„Landrad“: Pedelec research project in the province of Vorarlberg, Austria

Introduction

The aim of the project was to find out how electrically asisted bicycles can substitute cars in Vorarlberg and what is the market potential for pedelecs in Voarlberg. The project was initiated and implemented by Kairos gGmbh, additional partners were the office of the State Government of Vorarlberg, 25 bicycle retailers and the Energy Institute Vorarlberg. Landrad to date is the largest fleet test in Austria with a limited edition of 500 pieces of high quality pedelecs. The idea for the project was born in June 2008. After negotiations and the selection of the pedelec type, which is a special edition of the iStep Cross of Matra-Manufacturing, the first bikes were delivered by end of May 2009.

Facts and Figures

Between May and July 2009 500 pedelecs were sold to interested people or companies/organisations. The price was 1250 Euros for private persons and 1250 Euros excl. VAT for companies/organisations. In order to get this reduced price, the Landrad-buyers had to provide data of their pedelec-driving behaviour for the research project. The data acquisition took place between August 2009 and August 2010 and was done via online forms who were sent back via e-mail which proved to be very efficient. In addition, a GPS tracking in selected pedelecs was done to obtain more detailed information on the driving behaviour, the ranges and the speed. The results were directly transferred into the development of future projects.

One of the main questions in the project was to what extent the pedelec is able to replace car travels. The modal shift through the use of the pedelec is the following according to a poll among the test riders: 52 % of all ways done by the pedelecs in the project would have be done before the project with an ordinary bicycle; 35 % of all ways would have be done with the car. (Similar results were obtain by the Swiss project „E-TOUR“ from the year 2004: There, electric two-wheelers replaced about 30 % car travels, about 30 % ordinary bicycle trips and about 30 % travels with public transport.) A rough estimation gives a value of 230.000 car kilometres per year, which are replaced by the Landrad project. What has to be highlighted is that every fifth „Landrad“ user has changed his mobility behaviour fundamentally according to his own specifications which means that he has used the „Landrad“ much more often than the car. This shows that one can motivate people to switch their car for a pedelec. The same people would never do so, would it be only a bicycle. Also very interesting are the three main motives that lead to the purchase of a „Landrad“: „To cycle without sweating“, „to be mobile without harming the environment“ and „to drive the car less“.

What regards subsidies the results show that in Vorarlberg further subsidies are not necessary for a further spread of the technology. However, a possible subsidy strategy should consider bike weak regions and to target better shifting from the car to the pedelec.

Sources:
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Box of advice

→ 35 % of the ways done with pedelecs within the Landrad project replaced car travels. Pedelecs have an additional positive environmental impact over conventional bikes.

→ Subsidies are not necessarily an essential prerequisite for pedelecs to be established in the market.

→ To promote pedelecs in your city for everyday traffic, to build new public charging stations is not essential. In many pedelecs, the batteries can be removed and charged anyways at every standard power socket. The situation may be different in touristic regions where tourists should be offered possibilities to recharge their pedelecs. Still, the storage of the charger during the charging remains a major problem.

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