical energy-consumption data (bills, records, etc.), the number of users, as well as relevant climatic parameters (Vasile *et al*., 2016, 2019, 2024; Georgescu *et al*., 2018; Măgurean and Petran, 2023.

3.1.2. Technical inspection of the building and measurement of energy parameters

A detailed inspection of the building is carried out using specialized equipment (e.g., thermal imaging camera, lux meter, sound level meter, IR thermometer, combustion analyzer), enabling the auditor to assess the condition of the building envelope (roof, exterior walls, windows, doors, etc.). In parallel, the heating, ventilation, cooling, and hot-water systems are examined to determine their energy efficiency and identify potential deficiencies.

An analysis of operating and maintenance costs associated with energy consumption is also performed, using historical data and accounting information provided by the owner or administrator. The results are compiled and presented in tables and annexes, forming the basis for evaluating energy performance and formulating energy-efficiency measures.

3.1.3. Data analysis and interpretation

The auditor analyzes the data obtained from measurements with the aim of determining the structure of energy consumption (thermal, electrical, other sources), identifying low-efficiency areas, and quantifying energy losses. Interpretation is carried out by comparing actual consumption with theoretical values, a process that requires calibration and normalization of data to eliminate seasonal influences and variations in usage patterns.

Subsequently, the actual costs associated with each energy source are evaluated, their parts in total consumption are determined, and losses through the building envelope, air infiltration, and technical systems are quantified in accordance with applicable standards (e.g., SM EN ISO 52016-1, NCM M.01.02).

The results are synthesized into a complete energy balance of the building, presented in both tabular and graphical form, facilitating comparative interpretation and supporting conclusions regarding the building's energy performance. This analysis forms the foundation for developing recommendations for rehabilitation and energy-efficiency improvements.

3.1.4. Identification of potential energy saving measures

Based on the on-site inspection, measured energy parameters, and cost analysis, the auditor develops a set of technical and/or organizational measures aimed to reduce consumption and optimizing the building's energy performance (Jadhav *et al*., 2017). The objective is to identify solutions that provide the most favorable cost–benefit ratio, quantified as energy saved (kWh) per monetary unit invested (MDL).

The auditor is required to propose at least three energy-efficiency options, enabling the beneficiary to make decisions based on a comparative analysis of multiple scenarios. The description of proposed measures must comply with the minimum technical requirements for energy-efficiency works approved by CNED and be aligned with available financing programs. Estimates of energy-saving potential must be supported by well-substantiated techno-economic calculations.

If renewable-energy measures are proposed (photovoltaic panels, solar collectors, or heat pumps) the auditor must present the calculations underlying the selection of the proposed technologies, in accordance with the applicable regulatory framework. Energy savings are expressed both in absolute units (kWh/year, MWh/year, m^3/year) and relative terms (percentage of total energy consumption).

Investment cost estimates rely on references such as average material price, commercial offers, or methodological guidelines, while profitability calculations use current energy prices and tariffs. The resulting indicators allow comparison of intervention options and serve as a basis for monitoring post-implementation performance (Toderasc *et al*., 2019). The results are systematized in tables and graphs and integrated into the final audit report.

3.1.5. Economic and environmental evaluation of energy saving measures

The economic analysis of the proposed energy efficiency measures is based on comparative indicators reflecting the difference between energy consumption before and after renovation (Geissler *et al*., 2019). Three categories of indicators are commonly used in the literature and in energy-audit practice: (1) theoretical savings, defined as the difference between standardized (normative) theoretical energy consumption before and after renovation. Theoretical payback periods are typically accepted by the government, major donors, and international financing institutions; (2) actual savings, representing the difference between actual measured consumption (usually the average of the last three years) and standardized theoretical consumption after renovation. Actual payback periods are generally accepted by banks and individual beneficiaries; and (3) calibrated savings, determined by comparing actual pre-renovation consumption with simulated post-renovation consumption under current conditions, using a calibration coefficient. This coefficient is defined as the ratio between theoretical standardized consumption after renovation and theoretical standardized consumption before renovation. The corresponding payback period is particularly relevant for end-users.

Environmental performance is assessed by quantifying the annual reduction in greenhouse gas (GHG) emissions resulting from the implementation of the proposed measures. These reductions are calculated using emission factors specified in the national standard NCM M.01.02, providing insight into the positive impact of investments on the building's carbon footprint.

