Background
Electric vehicles are a unique opportunity to change the energy consumption in the transport sector from fossil fuel to fuel based on renewable energy e.g. electricity produced on wind turbines, photovoltaic, or on biomass in combined heat and power plants.

To utilize the full benefit of the interaction between EVs and the power grid with a large amount of power from fluctuating sources implies development of systems that enables EVs to charge when there is a surplus of energy in the system or by resupplying energy to the grid when there is a lack of power in the system.

The Danish competence can be utilized to develop optimal system solutions for EV system integration, including network issues, market solutions, and optimal interaction between different energy technologies.

The EDISON project
The overall purpose of the EDISON project is to gather research institutions and major industry enterprises and to cover all stages from research through concept and technology development to demonstration. This project mainly focuses on the two first parts: research and concept and technology development.

The aim of the project is:
• To develop system solutions and technologies for EVs and PHEV which enable a sustainable, economic, and reliable energy system for global use.
• To prepare and provide a technical platform for Danish demonstrations of EVs.

Workpackages:
1. Dansk Energi: Creation of a common knowledge platform for all consortium partners.
2. DTU-CET: Development of 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: Test of a few 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 to provide efficient project management.

For further information please visit: www.edison-net.dk