



**TECHNOLOGY COOPERATION AND TRANSFER FOR
RENEWABLE ENERGY TECHNOLOGIES:
A PLAUSIBLE APPROACH FOR SRI LANKA**

Submitted by

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ABSTRACT

Energy security is a challenge for all countries. Energy supplied should be cheap, reliable and efficient. Sri Lanka as an emerging economy in the South Asian region has identified the necessity for energy independence for a sustainable future. However, considering the fact that Sri Lanka's large reserves of hydro power have already been utilized, the authorities have diversified to thermal power. As published data shows, energy sector is the main contributor to the Green House Gas (GHG) emissions in Sri Lanka. Sri Lanka as a developing nation cannot face these challenges alone. The long-lasting challenges still exist today. It has been observed that they are due to the absence of coordination among local and international organizations, scarcity of resources and non-existence of a long term plan. Technology cooperation and transfer have been viewed as viable solutions. The aims of this study is to understand how technology cooperation and transfer of renewable energy technologies can be used for developing a solution. The future energy demands of the country need to be compared against the available renewable energy sources.

Literature reveals that foresight analysis has been used in many countries as a successful tool for planning the power generation sector. The foresight process began with literature review and expert interviews. A STEEPV workshop was conducted in the second stage of the study in order to identify the important factors which were crucial for the development of renewable energy sector. A strong mathematical approach to Delphi survey was incorporated usefully and a combined Delphi-AHP approach called Delphic Hierarchy process was used in this study. This survey established that fact that, government energy policies and the real cost of the fossil fuels were the most important factors that were mandatory for the successful development of the renewable energy sector. Based on these two factors, the study developed four scenarios of Sri Lanka's renewable energy sector by year 2030. The four scenarios were named as Land of Republic, Green Paradise, Drowning Island, and Black Island. Finally, these future scenarios along with the results of the expert's interviews and literature reviews were analysed to identify feasible technology cooperation and the policy recommendation that the country should enter into in order to foster the renewable energy sector of Sri Lanka.

Key Words: Renewable Energy, Sri Lanka, Technology Capabilities, Technology Cooperation, Technology Transfer,