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Project Title: Management of Readiness for the transition towards a favorable future in the electricity industry of the country

Department:	Department of Management and Social Sciences	Employer:	Niroo Research Institute
Project/Program Manager:	Ashraf-sadat pasandideh	Executor:	Gholamreza heidarei
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Project Staff: zohreh rahimirad,yaser khoshnevis,reza hafezi,iraj pourkayvani,ali zolghadr

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Project Necessity: In order to determine the necessity of carrying out this project, the following points should be considered:

A- Iran's situation in relation to the energy transition index: The World Economic Forum has introduced an analytical framework for the energy transition index for transition readiness that should be considered in the effective transition of the energy system. Security and access to energy, environmental sustainability and economic growth and development. Countries are evaluated based on the readiness of the transition in the energy system towards sustainability goals. According to the latest reports published by this association, it is clear that Iran's situation regarding the performance of the energy system and also the preparation for the transition towards the goals of sustainable energy policies are not suitable. Among these indicators, we can mention the high intensity of energy in the country, abundant subsidies in the fossil sector, high environmental pollution caused by the performance of the fossil sector, etc.

B- Operationalization of upstream documents in the field of energy: The second case that can be mentioned is the status of the implementation of upstream documents compiled as well as the laws and regulations enacted in the field of energy in the country, for example in the sixth development plan according to article 50 of the sixth law. , the government is obliged to increase the share of renewable and clean power plants with the priority of investment of the non-governmental sector (domestic and foreign) with the maximum use of internal capacity to at least five percent (5%) of the country's electricity capacity until the end of the implementation of the program law. Despite the mention of this number in the sixth development plan, the question that arises is the conditions governing the technical-social system of the system. Have the laws and regulations, structure, governance and institutional factors and especially the community's preparation and participation provided the context to achieve the numbers mentioned in the programs and documents?

According to the stated cases, it is necessary in a comprehensive study, while examining the latest developments in the field of electricity and energy in the world and the orientation of different countries towards the goals of energy transition, with a focus on the country of Iran, the functional status of the country's electricity and energy sector in line with the goals of the energy triangle to be determined Also, a detailed analysis of the level of readiness of various elements of the socio-technical regime of the electricity industry to move this industry towards the future should be done.

Project Goals:

- 1- Analysis and analysis of the ruling view on the future management of the country's electricity industry in policies and development documents (at the national, industry and sector level) and existing laws and regulations.
- 2- Designing the transition preparation framework towards the possible future of the country's electricity industry
- 3- Development of an effective management thinking system in the decision-making process related to the future transition of the electricity industry
- 4- Investigating and analyzing the obstacles and background factors of stagnation and stopping the transition towards the possible future of the country's electricity industry (with a case study approach)
- 5- Development of the ruling view on the future management of the country's electricity industry beyond the technical approach and emphasizing the role of enabling factors in the socio-technical system.
- 6- Identifying the impact of macro variables such as social, political and economic conditions, etc. in drawing the future transition management of the country's electricity industry
- 7- Determining the position of human resources and customers in the field of electric energy in the management of the future transition of the country's electricity industry
- 8- Determining the importance of governance and institutional issues in managing the future transition of the country's electricity industry
- 9- Determining the importance of structure, rules and regulations, capital and investment in managing the future transition of the country's electricity industry
- 10- Determining the importance of infrastructure and innovative environment in managing the future transition of the country's electricity industry

Abstract:

In line with sustainable development, the topic of sustainable energy has become one of the important categories of change in the world's energy system, and energy transition studies based on the socio-technical approach have also been formed based on this. In the process of energy transition, at the same time, attention should be paid to the evolution of technology and other social elements, namely governance, institutions, laws and policies, business, financing and investment, and society and culture. These developments are carried out with the aim of preparing the countries to move towards the goals of the energy triangle. In the energy triangle, balanced policies are followed in the dimensions of economic growth and development, energy security and access, and environmental sustainability. In our country, many policy documents have been compiled in the field of electricity and energy during the past years. In this comparative productivity project and establishing the goals of the energy triangle, these documents have been analyzed. In this regard, a qualitative analysis method based on thematic analysis has been used. The results of the investigation have shown that the formulated policies have not had the appropriate effectiveness and horizontal and vertical coordination and balance in the goals of the policies are not observed. Also, by calculating appropriate indicators in line with each of the dimensions of the energy triangle, the efficiency of the policies has also been checked. In this regard, the results show the poor performance of the country's electricity industry.

In order to examine the level of readiness of the electricity industry in moving towards the goals of energy transition, in the other part, study the readiness of elements of governance and policy, laws and regulations, financing and investment, innovative environment and technology development, business environment and society and culture. It has been investigated that qualitative studies based on the results of in-depth interviews have also been used in this regard. The results of this section also show the poor condition of various elements of transition preparation. Based on these evaluations, scenarios have been suggested for effective movement towards the future goals of the electricity industry.

Steps and Methodologies:

The five main stages of the project were the following:

- 1) Explaining the ruling view regarding the future of electric energy in the world and in the country
- 2) Designing the preparatory framework for the future goals of the country's electric energy sector
- 3) Using and adapting the developed framework for transition management in a selected field
- 4) Compilation of a road map for the management of transition preparation in the selected field towards the future
- 5) Carrying out promotion and streamlining activities according to the results obtained in the stages

Project method: qualitative analysis based on the content analysis of secondary documents, interviews with experts, as well as statistical analysis to investigate the trend of performance indicators of the electricity industry.

Main Results (technical outputs, patents, papers, books, reports, etc.):

Prepare the following reports:

1. Report explaining the technological trends and future approaches of the field of electric energy in the world
2. Report explaining technological trends and future approaches in the field of electrical energy in Iran
3. Designing the transition preparation framework towards the future goals of the country's electrical energy sector
4. Applying and adapting the developed framework for transition management in a selected area and developing a roadmap for transition preparation management in that area.
5. Carrying out promotion and streamlining activities according to the results obtained from the previous steps

Preparing and publishing articles and books from the results of the project