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Project Title: Depiction the biotechnology roadmap and its development strategies in electric power industry

Department:	Environment research group	Employer:	Niroy Research Institute
Project/Program Manager:	Mahsa Sedighi	Executor:	Morteza Jalali
Project Financial Code:	825300	Project Quality Code:	PEVPN16
Type of Project/Program:	Foresight	Assistant:	Research Assistant

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Project Necessity:

More than 90% of essential energy for power generation in Iran is derived from fossil fuels due to the abundance of their resources. According to the several problems of fossil fuels usage, some other factors rather than initial cost and fuel resource price, such as commercial, social, political, technical and environmental parameters, have been mentioned. Environmental parameters including gaseous pollutants emission, green-house gases emission, radioactive pollutants emission, and water and soil pollution. Application of biotechnological methods for controlling the environmental consequences of power plants is of great interest and developing biological technologies in power industry is necessary. Depiction the biotechnology roadmap in electrical power industry and developing its strategies, can help us in detection of strategic priorities and policy making for improving the environmental function in this industry.

Project Goals:

The objectives of the project are as follows:

- Identifying the areas of biological technologies application in power industry
- Identifying the environmental application of biological technologies in power industry
- Investigating the technological and political dimensions of biological technologies in other countries
- Monitoring the internal performed activities and investigating the strength and weaknesses
- Developing the foresight and depiction the biotechnology roadmap and its development strategies in electric power industry

Abstract:

In the present project, the roadmap of biotechnology development in energy and power industry was provided. This strategic plan is concluded of various projects in four different related areas in power industry including bioenergy production development, pollution control and management development, biotechnology science and technology driving motor and biotechnology innovation system development along with the predicted temporal and monetary requirements. There is a hope that the obtained results would be helpful for the policy makers in the power and energy industry of our country in order to use and develop green technologies in this industry.

Steps and Methodologies:

1. Determining the dimensions and scope of the subject
2. Determining the areas and the characteristics of related technologies
3. Developing the vision for the technology development
4. Developing the objectives and the strategies
5. Developing the projects
6. Developing the roadmap and the action plan
7. Developing the evaluation mechanism and the update plan

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

Reports which were provided at the end of each phase.