



Original research article

# Does the sun shine in the High North? Vested interests as a barrier to solar energy deployment in Finland



Teresa Haukkala\*

Aalto University School of Business, Department of Management Studies, P.O. Box 11000, FI-00076 Aalto, Finland

## ARTICLE INFO

## Article history:

Received 11 July 2014

Received in revised form

21 November 2014

Accepted 21 November 2014

## Keywords:

Solar energy

Photovoltaics

Policy instruments

Vested interests

## ABSTRACT

This article deals with solar energy policy and solar energy potential in Finland. Finland is one of the few countries in the EU that has taken hardly any direct subsidies into use for solar energy. At the same time, the transition to renewables is crucial in mitigating climate change. Finland's irradiation is almost the same as that of Germany, a country that is one of the top markets for photovoltaics in the world, also due to its successful support policy. Why does Finland not do likewise and adopt a support policy for solar energy to enforce its mix of renewables? What, if any, policy mechanisms would be needed to promote solar energy?

The article provides an overview of supportive solar energy policy instruments in the EU countries, and an analysis of Finland's official energy strategies. The empirical part also consists of semi-structured interviews with different actors in the solar energy sector in Finland: politicians, corporations, entrepreneurs, industry representatives, public administrators and NGOs. The key finding is that the support measures envisaged depend on the vested interests of the actors involved. It would seem that some kind of support mechanism is required but the type of mechanism is of lesser significance.

© 2014 Elsevier Ltd. All rights reserved.

## 1. Introduction

Solar energy attracts considerable attention today. It is seen to have the potential to contribute a major proportion of renewable energy sources (RES) in the future. Solar energy has many benefits: It cannot be monopolized by a handful of countries, as is the case with fossil fuels, for example. It has neither excessive maintenance and management costs nor conversion mechanisms producing troublesome emissions, and it can easily be integrated into both public and private buildings without external environmental impacts, such as those incurred by wind turbines [1]. According to the International Energy Agency (IEA) [2], solar energy could be the largest source of electricity by 2050.

The competitiveness of photovoltaics (PV) is increasing: According to Pew Charitable Trusts, in 2013, for the first time in more than a decade, solar outpaced all other clean energy technologies in terms of new generating capacity installed with an increase of 29 percent compared with 2012. This was due in part to ongoing price reductions, including significant cuts in manufacturing costs, but also as a result of investment shifting from small-scale projects

to less expensive large-scale ones [3]. Added to this is the fact that electricity prices have increased in general. This has led to a situation where grid parity (the moment when electricity from solar panels costs as much or is even cheaper than electricity purchased from the grid) is within reach [4]. China was the top market in 2013 with 11.8 GW. Germany topped the European market with 3.3 GW, while the UK was runner-up with 1.5 GW [4]. Europe's role as the PV market leader has come to an end, but various markets within Europe still have almost untapped potential [4].

One of these countries is Finland. To date, the use of solar energy in Finland and in other Nordic countries has been relatively limited compared to other RES. Traditionally, the position of solar technology has been particularly weak in Finland [5]. There was an initial boom in solar energy in the 1970s and 1980s, but the experiments were, perhaps, too radical at the time and did not take off (cf. [6]). Furthermore, the energy policy targets in Finland have traditionally focused on providing sufficient energy at affordable prices for use by major energy-intensive sectors, such as the forest industry [5].

Due to the national climate and energy strategy and the National Renewable Energy Action Plan (NREAP), the use of RES is to be increased in Finland by 9.5 percent from the 2005 level to the year 2020 when the share should amount to 38 percent of energy consumption [7]. This is to be achieved by increasing biomass and wind

\* Tel.: +358 50 323 6041.

E-mail address: [teresa.haukkala@aalto.fi](mailto:teresa.haukkala@aalto.fi)

power, along with the use of heat pumps and traffic biogas [8]. Other forms of RES have fared less well. For instance, wind power has been stymied by a number of barriers; it has faced technological problems due to the harsh climate, bureaucratic constraints and resistance, as well as complaints from citizens (noise- and environment-related problems) in Finland (see e.g. [9]).

The same applies to solar energy. At the moment, the share of solar energy in Finland is 0.01 percent [8]. Yet the average annual potential of solar energy in Finland is almost the same as in Germany with even higher irradiation during the summer months [10]. This begs the question of why Finland has taken hardly any advantage of solar energy and has not brought PV into wider use in order to increase its share of renewable sources of energy in its energy mix. This article consequently addresses the following questions: Why does Finland have no support policy for solar energy? Is a support policy even necessary and what kind of policy mechanisms, if any, would be needed to promote solar energy in the country?

