



How RO, CfD and RHI impact on Biomass and EfW CHP

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Focus on...

➤ CHPQA and the RO

- ROC Eligibility for Good Quality CHP
- CHPQA Certification for ROCs (CHPQA GN44 Certificate)

➤ CHPQA and CfD

- Eligibility for CHP specific CfDs applicable to biomass and waste but not bio-liquid fuelled GQCHP
- CHPQA Certification for CfDs (CHPQA GN44 Certificate)
- See CHPQA Guidance Note 44 (Issue 5)

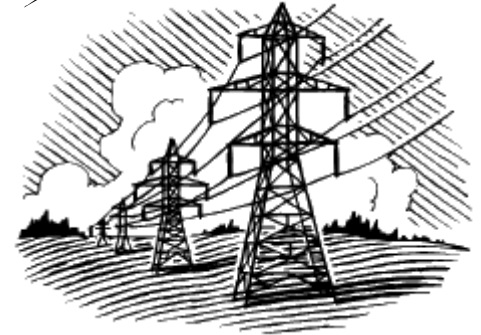
➤ CHPQA and RHI

- A specific tariff for biomass-fuelled GQCHP, doesn't apply to EfW CHP
- Schemes need to be certified by CHPQA in order to benefit
- Only for heat produced via the engine/turbine.



Introduction to the Renewables Obligation

- First introduced in 2002
- Support electricity generation from renewable sources
- Separately legislated in:
 - England and Wales
 - Scotland
 - Northern Ireland
- Banding is Technology specific
- Continually reviewed and developed
- **Will close to new generation at the end of March 2017 and then run until 2037**





The RO and Banding

Key Features:

- First introduced in 2009 and gave:
- “Banding” concerns the provision varying levels of support (ROCs/MWh) for different types of generation technology
- New banding regime introduced in April 2013 to run through to 2017



The RO 'Grace Period'

The Renewable Obligation Closure Order (2014):

- Set out the RO closure date to new renewable capacity as 31 march 2017
- Ensured that projects already supported under the RO will continue to receive support for 20 years under the RO
- Introduced an 18 month 'grace period' designed to protect projects against certain risks of delay and not being able to obtain RO accreditation after 31 March 2017

Biomass CHP wishing to make use of this grace period needed to be CHPQA certified prior to 9th November 2014.... Too late now



ROC Eligibility

For GQCHP, the power output eligible for the award of ROCs is determined using:

$$\text{Eligible Power Output} = \text{NPO} \times \text{Biomass Content (\%)} \times \left(\frac{\text{QPO}}{\text{TPO}} \right)$$



Dual CHPQA Certification

CHPQA

Quality Certification for an existing CHP Scheme

CHPQA Certificate No: [REDACTED]

Scheme: [REDACTED]

CHPQA Scheme Reference No: [REDACTED]

This is to Certify that the Self-Assessment of the above CHP Scheme undertaken by [REDACTED] of Scheme performance during the calendar year: 2010 has been Validated under the Combined Heat and Power Quality Assurance programme and that:

- The Total Power Capacity of this Scheme is: 0.600 MWe
and the **Qualifying Power Capacity** is: 0.600 MWe
- The threshold Power Efficiency criterion for this Scheme is: 20 %
and the **Power Efficiency** of this Scheme is: 34.43 %
- The Qualifying Heat Output from this Scheme is: 923 MWh
and the **Heat Efficiency** of this Scheme is: 10.55 %
- The threshold Quality Index criterion for under **Initial Operation** is: 95
and the **Quality Index** of this Scheme is: 110.79
- The Total Fuel Input to this Scheme is: 8,749 MWh
and the **Qualifying Fuel Input** is: 8,749 MWh
- The Total Power Output from this Scheme is: 3,012 MWh
and the **Qualifying Power Output** is: 3,012 MWh

CHPQA

Quality Certification for an existing CHP Scheme for ROCs eligibility

CHPQA Certificate No: [REDACTED]

Scheme: [REDACTED]

CHPQA Scheme Reference No: [REDACTED]

This is to Certify that the Self-Assessment of the above CHP Scheme undertaken by [REDACTED] of Scheme performance during the calendar year: 2010 has been Validated under the Combined Heat and Power Quality Assurance programme and that:

