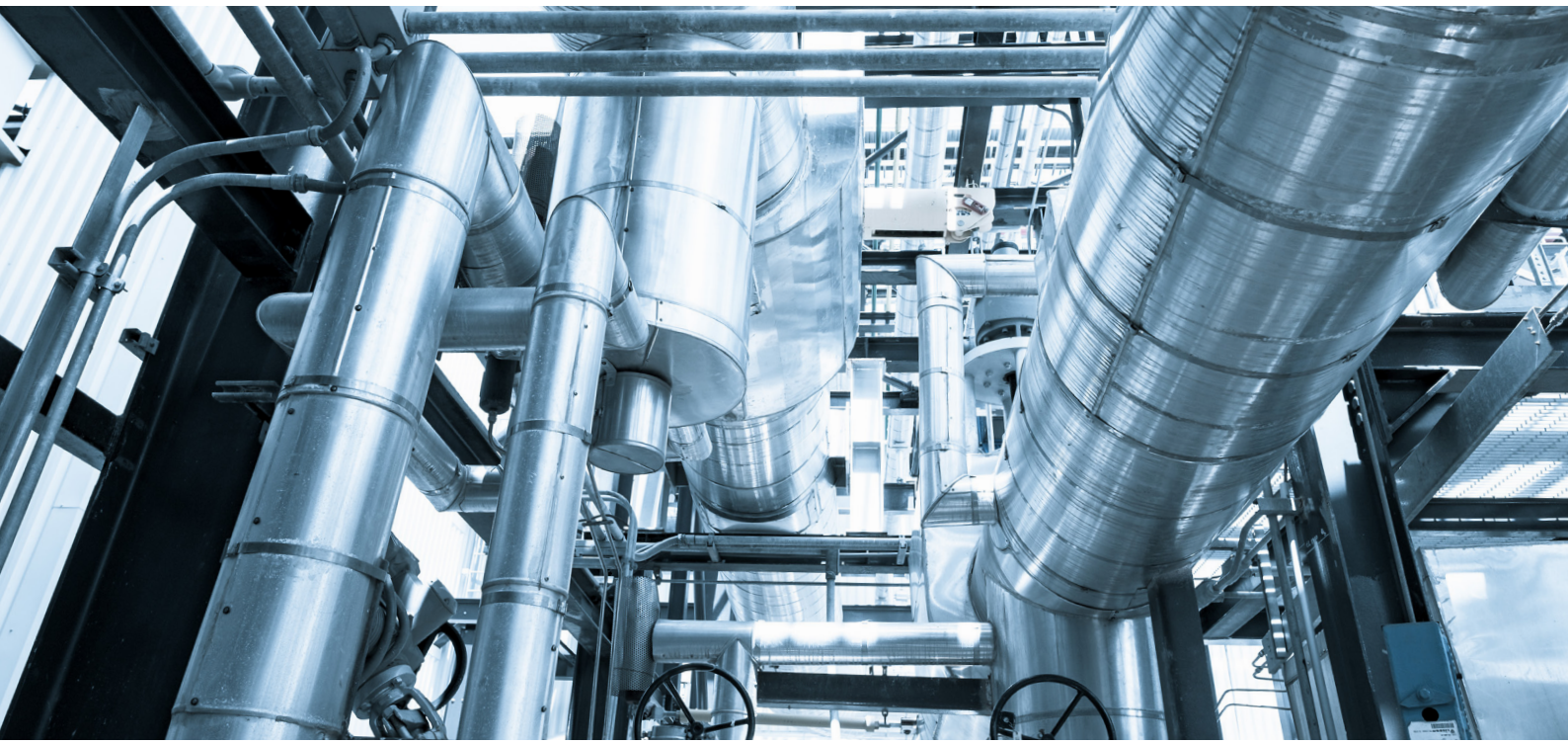
Combined Heat and Power (CHP)



What is Combined Heat and Power?

Combined Heat and Power (CHP) is a system where the production of usable heat and power (electricity) is combined into one single, highly efficient on-site process.

CHP generates electricity whilst also capturing the usable heat that is produced in this process. This contrasts with conventional ways of generating electricity where vast amounts of heat is simply wasted. In today's coal and gas fired power stations, up to two thirds of the overall energy used to produce consumer electricity is lost in this way, often seen as clouds of steam rising from cooling towers.

CHP is highly efficient

By utilising waste heat, CHP plants can reach efficiency ratings in excess of 80%. Compare this with the efficiency of gas power stations, which in the UK range between 49% and 52%. Coal-fired plants fare even worse, with an efficiency of around 38%.

