

Green keeps it going – How the Use of Renewable Energies affects the Acceptance of E-Mobility

I. H. Syarova¹, S. Rögele², & P. Schweizer-Ries¹

¹ Saarland University, Saarbrücken, Germany

² University of Trier, Trier, Germany

Introduction

The current discussions on how a reduced-emissions society can be achieved in the field of mobility relate to the introduction of electric vehicles (EVs). With the integration of EVs into the power distribution network, their storage can be a supportive part for the integration of renewable energy generation into the electric grid. This requires the acceptance of the majority of the population, whose driving and charging behaviour should, based on current designs, be realised as planned in advance as possible and adapted to the availability of renewable energies. The current study is based on the model of human behaviour (Schweizer-Ries, 2009). The concept describes the embeddedness of an individual within the subjectively perceived environment and represents the process of behaviour and behaviour change accordingly. Behaviour is realised and planned according to subjective beliefs and needs embedded in the physical and cultural environment (Kaufmann-Hayoz, 2006). There seems to be the wish of individual travel in our society. If it can be combined with CO₂-neutral travel and the support of Renewables it should give appeal to adapt ones behaviour accordingly.

Methods

In an interdisciplinary e-mobility model project the improved regional integration of renewable energy into the grid, were developed. The survey presented here deals with the issue of acceptance for e-mobility in the project region in Germany.

In a standardized online questionnaire, addressed to the population of the project region, scales were developed and applied to ascertain the perception and evaluation of renewable energy sources for EVs, evalua-

tion of e-mobility, acceptance of Renewables, transport-related environmental awareness and willingness for the use of EVs.

Results

The results of the standardized survey should allow a quantitative representation of the resident respondents' perception and estimation of e-mobility. It is expected that the active acceptance of Renewables is positively related with the intention to use EVs. This correlation is moderated by environmental consciousness. In addition, it is assumed that the evaluation of e-mobility influenced the intention to use EVs and also behaviour change in the individual mobility.

The review of the instrument and its quality criteria should present a reliable questionnaire, both methodically as well as with regard to content, for the appraisal of e-mobility in terms of Renewables and transport-related environmental consciousness.

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References:

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