

### **ORIGINAL PAPER**

# Legislation and public policies regarding energy performance certification

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#### Abstract:

Environmental protection and sustainable development are achieved through a lot of levels and directions of action, one of them being the creation of a less polluted urban environment by building / rehabilitating buildings so that they meet a high standard of energy performance through the energy certification procedure. This requires an adequate legislative framework, clear and easily implementable public policies by public authorities and raising the interest of users in this construction / rehabilitation and certification processes by providing concrete benefits.

**Keywords:** *Environmental protection, sustainable development, energy performance certificates, renewable energies, nearly zero-energy buildings.* 

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#### 1. Introduction

Environmental protection is achieved as a unitary as desired, but individually in terms of actions at the level of principle and then sectoral. Starting from the idea of "rule of law" (Ticu, 2016: 87) a central objective is assumed, that of sustainable development, this being a development that meets the needs of the current generation without compromising the chances of future generations to meet their own needs. This objective is complemented by the fundamental right to a healthy and ecologically balanced environment, this being provided both at various levels of legislation within the European Union (Diaconu, 2006: 98) and by the Romanian Constitution at art. 35 and subsequently transposed into the Government Emergency Ordinance (G.E.O.) no. 195/2005 environmental framework law, as amended, in Article 5(Ilie, 2016: 15). The environmental legislation in our country contains a series of principles that define environmental protection as an objective of major public interest and establish that environmental requirements must be integrated into sectoral policies, that preventive and precautionary actions must be taken, that pollutants must be retained at source and that the polluter always pays. Such a sectoral activity of action in the field of environmental protection is also represented by the legal norms from the republished law 372/2005, regarding the energy performance of buildings. From the outset, the law<sup>1</sup> establishes the legal context for action, which is an integrated approach to environmental and urban planning legislation (Bischin, 2016: 125, Ilie, 2017: 70-72). The content of the regulatory act concerns energy saving in buildings, improving the built urban framework and protecting the environment, aiming to increase the energy performance of buildings by designing new buildings with low energy consumption and by thermal rehabilitation of existing buildings, as well as informing the owners/managers of buildings correctly through the energy performance certificate, those being actions of major and general public interest. As stated in the text, the purpose of this law is to promote measures to increase the energy performance of buildings, as well as to improve the urban appearance of localities, but considering the external climatic and location conditions, indoor comfort requirements, optimal level, in terms of costs and energy performance requirements. From this wording it is obvious that the legislator understood that it is necessary to have some detailed and varied technical standards, depending on all these factors, so that the law was supplemented by another normative act, Order of the Minister of Transport, Construction and Tourism, no. 157/2007 with subsequent amendments<sup>2</sup> regarding the Methodology for calculating the energy performance of buildings.

The elements for determining the energy efficiency / energy performance of the building / building unit are expressed mainly by performance indicators. They are unitary at country level, they are in accordance with the standards imposed by the European directives<sup>3</sup>, being divided into the following categories: a) energy class; b) the total specific consumption of primary energy; c) CO2 equivalent emission index; d) total specific energy consumption from renewable sources. The energy consumption that determines the energy performance of the building / building unit is determined based on the consumption / requirement calculated in accordance with the calculation methodology (Article 5 paragraph (1)) and concerns the following activities that generate energy consumption: a) space heating / cooling; b) heating for domestic hot water; c) ventilation; d) integrated lighting; e) other technical systems of the building.

The material desideratum of these normative acts concerns the bringing to the standard of a building whose energy consumption is almost equal to zero of all the buildings in our country.

