

European Local Electricity Production (ELEP) NEWSLETTER 3 – August 2006

ELEP (European Local Electricity Production) is a collaborative project that is working towards identifying and removing the policy and legislative barriers that are currently restricting the uptake of Distributed Generation (DG) within EU Member States. The project is co-funded by the European Commission (under their Energy Intelligent Europe Programme¹) and the Partner organisations.

Areas of activity are

- Interconnection standardisation
- Charging rules and market policy
- DG commercial value
- Building energy efficiency
- DG certification and authorisation

Distributed Generation relates to the generation of electrical power close to the point of use. There is a wide range of technologies that are used – internal combustion engines, gas turbines, wind and solar power and fuel cell systems. DG can offer advantages related to - Reliability, Efficiency, Emissions and Flexibility

This newsletter focuses on the result of ELEP activities during the first 6 months of 2006. During this period three work packages were concluded, one workshop was arranged and the ELEP website was continuously updated with information related to Distributed Generation

Work package 2.2 -Utility planning approaches.

The focus of this study is a review of current utility planning and the role of distributed generation (DG) and renewable energy systems (RES) in this planning. Questions to answer are:

What are the current utility planning approaches within the EU towards DG?

What are desirable EU policy guidelines to encourage the consideration of DG as an alternative to network infrastructure upgrade?

Three countries with different characteristics in their infrastructure were chosen for a more detail review - Sweden, Netherlands and Italy.

Current practise

Although voltage levels may differ, the impression is that the general grid layouts in the countries considered (and probably in Europe) are rather uniform. There are uniform ways to assess grid reliability. This uniformity in general grid lay out might be an advantage in formulating an overall EU policy.

In reviewing the grid planning methodologies it is concluded that on a strategic planning level, DG are not yet incorporated in grid planning methodologies. It means that there are no special grid designs, new grid lay outs, storage option etc. considered to accommodate a large penetration of DG in the grid.

In grid planning (e.g. capacity plans), DG appears in scenarios but is considered to have a negligible contribution or is just a correction on the maximum load. This is a static approach where the dynamics of DG are neglected. Practical experience with DG as a grid planning instrument is missing.

DNOs² operate in a regulated market. There are no incentives to invest in “DG friendly grids”. This depends on the assessment of the tariffs by the regulator.

Conclusions and recommendations

An EU-policy should stimulate the grid planning practice incorporating DG as a standard option. This includes:

Assessment of the economic feasibility of DG. This assessment should include all planning levels involved and address issues such as reliability of DG, cost of installation and maintenance, dispatch options and not the least the value of DG to the grid.

¹ http://europa.eu.int/comm/energy/intelligent/index_en.html

² Distribution Grid Operator

Stimulate the development of grid planning tools that include DG as a standard option.

On an EU level a directive could be developed that requires the national regulators to include DG as a grid planning alternative into the assessment of the tariffs charged by national DNOs.

Work package 2.3 - Stranded cost

Stranded cost is defined as any cost incurred by a power generating utility/company or network utility/company in the “pre-deregulated” market environment that cannot be recovered via the market when the market is opened up for competition.

Stranded Cost within EU

European Parliament and Council Directive 96/92/EC of December 1996 laid down the principles for opening up the European electricity industry to competition.

The directive assumes that stranded cost if any during the transition from a regulated system to a market driven system shall be managed by the utilities themselves.

A review of what has happened in EU regarding stranded cost since deregulation confirms that any stranded cost that may have occurred has been covered through the general pricing structure of the electricity and not been charged directly to the DG installer. It has thus so far not been a direct barrier within EU for the installation and use and use of DG equipment.

Recommendations

The recommendation is that neither a generating company nor a grid operator shall be allowed to charge any fees for stranded cost. Important reasons for this are

- DG will only gradually become a large part of the total electricity capacity and the utilities will have time to adjust
- Installation of DG can often be considered as an energy saving measure. As such it should be treated the same way as other methods for energy saving.
- Charges to recover Stranded Cost are a barrier to introduction of new more efficient, reliable and sustainable energy solutions.

