



REVIEW

Вх. № D220-1415 | 09.09.2025

By Prof. Dr. Teodorina Zhelyazkova Turlakova
Department of " Agrarian Economics ", Economic University-Varna ,
professionally Direction 3.8 " Economics " and scientific specialty " Economics and
Management (Agricultural entrepreneurship and regional entrepreneurial activity)"

About : dissertation labor for award on educational and scientific " Doctor " degree in the field on higher education : 3. Social , economic and legal sciences . Professional direction:3.8.Economics, Doctoral program: "Economics and Management (Construction and Real Estate)", University of Varna .

Author on the dissertation labor : PhD student Nelly Atanasova Dimitrova

Topic on the dissertation work : " Sustainable construction in Bulgaria "

Foundation for the preparation on the review : participation in the composition on scientific jury by protection on the dissertation labor , according to Order No. RD-06-109/24.06.2025 of The Rector of the University of Varna and a decision on scientific jury from first meeting held on 30.06.2025

1. Information for dissertation

Doctoral student Nelly Dimitrova has graduated from a the average you education at the Commercial High School, Burgas , majoring in Economics and Management. Through the period 2015 to 2019 is trained and receives " Bachelor ", and in the period 2019-2020 - "Master " in majoring in " Business Economics " at the University of Varna.

In 2021, he began his studies in full-time doctoral studies in the doctoral program " Economics and Management (Construction and Real Estate) " at the Department of "Business, Investments , Real Estate " at the University of Varna. At the same time, in 2021, he studied in the specialty " Business administration" , bachelor's degree at KU Leuven, Belgium.

Doctoral student Neli Dimitrova began her career in 2014 as the manager of an EOOD operating in the restaurant industry. During the period until 2021, she managed and organized the diverse and multifaceted activities of the aforementioned company.

Doctoral student Neli Dimitrova studied under the doctoral program "Economics and Management (Construction and Real Estate), according to the decision of the



Faculty of Economics, Protocol No. 16/23.02.2021 and Order No. RD 17-418/02.03.2021 of the Rector of the University of Varna. The training was carried out in a full-time form of education, state order, during the period March 2021-March 2024. Doctoral student Neli Todorova successfully completed her individual training plan, collected the required number of credits and was discharged with the right to defense according to the decision of the Faculty of Economics, Protocol No. 9/22.02.2024 and Order No. RD 17-53/26.02.2024 of the Rector of the University of Varna. He is fluent in English (written and spoken), Dutch and French at a very good level.

The dissertation work was discussed at the Department Council of the Department of "Business, Investments, Real Estate" and a procedure for defense before a Scientific Jury was opened, in accordance with Art. 53 and Art. 54 of the Regulations for the Development of the Academic Staff at the Varna University of Economics .

2. General presentation of the dissertation work

The dissertation labor on PhD student Nelly Dimitrova is on topic "Sustainable Construction in Bulgaria". It was developed within the framework on the doctoral program " Economics and Management (Construction and Real Estate) property)" to Department of Business , Investments , Real Estate properties " at Economic University - Varna , under scientific guide of Assoc. Prof. Dr. Katya Antonova.

The selection The topic is relevant and significant , both theoretically and practically . The need is justified . from sustainable construction as a process that combines environmental, social and economic aspects in all activities related to the design, construction, operation and subsequent demolition of buildings and infrastructure sites.

The paper argues that "there are opportunities for wider application of sustainable practices in the activities of construction companies on the territory of Bulgaria, as well as for increasing the number of certified buildings according to some of the existing international standards. The possibility of increasing the number of certified buildings depends on the availability of incentive policies, institutional support, awareness of participants in the construction process and market demand. For investors, sustainable construction offers specific benefits such as higher property value, lower operating costs and better access to financing."

The goal on The dissertation is formulated in the direction of "examining the state of construction companies in our country and proposing ways to increase the amount of sustainable construction at the national level. In addition , it is necessary yes is analyze and track the state on sustainable construction in Bulgaria , such as is offer specific steps for its improvement and popularization". The research thesis and the tasks set correspond to the general research focus and stages on analysis .