# 2. Buildings/groups of buildings subject to the law. Nearly zero-energy buildings

The building with almost zero energy consumption (or nearly zero-energy buildings) is a building with an extremely high energy performance. The two framing elements concern energy requirements and its coverage from renewable energy sources. Basically, we are talking about buildings where the energy requirement to ensure energy performance is almost zero or is very low and is covered in proportion to at least 30%, with renewable energy, including renewable energy produced at or near the site, within a radius of 30 km from the GPS coordinates of the building for the period 2021-2031, and this percentage will increase for the next stage. Technically, this cannot happen in a short period of time, so the transition towards this goal will be done gradually, as I said, in stages. The solution proposed by the legislator is a mixed one, imposing building standards whose energy consumption is almost zero for new buildings and those undergoing major rehabilitation and energy performance assessment for buildings in use. Basically, the first stage consists in the construction requirements imposed on certain categories of new buildings or which will be majorly renovated, as well as the obligation to evaluate in terms of energy performance of a wide range of buildings. From the point of view of their purpose, the minimum energy performance requirements of both new and existing buildings or building units apply differently to different types of functions (according to Article 7 (1) of Law 372/2005), as follows: a) residential - collective or individual; b) offices; c) education; d) health; e) hotels and restaurants; f) sports activities; g) trade; h) other functions. The following categories of buildings are exempted from this assessment: a) protected buildings and monuments that are either part of protected built areas, according to the law, or have a special architectural or historical value, which, if the requirements were applied, would be modified unacceptably character or appearance; b) buildings used as places of worship or for other religious activities; c) temporary buildings intended to be used for periods of up to 2 years, from industrial areas, workshops and non-residential buildings in the agricultural field that require low energy consumption; d) residential buildings that are intended to be used for less than 4 months per year; e) independent buildings, with a usable area of less than 50 m2. The intention of the legislator is to require the energy assessment procedure for most buildings in the country, except those that either, by type of destination, have a small impact on the environment through low energy consumption, or those that, if they were modified to meet certain technical parameters, they would lose defining elements for their destination. In conjunction with the provisions of republished Law 372/2005 and the Calculation Methodology, it can be seen that the established requirements are designed to take into account the conditions of comfortable and healthy indoor climate, including adequate indoor air quality, to prevent possible adverse effects, such as inadequate ventilation, taking into account local conditions, the destination given in the project and the age of the building. These requirements are subject to revision at regular intervals, but not more than 5 years, and need to be updated whenever necessary to reflect technical progress in the construction sector. The calculation of primary energy shall also be based on the primary energy factors or weighting factors for each energy agent, which may be based on annual, seasonal or monthly weighted averages at

national, regional or local level or on specific information provided for each centralized system. By these provisions, practically, the legislator understands the need for a differentiated approach, depending on the environmental factors, these having a decisive influence in establishing the performance coefficients of each building / group of buildings. The competent authority in this field is the one that establishes the energy or weighting factors to ensure the optimal energy performance in case of enveloping the building. The law expressly states on the type of energy from renewable sources that there is no discrimination between energy from renewable sources supplied through the energy agent and energy from renewable sources generated on site or nearby when calculating the primary energy factors used to determine energy performance of buildings.

The first category of buildings that must meet energy efficiency standards (according to Articles 9, 10 and 17 of the law) is composed of new buildings for which the reception at the end of the works is made based on the building permit issued from December 31, 2020, the obligation being to meet the conditions of a building whose energy consumption is almost zero. As an exception to this deadline, the legislator has set a different deadline for new buildings owned / managed by public administration authorities (whether central or local), which are to be received based on the building permit. For these, it is mandatory that the status of buildings whose energy consumption is almost zero is mandatory in all building permits issued after December 31, 2018. The energy requirements of buildings will be classified in the levels laid down in the specific technical regulations by the planning certificate issued by the competent local public administration authorities for the purpose of obtaining, under the conditions of the law, building authorization (Bischin, 2008: 90). The normative acts provide for new buildings/assemblies of buildings requiring compliance with energy performance standards also the obligation to undergo a study on the technical, economic and environmental feasibility of the use of high-efficiency alternative systems, if any. This study is also required by the planning certificate issued by the competent public administration authorities, to obtain, under the law, the building authorization for the execution of the construction works (Bischin, 2018: 29). It is developed by the designer and is part of the feasibility study. It is developed by the designer and is part of the feasibility study. The law stipulates that these alternative systems can be a) decentralized energy supply, based on renewable energy sources; b) cogeneration / trigeneration; c) central heating or cooling or block; d) heat pumps; e) ground-to-air heat exchangers; f) heat recuperators. From the content of the normative act, it results that this enumeration is limiting, but, obviously, this list can be extended with other models of systems that, from a technological point of view, will meet in the future the requirement of a highly efficient alternative system.