Work package 4.1 - Review of Building Directive from DG perspective

The objective of this ELEP work package is to make a detailed review of the Buildings Directive in light of the Distributed Generation (DG) issues and its deployment in EU

The Buildings Directive addresses the fact that the residential and tertiary sector of EU, most of which are buildings account for more than 40% of final energy consumption, and is expanding. The Directive is intended to serve as a tool to reduce energy consumption in the building sector and thus help EU to comply with Kyoto protocol.

The Directive requires the implementation of a set of measures, which are promoting the revision of the buildings regulations of each EU country, putting in place a robust certification scheme and the necessary arrangements for it to become operative in all public buildings, as well as private buildings visited by the public

Implementation of the building directive

It is concluded that the transposition process to Member States Law is lagging behind and that it is a complex and slow process. The methodologies to be applied in each country are, in most of the situations not clear and still under discussion internally. Moreover, it is clear that what is said about distributed generation in the Directive is not a core issue within the Member States work of transposition.

Buildings Directive and DG

For new buildings with a total useful floor area over 1000 m², Member States shall ensure that the technical, environmental and economic feasibility of alternative systems such as decentralised energy supply systems based on renewable energy and CHP are taken into account before construction starts in accordance with national rules.

However, several other DG solutions have the potential to offer benefits to the buildings' energy performance as well as to the electricity system as a whole when applied in or nearby buildings, but these solutions are being neglected in the current scope of the Directive. Furthermore, DG solutions may provide other important services beyond energy supply.

Suggestions

Amendment of the Buildings Directive is foreseen within Article 11 of the Directive that

should be done in light of the experience gained over its implementation in the Member States. Already a few actions are identified as possible ways of further work development and these are:

- Possible complementary measures referring to renovations in buildings with a total useful floor area less than 1000m²;
- General incentives for further energy efficiency measures in buildings.

The study of these issues will be further developed in a next step of the Work Package 4 of the ELEP project. Nevertheless, a first indication of the considered necessary steps to further improve the deployment of energy efficiency in buildings in general and the DG in particular, under the umbrella of the Directive is:

- Type and size of buildings considered;
- Distributed Generation Solutions considered;
- Definitions and Technical concepts;
- Energy performance evaluation methodologies and reference values;
- Local impact of emissions from Distributed Generation solutions;
- Encouraging energy policy measures.

Berlin work shop

A Work Package 1 dissemination workshop was held in Berlin on 8 March 2006. This was a joint event with the DG-GRID project and was attended by over 40 people. 16 countries were represented

The objective of the meeting was to discuss the findings and suggestions of ELEP WP 1 – Interconnection Standardisation for distributed generation equipment.

ELEP's presentation of the need for transparent, non-discriminatory nature of interconnection procedures raised a lot of interest in the audience and led to a very good discussion in which among other things the following was noted.

- It was agreed that the UK was one of the better countries as regards transparency but improvements still have to be made there also. For example, why not present all the rules on an easily accessible web page?
- One regulator admitted that it did not have the power to compel DNO's to

publish their interconnection rules or create interconnection guides.

- The central recommendation on the creation of "one-stop shop" information platforms was widely supported as it did not imply any significant additional costs to DNOs or regulators.

ELEP website

One of the most important news items that were published on the website was the publication of the UK Governments report on the Energy Review. The report contains one chapter that deals with Distributed Energy. There it is stated "Distributed Energy can potentially lower emissions, increase diversity of our energy supply and, in some cases, lower cost. We will look at the potential of distributed energy as a long-term alternative to our current highly centralised system. At the same time.....take steps to encourage the use of low carbon and distributed technologies by individuals and communities...and remove barriers to their adoption."

Further details of the ELEP project and the full reports referred to above can be found on our website:

<http://www.elep.net>

You are encouraged to contribute to the programme by supplying your thoughts, opinions and views as to how the barriers to DG can be best minimised! All contributions gratefully received!

Contacts

For further information please send an email to info@elep.net, or alternatively contact the project co-ordinator at richard.knight@rolls-royce.com.