

ATTITUDE OF REVIEWER

by **Prof. Dr. Mitko Atanasov Dimitrov,**

member of the Scientific Jury for awarding the educational and scientific degree
“Doctor” in the doctoral program in “ECONOMICS AND MANAGEMENT”
in the professional field “3.8 ECONOMICS”

by **Anton Lyubomirov Ivanov**

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with scientific supervisor **PROF. DR. ALEXANDER TASEV**

The dissertation submitted for defense on the topic: **Final investment decision for the construction of a nuclear power plant in the context of a liberalized electricity market in Bulgaria /methodological and applied aspects/** with the author doctoral student Anton Lyubomirov Ivanov, is a serious study with a high degree of practical focus.

The topic is undoubtedly topical and socially significant. The cited literature includes 141 sources (books and articles), of which 63 are Bulgarian, and the rest are from foreign publications. Well-selected literature on the subject has been used.

The dissertation is 214 pages long and consists of an introduction, three chapters with relevant sections, conclusions, a list of references and appendices (30 pages). The text contains a list of abbreviations used, 16 tables, 26 figures and an index of concepts.

The structure of the dissertation is logically linked to the main goal and specific research tasks.

The introduction justifies the relevance of the study.

The first chapter is of a narrative nature. It first traces the trends in energy and electricity demand, as well as the effects of growing electrification of consumption, with a view to choosing alternatives for development, with an emphasis on basic energy sources, such as nuclear energy. The dissertation seeks to answer the question under what conditions projects for new nuclear power plants can be implemented, taking into account market and general constraints. Studies of the market environment and general aspects are the subject of in-depth analysis in search of factors influencing the investment process.

Based on an analysis of the policies and functioning of the European electricity market and the assessments made in the economic literature, this study identifies the main imperfections of this market in the short and long term.

The dissertation has developed a tool for substantiating a final investment decision for a new nuclear power plant, based on strategic analysis, namely PEST/SWOT analysis.

Based on the complex nature of the risks and the resulting uncertainty in investments in nuclear power plants, the dissertation proposes a methodological approach based on a wide range of academic research and own experience in working on projects in the field of nuclear energy.

The proposed approach is developed **in chapter two** of the dissertation, in parallel with the analysis of the features of the development of nuclear projects in modern conditions. The proposed methodological approach reflects the complexity of the factors in the preparation of a Final Investment Decision (FID), increasing the sustainability of a decision to build a nuclear power plant, thereby filling the theoretical and applied gap in this area.

The study concludes that the conditions for the implementation of mega-projects, such as nuclear power plant projects, assume that their development is carried out by companies with monopoly or oligopoly positions in the electricity market. Balancing public and private interests is achieved through state regulation and through voluntary implementation of corporate social responsibility policies.

The widespread use of direct state participation or state support for nuclear projects requires the development of a justification for the development of an investment project, taking into account the effects of its implementation not only at the corporate level, but also by applying a strategic analysis of the macro environment, which is determined by current and predictable political, economic, social and technological factors. The willingness to provide information and broad public discussion is key to obtaining an EIA for nuclear power with direct state participation or state support.

To support the process of justifying a strategic choice at the Final Investment Decision stage, the dissertation proposes a methodological approach based on an analysis of factors for assessing the overall potential of the project initiative by comparing competing alternatives.

The approach proposed in the dissertation links different analytical assessments in a unified sequence and forms an IDR based on a set of key indicators to achieve sustainability of the decision made.

In the third chapter, the methodological approach is tested by comparing three possible alternatives for the development of nuclear energy in Bulgaria. The comparison of alternatives allows for the refinement of the grounds for determining the impact factors, targeted selection of key indicators and avoidance of generating positive expectations for a previously selected option.

The proposed methodological approach does not rely on the derivation of a single determining factor, such as a financial criterion for profitability, but uses a set of determining factors, which allows for achieving a result with higher sustainability when the external environment changes.

This dissertation work is based on comparative analyses of alternatives, which allow for a conclusion to be drawn about a preferred strategy for the development of nuclear energy with the implementation of a nuclear power plant project, by choosing a specific technology and location on a specific site.

Based on the identified leading factors of the external environment, the analysis of the corporate environment and the widely used indicators, the dissertation work has identified the applicable key indicators related to the relevant influence factor. In order to limit the subjectivity in these assessments, it is recommended that they be prepared based on the opinions of a wide range of respondents from within and outside the organization.

The main scientific results in the dissertation work can be summarized as follows:

- The practices in developing the concepts of ownership of nuclear power plants in the last 25 years have been summarized, the main stakeholders, their interests and motivations have been identified, and the special place of state ownership or state support in the construction of new nuclear power plants has been justified.
- The systemic and market challenges and influences of a general and specific nature have been identified for the implementation of projects for a new nuclear power plant in the context of market liberalization in the EU, and the scope of the justifications for making a final investment decision has been argued.
- A methodological approach for a complex analysis of factors through multi-criteria analysis has been developed, in which key indicators are applied as a criterion for assessing the factors of influence when ranking an investment alternative in competition with other alternatives.
- By applying the methodological approach and PEST/SWOT analysis, the sustainability of three alternative options for the development of a new nuclear power project in Bulgaria has been tested and a leading alternative has been recommended.
- Visualizations have been synthesized for the methodological approach, the nuclear project cycle and the aspects of preliminary studies and activities before making a final investment decision for a nuclear project.

The contributions in the attached reference are clearly formulated and reflect the results achieved in the dissertation.

Anton Ivanov has 4 independent scientific publications on the topic of the dissertation work - three reports at scientific conferences and one article in a scientific journal in SCOPUS. Two of the publications are in English. The publications are representative, and in terms of total volume they meet the requirements for publicity of the results of the dissertation work.

The abstract reflects the content of the dissertation.

Conclusion: The requirements of the Law on Development of the Academic Staff in the Republic of Bulgaria, the Regulations for application of the Act on Development of the Academic Staff in the Republic of Bulgaria, and the Regulations of ERI at BAS have been met for the preparation of doctoral student Anton Ivanov, for the content of the dissertation and the scientific and applied scientific contributions, which gives him grounds to claim the educational and scientific degree "doctor". There are all necessarily I am confidently voting for the award of the educational and scientific degree "Doctor" to doctoral student Anton Lyubomirov Ivanov in the professional field 3.8. Economics.

05.06.2026.

Sofia

Signature:

/Prof. Dr. Mitko Dimitrov/