The law also lays down certain technical equipment standards for new buildings. According to the legal provisions (Article 14 of the law), for new buildings whose urban planning certificate is issued after 15 September 2020, investors are required to provide self-adjusting devices for the distinct regulation of indoor temperature and air quality in each directly heated/cooled room or in a heated/cooled area of the building and/or building unit, if it is technically and economically feasible. Self-regulating devices are devices that allow distinct temperature regulation in each heated / cooled room directly in the building or in a heated / cooled area of the building unit. These allow automatic adjustment of heating/cooling power depending on the internal temperature set by the user. The law states that it is not

accepted as a solution the manual adjustment of heating power, even if the adjustment can be made at room/zone level or the device that allows automatic temperature adjustment, but not at room/area level. Although the law specifies the need for this technical solution, it can be observed that it is not of an imperative nature, being limited by the generic wording "technically and economically feasible". This form is unfortunately chosen, creating a conditional obligation based on a conditional cumulation which makes this technical solution easy to ignore for the time being. Another technical solution required by law is that, in the case of new non-residential buildings, as well as in the case of major renovation of non-residential buildings, which have more than 10 parking spaces, other than those owned and occupied by small and medium enterprises, investors / their owners, as the case may be, are obliged to install at least one recharging point for electric vehicles, as well as the recessed piping for electric cables for at least 20% of the planned parking spaces, to allow the installation, at a later stage, of recharging points for electric vehicles. This work is necessary when: a) the car park is located inside the building and, in the case of major renovations, the renovation measures include the car park or the electrical infrastructure of the building; b) the car park is adjacent to the building and, in the case of major renovations, the renovation measures include the car park or the electrical infrastructure of the car park. The law makes a limiting and express list when this solution does not apply. However, it is clear from the text that car parks adjacent to existing buildings are also exempted in this case if the car park is not also subject to a major renovation process. This form of the law text creates the possibility that, in this case, in the current form of the law, the provision will never be applied. Major renovation means work designed and carried out on the building envelope and / or its technical systems, the costs of which exceed 25% of the taxable amount of the building, excluding the value of the land on which the building is located. As such, the realization of renovations, even major ones, in pieces, first the building and then the parking makes these technical solutions not mandatory. It is obvious that, in the future, these technical solutions will be made mandatory, regardless of the situation in which a building with parking is located. Beyond this aspect, the analysis of the legal texts shows that this obligation is imperative, unconditional, and the costs are borne by investors / owners.

The second category of buildings for which it is necessary to improve the energy efficiency standards (according to Article 11 of the law) are those where major renovation works are performed. Major renovation means all work designed and carried out on the building envelope and / or its technical systems, the costs of which exceed 25% of the taxable amount of the building, excluding the value of the land on which the building is located. The law states that this improvement must be made to the extent that this is technically, functionally and economically possible. All technical documentation prepared for the authorization of intervention works for major renovation develops the measures provided in the energy audit report of the building, which represents all specific activities that obtain data and technical elements on the profile of real energy consumption of an existing building / building unit, followed by the identification of solutions to increase energy performance, the quantification of the reduction of energy consumption resulting from the proposed solutions, the evaluation of the economic efficiency of their implementation through economic indicators and finalized with the audit report. As with new buildings, owners / administrators of major rehabilitated buildings may install high-efficiency alternative energy generation systems to the extent that the energy audit of the building establishes that this is technically, functionally and

economically feasible. It should be noted that, in addition to the energy performance of the building, in the case of major building renovations, their owners / administrators must address other issues, such as ensuring a healthy indoor climate, fire protection and risks related to seismic activity and those on removing existing barriers to accessibility. As can be seen, all these requirements that apply to the building or renovated building unit, aim to increase the overall energy performance of the building, these requirements also apply to the envelope element (s) that is / are part of the building envelope and has / have a significant impact on its energy performance, if it is / are upgraded / modernized or replaced / replaced. Moreover, even in the case of these buildings, it is mandatory to install by the owners / administrators, insofar as this is technically and economically feasible, self-regulating temperature devices, when replacing the heat / cold generators. The provisions are similar to those for new buildings, so that the previous analysis of the imperative and the conditions of application of these rules is identical.

#### 3. Energy certification of buildings

The way to determine the energy efficiency of buildings is their energy certification. The energy performance of existing buildings / building units is demonstrated by the energy performance certificate. It is issued for the following situations: a) for all their buildings / units, which are being built, sold, rented or are undergoing major renovations; b) for buildings owned / administered by public authorities or institutions providing public services; c) for buildings in which a total usable area of over 250 sq m is occupied by a public authority and which is frequently visited by the public.

