

UNDERSTANDING UK DRIVERS' PUBLIC EV CHARGING PREFERENCES: CAN A GREEN TECHNOLOGY WIN?

Mona Chitnis, Jayshree Dutta
University of Surrey, Guildford, United Kingdom

Extended Abstract

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Abstract Summary

Decarbonisation of transport is a top priority of UK commitment towards net zero emissions by 2050. This requires a holistic approach, integrating supportive policies, evolving consumer preferences, and technological advancements. the Future Electric Vehicle Energy networks supporting Renewables (FEVER) interdisciplinary project concentrates on the design, development, and demonstration of a 100% renewable-powered EV charging station. The aim is to create a secure grid-independent charging solution for EVs that is cost-effective and preferred by public.

A public EV charger includes attributes such as speed of charging, price of electricity, location, facilities, payment method, penalty for overstaying, and renewable electricity. The drivers' choice of an EV charger depends on such attributes. Here, we employ a Discrete Choice Experiment to examine drivers' preferences and Willingness To Pay (WTP) for a set of above seven attributes for two EV chargers: FEVER vs grid-dependent in the UK. Our findings provide us the opportunity to examine how people feel about FEVER technology vs existing technology to help us better design and develop the charging supply technology to meet the charging demand for such technology.

With the help of focus groups, we designed a questionnaire and collected the data on an online platform. The respondents are UK-based car drivers with full driving licenses. The respondents are asked to choose one alternative EV charger in 8 separate choice tasks. Overall, 100 responses were collected as a pilot and further 900 responses will be collected as the whole sample. The sample is representative in terms of gender, age and region, and includes both EV and non-EV drivers. The preliminary results show that almost all above attributes affect the choice of drivers for EV chargers. We aim to quantify drivers' WTP for each charging attribute which in turn helps in determining the charging price of electricity from FEVER technology.

Presenting Author Biography

Mona is Associate Professor (Reader) in Energy Economics and Director of Surrey Energy Economics Centre (SEEC) at Economics, School of Social Sciences, University of Surrey. Before that she was a Lecturer in Economics at University of Aberdeen, Research Fellow at University of Surrey, Expert in Economics and State Planning at Management and Planning Organisation (Government) in Tehran, and lecturer at Alzahra University in Tehran. Mona has BSc, MSc and PhD all in Economics and from the University of Tehran. Her current research interests include energy demand modelling, consumer choices for energy and transport technologies, energy efficiency, rebound effects and emissions.