CHPQA & Fiscal Benefits

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Fiscal Benefits for Good Quality CHP

- CCL Exemption
- Business Rates Exemption
- Hydrocarbon Oil Duty Relief
- CRC–emissions credit on exported electricity and no emissions attributed to heat from CHP (Zero Carbon Heat)
- Carbon Allocation under EU-ETS Phase II (*separate CHP sector*)
- Enhanced Capital Allowance
- 1ROC/MWh of electricity from EfW, 2 ROCs/MWh for dedicated biomass (April 2009)
- EU-ETS Ph III
- RHI …. Under development

Talk Coverage

The interaction of CHPQA and:

- EU-ETS
- CRC
- ECA
- ROCs (*more later today*)
- Others (CCL; Business Rates; Oil Duty)

A new source of CHP advice:

- CHP Focus

The interaction of CHPQA and:

- **EU-ETS** ←
- **CRC**
- **ECA**
- **ROCs**

CHP & EU-ETS

- Covers energy intensive users (>20MW thermal input). Only Combustion Plants…
- Catches large stand alone CHP Schemes
- Also catches smaller CHP schemes embedded within an energy intensive users site (such as Hospitals & Universities)
- Phase II started in 2008,
- Ph III currently under development

CHP & EU-ETS Phase II

- Runs 1/1/2008 to 31/12/2012
- Separate sector for GQCHP (Existing and New Schemes)
- Separate New Entrant Reserve (NER) pot for GQCHP
- Who can claim allocation from GQCHP NER?
  - new GQCHP;
  - Existing CHP schemes increasing their GQCHP capacity by ≥ 5% or 10MWe;
  - converted schemes from non- to GQCHP

EU-ETS Carbon allocation to GQCHP?

- GQCHP will receive allocation from CHP NER for QPC only.
- For partial Schemes allocation for non-GQCHP capacity …from the main NER pot.
- Allocation for top-up, back-up and supplementary burners ….from the main NER pot.

CHPQA Certification for EU-ETS?

- Based on design data and commissioning date
- Verification by CHPQA
- Multiple certificates for large schemes to account for heat build up

EU-ETS Phase III

- Broadening of the "Combustion" definition to include:
  - **All types of boilers, burners, heaters, furnaces, incinerators, dryers,**
- The 20MW thermal threshold continues to apply.
- Catches large stand alone CHP Schemes
- Also catches smaller CHP schemes embedded within an energy intensive users site
- No allocation to Electricity Generators
- Allocation to heat decreasing over time
- Allocation methods currently been developed.
- Heat benchmark will also cover heat from CHP

The interaction of CHPQA and:

- EU-ETS
- CRC
- ECA
- ROCs

What is the Carbon Reduction Commitment (CRC)

- Capture emissions not covered by existing measures such as EU ETS and CCAs
- A mandatory CO2 emissions trading scheme affecting large non-energy intensive businesses and public sector organisations
- Operate as full auctioning scheme.

When does CRC begin & who is included?

- Begins April 2010 following initial period of set-up and registration
- Applicable to organisations with total electricity consumption > 6,000 MWh/y (based on half hourly meters). Averaging at about 1.0 – 2.0 MWe electricity demand.

CHP & CRC

- CRC sites will have to buy carbon for all imported electricity and fuel (if not in EU-ETS).
- All electricity will have the same carbon emission factor as that from power stations
- Exported Electricity from GQCHP will receive carbon credits (using the same carbon factor).
- Exported heat from GQCHP is ZERO Carbon rated….. Creating opportunities for heat export!!!
- For Renewable generation.. If ROCs are claimed then electricity must be reported as an import at the grid electricity factor
- CHP schemes covered by EU-ETS their electricity out put is covered by CRC

The interaction of CHPQA and:

- **EU-ETS**
- **CRC**
- **ECA**
- **ROCs**

CHP and ECAs

- Available

……. *where main business will be to provide heat and power for users on site or known third parties.*

- Not Available

………. *if the main business is generating power for sale to or via unspecified third parties.*

- Thus not available for companies whose core business is electricity production.
- Need to request Energy Efficiency (EE) Certificate from CHPQA as well as a CHPQA Certificate.