Subject of research are "the development of sustainable construction and systems for certification of building sustainability, the influence of European and national legislation on the stage of development of sustainable construction, as well as the opportunities for adaptation and implementation of international good practices in Bulgaria in order to popularize the concept and ensure a better quality of life for future generations ". Object of research is "sustainable construction in Bulgaria, considered in the context of its development, regulation and implementation in the practice of Bulgarian construction companies".

The purpose of the development is specified justified in several research tasks , predetermining the structure on the exhibition : (1) To study the theory, to analyze and to refine the conceptual apparatus (2) To carry out a comparative analysis of the most established international systems for certification of sustainable construction, assessing their advantages and disadvantages and on this basis to propose a Bulgarian system for certification of sustainable construction that is competitive with international ones (3) Based on statistical information, data from a survey and current European and Bulgarian legislation, to analyze the development of sustainable construction in Bulgaria and compare its status with other European countries (4) To formulate conclusions and recommendations for improving professional education and training in the field of sustainable construction, by proposing a Bulgarian program for training in sustainable construction with the aim of creating competent personnel for the Construction sector.

The Chosen One approach and methodology on the study , as well as the time range on analysis (2013-2023) allow the achievement on the research goal and solution on those placed in the dissertation labor tasks . The selection of used methods for analysis (comparative analysis, survey, synthesis, etc.) and what is presented is limited in the dissertation contribute to achieving the scientific level of the study .

The main limitation is what is set out in the dissertation labor is refers to the lack of information and statistical data to support the analysis.

The dissertation labor answers on requirements on Art. 27, paragraph 2 of The Rules for application on The law for development on academic composition in the Republic Bulgaria.

3. Price quote on structure and content on the dissertation labor

The dissertation work is in volume of 2 9 4 pages, of which the main text occupies 195 pages. In structural terms, the dissertation work is balanced and logically built as elements, relationships and connections between them. It reflects the sequence of the research and in accordance with its purpose and main research thesis. Contains an introduction, an exposition in three chapters, a conclusion, used literature.



Sufficient illustrative material has been used material - 26 tables and 57 figures. The bibliography consists of 80 literary source and 188 electronic sources (websites).

By attitude on language and style the work is characterized by clarity on the presentation and correct terminology . The style is academic , with high degree on analytical and argumentative . The citation is correct , as is the layout. on the text and graphics materials .

The introduction attempts to justify the relevance of the topic of sustainable construction. The formulation of the goal, objectives, subject and object of the dissertation work allows the author to conceptually outline the main points of support for the subsequent scientific research. The research methods, time constraints and information security are specified.

In the first chapter of the dissertation paper " Theoretical-methodological aspects of sustainable construction" provides an essential characteristic of sustainable construction, examines international building certification systems, and analyzes existing European legislation, as well as its influence on national policy.

The research interest is directed towards systematization of main categories from the specialized literature, critical reflection, derivation of the main principles and definition of the concept of sustainable construction. Special a place is reserved of sustainable construction certification systems, characterizing their advantages and disadvantages. In the third paragraph are presented the critical views on the author on the impact of various aspects of European legislation (including Directive 2010/31/EU; European Strategy for the Sustainable Competitiveness of the Construction Sector and its Enterprises; European Green Deal, European Recovery Plan, etc.) on the country's targeted actions and national policy for the approximation of standards and legislation. Quite reasonably , based on is on different approaches and theoretical the doctoral student puts on performances basis to study the impact of different certification systems and policies on the development of sustainable construction in Bulgaria.

In the second chapter of the dissertation The work analyzes the sustainable approach to implementing projects in the construction sector of Bulgaria. A review of the current regulatory and strategic documents that regulate the sector in Bulgaria at the moment is carried out, the classifications of construction projects based on the different legal regulations are discussed. The emphasis is on the various indicators through which to analyze the development of the construction sector in the country and the choice of specific indicators is justified in order to objectively track the dependencies, trends and problems in the construction sector. Based on secondary data, the total construction activity for the period 2019-2023 is examined and a number of conclusions are drawn



regarding the sustainability of the sector, the need to increase energy efficiency, the positive impact of direct investments, etc.

The results of a survey on the implementation of sustainable practices by construction companies in Bulgaria, the key factors and conditions for motivation for implementing sustainable solutions are presented. The respondents' awareness of the sustainable approach in construction, as well as their investment behavior, was also studied. The results on the so-called "deterrent" factors for the transition to sustainable construction were studied and systematized.

