

POSITION

by Prof. Dr. Dimitar Nenkov Nenkov
on a dissertation on a topic

" INVESTMENTS IN PHOTOVOLTAIC POWER PLANTS - FINANCIAL AND ENVIRONMENTAL ASPECTS"

on

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(Finance)",

to the Department of "Finance and Credit" of the Academy of Economics "D. A.
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Scientific supervisor: Prof. Dr. Andrey Zahariev

I. General presentation of the dissertation work

The dissertation submitted for review has a total volume of 233 pages and includes: list of tables, introduction, three chapters, conclusion, bibliography and appendices.

In the introduction, the doctoral student emphasized the relevance of the researched topic, indicated the object and subject of research, as well as the main goal. Three tasks were formulated to be performed subsequently and three hypotheses to be tested in the research process. The leading research thesis of the dissertation is also formulated, according to which "The 'Green Deal' in the EU creates a growing demand for low-carbon electricity production, which creates a positive outlook for investments in photovoltaic plants based on financial models for returns while complying with environmental regulations in the country and the EU".

The first chapter discusses the theoretical, market and environmental aspects of investments in the electricity sector. Special attention is paid to the technological features and economic efficiency of photovoltaic plants, the energy balance in the country, the evolution of the "Day Ahead" stock market segment. A critical analysis of the European "green deal" was made, the state and trends of electricity production in Bulgaria were followed.

The second chapter is devoted to an econometric analysis for 12 Central and Eastern European countries of the "Day Ahead" price segment as a determinant of return on investment in solar plants. For this purpose, the author applied a multifactor linear regression model and a stepwise multifactor regression model for IBEX for 2019 and 2020, and 2021, 2022 and 2023, respectively.

In the third chapter, the dissertation focuses on the analysis and evaluation of a specific project company for investment in the construction of a photovoltaic plant, including: the prospects for such investments, design of a Photovoltaic power installation up to 1 MW, approval of a business plan for a photovoltaic installation over 1 MW. Systemic and non-systemic risks in investments in photovoltaic plants are discussed in a separate plan.

II. Assessment of the form and content of the dissertation

The chosen topic is current and of marked practical relevance to an important area of investment in real assets. The object and subject of the research are appropriately chosen, the thesis is clearly formulated in the introduction.

The dissertation as a whole is characterized by a tight and sustained structure. The three chapters are arranged in a logical sequence corresponding to the topic, the main objectives and the specific tasks set.

Regardless of the number of publications in the researched area, the problems related to improvement and increase of returns of especially current investments in renewable energy sources, including photovoltaics, need new and new researches. The dissertation student has demonstrated a very good knowledge of the literature in the subject area and the ability to work with literary sources. A total of 151 literary sources are indicated in the bibliographic reference, including 36 in Bulgarian and 115 in English.

The PhD candidate has demonstrated a very good knowledge of the subject area, especially in theory, but also in terms of the practice of investment in modern power generation assets. The exposition is excellently illustrated with the help of 122 tables and 55 well-crafted figures.

The dissertation generally conforms to the required form. The abstract is prepared in accordance with the requirements and sufficiently accurately and fully presents the essential aspects of the dissertation work. It also presents a reference for 5 publications of the dissertation student, each of which is on the subject of the dissertation work. The publications are sufficient to cover the minimum requirements for the ESD "Doctor" according to the LDASRB.

III. Scientific and scientific-applied contributions of the dissertation work

The doctoral student has delved deeply into the subject area, which has allowed him to reach well-grounded conclusions and highlight specific points of contribution in a scientific and scientific-applied aspect. As a result of the theoretical and practical analysis, the dissertation student highlighted 4 scientific and scientific-applied contributions. I accept the contributions thus indicated as correctly formulated.

IV. Critical Notes and Dissertation Questions

- The dissertation work would have benefited if more serious attention had been paid in chapter three to the presentation of the financial and economic analysis of the specific investment project, including the explicit presentation of the scheme and the components of the formation of the net operating cash flows from the project with the relevant tables.
- My question to the dissertation student is how he will comment on the policy of the governments in Bulgaria regarding the stimulation of investments in RES in historical terms. How does the dissertation see the positives and negatives of fixed incentive prices in this regard from a decade and a half ago? Was it reasonable to talk about the formation of a speculative bubble of such projects at that time?

V. Summary evaluation of the dissertation work and conclusion

My conclusion is based on the aspects analyzed above concerning the main qualities of the dissertation work. Bearing in mind everything presented so far, the research work carried out, including the carried out in-depth empirical analysis on the topic and the demonstrated abilities of the doctoral student for creative interpretation of what has been achieved in the given field, I consider:

The presented dissertation has serious scientific merits, which give me the reason to state my positive opinion "FOR" awarding the doctoral student TODOR DIMITROV GEORGIEV the scientific and educational degree "DOCTOR" in the scientific specialty "Finance, money circulation, credit and insurance".

4.05.2024

Member of the Scientific Jury:

/ Prof. Dr. D. Nenkov/