The article seeks to make two main contributions. First, despite the fact that the study of energy and energy policy has started to gain momentum in recent years, the field still suffers from an under-representation of social scientific approaches and methods, as well as a lack of interdisciplinary approaches, and is mainly dominated by male authors [11]. This article seeks to address these lacunae, in particular by bringing business studies and political science together in an empirical application. Second, previous discussions in this journal have centered on solar energy in the US [12,13] and energy transition [14]. The implications of current global energy choices for social science and society have likewise been addressed [15], as well as how interconnections between energy economics and ideas in social sciences can deepen our understanding [16]. This article continues these debates in the European context, using Finland as a case in point.

The empirical material consists of official Finnish government documents on climate and energy strategy from the years 2008 and 2013, coupled with semi-structured interviews conducted with key actors in the solar field in Finland. The method applied in the case study is qualitative content analysis [17,18]. The empirical part also includes an analysis of official energy strategies for Finland and the results of semi-structured interviews with major players in the solar energy sector: politicians, corporations, entrepreneurs, industry representatives, administration and NGOs.

The paper is structured as follows: Section 2 describes the conceptual framework used in the article, and analyzes how vested interests can be used to shed meaningful light on the evolution of (solar) energy policy in Finland. Section 3 takes a look at the existing literature on solar energy together with an overview of supportive solar energy policy instruments adopted in other European Union (EU) countries. Section 4 analyzes the official energy strategies for Finland, while Section 5 analyzes the results of the interviews conducted for the article. Finally, the findings are discussed in light of the existing research and conclusions drawn from the analysis with a view to pinpointing some potential lessons learned that could also be applicable to other countries and cases.

## 2. Barriers and vested interests as an impediment to energy transition

It is no mean feat for governments to create and deliver a new energy policy: "... a move from the current carbon-based energy system to a low carbon one will only start when the momentum of the current energy system is not only threatened but actively altered by changing the underlying costs, revenues and risks of the incumbent energy companies" [19]. These underlying costs and

revenues also hold the current energy system together. Energy systems are largely characterized by path dependence, which basically means that decisions taken in the past limit the options available today [20]. According to Unruh [21], "... industrial economies have become locked into fossil fuel-based technological systems through a path-dependent process driven by technological and institutional increasing returns to scale".

There are a number of reasons for the failure to adopt new technologies. Historically, advocates of wind and solar energy have viewed these technologies as elements of a utopian society, making established energy companies view them as radical inventions, and hastening a poor reception [22]. This kind of utopian thinking has, for its part, also cast a shadow over the path of solar energy in Finland. A range of barriers constraining the deployment of solar energy technologies have been discussed in the existing literature. These can be categorized, for instance, as technological, economical and institutional [23]. Sovacool [24] has analyzed barriers blocking renewable power in the United States and has categorized them as economic, political, and behavioral. Moreover, according to Sovacool [25], the technical barriers to renewable energy in the US are mainly due to the social, political, and practical inertia of the traditional electricity generation system. According to Wang et al. [26], most people object to change in general: In some areas, the objections come not only from investors or managers, but from employees, who are concerned about their jobs. The difficulty governments face in trying to change the policy is that they have to govern amidst the conflicting wishes of society, not to mention their own wishes to remain in power [19]. This multitude of overlapping and, by turns, mutually reinforcing and contradictory stakes constitute vested interests. These vested interests can be seen mainly as political (competition among utilities [24]) but also as economic barriers (market barriers, market failures [24] and cost comparisons with established, conventional technologies [23]).

Politics is the mechanism of choice: decisions are made and actions emerge not as the calculated choice of a unified group and not as a formal summary of leaders' preferences. People do not look at issues through a purely rational cost-benefit calculus, at least from the vantage point of the whole society. On the contrary, parochial priorities, perceptions, issues, interests, stakes and power are all involved. Everything is colored by the position from which the questions are considered and each player's ability to engage successfully depends upon his power [27]. Individuals become players in the game and "[p]ositions define what players both may and must do. The advantages and handicaps with which each player can enter and play in various games stems from his position" [27].

Advocacy coalitions play a major role in policy-making. According to Jacobsson and Bergek [28]:

"...for a new technology to gain ground, *technology specific coalitions* need to be formed and to engage themselves in wider political debates in order to gain influence over institutions and secure institutional alignment. As part of this process, advocates of a specific technology need to build support among broader advocacy coalitions to advance the perception that a particular technology, e.g. solar cells or gas turbines, answers wider policy concerns" [emphasis in the original].

Should this not transpire, the entry of new technology firms into the market may be jeopardized [28]. A battle is being waged between the old and the new, with incumbent energy companies holding onto the old while the new forms of energy system tries to break the lock-in [20]. Companies can either do business based on incremental innovations within a given path or they may attempt to break away from it [20]. For example, at present this same battle can be witnessed in the USA with the Koch brothers and big

Download English Version:

<https://daneshyari.com/en/article/6558871>

Download Persian Version:

<https://daneshyari.com/article/6558871>

[Daneshyari.com](https://daneshyari.com)