An extensive analysis of the state of sustainable construction in an international context has been conducted and the development of the construction sector in Bulgaria with a focus on sustainable construction and practices in other countries has been compared. The types of construction in which respondents intend to implement green projects, the current and expected use of green products and systems, as well as the main approaches to increasing sustainability in design and construction in a future five-year period have been identified.

In the third chapter, the doctoral student deepens the research in the direction of "Opportunities for improving sustainable construction in Bulgaria". Issues of good business practices from other European countries are addressed in order to discuss the possibilities for implementation and adaptation in Bulgarian conditions. On this basis, a concept for creating a national system for certification of sustainability in construction (6 criteria are proposed) is developed and proposed, which would work towards stimulating and controlling sustainable projects. At the end of the third chapter, an analysis of the state of education in sustainable construction is made and the need for a master's program is justified to prepare highly qualified specialists in the field of "Sustainable construction and energy efficiency".

The conclusion of the dissertation summarizes the most important elements of the research with an emphasis on the conclusions reached in the work.

The overall result of the dissertation research provides grounds for the conclusion that the main goal of the dissertation work has been achieved, and the thesis has been proven. The research tasks set have been fulfilled.

The content of the dissertation and the overall research demonstrate that doctoral student Neli Dimitrova knows in detail the managerial, administrative and socio-economic issues of sustainable construction. The dissertation represents an in-depth study of the approaches, policies and systems of sustainable construction, as well as international regulations and practice in this area. The dissertation candidate has collected, systematized and interpreted significant factual material. The skills to critically reflect and evaluate the results of the scientific research are demonstrated.



By structure and content , the dissertation labor corresponds on requirements on Art . 56 , paragraph 2 of The Rules for development on academic composition in Economics University - Varna .

4. Scientific and applied sciences contributions on the dissertation labor

Doctoral student Nelly Dimitrova has achieved a row contributions to the dissertation labor . I accept as whole the specified from doctoral student contributions , but for better concretization they can be formulated as follows :

First, a systematization and analytical presentation of the essence of sustainable construction and the main systems for its certification was carried out;

Second, Based on the work done complex analysis on the European legislation in the field on sustainable construction, conclusions have been made about its impact on the national us politics .

Third, It has been researched and prepared assessment for the state on sustainable construction in Bulgaria with its positive and negative countries , including through comparative analysis on the state him in a few others countries .

Fourth, has been developed and proposed exemplary system for certification, applicable in Bulgarian conditions.

Fifth, Based on an analytical review and systematization of their status, measures have been proposed to create and/or improve the conditions for professional education and training in the field of sustainable construction in our country.

Some of the contributions can be defined as primarily scientific (or theoretical-methodological, for example, the first, second and part of the third contribution), while others have a scientific-applied nature.

5. Publications and participation in scientific forums

To the dissertation labor doctoral student Nelly Dimitrova introduce it publications , directly related to the topic on the study . They cover the main ones directions on work - theoretical basics on sustainable construction , its essence and principles , impact on the national policies and regulations , as well as issues for management on human resources.

The two articles presented publications were published in English in the prestigious journal of the scientific direction Engineering Sciences at the Bulgarian Academy of Sciences, and the report was presented at a scientific forum at the University of Varna . his/her own number and content they respond on the minimum national requirements for award on educational and scientific degree " doctor " according to Art . 26,



paragraph 2 and 3 of the Law on the Protection of the Rights of Persons with Disabilities and Art . 57 of The Rules for development on academic composition in Economics University - Varna .

6. Rating on the abstract

It has been deposited. abstract on Bulgarian and English language. The abstract answers on the normative requirements , summarizes and reflects correctly the structure , logic and content , the assessments and conclusions presented in the dissertation work. In sufficient degree are presented the analyses, conclusions and scientific contributions.

7. Found or no ascertained plagiarism in the dissertation labor or the abstract

None proven by statutory row plagiarism in the dissertation .

8. Critical notes and recommendations

The dissertation, developed by doctoral student Nelly Dimitrova, is comprehensive , academic robust and scientifically sound research. Independent from its scientific and applied value , can yes be made several notes and recommendations directed to further development on the study :

- What was done by doctoral student research , especially his the theoretical part is more detailed from the formulated goal on the development (which no I accept as disadvantage on the whole research), the refinement in the wording of the subject and object of the dissertation would contribute to its better presentation.

