

# VISION AND OPPORTUNITIES IN ELECTRIC VEHICLES

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## Abstract

The introduction of the Electric Vehicles has opportunities and challenges to be solved for all the actors involved, utilities will play a relevant role. The new smart grid that is being developed over the world and also the increase of the renewable energies has to take advantages of these new resources in order to manage the grid with reliability, quality and safety. At the same time we have to be ready in the long term to support the connection of millions EV and try to minimise their impact on the grid. Endesa has a clear road map, supported by different projects, with different scopes and oriented to the short, medium and long term, that help us to be ready for the introduction of the EVs in terms of, infrastructure, normalization, impact, services and new business models.

The EV introduction represents a challenges and opportunities for Endesa. Aligned with our strategy Endesa has lunched several collaborative projects under the 7<sup>th</sup> FP and other national funding programs.

Under the work programme topics: ENERGY.2009.7.3.3: Strategic impact of the roll-out of electric and plugin hybrid vehicles on grid infrastructure, the **G4V** (Grid for vehicles) project is developed. It aims is to develop an analytical method to evaluate the impact of a large scale introduction of EV and PHEV on the grid infrastructure and a visionary "road map" for the year 2020 and beyond, taking into account all stakeholders and generating fast and openly available results.

Approved by the EC under the 'ICT for Safety and Energy Efficiency in Mobility' Work Program Topic, **ELVIRE** is another European project which purpose is to develop an effective system, which is able to neutralize the driver's "range anxiety" and encourage the customers to embark the fully electric road transport.

In Spain, Endesa also participates in other projects like CENIT VERDE and Smartcity. **CENIT VERDE** is a CDTI Research and development project focused in EVs. VERDE will study the reduction of the petrol dependency, CO2 emissions reductions and promote the automotive industry and R&D in Spain. Moreover, the goals of the Project "**Smart City**", lead by Endesa in Malaga, are to develop a living and real demonstrator for the next generation smart grid.