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Results of intention-behaviour gap for solar energy in regular residential buildings in Finland

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Abstract

With a purpose to comprehend intention-behaviour gap about acceptance of solar energy and solar community concept (houses and/or block of flats under specific solar power plant) among Finnish respondents, this qualitative study found respondents' positive responses towards solar energy and their rationality and honesty in admitting their real behaviour. It focuses on the qualitative interpretation of individual's intention that corresponds to specific behaviour. In terms of their 'impression in principle' by thinking solar energy as a non-polluting, inexhaustible and renewable energy source although all respondents were positive, the highest numbers were non-adopters. However, they were optimists. They mentally accepted (acceptance in principle) solar energy. They would adopt it later on after being satisfied with their most contextual conditions ('impression in practical'). This study provides recommendations that indicate more future adoption and future research direction.

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Keywords: Intention-behaviour gap; Social acceptance; Solar energy; Solar community concept

1. Introduction

Social acceptance of renewable energy technologies has been hierarchically presented in the literature as adoption (users' acceptance), acceptance in principle (non-users' acceptance and postponement of adoption activities), rejection (decision not to accept) and opposition (exerting innovation/product sabotage activities) mainly (Jung et al., 2016; Hai et al., 2015; Heiskanen et al., 2014; Kleijnen

et al., 2009; Rogers, 2003). The term 'opposition' is an intense form of rejection because while opposing people not only reject but also exert product/technology sabotage activities in different manners. Furthermore, after adoption one may come again in rejection category, if one does not continue the adoption (Rogers, 2003). Conversely, word-of-mouth from satisfied adopter may influence others to adopt. Actually, what people say (intention) and how they actually behave (behaviour) do not go always hand in hand (Devinney et al., 2010). Frederiks et al. (2015) argued that a sizeable discrepancy can often be observed between intention and behaviour. Such behaviour has been considered in the literature as inconsistent and non-rational (Heinzle, 2012). Among citizens of European Union (EU) "solar energy has an extremely good public image" (Heiskanen

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et al., 2008, p. 62) as a symbol of ‘alternative energy’ and anti-nuclear movement or to reduce dependency on imported fuels. Likewise, as a member state of EU in Finland different studies have confirmed that Finnish people are strongly in favour of solar energy (e.g., Energiategollisuus ry, 2012; Eurobarometer, 2007). Conversely, in the national consumption of renewable energy in 2014 at 32% of total energy consumption, there was no contribution of solar energy (Fig. 1). In reality, the rate of solar energy adoption at the individual level is very marginal – mostly found in summer cottages, holiday homes, boats, etc. (Hakkarainen et al., 2015; Motiva, 2015). Furthermore, such adoption in regular residential places can scarcely be found. It may be, thereby, thought that social acceptance of solar energy in Finland is more or less suppressed. So, in terms of solar energy adoption question remains: why does this intention-behaviour gap exist mostly among common people to adopt solar energy systems and solar community concept (houses and/or block of flats under specific solar power plant)?

Although there are some solar and other renewable energy studies in Finland that have focused intention-behaviour gap directly or indirectly through the assessment of individual perception, knowledge and/or attitude (e.g., Jung et al., 2016; Haukkala, 2015; Pihlajamaa et al., 2013; Moula et al., 2013), intention-behaviour gap study of solar energy among ordinary adult Finnish people is rare. The dichotomy of high public support for solar energy with its very insignificant actual adoption rate in Finland draws the attention for qualitative investigations that are dealt in a human centred manner (Sovacool, 2014). To handle the stated research question by adhering first-hand qualitative investigation relevantly this article addresses the following objectives.

The first objective is to comprehend the patterns of intention-behaviour gap in solar energy adoption. Many times personal conditions in the shape of attitude may pro-

duce opposite behaviour. So, consideration of contextual conditions is important to determine actual intention and, thereby, to locate intention-behaviour gap (if any).

The second objective is to find out whether there is any rationality in the intention-behaviour gap of individuals. People are locked-in personal and contextual conditions to take a decision and express their convenient behaviour (e.g., Belz and Peattie, 2012; Botha and Atkins, 2005). These conditions jointly or individually can create individual’s rationality towards his/her intention and behaviour.

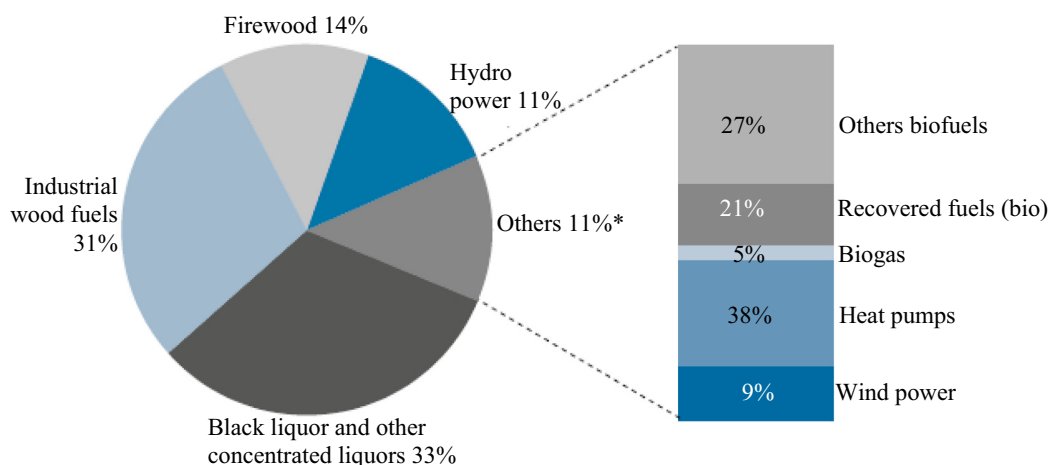
The third objective is to comprehend how social acceptance becomes suppressed as a result of intention-behaviour gap. The magnitude of social acceptance of solar energy is dependent on individual behaviour that can be expressed in terms of adoption, acceptance in principle, rejection and opposition (Jung et al., 2016; Hai et al., 2015; Heiskanen et al., 2014; Kleijnen et al., 2009; Rogers, 2003).

The subsequent part of this article proceeds as follows. Section 2 presents the literature review with conceptual clarification, theoretical underpinning and previous empirical findings on different conditions, individual intention and behaviour to illuminate the construct of intention-behaviour gap. Section 3 deals with the detailed methodology employed in the study. Results and discussion of empirical research are described in the light of the reviewed literature in Section 4; and Section 5 concludes.

2. Literature review

2.1. Intention

Actually, literature presents conative component of attitude as individual intention (e.g., Lantos, 2011; Ajzen, 1985). Purchasing intention indicates an individual’s readiness to buy a product that one has preferred for oneself after some evaluations on the basis of personal experience,



* The divisions of the group Others are partly based on data for 2013

Fig. 1. Share of renewable energy in total energy consumption in 2014 (Statistics Finland, 2015, p. 9). *The divisions of the group Others are partly based on data for 2013.

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