

**UNIVERSITY OF PETROSANI
DOCTORAL SCHOOL**

ABSTRACT

**CONTRIBUTIONS TO THE ENERGY RESOURCES STRATEGY OF
THE STATE OF ISRAEL IN CONDITIONS OF REGIONAL
CONFLICTS**

תרומות לאסטרטגיית משאבי האנרגיה של מדינת ישראל בתנאים של עימותים אזוריים

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Energy resources/energy decisively participates in the generalization of productive-economic flows and in the development of activities of a societal nature, aimed at well-being and sustainability.

We moved on to the presentation of the collected data, the results, their analysis and interpretation, discussions in the context of existing literature, implications, limitations and future research directions.

The paper records the useful elements, such as direction/orientation useful to those tasked with developing an effective energy strategy (in this case, for Israel), which involves the use of a diverse set of techniques to ensure a planning and implementation all encompassing.

Based on what was identified, systematized and reproduced in an original manner in the PhD thesis, the drafters of the Updated Energy Strategy for Israel can use practical techniques in this process.

Identifying the internal strengths of the energy sector (abundant natural resources, advanced technology), Weaknesses by recognizing deficiencies (outdated infrastructure, dependence on imports) can lead to external Opportunities (innovations technological), thus knowing Threats through risk analysis (Israeli-Arab conflicts, energy market volatility, legislative changes).

The impact of government policies and regulations, the economic conditions influencing the Israeli energy sector, the demands, preferences and behaviors of domestic energy consumers, technological progress, environmental and sustainability considerations are also considered.

The PhD thesis proposes alternative scenario techniques for Israel's energy future, ways to set short, medium and long term goals.

Also, it is recommended to identify and evaluate the risks associated with different strategic options, compare the performance of the energy sector with other countries or regions (with Romania), systematize the best practices and adapt them to the local context.

These techniques are essential to developing a robust energy strategy that meets both Israel's current needs and future challenges.

Their coherent and integrated implementation in Israel can ensure long-term energy security, sustainability and competitiveness.

Chapter I is entitled ENERGY-MINING POTENTIAL ON THE INTERNATIONAL PLAN, IN THE MIDDLE EAST AND IN THE STATE OF ISRAEL.

Conceptual delimitations and typological formalizations regarding resources at the international level are treated. References are made to global energy potential, directions and trends in the field. In context, the primary energy resources in Israel are presented. The energy situation in Israel is also shown.

Chapter II is entitled REGIONAL CONFLICTS AND INFLUENCES ON ENERGY-MINING SITUATIONS.

The characteristics of the conflicts in the Middle East in which Israel is involved are also investigated, as well as their impact on global energy.

Proposals are advanced for obtaining, allocating and consuming energy resources under conditions of geopolitical risk in the Middle East/Israel.

Chapter III is entitled DEVELOPMENT OF THE SPECIFIC STRATEGY IN THE STATE OF ISRAEL.

The concept of the theoretical and practical bases for the exploitation, optimal and efficient allocation of energy resources for consumption in the State of Israel is treated.

Mainly, the typology of industrial-economic models with potential application for the elaboration of the Strategy regarding the energy resources of the State of Israel is presented.

Clarifications are made about the basic elements in the process of modeling the allocation/supply of energy resources for use in Israel.

The paper systematized the elements of modeling the processes of obtaining primary energy resources and energy consumption in Israel.

Chapter IV has the title TECHNIQUES FOR DEVELOPING THE ENERGY STRATEGY. CRITICAL SITUATIONS, TRENDS AND PERSPECTIVES.

The observations made show that the deployment of the allocation of consumption energy resources can be done on multiple hierarchical cores, this being the original proposal of the author on this alignment.

The inclusion in the Strategy proposed for the State of Israel of the optimal allocation process for the consumption of energy resources is a direction/orientation recommended by the author.

Chapter V is called MATHEMATICAL MODELING FOR STRATEGIC SUSTAINABLE ENERGY SOLUTIONS.

Mainly, it is presented by the original mathematical model for the extraction, allocation/strategic operative supply of energy resources in Israel, which is recommended to be used in the development of the Strategy in the field.

It is proposed for the first time, to solve the strategic allocation/supply of energy resources for consumption in Israel with the help of sequential dynamic programming.

In this part of the doctoral thesis, one resorts to the systematization of the recommended models for the Energy Resources Strategy in Israel.

Chapter VI is entitled STRATEGIC SCENARIOS, OPTIONS AND ALTERNATIVES. DECISION-MAKING PROCESSES. SIMULATION.

Focusing on extensive managerial knowledge resources for energy resources in Israel is presented.

Recommendations are launched regarding the approach of short, medium and long term forecasts and their influences on the strategic issue of energy resource allocation in the State of Israel.

Chapter VII addresses SOLUTION RECOMMENDATIONS FOR THE STRATEGY. FEASIBILITY, TECHNICAL, TECHNOLOGICAL AND STRATEGIC EFFICIENCY OF THE PROPOSED SCENARIO.

In the content of the Chapter, an iterative / reiterative model for decision-making processes in the formalization of the Strategy for obtaining, supplying and consuming energy resources in Israel is presented.

A scenario for the Energy Strategy of the State of Israel is presented, proposals for utility, management and foresight in the scenarios / variants, resource allocation alternatives in the Energy Strategy of Israel.

The management proposal for energy safety and security is presented for obtaining, supplying and consuming quasi-continuous resources needed in Israel.

Equally, references are made to the particularities of the articulation "(1) Model - (2) Economic process of allocating energy resources".

The proposal of a disaggregated forecasting method for industrial economic growth based on the Strategy for Energy Resources intended to be undertaken in the State of Israel is an original scientific contribution in the analyzed context.

Chapter 8 is entitled FINAL CONCLUSIONS, PROPOSALS AND RECOMMENDATIONS, HIGHLIGHTING OWN, ORIGINAL CONTRIBUTIONS AND FUTURE RESEARCH DIRECTIONS.

Mainly, the original proposals advanced by the author are presented.

The theoretical and practical results in the doctoral thesis can be found in a total of 52 graphic representations (diagrams, drawings, figures, images), of which 40 are original, developed by the author, 64 mathematical relationships, 2 tables with data and new information.

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A number of main directions of research in the field will be added to them in the future.