DEMSEE 2008 - Conclusions

The power industry is one of the sectors, which affects the prosperity of every aspect of economic and social life and has a direct impact on technological progress. Much of the world's energy, however, is currently produced and consumed in ways that could not be sustained if the "business as usual" scenario continued. Furthermore, the need to control atmospheric emissions of greenhouse and other gases will increasingly feature in the future and clearly action has to be taken in the direction of reducing such emissions.

The European Union's (EU) main long-term goal in the field of energy is the conversion of the existing EU energy system, which is heavily dependent on fossil fuels, to a sustainable energy system based on differentiated energy sources of higher energy efficiency. This will enable the EU to face the challenges posed by the security of the energy supply and the climate change while, at the same time, increasing the competitiveness of the European energy industries.

The aim of the conference was twofold:

- To highlight the importance of research and development for the future of the electricity sector in South-Eastern Europe and
- To present the effort undertaken by the various academic and research establishments in this field.

The success of DEMSEE 2008 was reflected by the interest shown from the various researchers. In particular, 81 papers have been submitted from which 61 have been accepted for presentation and to be included in the conference proceedings, after a two stage review. Further, 18 papers have been selected to be published in the Journal of Renewable and Sustainable Energy Reviews following agreement with Elsevier. The successful authors will be notified in due course.

In this international event participants from 16 different countries have attended. During the conference the participants had the opportunity to attend 8 plenary sessions which were delivered from 8 distinguished professionals from various countries.

In summary the conclusions drawn from DEMSEE 2008 are:

- Significant research attention is currently focused in the direction of improving the cost and performance of RES and Smart Grids technologies. The reason is that these technologies are envisaged to complement the necessary renewal of Europe’s current ageing generation plants,
- The implementation of systems for the enhancement of network power quality and storage is a necessary first step in the direction of the further penetration of intermittent RES technologies in the European distribution networks,
- Solar technologies in general and Photovoltaics in particular are specifically very well suited for implementation in countries with high solar irradiation such as those of southern Europe. However, recent experience from other European countries has

shown that for effective penetration of PV technology to be achieved, governmental support is required in terms of a steady, dependable, and long-term financial incentives (feed-in tariffs) program,

- Carbon capture and storage (CCS) technologies are receiving significant research attention due to their environmental benefits, however these systems are still to prove their technological and economical advantages over the conventional technologies hopefully to be achieved in the near future,
- Research in Cyprus is really picking up in recent years and the DEMSEE platform has proved to be a very effective step in the direction of promoting research work in Cyprus and instigating further work in the future,
- The conference has given the opportunity of presenting research work related to technical problems that the industry in Cyprus is facing (partial discharge activity, thermal rating of cables and conductors for real time operation etc) as well as the problems that the technical education is facing in attracting students in engineering fields and moreover on subjects related to the new emerging technologies.