Calculation of ECA value to a CHP Scheme

- Must meet Power Efficiency Threshold (20% for Conventional fuels, 10% for biomass)
- If don't meet QI Threshold- qualifying expenditure is scaled back (QPC/TPC)
- Scheme specific no type approval/product certification route- must identify heat load
- E E Cert may be withdrawn and ECA repaid if Scheme is not built to the design certificated

Extended CHP Boundary for ECA eligibility – EfW Schemes

Current for all CHP Schemes

- Installed as part of a CHP Scheme Certified by CHPQA as Good Quality.
- List available in CHPQA GN 42

NEW Policy for EfW CHP Schemes

- CHP scheme boundary has been extended to include specific equipment for EfW plants.
- Eligible only if the EfW plant firing Solid Recovered Fuel (SRF)
- Full presentation later …

The interaction of CHPQA and:

- EU-ETS
- CRC
- ECA for EfW
- ROCs

CHP & ROCs

New arrangement:

- Increased the level of support (ROCs/MWh) available to GQCHP fuelled by biomass from 1st April 2009 to 2.0 ROCs/MWh (0.5 ROC differential)
- 1.0 ROC/MWh for waste-fuelled Good Quality CHP
- 2 ROCs/MWh for AD CHP schemes

Only for Certified Schemes as GQ CHP

QI Formulas for New Schemes registered after Jan 2007 – For Alternative Fuels

Size Of Scheme (CHP_{TPC})	QI Definition
ALTERNATIVE FUEL SCHEMES[3]	
By-Product Gases	
≤1MWe	$QI = 294 \times \eta_{power} + 120 \times \eta_{heat}$
>1 to ≤25MWe	$QI = 221 \times \eta_{power} + 120 \times \eta_{heat}$
>25MWe	$QI = 193 \times \eta_{power} + 120 \times \eta_{heat}$
Biogas	
<=1MWe	$QI = 285 \times \eta_{power} + 120 \times \eta_{heat}$
>1 to ≤25MWe	$QI = 251 \times \eta_{power} + 120 \times \eta_{heat}$
>25MWe	$QI = 193 \times \eta_{power} + 120 \times \eta_{heat}$
Waste Gas or Heat	
≤1MWe	$QI = 329 \times \eta_{power} + 120 \times \eta_{heat}$
>1 to ≤25MWe	$QI = 299 \times \eta_{power} + 120 \times \eta_{heat}$
>25MWe	$QI = 193 \times \eta_{power} + 120 \times \eta_{heat}$
Liquid Biofuels	
≤1MWe	$QI = 275 \times \eta_{power} + 120 \times \eta_{heat}$
>1 to ≤25MWe	$QI = 191 \times \eta_{power} + 120 \times \eta_{heat}$
>25MWe	$QI = 176 \times \eta_{power} + 120 \times \eta_{heat}$
Liquid Waste	
≤1MWe	$QI = 275 \times \eta_{power} + 120 \times \eta_{heat}$
>1 to ≤25MWe	$QI = 260 \times \eta_{power} + 120 \times \eta_{heat}$
>25MWe	$QI = 176 \times \eta_{power} + 120 \times \eta_{heat}$
Biomass or Solid Waste	
≤1MWe	$QI = 370 \times \eta_{power} + 120 \times \eta_{heat}$
>1 to ≤25MWe	$QI = 370 \times \eta_{power} + 120 \times \eta_{heat}$
>25MWe	$QI = 220 \times \eta_{power} + 120 \times \eta_{heat}$
Wood Fuels	
≤1MWe	$QI = 329 \times \eta_{power} + 120 \times \eta_{heat}$
>1 to ≤25MWe	$QI = 279 \times \eta_{power} + 120 \times \eta_{heat}$
>25MWe	$QI = 220 \times \eta_{power} + 120 \times \eta_{heat}$

ROC Eligibility – QI Definitions

QI definitions for schemes >25MWe

Table 1: QI Formulae For Various Types Of CHP Biomass Schemes >25MWe

Solid waste	$QI = 364 \times \eta_{power} + 140 \times \eta_{heat}$
Agricultural Biomass	$QI = 338 \times \eta_{power} + 130 \times \eta_{heat}$
Wood Fuels	$QI = 315 \times \eta_{power} + 120 \times \eta_{heat}$

QI definitions for schemes <25MWe

Table 2: QI Formulae For Various Types Of CHP Biomass Schemes = <25MWe

Solid waste	$QI = 370 \times \eta_{power} + 140 \times \eta_{heat}$
Agricultural Biomass	$QI = 370 \times \eta_{power} + 130 \times \eta_{heat}$
Wood Fuels	
£1MWe	$QI = 329 \times \eta_{power} + 120 \times \eta_{heat}$
>1 to £25MWe	$QI = 315 \times \eta_{power} + 120 \times \eta_{heat}$

QI definitions for ACT schemes

Table 3: QI Formulae For Advanced Conversion Technology Producing Syngas To Be Used In Reciprocating Engines Or Gas Turbines.

Syngas	
≤1MWe	$QI = 285 \times \eta_{power} + 120 \times \eta_{heat}$
>1 MWe	$QI = 251 \times \eta_{power} + 120 \times \eta_{heat}$

To summarise…

- To obtain any of the fiscal benefits available for GQCHP the Scheme must be certified by CHPQA and must have a valid Certificate