

## CIRED 2009 outcome in a nutshell

### Vision and questions

The Distribution Network Operators are still expected to become smarter than ever in preparing and developing the Distribution infrastructure that will match the needs of the energy efficient, low **carbon economy** and enabling the **common marketplace** for consumers and small-scale power.

New business models, organisational structures, administrative routines as well as new technical solutions have to be implemented.

R&D, demonstrations and constructive dialogue with the regulators are further necessary for coping with the pending questions: further improvement of the regulation, economic integration of the distributed generation, intermittency of RES, demand and generation scenario's, distribution network active management, efficient tariffs, optimisation of DNO resources, supplier's expectations and , last but not least, the announced appearance of EV's.

The conference has been invaluable in highlighting current state-of-art studies, simulations, trials and solutions to important topics surrounding the integration of distributed energy resources. This is particularly important given the increasing pressure on distribution networks to accommodate even higher penetrations of distributed energy resources in future in order to help meet carbon reduction, renewable generation and energy efficiency obligations.

In June 2009 more than 1000 members of the Electricity Distribution community met in Prague for gathering in the 20<sup>th</sup> CIRED conference and exhibition. The main sessions and poster tour covered 749 full text proceedings papers published on a CD ROM; 24 round tables with keynote presentations, all available on the post conference proceedings (CD Rom).

### Operation, Power Quality and control

In the world of network control the topics are distribution management systems as well as distribution automation. These systems require a communication infrastructure as a backbone and reveal questions regarding cyber security. The tendency in the SCADA world is managing even more complex systems, with more sensors and more intelligence for monitoring the state of the network.

In the field of protection and of the control systems there is definitely further development and a tendency is to have a merge between both and questions about safety are of concern This is all going hand to hand with workforce management.

EMC and EMF: the requirements of the Directives have to be addressed by the power industry.

Progress is made in the specification and verification of the emission limits for the grid users; voltage dips come somehow into survey by the regulators. The respective positions of CEER (European regulators) and Eurelectric with regard to power quality requirements and incentives came into light.

### Assets

Many companies have put in place a methodical strategy of replacement of components based on comprehensive data collection and use of concepts like aging models, health indexes and risk management.

Innovation in component technology is about smart substations, low loss transformers and monitoring equipment.

Experts consider that progress can be made in better specification and conformity assessment in the procurement of components.

Planning methodologies have to be deeply revisited; network state estimation becomes a pre-requisite for hosting capacity management. There was a general consensus on the fact that active distribution systems have the potential of integrating more energy resources (e.g. generators, responsive loads, and storage devices) at fewer costs, opening business opportunities without burden the environment.