



## MOBILITY AND TRANSPORT – THE EMILIA-ROMAGNA REGION AND ENEL SIGN AN E-MOBILITY “PACT”

- *It is the first such protocol ever to be signed on a regional basis in Italy. The Municipalities of Bologna, Reggio Emilia and Rimini are involved in three experimental projects to install 60 recharging stations for electric vehicles. Councilor Peri: “The regional dimension is key to the agreement”.*

**Bologna, December 3<sup>rd</sup>, 2010** - The first ever “pact” reached in Italy between Enel and an entire Region – Emilia-Romagna – to develop electric mobility, a decision which will make life in its cities easier, more sustainable and less polluting.

The protocol signed today at Bologna’s “Motor Show” focuses specifically on three pilot projects based on the development of an innovative infrastructure for recharging public and private electric vehicles for transportation of both passengers and goods. The signature was attended by **Alfredo Peri**, Regional Councilor for Mobility and Transport; **Piero Gnudi**, Enel Group’s Chairman; **Livio Vido** (Head of Enel Engineering and Innovation SpA); **Livio Gallo** (Head of Enel Distribuzione SpA); **Annamaria Cancellieri**, Special Commissioner to the Bologna Municipality; **Graziano Delrio**, mayor of Reggio Emilia, as well as the mobility councilors of the municipalities of Reggio Emilia (**Paolo Gandolfi**) and Rimini (**Juri Magrini**).

Councillor **Peri** has stated how pleased he is concerning the deal with Enel “because this means we will have a practical role to play in implementing innovation. There is a regional dimension to this agreement, in which we will be bringing this system, which is expected to be up and running in the coming year, to the whole of Emilia-Romagna. We will be involving the towns in this project, making it part of our overall plan to reorganise urban mobility.” The Councillor added: “It is our aim to establish a regional network and to raise public awareness of the revolution underway in the field of mobility, demonstrating that we are geared up to exploit this to its full extent, playing an active role right from the outset.” The Councillor then concluded: “Our ten-year plan for urban mobility places maximum emphasis on innovation, new technology and efficient organisation”.

Enel’s Chairman **Piero Gnudi**, commented “We signed a major new agreement with the Region of Emilia-Romagna and the municipalities of Bologna, Rimini and Reggio Emilia today that will further strengthen Enel’s commitment to electric mobility, one of the several areas we are heavily involved in to develop new, eco-friendly technologies. The excellence of Enel’s technology developed for our intelligent grid management systems means it is now possible for us to offer our customers the infrastructure for an innovative recharge network, that we are confident will play a vital role in promoting the uptake of electric mobility. On behalf of Enel, I very much hope to witness the widespread use of electric vehicles in both Emilia-Romagna and the rest of Italy thus being at the forefront of this revolution in clean, noise-free transport”.

Three Municipalities are involved: **Bologna**, the regional capital, is characterised by a complex and extensive transportation system, making it a potentially suitable testing ground for e-

mobility and the recharging network, especially for travels around the urban area; **Reggio Emilia**, which already leads the way in terms of e-mobility (a vast "fleet" of several hundred electric cars is already active throughout the city and province thanks to the support of Til srl) and is able to provide a solid base of expertise along with vehicles for further trials. Finally, **Rimini**, where e-mobility trials will target tourism.

In each of these Municipalities Enel will install around **sixty** infrastructures (that represent part of the system) to recharge electric vehicles in the three municipalities. The details of the recharging network will be decided on by a joint planning effort which takes into account user needs, city traffic flows, current transportation regulations, the public transport system and urban features, specific to each city involved in the project.

The three pilot projects will therefore be developed from a joint programme that sets out to identify the contents of the trial, to draft an e-mobility plan for each city and to determine relating investments in the recharging infrastructures; an implementation plan that includes network development, a car/fleet introduction plan, customer selection for the trial, customer management and finally the arrangements for monitoring the results in order to then draw up the plan to roll out the overall programme. The trial is open to other services throughout the area; the protocol actually allows for possible integration with technological solutions for the recognition and authentication of various payment methods and infomobility as well as parking management systems.