- Theoretical part - despite the wide one range on literary overview , part from newer international publications in the field on sustainability , including a sustainable approach to construction , could yes be included for fuller update on the theoretical frame .

- Methodology – I recommend on doctoral student in the following scientific developments yes applies to others contemporary scientific methods , as well as builds comprehensive research methodology , which will make it easier in purposefulness and logic on research .

- Regardless of logical the built structure and the need from extensive discussion on row systems and European policies , the reduction on The volume of the dissertation labor would contributed are the better one purposefulness and concretization on the ones made studies and recommendations .

In conclusion, the notes do not decrease scientific value on labor , but rather outline opportunities for upgrade and expansion on research in the future .

9. Questions

The researched issue raises the following questions for worthy defense:



1. In the argument for the topicality of the topic, the doctoral student points out the importance of the development for state institutions, due to the lack of a Bulgarian certification system and insufficient legal regulation. How does the research support business and the scientific community?
2. What does the doctoral student think about the identity of the used concepts "sustainability of construction" and "sustainable construction", based on the three directions of the concept of "sustainability" and how do they correspond to the different assessments in the proposed certification system?
3. Can the doctoral student describe the activities in the construction process to achieve sustainable construction? In this regard, why were the six criteria selected in the proposed certification system and which activities correspond to the criteria?

10. Conclusion

The peer-reviewed dissertation represents a completed scientific study on a current and practically significant problem. In terms of its content, volume and structure, it fully meets the requirements stipulated in the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADABRB) and in the Regulations for its implementation for the award of the educational and scientific degree "doctor".

The dissertation is distinguished by its purposefulness and thoroughness in studying the theoretical and practical aspects of sustainable construction. A clear research concept has been built, the results obtained have both theoretical value and significant practical applicability in accordance with current processes in the field of construction. Based on the content of the dissertation and the abstract, as well as its fulfillment of the procedural requirements under the Law on Sustainable Construction and the Environment, **I give a positive assessment of the dissertation work and propose to award the educational and scientific degree "Doctor" in professional field 3.8. Economics, field of higher education 3. Social, economic and legal sciences, doctoral program "Economics and Management (Construction and Real Estate)" to Neli Atanasova Dimitrova.**

07. 09.2025 years
Varna

Prepared the review :

/ Prof. Dr. T. Turlakova/

Заличена информация съгласно
ЗЗЛД и регламент (ЕС) 2016/ 679

REVIEW**FOR AWARDING THE DEGREE OF "DOCTOR" IN
ACCORDANCE WITH THE PROCEDURE ANNOUNCED
BY THE UNIVERSITY OF ECONOMICS, VARNA****1. General information**

Topic: Sustainable Construction in Bulgaria

Author: Neli Atanasova Dimitrova – PhD student under the Doctoral Program "Economics and Management (Construction and Real Estate)" at the University of Economics, Varna

Scientific specialization: Economics and Management

Scientific supervisor: Assoc. Prof. Katya Antonova, PhD

Member of the scientific jury: Assoc. Prof. Dr. Emil Papazov, Department of Real Estate, University of National and World Economy, scientific specialization "Economics and Management"

Reason for writing the review: Order № RD-06-109/24.06.2025 and Decision of the Scientific jury after the first meeting conducted on 30.06.2025.

2. Information about the doctoral candidate

Ms. Nelly Atanasova Dimitrova was a PhD candidate at the Department of Business Investments and Real Estate at the University of Economics in Varna. Before that, she earned both a bachelor's and a master's degree in Business Economics from the same university. She possesses seven years of managerial experience in the service sector. She is presently enrolled in KU-Leuven in Belgium, pursuing a second bachelor's degree. In pursuit of her PhD studies, she has successfully completed all examinations mandated by her personalized study plan with exemplary grades, encompassing Research Methodology, Construction Entrepreneurship, Business Economics, and English. She has also accomplished her additional responsibilities as a regular doctoral student.

