

Preparation of Abstract for the IERE Forum

Technologies to Overcome Economic Depression and Natural Disaster

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Abstract

Currently, several forces are driving energy system-related R&D in parallel. Unexpected events like natural disasters and economic crises are impacting the energy supply companies in the short term. Foreseeable developments, such as the increasing scarcity of fossil resources, the debate on climate change and the rising importance of public acceptance, are calling for new solutions. Sophisticated operation of existing infrastructure, build-up of additional renewables and smart technologies as well as storage will be part of these solutions. A high share of wind and solar energy, with reduced full-load hours at large-scale power generating plants, challenges the energy system. There is no single technological solution. Instead, a bundle of technical measures will have to be taken in parallel. Existing plants and grids will be affected economically and technologically at the same time. As an obvious consequence, energy research & development will continue to be at the centre of interest. With new solutions for power generation, electricity grids and demand control technologies, innovative products and processes for the energy supply system are expected to further ensure a reliable and affordable energy supply. At the same time, interaction between all elements of the supply system is increasing, thus making operation more complex. An understanding of the fundamental principles and excellence in R&D and engineering will lay the basis for the successful commercialisation of new technologies.