CHP is local

CHP plants provide local heat, electricity and sometimes even cooling to various types of businesses. Because the energy is produced locally, CHP has the added benefit of avoiding efficiency losses incurred through the transmission and distribution of electricity through the National Grid. Around 7% of energy would usually be lost when the network is used to transport energy from its generation source to the end user. When taking these losses into account, the respective efficiency of traditional power generation falls even further.

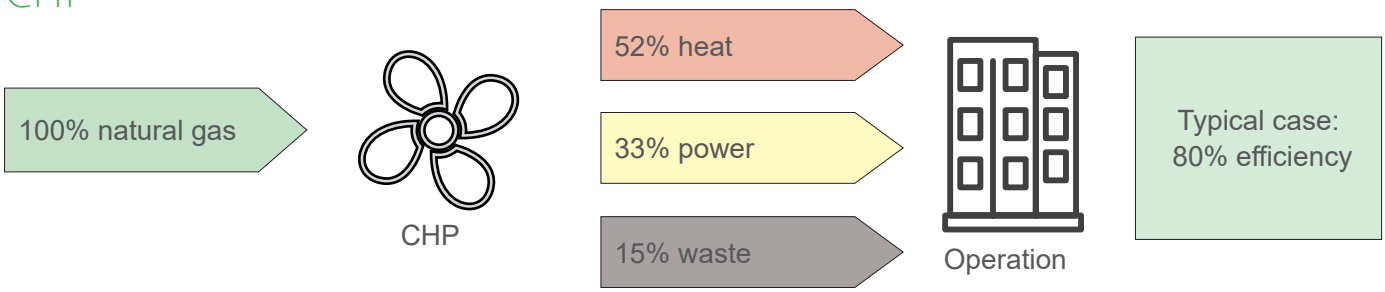
How does CHP work?

CHP works by capturing the heat generated through the production of electricity using natural gas or biomass, and then using that heat in ways which would otherwise go to waste. The heat captured powers a gas or steam powered turbine, which generates further electricity. Excess heat could be used for relevant local applications, such as heating a building or drying products.

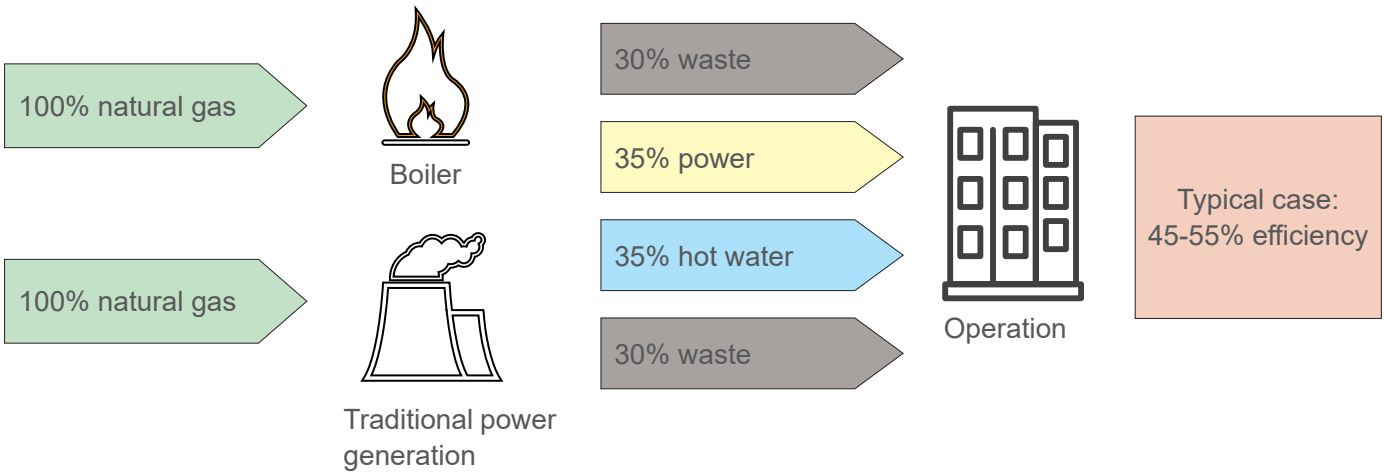
This method is almost twice as efficient as traditional power generation methods, and the electricity costs around one third of the price charged by conventional UK suppliers. It also cuts carbon emissions by around 20%.

CHP delivers real and demonstrable benefits and provides a solid, proven platform for commercial competitiveness and environmental credibility. With inevitable energy price increases and environmental taxation, these benefits will become more apparent in the future.

CHP



Traditional power generation



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