

10 NEW GREEN eMOTION CHARGING POLES FOR ELECTRIC VEHICLE WITH DYNAMIC LOAD MANAGEMENT

- **The new feature of these charging poles is that they are able together with a central software to perform dynamic load management using electric vehicles. Therefore load assignments for the charging infrastructure can be given by the network operator.**
- **The purpose of the European Green eMotion Project, which was officially launched in 2011, is to enable the start into the electromobility mass market and demonstrate an interoperable electromobility system for Europe.**
- **Endesa, and its main shareholder Enel, as well as Siemens and Málaga Council, are Green eMotion partners from the launch of the project.**

Madrid, 27.3.2014. As part of the Green eMotion Project, Endesa has put 10 electric vehicle (EV) charging poles into operation to allow real electric vehicle load management, in other words, allowing the power at which each EV is being charged to be changed. The new feature of the system is that the CPs together with central software do drive the power usage of the charging process.

The infrastructure comes from German manufacturer Siemens, the leader of the European consortium, operates with alternate current and allows 20 vehicles to be charged at the same time, as each pole has two connections. All the installation has been made by Málaga City Council operators.

Through these charging poles, GeM will be able to demonstrate that:

- Power can be managed at local level, thereby making the electrical network installation required cheaper, as well as optimising it, thus facilitating the roll-out of new electric vehicle car parks. For example: If there is only one EV charging, it can be charged at maximum power. If 2 more EVs arrive, the power can be distributed between the three of them, but the total power that the car park is demanding from the grid is the same. The distribution system operator (DSO) can dynamically change the amount of power the car park is allowed to demand.
- It will be demonstrated that through control signals, Endesa from its electromobility monitoring system (EMMS), in real time, interacting with the Siemens charge management systems that control the poles, can modify the charging power of the poles, reducing it, for example, if it is in its interest in order to give priority to another type of network load.

- With controlled EV charging, they can be charged, for example, when there are more renewable energies available, or when power is cheaper, thus encouraging even more sustainable mobility.

Within GeM, the goal is to demonstrate smart charging load management in three demonstration regions and one of them is Malaga, where Endesa has also the information and control centre for the Zem2All project, another large electromobility project that is taking place in the Andalusian capital.

Load management overview

Load management offers the option of distributing the maximum current available at a POD (Point of deliverable) optimally to the connected charging poles (EVSE), and so optimizing the stability and utilization of the local network. If the charging current requested exceeds the maximum available current, the actual current can be suspended or limited for each individual charging pole (EVSE). This avoids not only overloads but also frequency and voltage stability problems in the network. The current is dynamically oriented to consumption at the charging pole (EVSE).

About Green eMotion

Green eMotion is a large-scale European electromobility demonstration project, launched within the European Union's Green Cars Initiative. It brings together 42 partners from industry, energy sector, electric vehicle manufacturers, municipalities as well as universities and research institutions. The aim is to develop and to demonstrate a commonly accepted and user-friendly framework consisting of interoperable and scalable technical solutions in connection with a sustainable business platform. Smart grid developments, innovative ICT solutions, different types of electric vehicles and urban mobility concepts will all be taken into account. The four-year project started in March 2011. It has a total budget of €42m, €24m of which are funded by the European Commission. For more information please visit www.greenemotion-project.eu.



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