Who conducts this study? According to the legal provisions (article 21 of the law) the certificate is elaborated and issued by the energy auditor for buildings, at the request of the investor / owner / administrator of the building / building unit. Energy auditors for buildings and certified technical experts work as independent experts, authorized natural persons or as employees of legal entities, according to the legislation in force. The study is valid for 10 years from the date of issue registered in the certificate, unless, for the building / building unit for which the certificate is valid, major renovation works are carried out that modify its energy consumption. These certificates are elaborated according to the provisions of the Methodology provided by the Order of the Minister of Transports, Constructions and Tourism, no. 157/2007 with subsequent amendments. It is not mandatory to draw up the energy performance certificate for certain buildings and their units, listed exhaustively by law (see above), but this does not mean that the energy performance certificate cannot be issued at the request of the investor / owner / administrator of the building / unit. building, this is also done based on the methodology. According to the legislation, auditors fall into two categories: firstdegree or second-degree auditors. Unlike grade II auditors, grade I auditors are allowed to draw up certificates for both housing and other types of buildings.

In essence, the certificate includes both values calculated, in accordance with the technical regulations in force, on primary and final energy consumption, including from renewable energy sources, and CO2 emissions, which allow the investor / owner / administrator of the building / unit to compare and evaluate the energy performance of the building / building unit, as well as recommendations to reduce the energy consumption of the building, with the estimation of energy savings by taking measures to increase the energy performance of the building, including details of where to obtain more detailed information such as: the cost-effectiveness of the recommendations made,

the procedure to be followed for the implementation of the recommendations, financial or other incentives and funding possibilities. Regarding the energy performance of the building, the energy certificate presents it through two important indicators: *energy class*, between A and G (class A being the most energy efficient): energy class A represents the buildings with the lowest consumption of energy, of maximum 125 kWh /  $m^2$  / year (this being the building standard whose energy consumption is almost equal to zero) and energy class G represents the buildings with an increased energy consumption, of 820 kWh /  $m^2$  / year and *energy rating* (between 1 and 100, with a grade of 100 being the best). Statistically, most of the buildings/building units in our country are, at this moment, at an energy class standard in classes D and E.

Enter the identification data of the prepared documents, respectively of the energy performance certificates and of the energy audit reports, as well as of the inspection reports of the heating / air conditioning systems and of the combined heating and ventilation / air conditioning and ventilation systems, as appropriate, in the own register of activity records by energy auditors for buildings and certified technical experts is mandatory. They must be sent, in electronic, editable format, to the Ministry of Public Works, Development and Administration within a maximum of 30 days from the date of their preparation. After 31 December 2020, an editable electronic document containing relevant energy information on the energy-audited building will also need to be sent in order to set up databases at the level of this ministry. These databases are information of public interest and can be constituted into data and information accessible within a platform with a web interface with controlled access.

The normative acts in force require the publicity of the data on energy efficiency, as well as the right of certain persons to know the energy performance of the building. Thus, for buildings or building units that are sold or rented, the investor / owner / administrator is obliged to make available to the potential buyer or tenant before completing the contract, a copy of the certificate so that the applicant knows about the energy performance of the building/units of the building that he/she is to buy/rent, as appropriate. Also, at the conclusion of the sale-purchase contract, the owner has the obligation to send the original certificate to the new owner and on the date of registration of the sale-purchase contract, respectively the lease and the owner has the obligation to submit a copy to the competent tax authority and the original will remain in his possession. The sanction provided by law for non-compliance with this provision in the case of sale-purchase contracts is the relative nullity, according to the provisions of the Civil Code. It should be noted the wording of the law, which provides a penalty only for contracts of sale and purchase, not for leases. This provision can be interpreted as an omission of the law, given that throughout the normative act the sale-purchase and rent are treated uniformly, as legal acts with the same regime in terms of procedures, as well as the rights and obligations of the parties. Last but not least, a tenant's will to rent can be influenced by the maintenance costs of the building, if they are in his charge, so that even in this situation there must be a sanctionable obligation, not an imperfect one.

