

Reviewing Electricity Policies by Green Management Approach (Comparison of Denmark and Germany with Iran)

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Abstract

Achieving green energies is an important challenge for all developing countries. The aim of this study is to review green electricity production policies in advanced countries such as Germany and Denmark and then developing a comprehensive model for developing countries like Iran.

The most significant findings include the financial and regulatory incentives and tools applied in Denmark and Germany such as Feed-in Tariff, Renewable Portfolio Standard and Tradable Green Certificate which are applicable in other states.

Some significant policies in the recommended model are as pricing the electricity, phasing out nuclear energy production, setting green tax package, tax-exempting, subsidizing renewable energy (RE) development, dedicating soft-interest or no-interest loans, implementing informing programs about local ownership for citizens, facilitating the participating process, performing obligatory plans to purchase green electricity for governmental sectors and etc.

Introduction

Electricity is highly penetrated in our lives and various renewable resources and non-renewable resources can be utilized for its production, though international justice and moral approaches to the environment making financial and regulatory energy policy, especially electricity more important (Meyer, 2007, 347-8). By considering energy sector as

the main source of pollution, the government should identify some measurements; that the level of interventions are vary by awareness and the intensity of the issues (Lipp, 2007, 5485)

Unfortunately, failure in the policy making and implementation in Iran, remains the need to implement appropriate policy and stronger governmental support for green electricity. So, the review of the best relevant practices can provide clear answer for Iran. this survey attempts to offer an optimal reference for policymakers to make the electricity production greener. Germany and Denmark has been chosen due to their similar and different governmental structure with Iran, and also their impressive success in generating green electricity.

The main specifications of the success of Danish energy policies includes; broad and sustained political support for low-carbon energies, comprehensive approach for energy planning, active stakeholder participation, informed decision making, strong international cooperation (Energy policies of IEA countries Denmark 2017 review, 2017, 29).

In Germany, factors such as; developing effective policies with the facilitation of a strong central government, existence of interest groups and the formation of party alliances, the provision of feed-in tariffs through the public electricity bills instead of governmental budget, liberalization of the market and finally, a bit of luck have a significant effect on Germany's success (Wüstenhagen & Bilharz, 2006, 1694-5).

However, one of the major challenges of Iran's electricity industry was to disregard the efficiency of power plants (Peimanbank et al., 2010, 59). However, in the period of 1997-2007 the tendency towards steamed plants decreased and natural gas plants increased significantly (Peimanbank et al., 2010, 62). Since 2010, according to the fourth and fifth development plans, the power ministry was obliged to purchase renewable electricity from the private sector. Also, the ministry of power, have done long-term contracts for guaranteeng the purchase of electricity generated of renewable sources and clean energies (peimanbank et al., 2010, 68). The 2025 Strategic Plan for Sustainable Development of The Ministry of power in 2011 aimed to Secure the energy supply, diversify the economic by the energy portfolio resources (Strategic plan for 2025 of the power ministry, 2011, 46-60). And the Sixth Development Plan in 2016 aimed to make an increase in the share of RE plants, with the priority of nongovernmental investment (Sixth Five-Year Development Plan for 2016 to 2020).

Methodology

A systematic review has been done for data gathering. Then a thematic analysis has been done to find an effective financial and regulatory instruments package to develop green power production. Then, some interviews with authorities and experts have been done to localize the package.

Findings

The most significant findings include the financial and regulatory tools and policies applied in Denmark and Germany. The result shows a considerable difference between Iran and the two other developed countries regarding the level of utilizing fossil fuels, RE, and CO₂ emission.

Conclusion

To promote RE usage in Iran, some significant financial, regulatory and financial-regulatory policy recommendation are as follow: Increasing the price of fossil fuels to compete with the renewable technologies, Forcing the utilities to pay more for the green electricity, Tax on CO₂ and SO₂, Phase-in of the taxes, tax exemption for bio-fuels, Allocating subsidies for a specified period of time, Determining the annual use of RE, More subsidizing to less favorable RE, Offering low-interest loan, Aiming to install specific capacity, Setting long and short-term aims to reduce a specific amount of CO₂, Offering governmental grants for installation of heat pumps or solar heating collectors, Developing guidelines for architects to develop RE in new constructions, Funding some plans to scrap old and inappropriate situated systems, Developing a certificate scheme for inefficient or disable system based on a minimum level, Develop local ownership to buy shares of renewable systems, Implementing educational initiatives such as Green Plan to increase local knowledge, Creating associations for a variety of renewable resources, Developing multi-year and successive programs for R&D, Holding public auctions for a specified amount and type of renewable resource, Plan to support pilot systems. Furthermore, It should be noted that success is not accidental and is the result of proper planning, seriousness in implementation, and commitment to an accurate assessment after implementation.

Key Words: Policy, Financial and Regulatory incentives, Green Electricity.