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The Renewable Qualifying Multiplier

CfD Workshop

21 August 2013

What is the Renewable Qualifying Multiplier?

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- The Renewable Qualifying Multiplier (RQM) is a mathematical tool to determine the renewable energy content proportion of input fuels in relation to the total energy content of input fuels

- Its purpose is to ensure that the CfD only pays out on the low-carbon element of a Generator's electricity output, which under the draft CfD terms is achieved through the Metered Output (with reference to which the Difference Amount is paid to the Generator) being calculated using the RQM for relevant facilities

- The RQM is only used for those generating stations which use fuels with variable renewable energy content, or which use fossil fuels as well as renewable fuels to generate electricity

Where will the RQM be used?

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- Advanced Conversion Technologies (with or without CHP)
- Anaerobic Digestion (with or without CHP)
- Biomass Conversions
- Dedicated Biomass with CHP
- Energy from Waste with CHP

and in cases where natural gas primarily used for ignition also generates electricity:

- Landfill Gas
- Sewage Gas

How is the RQM calculated?

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- Calculated by dividing the total energy content of **that portion** of any renewable derived fuels which **IS renewable** by the total energy content of **all fuels** used by the generator in any given month

- RQM = $\frac{A \times B}{C \times D}$ where:

- *A is the mass in kilograms of Fuel with Variable Renewable Content used by the Facility to produce electricity during the period;*
- *B is the Energy Content of that portion of the Fuel with Variable Renewable Content which is derived from renewable sources and used by the Facility to produce electricity during the period;*
- *C is the mass in kilograms of all fuel used by the Facility to produce electricity during the period; and*
- *D is the Energy Content of all fuel used by the Facility to produce electricity during the period;*

How is the RQM applied?

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- For any given period the total loss-adjusted net metered output of the generating station is multiplied by the Renewable Qualifying Multiplier

- This RQM adjusted metered output is then the deemed output for which the difference between the strike price for the relevant technology and the market reference price is paid

- *If the difference is positive (i.e. if the strike price is higher than the reference price), the CfD Counterparty will pay the difference to the Generator*

- *If the difference is negative (i.e. if the strike price is lower than the reference price), the Generator will pay the difference to the CfD Counterparty*

- *Please refer to paragraphs 50 to 56 of the Explanatory Notes for more detail on the calculation of the Difference Payment under the draft CfD terms*

How does the RQM impact the Difference Payment in practice?

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- The Generator sells his **total output** in the market in the usual way and receives the corresponding revenue for his **total output**
- He also receives a top-up payment under the CfD contract calculated using the RQM to give price support to his **low-carbon** output (assuming the strike price is above the reference price)
- N.B. Since the RQM is derived from the percentage of low-carbon generation produced by a Generator, the technologies which necessitate a RQM also require agreed Fuel Measurement and Sampling procedures

Example

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Dedicated Biomass with CHP Plant	Solid Fuel (tonnes) (based on weigh-bridge)	Liquid Fuel (litres) (based on tank measure ment)	Energy content per unit of fuel (MJ/tonnes) (based on lab. sample)	Energy content of fuel (MJ)	Biomass derived proportion of fuel	Fossil fuel derived proportion of fuel	Energy content of biomass derived portion of fuel (MJ)	Energy content of fossil fuel derived portion of fuel (MJ)
Fossil fuel used for ancillary purposes (oil for ignition of biomass)		50	40	2,000	0%	100%	0	2,000
Wood pellets from waste wood contaminated with paint and varnishes	5,000		20	100,000	95%	5%	95,000	5,000
Total				**102,000**			**95,000**	7,000

Qualifying Percentage (total energy content of biomass derived fuels divided by energy content of all fuels) = 95,000 / 102,000 = 93%

Renewable Qualifying Multiplier (RQM) = 0.93

Metered Output = total loss-adjusted net metered output x 0.93