For new buildings that are being built, the investor / owner / administrator is the one who has the obligation to draw up the certificate and it is presented by him, in original, to the commission convened for reception at the end of the works and it is attached, in copy, to the acceptance report and constitutes a component part of the technical book of the construction. If the report concluded on the occasion of the reception at the end of the works is not accompanied by the copy of the certificate, it is struck by absolute nullity, being null and void. If the building / building unit is sold before the reception is completed, the investor / owner / administrator will provide the buyer with data / information to assess the energy performance of the building / building unit, which are included in its technical documentation, following the receipt of the final form of the certificate upon receipt upon completion of the works.

Regarding the prior publicity of the energy performance of buildings, the investor / owner / administrator of the building / building unit, in order to inform potential buyers or tenants, shall specify in the notices of sale or rental of them information from the certificate on performance indicators regarding energy performance. Also, in the case of buildings with a usable area of over 250 sqm, owned / administered by public authorities, as well as in the case of buildings where public service institutions operate, by the care of the owner / administrator of the building, as appropriate, the certificate, in validity, is displayed in a place accessible and visible to the public. The obligations regarding the elaboration and display of energy certificates for these institutions are the responsibility of the owners or administrators of buildings of public interest and utility. These provisions also apply to buildings of public interest that are frequently visited by the public. This is a building with a total usable area of over 250 sqm in which daily or periodic activities of general and / or community, social, cultural, commercial and other similar interests are carried out, and which has space / spaces with the function / functions intended / intended for the access and presence of the public temporarily or permanently in it.

# 4. The control system, the common general framework for assessing the readiness of buildings for smart solutions and financial incentives. Other related normative acts

State control of the uniform application of the legal provisions on the energy performance of buildings and the inspection of heating / climatization systems is exercised by the State Construction Inspectorate - I.S.C., on the basis of its procedures drawn up and approved by order of the Minister of Public Works, Development and Administration, in order to achieve and maintain the economic requirements of "energy saving and thermal insulation", as well as the other key requirements laid down in Law No 10/1995, republished, with subsequent amendments and additions<sup>4</sup>. This control shall cover: (a) verification of the display of the certificate in buildings with a total useful area of more than 250 sqm, which are frequently visited by the public; b) the annual verification, by sampling, of at least 10% of the energy audit certificates and reports, as well as of the inspection reports of the heating and air conditioning systems, registered annually in the specific databases. At the request of the State Inspectorate for Constructions - I.S.C., the designated specialists from the representative professional associations, certified as energy auditors for buildings and / or certified technical experts for the heating-air conditioning specialty, participate in these controls.

Considering the elaboration by the European Commission of the Common general framework for assessing the readiness of buildings for smart solutions, the definition of the readiness indicator for smart solutions and its calculation methodology were established by normative acts, in order to assess the capacity of a buildings or a building unit to adapt its operation to the needs of the occupant and the network and to improve its energy efficiency and overall performance. This indicator includes elements related to increased energy savings, benchmarking and flexibility, as well as increased functionalities and capabilities resulting from smart and interconnected devices. The

desired result is the assessment of the situation and the adaptation of the measures that will be taken to be in accordance with the parameters imposed at EU level.

The sources of financing necessary to increase the energy performance of buildings and the transition to buildings whose energy consumption is almost zero will be established by normative acts by the Ministry of Public Works, Development and Administration, as the competent authority of the central public administration, these mainly concerning: a) the appropriate use of structural funds in order to increase the energy efficiency of buildings, in particular housing; b) efficient use of funds attracted from public financial institutions; c) coordinating the use of European Union and national funds, as well as other forms of support, in order to stimulate investments in energy efficiency, in order to achieve national objectives; d) management of financial resources allocated from public funds for financing, in accordance with the law, the elaboration of technical-economic documentation, energy performance certificates, technical expertise reports and energy audit, as well as for the execution of major renovation works of buildings included in programs for increasing the energy performance of buildings.

It is imperative by law that the financial measures for energy efficiency improvement obtained for building renovation should take into account: a) the energy saving that is quantified by comparing energy performance before and after renovation; b) conditions and/or obligations requiring final beneficiaries to demonstrate project performance and effective use of money.

Not only the central public authority can have financial incentive policies but also the local public administration authorities can finance, within the funds approved annually for this purpose in the local budgets, the elaboration of technical-economic documentation, as well as the execution of major renovation works on residential buildings. to buildings of interest and public utility, included in programs to increase the energy performance of buildings.