3.1.6. Preparation and presentation of the energy audit report

The report is prepared in accordance with the standard template developed and approved by CNED and is accompanied by the calculation file in XLS format. It is produced both electronically and in hard copy, in at least three original copies: one for the beneficiary, one for the company providing the audit services, and one for the energy auditor who prepared the report. The report is delivered to the beneficiary, who may use it to justify investments, obtain financing, or support administrative decisions.

3.2. Verification of the Quality of Energy Audit Reports

To ensure the quality of energy audit reports prepared by qualified and registered energy auditors, CNED initiates the verification process on its own initiative. This activity is carried out by a Commission composed of three experts, each of whom must have at least ten years of professional or academic experience in the energy field. The Commission, established within the Centre, is authorized to request additional information regarding the audited object and the primary data used in the calculations, as well as to complete the Compliance Verification Form for each qualification category.

In this way, each energy auditor is subject to verification through at least one energy audit they have carried out individually or in which they participated as a member of the audit team. If an audit report fails to meet the quality criteria and requirements set out in the Guideline on the Quality Verification of Energy Audits, CNED notifies the auditor, specifying the identified non-conformities and the deadline for their correction. The list of audit reports selected for verification is published on the Centre's official website.

4. The Function of Energy Auditors in Advancing Building-Stock Energy Efficiency

An energy audit is not merely a technical procedure; it is a strategic tool for evaluating the energy performance of buildings, industrial installations, and technical systems (Dongellini *et al*., 2014; Kluczek and Olszewski, 2017; Locmelis *et al*., 2020). It provides a clear picture of actual energy consumption and associated losses, enabling the identification of energy efficiency measures with significant impact on reducing resource use, operating costs, and pollutant emissions. At the same time, the energy audit serves as a solid basis for investments and for accessing national and international financing mechanisms, thus becoming a central element in sustainable development policies.

Within this process, energy auditors play an indispensable role. They assess the energy performance of buildings by applying recognized calculation methodologies, analyze energy losses, and propose techno-economic solutions tailored to the specific characteristics of each audited object. Their work goes beyond diagnosing the current condition of building systems and the building envelope. Their analysis extends beyond technical findings, aiming to identify concrete ways to improve energy performance. In this regard, energy auditors are responsible for proposing measures that are technically and economically feasible, addressing both the immediate needs of owners and users and the broader requirements of sustainable development.

Their responsibility also includes integrating sustainability principles into technical projects. Through their specialized expertise, they contribute to the introduction of innovative solutions for reducing resource consumption, promoting the use of renewable energy sources, and lowering greenhouse gas emissions. In this way, the energy audit acquires a strategic dimension, aligning the technical performance of buildings with environmental protection objectives and with national and European energy policy directions.

Thus, the role of the energy auditor extends beyond the realm of engineering technology. The auditor becomes a mediator between technical requirements, public policies, and environmental objectives, ensuring an integrated approach to improving the energy efficiency of the built environment. This comprehensive perspective confirms that the energy auditor is not only a technical specialist but also a key actor in the transition toward a sustainable built environment and a low-carbon economy.

5. International Experience and Proven Practices

In the global context of the international best practices and experiences serve as an important reference point for developing and improving the energy audit process in the Republic of Moldova. Models implemented in EU Member States, as well as in countries outside the European Union, demonstrate the effectiveness of energy audits as tools for reducing energy consumption and supporting investments in the rehabilitation of the building stock. Analyzing these experiences not only enables their adaptation to the national context but also helps avoid mistakes already identified in other countries.

A relevant example is the European Energy Performance of Buildings Directive (EPBD), which introduced mandatory energy audits and energy-performance certification as instruments supporting investment decisions. In Germany and the Nordic countries, energy audits are closely linked to financial support schemes (subsidies, green loans, KfW programs), which encourage the implementation of audit recommendations (Fleiter *et al*., 2012; Schubert *et al*., 2021).

France has developed a national system for building energy certification, with certificates required to be displayed in public and commercial spaces, turning the audit into a tool for information and awareness. At the same time, energy auditors play an active role in monitoring rehabilitation works and verifying their compliance with energy efficiency standards (Taylor *et al*., 1998).

