

REVIEW

By Prof. Andrey Zahariev, PhD on a dissertation on the topic: "Energy security and energy strategy of the EU and Bulgaria: financial and economic aspects and challenges" with author doctoral student Kaloyan Dragomirov Pargov, doctoral student of self-study at the Department of "Finance and Credit" at the SA "D. A. Tsenov" with scientific supervisor Prof. Dr. Stoyan Prodanov

The review was prepared according to the decision of the first meeting of the scientific jury according to the procedure according to Order No. 52 of 20.01.2023 of the Rector of the "D. A. Tsenov" Academy of Economics - Svishtov, decisions of the Faculty of Finance, Protocol No 5 / 19.01.2023 and requirements under the Regulations for the Development of the Academic Staff in the "D. A. Tsenov" Academy of Economics. Scientific supervisor is Prof. Stoyan Prodanov.

Kaloyan Pargov is developing the dissertation in an independent form of doctoral studies at the Department of Finance and Credit at the Faculty of Finance of the Dimitar A. Tsenov Academy of Economics. He was enrolled on 17.12.2020 according to Order 1125/21.12.2020.

1. Evaluation of the fulfillment of the formal requirements for writing a dissertation

The dissertation submitted for evaluation has been prepared following a standard three-chapter research framework. In the introduction, the problem area of research is developed as follows: topicality, object, subject, thesis, aim, tasks and methodology. The development has the features described in the Regulations for the Development of the Academic Staff in the "D. A. Tsenov" Academy of Economics quantitative and qualitative standards for presentation for defense.

2. Structural assessment of the development

The presented dissertation is 217 pages in length. It includes an introduction (4 pages), three main exposition chapters (172 pages), a conclusion (5 pages), appendices (8 pages) and a bibliographic reference with 158 sources. The development is supported illustratively with 95 figures and 5 tables. The available data from verification with specialized software establish correct compliance with the requirements for bibliographic citation and bibliographic description. The development is authentic! Along with it, 4 author's studies - studies, an article and two reports (one co-authored) were published in the scientific periodical. All publications are on the topic of the dissertation work. Their integration into the main exposition is correctly indicated by a footnote.

3. Scientific and substantive evaluation of the development

The research is on a topic with indisputable relevance, scientific and applied orientation.

The subject of the dissertation is the energy security of the EU and Bulgaria. The subject of the research are the financial and economic aspects and the challenges to energy security and the energy strategy of the EU and Bulgaria.

The leading thesis in the dissertation is related to the statement that energy security is a key component of the energy strategy of the EU and Bulgaria, which should be built and substantiated on an econometric financial-economic analysis evaluating the many aspects and challenges of a trend and force majeure nature.

The aim of the study is to present in a polemical order the evolution of the energy strategy of the EU and Bulgaria as a sphere for ensuring energy security, based on a multi-factor econometric financial-economic analysis, evaluating the many aspects and challenges of the energy balance and the dynamics in the energy mix with a trend and force majeure.

Solving the main tasks that are set in the dissertation also build its classic structure in three chapters. The first chapter is focused on solving the task of critical assessment of the priorities and components of the EU energy policy at the beginning of the XXI century with a definite introduction of the concept of energy security as part of the community regulations. Through the second chapter, the task of dynamic modelling of the components in the energy balance of the EU and Bulgaria is solved with a study of the price parameters and the technology for pricing electricity and gas. The third chapter is dedicated to a prospective analysis and combinatorial modelling of value-adding opportunities for Bulgaria, based on the strategic location of and to main pipeline gas supply routes and their supply from regasification terminals and alternative to traditional sources, as well as critical effects on the "Day Ahead" market segment of the Bulgarian Independent Energy Exchange.

4. Achieved results

The dissertation research on the energy security and energy strategy of the EU and Bulgaria has a high scientific and scientific-applied value, especially at the end of 2022 and the beginning of 2023. As more significant results, the author's substantiated summaries and systematizations can be confirmed, as follows:

First. A critical evaluation of the priorities and components of the EU's energy policy at the beginning of the XXI century has been made, with a definite introduction of the concept of energy security as part of the community regulations. In this regard, the author originally defines energy security as an essential element of the energy policy of each country with a key importance for economic, national and environmental security, which is achieved by providing energy needs at optimal prices corresponding to economic growth to ensure energy sustainability.

Second. In the modelling of the components in the energy balance of the EU and Bulgaria with a study of the price parameters and the technology for pricing electricity and gas, the dynamics in the political and economic conditions at the national and world level have been deduced. This, in turn, necessitates the search and maintenance of the strategically important components that make up the energy balance at optimal levels, consistent with deepening analytical results and trends. On the basis of the exhibition, it is recommended to take effective actions to prevent potential negative consequences from disruption of technological processes in the energy sector and to take mechanisms for timely coordination measures based on a thorough study of energy processes and their trends.

Third. By measuring the energy three-component rank and the rank of the regional economic potential, a grouping of countries with good energy discipline and socio-economic conditions is formed. For the purposes of improving energy security, it is proposed to form an alliance for energy security between the countries: Sweden, Denmark, Great Britain, France, Austria, Germany, Hungary, Spain to bring out good practices in the energy sector. The assessment for all other countries, incl. and Bulgaria is that they have a stable socio-economic potential and a visible need for the application of better algorithms to accelerate and improve the development of energy security and energy efficiency, corresponding to world and European norms.

Fourth. For the purposes of undertaking new strategic decisions for the implementation of energy security and the undertaking of well-structured energy benefits in the European Union and in particular Bulgaria, as a result of the presented numerical data and applied analysis, a recommendation is given for the revision of the energy relations between specific European countries on a bilateral basis and multilateral level.

Fifth. Through perspective analysis and combinatorial modeling of the

opportunities to add value for Bulgaria, critical effects of the "Day Ahead" market segment of the Bulgarian Independent Energy Exchange have been established. They are expressed in price market anomalies in a situation of connecting two national exchanges with different seasonal pace and rhythm of demand and supply of electricity. The demand for electricity from Greece at high prices on the connected Bulgarian energy market in the "day ahead" segment forms a situation of international transfer of economic shocks, which found expression in the reporting of a record consumer price inflation index of 20% on an annual basis for the Bulgarian membership. The location of Bulgaria on and next to the main pipeline gas supply routes, their supply from regasification terminals and alternative to traditional sources are a perspective of a strategic nature.

As a direct result of the analysis of the arrays of data for the energy system, the author successfully derives main analytical results, which at the time of starting the procedure have their high value as scientific novelty and analytical relevance and which are summarized at the end of each chapter.

5. Questions on the dissertation work

What might be the effect of the country's upcoming admission to the Eurozone on the country's energy strategy?

Conclusion

The presented dissertation work for the educational and scientific degree "doctor" has the requirements of the Regulations for the development of the academic staff in the "D. A. Tsenov" Academy of Economics quantitative and qualitative characteristics. The dissertation contains scientific and applied scientific results, which represent an original contribution to science. The dissertation proves that the candidate has in-depth theoretical knowledge of the specialty, as well as abilities for independent scientific and practical research. All

this gives reason to recommend to the scientific jury the awarding of Kaloyan Dragomirov Pargov of the educational and scientific degree "Doctor" in the doctoral program "Finance, money circulation, credit and insurance (Finance)".

Reviewer:

(Prof. Dr. Andrey Zahariev)

22.02.2023