



Key findings: European electric system adequacy assessed for 2001

The Union for the Co-ordination of the Transmission of Electricity (UCTE), Brussels, has published its annual retrospective summary of electric generation-load adequacy in its 20-country region of mainland Europe from Portugal to Poland and from Germany to Greece. The UCTE and this report cover the synchronously operated electric power system in which live 400 million people with an annual electricity consumption of 2200 TWh.

The so-called power balance compares simultaneous monthly weekday electric loads with the installed and available power plant capacity, taking account of maintenance and forced outages as well as needed reserves. The main result of this retrospective is that electric supply remains reliable in the UCTE region, although some regionally limited bottlenecks appeared, especially in South-Eastern Europe, and overall reserves decreased slightly. For example, on December 17, the remaining capacity which is according to UCTE definitions the capacity not used for supplying demand nor for the reserves held by transmission system operators, but available to power plant operators to guard against additional possible outages, was around 25 GW – i.e. 5% of the total UCTE installed generating capacity. This level was lower than the remaining capacity levels observed in previous years, but still adequate on a global level, though some local balances, especially in Spain and the South-Eastern region, were tight.

The international exchanges inside UCTE have reached 260 TWh, an increase of 8%. This power corresponds to an annual production of some 26 nuclear power plants or 50 big coal-fired power stations and is in the range of the annual consumption of European countries like Italy in the year 1995. These impressive comparisons illustrate the on-going development of the integrated European power market.

The consumption of the whole union has increased 2.4% compared to the previous year due to the general economic conditions (in some countries the increase reached 5%) and to the cold wave which affected the union at the end of the year.

Generation from renewable energy sources represents 16% of demand; it results mainly from good hydro conditions; the contribution of other renewable energy sources (wind, biomass, photovoltaic...) represents 20 TWh (+22% compared to the previous year).

As far as the power balance is concerned, the main event in 2001 was the unusually widespread cold wave which affected the large parts of the UCTE system in December and was one important factor in the very high market prices observed in the power exchanges around December 17. There was very strong correlation of the loads at the European scale: the annual peak load was reached on December 17 in Germany, France, Belgium, Luxembourg, Spain, Portugal and Croatia, and in the same time period, on December 13, Slovenia, Czech Republic, Poland and Slovak Republic reached their annual peaks. Such simultaneous peak loads make the mutual support between different European regions more difficult.