Denmark is recognized for its early implementation of the “nearly zero-energy building” (nZEB) concept (Petran *et al*., 2019; Aelenei *et al*., 2023), where energy audits are used as strategic instruments in planning the energy transition (Sovacool, 2013). Sweden emphasizes building energy efficiency through mandatory periodic audits for public institutions and strict monitoring of results, aligning the audit process with national carbon-reduction targets (Backlund and Thollander, 2015).

In the Netherlands, banks offer reduced-interest mortgage loans for buildings constructed from ecological materials (wood, straw) (Murphy, 2014). A notable example is Triodos Bank, which provides interest reductions of up to 0.3% for high-performance buildings. These examples show that success depends not only on technical methodologies but also on financial-incentive mechanisms, citizen engagement, and transparency throughout the process.

At the national level, the Republic of Moldova has begun to integrate international best practices through the implementation of concrete programs and projects:
(1) "Energy Efficiency in the Republic of Moldova" Project (2022–2027): implemented with support from the EBRD, EIB, and the EU, targeting hospitals and educational institutions. Energy audits will lead to thermal insulation, modernization of heating and lighting systems, and integration of renewable-energy sources. Its impact includes reduced energy consumption and improved indoor comfort.
(2) Residential Energy Efficiency Fund (FEERM, 2024): Government program for residential apartment blocks, including energy audits and implementation of recommended measures (insulation, photovoltaic panels). Its goal is reducing energy consumption and costs for residents.
(3) Modernization and Energy Efficiency of 11 Healthcare Buildings (2022–2027): energy-efficiency upgrades for 11 buildings, including district hospitals in Florești, Ialoveni, and Nisporeni, the Telenești Family Doctors' Centre, and several local family-doctor offices across four districts. Its goal is significant energy savings and reduced operational costs.
(4) "Sustainable Transition to Energy Efficiency in Moldova (STEEM)" Project (2024–2029): implemented by the Ministry of Energy in cooperation with the International Bank for Reconstruction and Development (IBRD). Its objective is energy renovation of 46 schools nationwide, benefiting over 46,000 students, teachers, and staff.
(5) "Energy Efficiency and Renewable Energy for Moldova" (E4M) Project: implemented by GIZ in collaboration with the Government of the Republic of Moldova. Its objective is supporting the country's transition toward a sustainable and energy-efficient future through solutions adapted to national, local, and household levels.

Therefore, adapting international best practices to the realities of the Republic of Moldova is a priority direction. Strengthening the legal framework, developing financial incentive mechanisms and ensuring active citizen participation can accelerate the energy transition. At the same time, the projects already implemented demonstrate Moldova's potential to integrate modern energy efficiency solutions, contributing to reduced consumption, lower emissions, and improved quality of life for the population.

6. Conclusions

The energy audit is a fundamental instrument in the process of improving the energy efficiency of buildings and technical systems, with a direct impact on reducing resource consumption and pollutant emissions. The verification of the quality of energy audit reports carried out through a rigorous process by an experienced expert commission, ensures compliance with professional standards and quality criteria, which are essential for maintaining confidence in the results of this process. This control mechanism strengthens the credibility of energy auditors and enhances the quality of investments made on the basis of audit recommendations.

The role of energy auditors extends beyond the technical dimension of their work; they make a strategic contribution by promoting sustainable development and public energy efficiency policies. Through rigorous analysis of energy performance and the proposal of techno-economical measures adapted to specific contexts, energy auditors become key actors in the transition toward a sustainable built environment and a low carbon economy. Their integration of sustainability principles into technical

projects and their promotion of renewable energy solutions highlight the complexity and importance of this profession within national and European energy policies.

International experiences and best practices implemented in various countries provide a valuable reference framework for the Republic of Moldova. Adapting and applying these models combined with the development of financial incentive mechanisms and active citizen engagement, can accelerate the national energy efficiency process. The projects and programs already underway demonstrate Moldova's potential and commitment to promoting a sustainable energy system focused on reducing consumption, improving comfort, and protecting the environment.

In conclusion, the energy audit is an indispensable pillar of modern energy efficiency and sustainable development strategies. Strengthening the legislative framework, improving the quality of audit services, and integrating innovative solutions are essential for achieving national and international energy objectives. Thus, the role of energy auditors becomes indispensable not only from a technical perspective but also in advancing a low-emission economy and protecting the environment for future generations.

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