Electricity and Heat

Electrical energy

Heat and mechanical energy may be convered into electrical energy using generators driven by steam, flowing air or water and internal combustion engines. Electricity may also be produced from the chemical reactions within fuel cells and light falling on photovoltaic cells.

The definitions below do not state what electricity and heat are but define the types of generation and plants in which they are generated.

Heat energy

Heat is obtained from the combustion of fuels, nuclear reactors, geothermal reservoirs, capture of sunlight and heat pumps which can extract it from ambient fluids. It may be used for heating or converted into mechanical energy for transport vehicles or electricity generation. Definitions of plants which supply heat for use by customers are given below.

Classification of generating plants

Electricity and heat plants are divided into types according to whether they produce only one or both forms of energy and by producer according to the producer's principal reason for generation.

The types of producer are:

Main Activity Producer (formerly known as public) undertakings generate electricity or heat for sale to third parties, as their main business activity. They may be privately or publicly owned. Note that the sale need not take place through the public grid.

Autoproducer undertakings generate electricity or heat wholly or partly for their own use as an activity which supports their main business activity. They may be privately or publicly owned.

The types of generation are:

Electricity only plants

These are plants which are designed to produce electricity only and they are divided according to the purpose of generation.

Combined Heat and Power plants

These are plants which are designed to produce electricity and heat for use by the producer or other consumers.

Heat only plants

These plants produce heat only for distribution to its points of use.