The legal norms regarding the promotion of measures for increasing the energy performance of buildings are supplemented by other special normative acts, such as G.E.O. no. 18 of March 4, 2009 on increasing the energy performance of apartment buildings with subsequent amendments<sup>5</sup>. The purpose of this normative act is to solve an exceptional situation that consists in the need to reduce energy consumption for heating blocks of flats, in ensuring and maintaining the indoor thermal climate in apartments, by promoting programs integrated into the National Energy Efficiency Plan<sup>6</sup>. The normative act establishes that the reduction of energy consumption for heating apartment blocks has the effects of reducing heating maintenance costs, reducing the effects of climate change, by reducing greenhouse gas emissions, increasing energy independence, by reducing fuel consumption used in the preparation the heating agent, as well as the improvement of the urban aspect of the localities. At the same time, this normative act aims to support economic growth and counteract the negative effects of the current international financial crisis on the energy and construction sectors, including the use of national energy resources. The normative act establishes the intervention works for increasing the energy performance of the blocks of flats built according to projects elaborated until December 31, 2005 (including social housing and other housing units, owned / managed by the local council, regardless of whether they are located in blocks of flats or are single-family homes and single-family homes owned by individuals, with the adaptation of solutions according to the characteristics, particularities and architectural value of homes), as well as the steps required to carry out the works, how

to finance them and the obligations and responsibilities of public administration and owners associations, being excluded the blocks of flats classified / in the process of being classified as historical monuments and the places of dwellings technically examined and classified in class I by a technical expertise report, where intervention works have not been carried out or are being carried out to increase the level of safety at seismic action of existing construction. The intervention works eligible in the sense of the normative act are: thermal rehabilitation works on the envelope; thermal rehabilitation works of the heating system; thermal rehabilitation works of the hot water supply system; installation, as appropriate, of alternative systems for the production of energy from renewable sources. The associations of owners of the identified and inventoried blocks of flats are notified by the local coordinators on the possibility of enrolling in the local program. Along with the notification, the local coordinator also sends the draft mandate contract signed by him, in two original copies, in order to be signed by the owners' association. The mandate contract aims to mandate the local coordinator by the owners' association to establish the measures and actions required, under the conditions and in compliance with this emergency ordinance, to increase the energy performance of the apartment building. The mandate contract stipulates the obligations of the parties, as well as other clauses on which the parties agree. Notified homeowners' associations can enrol in the local program by written request registered with the local coordinator in whose area of competence the block of flats is located.

The emergency ordinance provides for three ways of financing. The general rule, provided by art. 13 of GEO no. 18/2009 stipulates that the financing of the execution of the intervention works is ensured as follows: 50% of the allocations from the state budget, within the limits of the funds approved annually for this purpose in the budget of the Ministry of Regional Development and Public Administration: 30% of the funds approved annually for this purpose in the local budgets and / or from other legally constituted sources; 20% of the repair fund of the owners' association and / or from other legally constituted sources. The financing of the execution of the intervention works from this quota is ensured by the owners' association during the execution of the intervention works, based on the work situations. The second way is financing through structural funds. As an exception, the financing of activities / intervention works to increase the energy performance of apartment buildings can be provided from the structural and cohesion funds of the European Union, as follows: 60% of the structural and cohesion funds of the European Union and budget allocations state, within the funds approved annually for this purpose in the budget of the Ministry of Regional Development and Public Administration; 40% of the funds approved annually for this purpose in the local budgets and / or from other legally constituted sources, as well as from the repair fund of the owners' associations and / or from other legally constituted sources. Here, a clarification must be made: the own contribution quota of the local public administration authorities is established within a quota of maximum 30% of the value of activities / works, so that the owners' association contributes with a quota that cannot be less than 10% from the value of activities / works. The last way of financing is the funds advanced by the local council for the owners' association. The local public administration authorities may ensure, at the request of financing submitted by the owners' associations, based on the decision of the local council, respectively of the General Council of Bucharest or of the local councils of the sectors of Bucharest and within the funds approved annually with this destination, the financing of the expenses related to the execution of the intervention works corresponding to the contribution

quota that belongs to the owners - respectively to the owners' association -, with the recovery of the amounts in accordance with the law.

