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Further information: [www.edison-net.dk](http://www.edison-net.dk)



# EDISON

Electric vehicles in a distributed and integrated  
market using sustainable energy and open networks

[www.edison-net.dk](http://www.edison-net.dk)

## Background

Electric vehicles present a unique opportunity to transition our energy consumption in the transportation sector from fossil fuels to fuels based on renewable energy - for example, electricity produced by wind turbines, photovoltaic sources, or biomass in combined heat and power plants.

It should be possible to utilize the full potential benefit of the interaction between EVs and the power grid because of the availability of large amounts of power from fluctuating sources. This implies the need for the development of systems that will enable EVs to charge when there is a surplus of energy in the system and to resupply energy to the grid when there is a shortage of power in the system.

Denmark's expertise can be utilized to develop optimal system solutions for EV system integration, including network issues, market concepts, and optimal interactions between different energy technologies.

## The EDISON project

The overall purpose of the EDISON project is to bring together research institutions and major industry enterprises and to comprehensively work through all stages of the EV topic, from research through concept and technology development to demonstration. This project will focus primarily on the two first areas: research and concept and technology development.

The goals of the project are:

- To develop system solutions and technologies for EVs and PHEVs that will enable a sustainable, economic, and reliable energy system for global use.
- To prepare and provide a technical platform for Danish demonstrations of EVs.

## Work packages:

1. Dansk Energi: Creation of a common knowledge platform for all consortium partners.
2. DTU-CET: Development of a system architecture design for EV systems.
3. IBM: Development of Distributed integration technology.
4. Siemens: Development of a central fast-charging and battery-swapping station design.
5. Eurisco: Development and test of the EV power and communication interfaces.
- 6a. Dong Energy: Laboratory test of EV-charging control systems and the battery models developed in previous WPs on SYSlab at Risø.
- 6b. Østkraft: Testing of several EVs and charging stations installed in the distribution grid on Bornholm.
7. Dansk Energi: Formation of a steering group to ensure dissemination of the project results on all scales, and the provision efficient project management.

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