Information for ROCs Eligibility	
1. The Total Power Capacity of this Scheme is:	0.600 MWe
2. The Power Efficiency of this Scheme is:	34.43 %
3. The Qualifying Heat Output from this Scheme is: and the Heat Efficiency of this Scheme:	923 MWh 10.55 %
4. The threshold Quality Index criterion for this Scheme under Annual Operation is: and the Quality Index of this Scheme is:	100 110.79
5. The Total Fuel Input to this Scheme is:	8,749 MWh
6. The projected Total Power Output from this Scheme is: and the Qualifying Power Output is:	3,012 MWh 3,012 MWh
7. The Technology Type for this Scheme is:	Reciprocating Engine
8. The Main Fuel Type for this Scheme is:	Other Biogas (e.g. gasified woodchips)
9. The Percentage of Renewable Fuel is:	100.00%

6. The projected Total Power Output from this Scheme is: 3,012 MWh
and the Qualifying Power Output is: 3,012 MWh

Approved by the CHPQA Administrator on behalf of DECC. Date:

The CHPQA programme is carried out on behalf of the Department of Energy and Climate Change (DECC), in consultation with the Scottish Executive, The National Assembly for Wales, and the Northern Ireland Department of Enterprise, Trade and Investment.

For the purposes of the Climate Change Levy (General) (Amendment) Regulations 2003 only, the QPO limit shall be equal to the actual output of the station multiplied by the following ratio: the Qualifying Power Output referred to in item 6 above over the Total Power Output referred to in item 6 above.

Approved by the CHPQA Administrator on behalf of DECC. Date:

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For the purposes of the Climate Change Levy (General) (Amendment) Regulations 2003 only, the QPO limit shall be equal to the actual output of the station multiplied by the following ratio: the Qualifying Power Output referred to in item 9 above over the Total Power Output referred to in item 9 above.



ROC Eligibility – QI Definitions

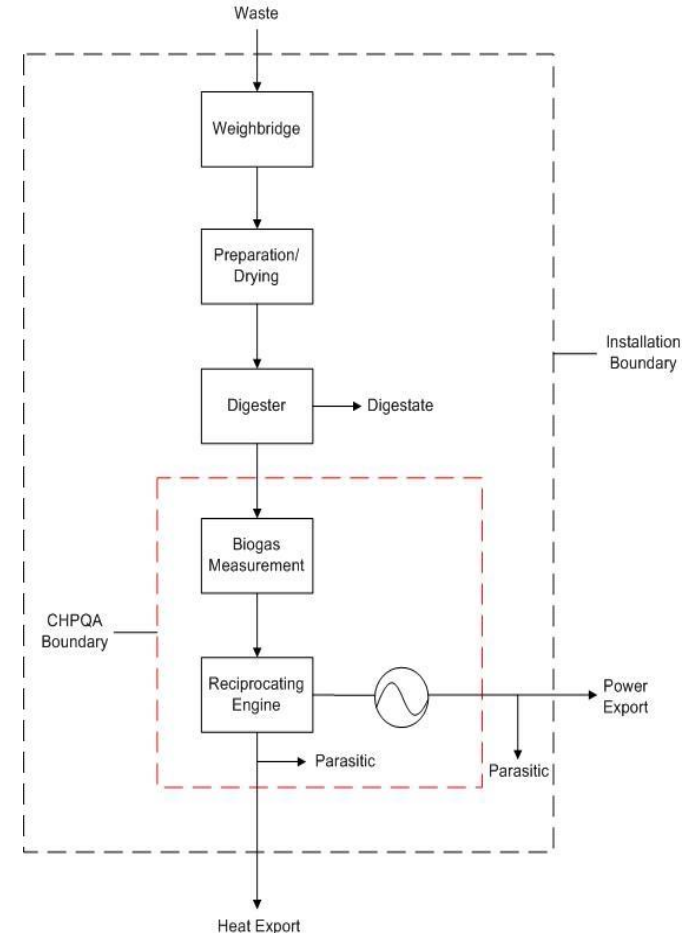
- As a result of the CHPQA review, new QI formulas have been created for new schemes seeking CHP ROCs Certification
- For New Schemes: QI Definitions for ROCs Eligibility are provided in Table 2 of CHPQA Guidance Note GN44 (Issue 4) – available from <https://www.gov.uk/chpqa-guidance-notes>
- For Old Schemes that can demonstrate they reached financial close, prior to 26th July 2012, can use the old QI formulae shown in Table 3 of GN44 issue 4
- All other schemes have been subject to new formulae shown in Table 2 since January 2014



ROC Eligibility – QI Definitions

Advanced Conversion Technologies (ACTs)

- Gasification
 - Pyrolysis
 - Anaerobic Digestion
- For biogas fired schemes, the fuel input boundary should normally be drawn at the gas inlet to RE
- Should use the Biogas QI formula





Safeguard Provision for QI

Three policy criteria:

- The minimum primary energy saving requirement of 10% (0% for schemes <1MW electrical capacity).
- A new requirement for a minimum heat efficiency of 10% (gross calorific value).
- An overall efficiency of at least 35% (gross calorific value) for schemes >25MW electrical capacity.