At least 50% of the electricity powering the electric vehicles used in the trials will be RECS certified, an international certification system for the development of renewable sources of energy such as water, sun, wind and geothermal energy. Enel will also work with the Region and Municipalities to develop relations with the car manufacturers who are most committed to e-mobility projects, and with whom co-operation agreements and pilot projects have already been developed or will be pursued.

According to the provisions of the protocol agreement, the Region and Municipalities involved undertake to investigate and possibly develop and integrate other e-mobility initiatives within the programme, through partnerships and agreements with businesses, institutions, trade associations, universities and research centres. A key point of the protocol is to identify and propose regulatory, legislative and administrative measures which incentivise and simplify the use of e-mobility, along with the relevant government bodies: the Ministry of the Environment, the Ministry of Economic Development and the Electricity and Gas Authority.

## **The “Mi Nuovo elettrico” scheme and the Region’s commitment**

Because of its natural geographical location in the middle of the Padano basin, Emilia-Romagna has to contend with a high rate of atmospheric pollution. This is why one of the Region's top priorities is to clean up and protect air quality. In October 2010 the Region signed the ninth 2010-2012 air quality policy agreement, along with the 9 Provinces and Municipalities with 50,000 or more inhabitants. This agreement, in line with the previous ones, promotes the development and wider use of environmentally sustainable vehicles and, for the first time, paves the way for an electric infrastructure. Furthermore, the preparatory documents for the new, integrated transport plan for the Emilia-Romagna Region (Prit 2010-2020) recognise the development of e-mobility (two- and four-wheeled) by creating recharging networks across the area, as well as incentivising and facilitating the circulation and parking of electrical vehicles, known as the “Mi Nuovo elettrico” scheme.

## **Enel**

Enel has launched a large research and investment programme to help establish and grow e-mobility in the medium-term as a significant opportunity for sustainable development in the transport sector. As part of this programme, the Enel group has embarked upon specific projects and partnerships to trial innovative transportation technologies and systems based on the electric car, foremost among which the pilot initiative known as E-Mobility Italy, in association with Daimler-Mercedes, in which the cities of Rome, Pisa and Milan are already involved. Enel's recharging infrastructures supply power, not only to new generation vehicles, but also to the fleet of cars already on the road: to achieve this, Enel ensures that the technical standards in force (standard CEI 69-6) are applied to guarantee the highest level of accessibility by all potential users.

## **Electric cars: structure, battery life, features**

According to various Europe-wide studies, average daily travel does not exceed 30-40 km for all modes of transport combined, however distances covered by car total around 27 km (source: European Environment Agency); the electric car, therefore, even with “only” 100 km of battery life, could be a valid alternative in towns and cities. A battery life lasting 100 km is readily achievable with the models currently commercially available (containing lead, cadmium or nickel batteries); their downside however is the heavy weight of the batteries (several hundred kilograms), whereas the latest versions, with lithium-ion batteries, are guaranteed to cover greater distances using a lighter power pack.

As for engine features, the energy efficiency of thermal engines fluctuates between 15-20% (the remaining 80% is lost in heat and attrition) whereas electric engines can achieve up to 90% efficiency. Taking the electric car as a whole, and not just the engine, performance levels of 60-80% are achievable; losses are due primarily to losses of charge and self-discharge of the batteries. Standard recharging times per hour vary between 6-8 hours, however research is being carried out into rapid recharging systems and new types of battery which would gradually shorten recharging times.

As far as emissions are concerned, electric cars are practically emission free in situ, if you don't count the fine powders linked to abrasion (of the tyres, brakes, asphalt) and emissions from power generation are much lower when compared to those from internal combustion engines. For example, the CO<sub>2</sub> emissions from power generation, compared with those of the fleet of power stations currently in operation, already permit a reduction of more than 50%.

A rise in the spread of hybrid and electric vehicles is forecast for Europe between the years 2015-2020, and is estimated to be within the range of 480,000 to 3.5 million units to be launched onto the market each year, although these estimates are continuously being

updated. If policies to incentivise the use of cars with a low environmental impact are continually reinforced, it is possible to envisage a scenario whereby in the next 10 years electric cars could reach a 10% market share (source: European Topic Centre of the European Environment Agency). It should be borne in mind that this spread is unlikely to occur uniformly throughout the region but rather will be concentrated in the major urban hubs, where the cost/benefit ratio is greater.