

EVREST

ELECTRIC VEHICLE WITH RANGE EXTENDER AS A SUSTAINABLE TECHNOLOGY

www.evrest-project.org

EVs are expected to be an effective solution to cope with pollutant and noise emission in urban areas. However, the EV market penetration is still very weak mainly because of the high cost and the limited range. On the other hand, European statistics show that a large proportion of the daily trips are far below the maximum range announced for the new generation of EVs. This means that the range problem is either psychological or occasional.

The main idea of EVREST project is to study how Electric Vehicles (EV) with a Range Extender (RE) could match the different usage patterns while decreasing the battery size (cost), fulfilling occasional long trips and ensuring the user to reach his destination in case of battery failure. A global evaluation of this solution is then proposed and contributes to develop scenarios of electromobility including BEV and EREV. The approach proposed and partially developed during the first year takes into account the users mobility needs through the study of mobility surveys in three European countries: Germany, France and Austria (WP1). In this field, after a preliminary process of data selection over a first sample of 14 European surveys, 9 relevant surveys classified in 3 categories were selected to give a preliminary overview in the field of European electromobility. From a harmonised statistical arrangement, mainly of the users' daily car mileages, a range target is studied and different sizes of battery and RE are simulated using accurate car and components models. The first results showed a possible reduction of the EV battery size while using a relatively small RE. After an ongoing interaction with the user expectation evaluation (WP6), the range target as well as sensitive parameters like the minimum speed tolerated by users will be more accurately introduced in the sizing procedure in order to have one or more EREV solution per vehicle class (two classes are considered: small and middle).

>> RANGE EXTENDER AND SUSTAINABILITY <<

PROJECT DATA

Funding/€	Total cost/€	Duration
973.466	1.326.640	36 months

Partners
Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux, FR
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Waiting for final solutions to evaluate, the LCA work has progressed in data collection and the development of regionally differentiated LCA methodology. In the meantime, scenarios for establishing electromobility (WP3) that include EREV have been studied and submitted to discussion during an expert workshop. Based on the results of WP1 and in cooperation with the project partners a first draft of scenarios was developed for each of the countries involved (Germany, Austria, France).

