



Quality Assurance for Combined Heat and Power

**Introducing CHPQA:
The CHPQA Standard & Guidance
Notes**



Introduction

This document gives an outline of CHPQA, an initiative by Government to monitor, assess and improve the quality of UK CHP Schemes, and its associated terminology.

The CHPQA programme provides a practical, robust and determinate methodology for defining 'Good Quality' CHP. It includes the CHPQA Standard and accompanying CHPQA Guidance Notes.

CHP provides one of the most cost-effective approaches for reducing CO₂ emissions and will play a crucial role in the UK Climate Change programme. To encourage its further deployment, the Chancellor announced in November 1999 that Good Quality CHP would be exempt from Climate Change Levy (CCL). CHPQA provides the passport to this and various other incentives.

From April 2001, Self-Assessment and Certification under CHPQA will provide the principal evidence required for determining eligibility of CHP Schemes for CCL exemption, Enhanced Capital Allowances (both subject to EU State Aids clearance) and, it is proposed, exemption from plant and machinery rating.

Proposals for determining Good Quality were outlined in a consultation paper in January 2000 and, following consultation, the Minister for the Environment, Michael Meacher, announced the Government's decisions in May. Since that time, some of the terminology has been revised and simplified. For example, what was referred to as the Equivalent Generation Limit (CHP_{EGL}) is now called Qualifying Power Output (CHP_{QPO}) and Equivalent Fuel Input (CHP_{EFI}) has become Qualifying Fuel Input (CHP_{QFI}).

The methodology for assessing the quality of CHP Schemes is based on energy efficiency and environmental impact and defines Threshold Criteria for Good Quality CHP. Registration and Self-Assessment by Scheme owners or operators is voluntary, and Certification can be used for a variety of purposes where quality is relevant to entitlement.

CHPQA is currently administrated on behalf of the DETR under the Energy Efficiency Best Practice Programme by ETSU, part of AEA Technology Environment.

When & How to Apply

Copies of the Standard and Guidance Notes are obtainable from the web site (www.chpqa.com) or by calling the Environment and Energy Helpline on 0800 585794.

Self-Assessment Forms, together with the Guidance Notes, are contained in the application pack, which can be requested by completing Form F1 (obtainable from the web site or Helpline). It is recommended that Form F1 is completed and returned at the earliest possible date.

For Certification in time for the beginning of the financial year, Forms F2 and F3/4 should be completed and returned as promptly as possible to allow for Validation and processing.

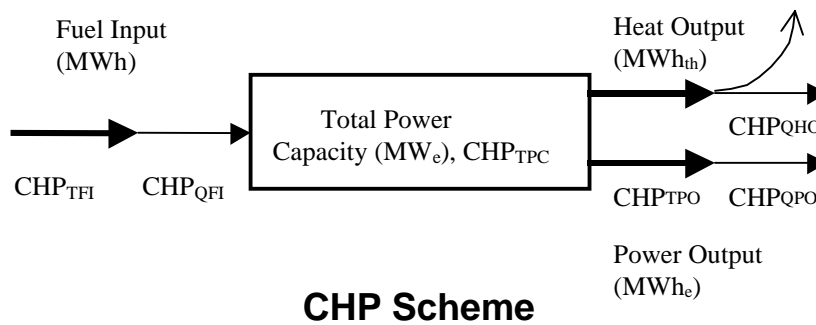
In order to complete the Self-Assessment, Responsible Persons will need to measure energy flows, and calculate Power Efficiency and Quality Index. Reporting of data is required on an annual basis for Certification to be maintained.

The Administrator will validate each Self-Assessment to ensure that an appropriate Scheme boundary and QI definition have been used and that calculations are correct. The Administrator may also arrange for site audits to confirm any aspect of the information provided e.g. that monitoring arrangements, data reporting and records are in order.

Defining Good Quality CHP

CHPQA provides a methodology for assessing the quality of CHP Schemes in terms of their energy efficiency and environmental performance. This methodology is based on Threshold Criteria, which must be met or exceeded in order for the whole of the Scheme to qualify as ‘Good Quality’.

