

KEPCO's R&D Activity on The Distributed Power Generation Systems

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Abstract

The Kansai Electric Power Co., Inc. (KEPCO), on the trend of liberalization of energy market and increasing demands for greenhouse-effect gas reduction, is developing highly efficient distributed power generation systems.

In this paper, we report the present status of this activity, such as solid oxide fuel cells (SOFCs), and gas engines. Especially, as to SOFCs, we achieved very good performance with high efficiency and tough endurance. Electric efficiency came up to 57.6%(DC; LHV basis), and voltage drop was negligible (0%/1000Hr). From now, we accelerate this R&D plan for commercial use of some 10kW output range.

On the other hand, Kyoto protocol (CO₂ reduction) has gone into effect, and renewable energy systems are attracting a great deal of attention. Wind power must be one of the best solutions. Especially, the hybrid systems with batteries, e.g. redox flow battery, are useful to smooth the unstable wind power output, which can prevent the undesirable influence on the power grid.