

Using Innovative-Renewable Energies for Sustainable Tourism

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Abstract

The rapidly growing and growing tourism sector is remarkably profitable when it is examined economically [1]. But besides this benefit, if the development provided in tourism can not be planned well, the physical and biological structures that constitute the environment and the environment, ie the ecosystem, can be damaged. The economic benefit gained from the sector can often be short-term, while slowing or preventing environmental degradation is often very difficult and sometimes impossible. For this reason, if economic growth based on tourism is achieved by preserving environmental values as much as possible, a significant gain can be gained for the continuity and sustainability of the tourism industry. For this reason, the natural environment and ecosystem of a region is an important source to be protected both in securing the future of tourism in that region and in order to minimize the negative effects that tourism may cause [2].

Energy management is a critical aspect of tourism development. Using renewable energy systems are important as much as developing renewable energy technologies to meet the energy need in order to overcome the disadvantages caused by the uncontrolled and unplanned growth of tourism and to cause the ecosystem to have the lowest possible negative externalities. As seen in figure 1, three hotels in Greece using renewable technologies had energy savings of 6820 MWh/year per hotel, corresponding to an emission reduction of 7.2 tCO₂/year per hotel due to the use of solar air conditioning [3]. Several examples from different countries are in Figure 2 [4-14].



Figure 1: Three hotels in Greece using renewable technologies [3]

The objective of this study is to investigate how different renewable energy technologies (RETs) can be effectively commercialized in Turkish Tourism Industry. Turkey, not being endowed with natural reserves of hydrocarbons, is striving to increase the share of renewable energy generation in its primary energy supplies. In recent years, Turkey has long been involved in the development and innovation of technologically advanced products and services. The recent economic meltdown and decline in other sectors have triggered the inevitability of developing a sector that can serve as the backbone of the economy in the years to come. Clean technologies offer an excellent opportunity for a touristically advanced country like Turkey to become a key player in the emerging market. Turkey is becoming excellent standing when it comes to innovation input, innovation culture and public R&D in clean technologies; however, it lags behind when it comes to the commercialization of these novel technologies.

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This study aims to address the problem by investigating questions such as: What are the key factors that influence the commercialization of RETs in Turkish Tourism Industry? How do technological, regulatory and market-related factors affect the widespread adoption of RETs in Turkish Tourism Industry? The study also highlights the significance of support mechanisms and suggests the improvements required, at the micro-level (firms) and macro-level (policies, regulation and infrastructure), to develop a successful RET market in Turkish Tourism Industry. The findings of the study are presented against the backdrop of existing literature, energy policies, and the data collected from the energy experts in academia, technology firms, utility companies, investment firms, and regulatory bodies. The study has thus identified the factors that are central to the acceleration of RETs commercialization in Turkish Tourism Industry. Based on the findings, the study presents a comprehensive framework for the commercialization of RETs in Turkish Tourism Industry.

We investigated in all possible technologies using renewable energy sources and also examined whether financial market development promotes the deployment of renewable energy on a global scale. In particular, we conjecture that countries with well-developed financial markets experience growth in the renewable energy sector due to easier access to external financing. We find that renewable sectors that are relatively more dependent on debt and equity financing grow disproportionately faster in countries with developed financial markets. Our final aim is 100% renewable energy in the sector.



Figure 2: Some hotel applications using renewable technologies and their buyers [15-18]



Figure 3: Renewable technologies and their buyers [19]

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