

# Chapter 1

## Encouraging the Development of Renewable Energy: The Role of Cooperatives

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### ABSTRACT

*The development of Renewable Energy (RE) has become a major societal challenge. Even though RE technology is improving fast, the general public has been slow to adopt it. Meanwhile many RE cooperatives have been created; they act as social entrepreneurs in utilizing the social capital of a community to engage the public. Thus, the purpose of this chapter is to consider how they can contribute to the adoption of RE. The author uses an exploratory research design with a multiple case approach drawing on nine RE cooperatives. The chapter discusses a number of actions implemented by cooperatives in order to develop the adoption of RE. These are related to the diminishing of the RE costs, the use of educational campaigns, and the setting of RE projects at local level; the specific status of cooperatives is another facilitating factor. The author concludes by drawing future directions for research and stressing the cultural challenges for the RE cooperative model.*

### INTRODUCTION

Energy consumption is accused of being the largest contributor to environmental degradation. The biophysical impacts implicit in our consumption decisions are well illustrated by the combustion of

fossil fuels (Parker, et al., 2005). Within the past decade, environmental degradation and climate change have emerged as important issues on the global political agenda. So much interest has been generated that recent initiatives to reduce the amount of greenhouse gases, CO<sub>2</sub> in particular as the suspected key contributor to climate change, have been pursued on both national and

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international levels (Meyer & Koefold, 2003). The increased concern has led to several international conventions, such as the UN Framework Convention on Climate Change, the Kyoto Accord, and the Copenhagen Summit on Climate Change, designed to create legally enforceable greenhouse gas reduction targets among participating nations. In spite of the fact that the agreements have been met with unsatisfactory amounts of commitment and success, the political stimulus created by these events has reinvigorated the drive towards the adoption of RE as a method to reduce harmful emissions. The European Union has committed itself to its 20-20-20 targets; a 20% reduction in greenhouse gas emissions from 1990 levels with 20% supply of energy from renewable sources by the year 2020 (Danish Energy Agency Fact-sheet, 2010a). Within the context of geopolitical agreements and target setting, the level of RE development varies at the national level. Some nations are pursuing RE more aggressively and have achieved greater success.

In addition to the positive impact RE could have on the environment, is their relevance to energy security. One of the desired goals of sound energy policy is the provision of secure, diverse, sustainable and competitive energy supplies (Strachan & Lal, 2004). Energy security can be improved through local sourcing, reducing energy imports and the associated conflicts over fossil fuels (Federal Ministry for Environment, 2011). Another key component of energy security is the decentralization of electricity generation. Given that the distributed power generated from renewable sources satisfies these security concerns, one would be surprised at the unenthusiastic reaction to it.

However, the adoption of these sources is being resisted. The problem of convincing government, business, and consumers of the importance of RE sources is being manifest in a lackluster rate of uptake. While politicians and the business world tend to focus on the ramifications of reduced energy security, a potentially more acute consequence of inaction will be the environmental impact.

Economic inertia may justify the slow acceptance of RE as modern economies have been designed for cheap, concentrated, and centrally distributed fuel sources. The infrastructure to support this economic model has developed over decades, and it will take decades to transition towards distributed energy. From a purely economic perspective, RE is less cost effective than traditional fuel sources, and cannot compete in a free-market economy. Ignoring the economic cost of renewable energy, the issue of reliability is often referred to as a disadvantage.

RE sources are diffuse and intermittent. While they can be harnessed using rudimentary technologies, they are less easy to predict and control. The technologies which have been innovated to extract the power have increased in complexity over time to the point where they are considered to be high tech. The inherent consumer uneasiness for high tech products combined with inconsistent power generation has made trust in RE difficult to foster. These criticisms could be surmounted if one was dealing with a more educated and conscientious consumer. The lack of informed decisions being made stems from a lack of education on the long-term impact of our energy consumption choices, and a general apathetic attitude towards environmental issues. Clearly, there are hurdles to overcome if RE is to achieve widespread acceptance in a timely fashion.

In addition to public policy and private initiatives, cooperatives have recently appeared with the goal to promote the use of RE. One noteworthy example is the Samso Project in Denmark. Samso was developed by a cooperative with local residents and the municipality as its members, and exists as an island off the coast of Jutland with electricity supplied entirely from alternative sources.

In Germany, one of the most well known RE cooperatives is Greenpeace Energy. Founded in 1999, it boasts 18,000 members, 95,000 customers, and an annual turnover in 2009 of 86€ million. This cooperative has achieved a sufficient

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