3. General presentation of the thesis

The dissertation submitted for review has a total length of 294 pages. In terms of structure, it consists of the following sections: abbreviations used (4 pages), introduction (4 pages), three chapters (195 pages), conclusion (4 pages), list of references (29 pages), and appendices (55 pages). The main text contains 26 tables and 57 figures. The list of references

consists of 268 titles, of which 80 are related to scientific publications and 188 to Internet sources. Along with the dissertation, a 40-page abstract is provided, which outlines the main points of the research, the results achieved, and the scientific and applied scientific contributions sought.

In accordance with the requirements of Article 27, paragraph 2 of the Regulations for the Implementation of the Law on Development of Academic Staff in the Republic of Bulgaria, the dissertation and the author's abstract meet the specific requirements of the primary scientific unit. The volume, structure, and content of the research are in line with regulatory requirements and best Bulgarian practices in the field of economic research.

4. Assessment of the structure and content of the thesis

The thesis exhibits a well-balanced volume, and its structure – comprising an introduction, main text, conclusion, bibliography, and appendices – aligns with established research conventions in economics and management. Chapter One comprises 67 pages, Chapter Two consists of 69 pages, and Chapter Three contains 55 pages, indicating a very even distribution throughout the various sections of the dissertation.

The thesis introduction delineates the topic's significance, the object and subject of study, the aim and objectives, the hypothesis, and the research methodologies employed. The study focuses on sustainable building as a vital sector of the Bulgarian economy, examining specific aspects of sustainability, particularly its environmental ("green" construction), organizational-economic, and managerial dimensions. Emphasizing these construction features is essential for attaining the UN's sustainable development goals and addressing difficulties including urbanization, climate change, and resource depletion.

Chapter One provides an in-depth analysis of concepts related to the essence and purpose of sustainability (minimizing energy and raw material use throughout the building's life cycle and protecting the environment); the basic principles of sustainable construction (such as minimum energy consumption, environmental protection, durability, comfort, and safety); building sustainability certification systems (such as BREEAM, LEED, DGNB, and Green Star); European legislation, which influences national construction policies through regulations, directives, and other legal measures for energy efficiency and sustainability. It has been established that Bulgaria has largely harmonized its legislation with European requirements by introducing Eurocodes and national regulations for sustainable construction. Important conclusions are drawn, such as that theory and practice need an in-depth analysis of the application of the sustainable approach in the implementation of

construction projects, and that it is urgent to create a regulatory provision that combines "all indicators characterizing sustainable construction" (p. 77).

The focus of research in Chapter Two is the trends in the development of the construction sector in Bulgaria, the tendencies towards sustainable construction, and the challenges associated with it. Analysis of statistical information shows that construction is a key sector for the economy, employment, infrastructure, and the environment. Globally, there has been an increase in "green" projects, mainly due to lower operating costs and legal requirements to ensure a healthier environment. However, Bulgarian businesses face a complex set of economic, human resources, regulatory, and market challenges that slow down the implementation of sustainable and innovative practices. The main ones, identified on the basis of the results of a survey conducted among companies in the sector, are related to high initial costs for the implementation of sustainable projects; long payback periods; a shortage of qualified personnel for the design and implementation of "green" construction; low solvency and limited demand; strong segmentation and small scale of companies; absence of a national certification system; lack of political support, presence of corruption, grey economy and administrative barriers; limited access to financing; insufficient information and low public awareness. Overcoming these challenges requires coordinated efforts by the state, business, and society.

Chapter Three examines opportunities for improving sustainable construction in Bulgaria through the implementation of good European practices, particularly the Belgian model for energy efficiency, the introduction of a Bulgarian system for certifying sustainability in construction, and the training of experts through a highly specialized master's program. The Belgian model is effective thanks to strict legislation, public access to information, financial incentives and penalties, and a comprehensive approach to all types of buildings, leading to gradual improvements in energy efficiency and a reduction in the carbon footprint in the long term. The Bulgarian BEST system for certification of sustainability in construction (developed by the author) is a modern, nationally adapted and integrated framework that takes into account the complexity of sustainable construction and aims to stimulate, facilitate and control the implementation of sustainable practices in the sector. The concept for a master's program proposed by the doctoral student "Sustainable Construction and Energy Efficiency" is designed to combine theory and practice, develop skills for working with innovative technologies, and prepare specialists capable of implementing sustainable construction projects in line with the latest environmental and energy requirements.

