



“Useful Heat”: Definition and Economic Justification

Pete Edwards
CHPQA



Definition of ‘Useful Heat’

- ‘Useful Heat’ is defined as the heat from a CHP scheme delivered to satisfy an **economically-justifiable** demand for heat or cooling (Article 3 of the Cogeneration Directive, Article 2 of the EED);
- Demand which does not exceed the needs for heating or cooling, and which
- Otherwise would be met at market conditions by energy generation processes other than cogeneration.



Examples of 'Useful Heat' loads

- CHP heat used for space heating, hot water and process heat - does not require economic justification
- CHP heat replacing an existing heat demand - does not require economic justification
- CHP heat used to meet legislative requirements - does not require economic justification
- CHP heat used to meet unusual heat loads (e.g. woodchip / wood pellet drying, AD plant heat load) - requires economic justification



Basis of Economic Analysis

- Should be undertaken for the alternative to CHP (i.e. assuming that CHP does not exist),
- Heat is only provided through a gas or an oil boiler,
- Any fiscal benefits or revenue from CHP will thus be excluded from the cost-benefit analysis,
- Analysis can be undertaken in a spreadsheet or in the form of a detailed report,
- All assumptions must be fully stated and referenced (*for example size of market and corresponding size of heat demand need to be evidenced by provided a detailed market study*),
- Calculations must be fully shown (calculation of costs, revenues, and payback period)



Requirements for Economic Justification under CHPQA

- Full description of the business case for the heat load,
- A cost-benefit analysis involving:
 - the capital cost of the heat source (i.e. gas boiler)
 - the operating costs (e.g. cost of fuel to run the boiler)
 - the revenue/benefit achieved by utilising the heat
 - a statement of the Company's investment criteria stating what is considered an acceptable payback period.