Schemes that meet all 3 criteria but do not achieve a QI of 100 will be awarded a QI of 100 regardless, and an appropriate X value will be developed.



Extended IO-QI of 95

New Renewable CHP primarily supplying Heating/Cooling Networks:

- QI threshold of 95 for an initial period of operation of 5 years will be allowed
- Need a Business Plan to demonstrate this.

Subject to :

- Achieving a QI of 100, by the 6th full calendar year
- Achieving this by means of network connection to heat loads in additional buildings, on additional sites or to additional industrial or commercial users.



Contract for Difference (CfD)



Contract for Difference (CfD)?

- Regulations for CfD came into force in Great Britain on 1/8/2014
- CfD will replace the RO for all new projects from 1/4/2017. Whilst the CfD regime will commence in GB from 2014 and for Northern Ireland from April 2017.
- Applicable to biomass/waste, but not bio-liquid, CHP,
- Need CHPQA GN44 (Issue 5) certificate (full or partial)
- Paid difference between 'strike price' (cost of investing in the specific low carbon technology) and the 'reference price' (average market price for electricity in GB market). If 'reference' exceeds 'strike' price, generator must pay difference.



CHP-specific CfD Eligibility

- Two eligible technologies :
 - *dedicated-biomass with CHP* and
 - *EfW with CHP*.
- Support paid only on the proportion of metered electrical output assessed by CHPQA to be QPO.
- Use CHP Qualifying Multiplier= QPO/TPO .
- Provide evidence of intended heat load in F3 submission.
- Must maintain annual CHPQA certification (full or partial) once operating and for the duration of any CfD offered in order to continue to receive support.



CfD Investor Safeguard

- During the CfD contract lifetime **biomass** (but not EfW) CHP Schemes protected against risk of loss of heat customer(s) for up to 5 years (**5 CHPQA certification periods**)
- Under this “investor safeguard”, a plant may elect to have their CHP Qualifying Multiplier (QPO/TPO) assessed on most recent CHPQA F3 ‘design’ Certificate, rather than previous year’s operation
- AD and ACT CHP (gasification or pyrolysis) eligible for CfDs, not required to obtain GN44 certification in order to qualify.



Renewable Heat Incentive (RHI)



RHI

Following DECC consultation on expansion of the Non-Domestic Scheme

- Current tariff for Biomass installations > 1MW is 2.0 p/kWh
- **A specific tariff for biomass-fuelled GQCHP of 4.1p/kWh**
- Schemes will need to **be certified by CHPQA** in order to benefit from CHP tariff
- EfW CHP plants will only be eligible for the biomass tariff (2.0p/kWh)
- CHP RHI eligible heat is not the same as QHO
- CHP scheme boundaries for CHPQA certification not always the same as for RHI
- Only heat produced via the engine/turbine will qualify,
- This will require to be metered separately.



Eligibility for CHP RHI tariff

- The eligibility date for the CHP RHI tariff is the date of the Consultation Response publication (4/12/2013).
- Owners of installations commissioned after this date are thus able to apply for the CHP RHI tariff.
- Owners of installations commissioned prior to the date of the publication are not eligible for this tariff.
- Under CfD, the strike price is equivalent to the RO support for dedicated biomass power only (i.e. without ½ ROC uplift). The intention is for participants to be able to apply for the RHI as well as CfD support.



Final message

1- Biomass CHP can obtain ROC uplift* and ECA

Or

2- Standard ROC (no uplift) and RHI but no ECA

And

3- From 2017 can only apply for CfD & RHI but no ECA

* The 0.5 ROC CHP uplift will continue to be available for plant accredited up to March 2015 (Sept 2015 in NI).....**Extended to March 2017 but only if technology and / or fuel source does not, and never has, met the RHI eligibility criteria.** So Solid Biomass fuelled CHP Schemes accredited by Ofgem on or after 1 April (1 Oct. in NI) 2015 are not able to claim the CHP 0.5 ROC uplift. This situation also applies to additional capacity added to existing schemes.