The conclusion summarizes the main findings of the study on the role and place of sustainable construction in Bulgaria's economy and environment, highlights the need to create a national certification system and educational programs, and emphasizes the need for targeted policies and investments to overcome barriers to sustainable development in the sector.

To sum up: This thesis addresses a critical issue in the sectoral economy – sustainable construction. It proposes solutions, including a sustainability certification concept and an educational program, derived from the analysis and evaluation of advanced international practices, which are essential for the broader implementation of sustainable practices among construction companies in Bulgaria. The thesis exhibits a scientific language and style, and the employed tools are suitable. The author's conclusions are founded on an adequate quantity and diversity of Bulgarian and international literary sources, encompassing contemporary regulatory papers. The study exhibits accuracy in the application of empirical and statistical data, with coherence and scientific rationale in the analysis and findings.

5. Identification and evaluation of contributions in the dissertation

The dissertation research primarily offers scientific-practical contributions, focusing on the analysis and evaluation of sustainable construction in Bulgaria compared to other nations; the influence of European policy on "green" construction and its repercussions on national regulations; the formulation of targeted measures to enhance the organizational and managerial dimensions of sustainable construction enterprises; the promotion of awareness among industry stakeholders regarding the advantages of "green" construction; and the advancement of professional education in this domain.

6. Publications and participation in scientific forums

In connection with the announced procedure, in addition to the above-mentioned scientific output (dissertation and abstract), the doctoral student has submitted three (3) additional publications on the research topic, including two articles and one conference paper. In accordance with the quantitative requirements under Article 35, paragraph 1, items 1-4 of the Regulations for the Development of Academic Staff at IU-Varna, in compliance with the provisions of Article 2b, paragraphs 2 and 3 of the Law on the Development of Academic Staff in the Republic of Bulgaria, the publications submitted for assessment of sufficiency and objectivity within the announced procedure meet the minimum requirements under indicator group "Г" for the award of the academic degree "Doctor": doctoral student

Dimitrova has a total of 30 points (10 points from 2 articles and 1 report, all independent). It should also be noted that the articles were published in peer-reviewed journals, while the conference paper was included in an edited volume (proceeding) from a scientific forum. The publications are relevant to the research problem and reflect important points from the thesis.

7. Confirmed or unconfirmed plagiarism in the dissertation and abstract

The evaluation of the dissertation and its abstract, along with the declaration provided by the doctoral candidate, indicates that the work is original and that there is no indication of copyright violation about the utilized sources or other external texts.

8. Critical remarks and recommendations

Certain conclusions, such as those on p. 95, are predicated on assumptions and do not derive from prior study.

The second section of the study provides a summary of survey data, together with the outcomes of its processing and analysis. The survey is not included in the dissertation. No information is provided regarding the extent of the polled subjects or the representativeness of the study.

The optimal approach for certifying sustainability in construction, devised by the PhD candidate, might have been evaluated in industry firms to ascertain its practical applicability.

The proposals might be more abundant and better organized into distinct categories – sectoral policy, regulatory institutions, and business.

The identified shortcomings and recommendations do not undermine the conclusions obtained in the scientific investigation.

9. Questions for the doctoral candidate

Would you compare Bulgaria's experience with building passportization to that of other countries you have studied?

10. Conclusion

In terms of scope and scientific value, the dissertation on "Sustainable Construction in Bulgaria" by Ms. Neli Atanasova Dimitrova meets the requirements of the current regulatory framework in Bulgaria and addresses a problem that is relevant to the theory and practice of construction economics through the application of a scientific approach and the use of scientific methods and tools.

The dissertation submitted for review, the accompanying abstract, and related publications demonstrate that Ms. Nelly Atanasova Dimitrova possesses in-depth theoretical knowledge in the field of economics and management and the ability to conduct independent scientific research, which gives me reason to present my positive assessment of the dissertation to the distinguished scientific jury and to propose that its author be awarded the educational and scientific degree of "DOCTOR".

Sofia, August 26th, 2025

Reviewer: _____

Заличена информация съгласно
ЗЗЛД и регламент (ЕС) 2016/ 679

(Assoc. Prof. Dr. Emil Papazov)