#### 5. Conclusions

Environmental protection, including its improvement, is a complex process that is carried out on several directions and strategies. One of the most important directions is, as we have demonstrated, the efficient use of energy, both by reducing consumption through various methods of building construction / modernization and by using energy resources efficiently, including by using a significant percentage of green energy. As can be seen in the research, the normative regulation is far from being finalized, new normative acts appearing every year to allow adaptation to the challenges of this task. It is obvious that the imposition of expenditure on owners / associations of owners to achieve these objectives will represent a massive financial challenge. Therefore, by law, it would be necessary to stimulate them by various methods of additional support, such as the differentiated taxation of buildings according to the energy efficiency class in which the building is classified. In practice, by multiplying by a subunit coefficient for buildings of category A-C and supraunit coefficient for those in categories E-G, this incentive can be achieved to participate actively in the energy efficiency process. The leading role of public authorities as an example of good practices and strategies should also not be ignored. Last but not least, it may be necessary to effectively systematize the normative acts in a single normative act, which will ensure an overall understanding and effective application of these provisions with a critical role in ensuring the transition to a modern urbanization that respects the energy challenges of the 21st century and reduces the negative impact on the quality of the environment.

<sup>&</sup>lt;sup>1</sup> Law No. 372 of 13 December 2005 on the energy performance of buildings was published in Official Gazette 1144 of 19 December 2005, entering into force on 1 January 2007. It has been republished pursuant to Article VII of Law No. 101/2020 for the amendment and completion of Law No. 372/2005 on the energy performance of buildings, published in the Official Gazette of Romania, Part I, no. 579 of 1 July 2020, giving the texts a new numbering. Law No. 372/2005 on the energy performance of buildings was originally republished in the Official Gazette of Romania, Part I, No. 764 of 30 September 2016.

September 2016. <sup>2</sup> Order No. 157 of 1 February 2007 for the approval of the technical regulation "Methodology for calculating the energy performance of buildings" was published in Official Gazette No. 126 of 21 February 2007

<sup>&</sup>lt;sup>3</sup> Law No. 372 of 13 December 2005 on the energy performance of buildings transposes Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (reformation), published in the Official Journal of the European Union, L series, no. 153 of 18 June 2010 and Directive 2018/844/EU of the European Parliament and of the Council of 30 May 2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency, published in the Official Journal of the European Union, L series, no. 156 of 19 June 2018.

<sup>&</sup>lt;sup>4</sup> Law no. 10 of January 18, 1995 on quality in construction, was republished a second time under art. IV of Law no. 163/2016 for the amendment and completion of Law no. 10/1995 regarding the quality in constructions, published in the Official Gazette of Romania, Part I, no. 561 of July 25, 2016, giving the texts a new numbering.

<sup>&</sup>lt;sup>5</sup> Government Emergency Ordinance No. 18 of 4 March 2009 on increasing the energy performance of housing blocks was published in Official Gazette No. 155 of 12 March 2009. Subsequently the act was approved by Law 158/2011 and underwent numerous changes through normative acts such as: Order 2154/2020 for the approval of the Multiannual National Programme on Enhancing the Energy Performance of Financing Housing Blocks in the period 2020-2022, Law 231/2017 for the modification and completion of the Government Emergency Ordinance No. 18/2009 on increasing the energy

performance of the blocks, Law 180/2015 on the modification and completion of the Government Emergency Ordinance No. 18/2009 on increasing the energy performance of housing blocks, Law 238/2013 on the approval of the Government Emergency Ordinance No. 63/2012 for the amendment and completion of the Government Emergency Ordinance No. 18/2009 on increasing the energy performance of housing blocks, etc.

<sup>6</sup> The legislation applies, in practice, the provisions of Directive 2006/32 / EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76 / EEC which provides, inter alia, that Member States take all measures to improve energy efficiency for end-users and set a national energy saving target of at least 9% for the 9th year of application of the Directive. Also, the non-adoption of this normative act would have led to the non-fulfilment of the obligations assumed by Romania regarding the transposition of Directive 2006/32 / EC of the European Parliament and of the Council of 5 April 2006 on energy efficiency to end users and energy services and repealing Directive 93 / 76 / EEC of the Council, as well as Directive 2002/91 / EC of the European Parliament and of the Council on the energy performance of buildings.

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