Threshold Criteria are set for Quality Index and Power Efficiency, and both can be determined from just three sets of data: fuel used, power generated and heat supplied.



Normally, the main Threshold Criteria are QI—100 and Power Efficiency—20%, under annual operation.

However, the Threshold Criteria can vary under certain circumstances, for example during the Initial Period of Operation or where transitional arrangements apply. The CHPQA Standard and Guidance Notes set out the detailed definitions and methods of calculation.

Most schemes are expected to meet the Threshold Criteria but where either or both the Power Efficiency or QI Threshold Criterion is not met, then only a portion of Scheme fuel input or power output qualifies as Good Quality CHP. These qualifying portions are the CHP_{QFI} and CHP_{QPO} respectively.

Uses of CHPQA

Registration under CHPQA will assist Government collect statistics on installed and proposed CHP capacity and hence facilitate monitoring progress towards the 2010 target. For CHP Scheme owners or operators, Certification issued under CHPQA may be used for determining eligibility for certain benefits or for determining compliance with requirements of further regulatory or fiscal measures, where quality is relevant to entitlement.

From April 2001, CHPQA will be used to assess and certify eligibility for

- Climate Change Levy exemption (subject to EU State Aids clearance)
- Enhanced Capital Allowances (subject to EU State Aids clearance)
- Exemption of plant and machinery from Business Rating

What Next?

To find out more about CHPQA and how it can benefit you, visit the web site (www.chpqa.com) or call the Environment and Energy Helpline on 0800 585794 today.

GLOSSARY

CHPQA involves a number of specific terms and definitions, several of which are summarised below. A complete list with full definitions is given in the CHPQA Standard and Guidance Notes.

Audit - any activity to confirm compliance with the Standard.

Certification - that a Scheme meets the criteria for Good Quality for all or part of its energy inputs, outputs and capacity.

CHP (Combined Heat and Power) - simultaneous generation of heat & power in a single process.

CHP Scheme – equipment, operating system and monitoring system for the whole Scheme.

CHP Qualifying Fuel Input (CHP_{QFI}) - registered annual fuel input (MWh) qualifying as input to Good Quality CHP. For most Schemes, this will be the same as CHP_{TFI}.

CHP Qualifying Heat Capacity (CHP_{QHC}) - registered maximum useful heat supply capacity (MWh_{th}) of a CHP Scheme.

CHP Qualifying Heat Output (CHP_{QHO}) - registered amount of useful heat supplied annually (MWh_{th}) from a CHP Scheme.

CHP Qualifying Power Capacity (CHP_{QPC}) - registered power generation capacity (MW_e) qualifying as Good Quality CHP. For most Schemes this will be the same as CHP_{TPC}.

CHP Qualifying Power Output (CHP_{QPO}) - registered annual power generation (MW_e) qualifying as output from Good Quality CHP. For most Schemes this will be the same as CHP_{TPO}.

CHP Total Fuel Input (CHP_{TFI}) - total registered annual fuel input (MWh) to a CHP Scheme.

CHP Total Power Capacity (CHP_{TPC}) - registered maximum power generation capacity (MW_e) of a CHP Scheme.

CHP Total Power Output (CHP_{TPO}) - total annual power generation (MW_e) from a CHP Scheme.

CHPQA programme - a management and administrative process for CHPQA, including Registration, Self-Assessment, Validation and Certification.

Gross Calorific Value (GCV) – used as the basis for Monitoring all energy flows.

Initial Operation (IO) - period during which reduced Threshold QI Criterion may apply.

Monitoring - of energy inputs/outputs relevant to the Self-Assessment and associated records.

Power Efficiency (η_{power}) - one of two key parameters for assessing a CHP Scheme.

Quality Index (QI) – the other key parameter. QI is a measure of environmental performance.

Registration – recording of details about the Responsible Person and the CHP Scheme.

Responsible Person - person or corporate body responsible for the operation of a Scheme.

Self-Assessment - of the quality of a CHP Scheme, including calculation of key parameters.

Validation – routine confirmation that a Self-Assessment has been carried out properly.

Contact Details - web site (www.chpqa.com), Environment and Energy Helpline (0800 585794).