

talk power

focus

For generators **Issue 1 2013**



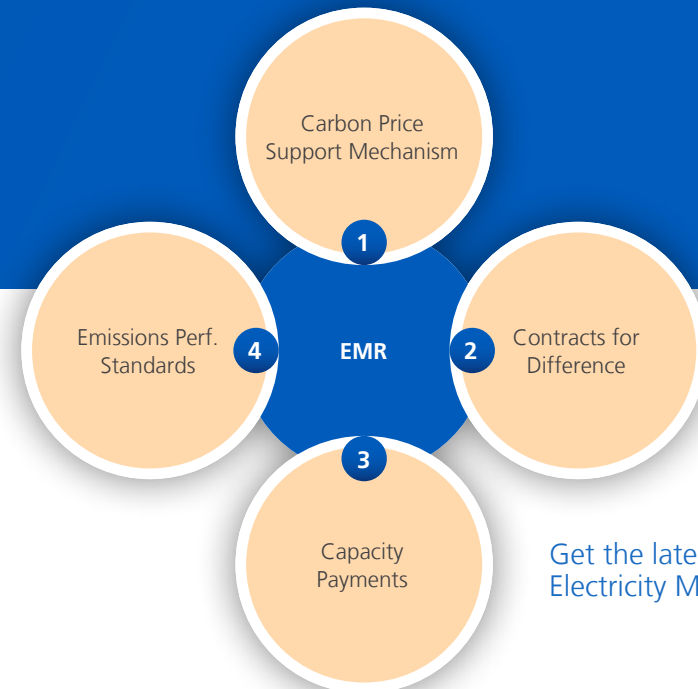
In this edition of Talk Power **focus for generators**

The debate about how sustainability policies will affect electricity generators.

... what are the facts?

Contents

The Electricity Market Reform	page 3
Changes to Renewable Obligation Banding	page 4
New Renewable Obligation Banding	page 5
GHG reporting protocol	page 6
Some factors driving the price of electricity	page 7



Get the latest on the Electricity Market Reform

The Electricity Market Reform - implications for generators

What is happening?

The electricity market in the UK needs to change in order to deliver low carbon electricity affordably and to ensure security of supply. The Government plans to deliver this through changes collectively known as Electricity Market Reform (EMR).

What does it mean for your business?



CFDs will have the biggest impact on businesses that generate low carbon electricity.

- From 2014 new >5MW installations will be eligible for Feed in Tariffs (FIT) with Contracts for Difference (CFD) contracts.
- Installations commissioned between 2014 and 2017 will enter a transition period with either Renewable Obligation (RO) or CFD mechanisms available.
- The RO scheme will not be available for new installations from 01 April 2017.

Update from the Energy Bill

- A government-owned single counterparty will be formed to administer the CFD payments.
- The Government proposes a flexible allocation process to deliver early contract allocation and price certainty for developers.
- Funding of the CFD will be via a supplier obligation.
- The Government has indicated that Energy Intensive Industries (EIIs) are likely to be exempt from paying the Supplier Obligation costs to fund CFDs. This is subject to consultation in 2013.

Potential impact on your future PPA requirements

- Opportunities for new types of contracts - which may be simpler because price certainty will be managed through the CFD mechanism.
- Linking power prices to indexes.
- Reduced credit risk and improved financing opportunities.
- Wider range of potential offtakers including non suppliers.
- More intermittent generation sources mean greater requirements for balancing. This presents opportunities for balancing service/capacity contracts with National Grid.

EMR timeline:

January 2013 Call for Evidence on funding CFD closed.

2013 Consultation on exempting Energy Intensive Industries from paying CFD charges.

May 2013 Final Capacity Market design proposals expected.

July 2013 Draft EMR Delivery Plan expected to be published for consultation, including proposals for renewable CFD strike price.

Q4 2013 Royal Assent to Energy Bill expected.

End 2013 Final EMR Delivery Plan expected.

2014 Energy Bill to be in force. Secondary legislation to implement CFDs and the first capacity market auction expected.



Learn



Watch



Act now

What action do I need to take?

- Monitor progress on EMR; understand the option between RO and CFD until 2017; prepare for EMR implementation.
- Watch out for capacity payment design proposals in May so that opportunities can be investigated.

Find out more

Information about how to benefit from balancing actions by National Grid:
<http://www.nationalgrid.com/uk/Electricity/Balancing/services/STOR/>

Take a look at our EMR fact sheet
www.edfenergy.com/products-services/large-business/understanding-energy/electricity-market-reforms.shtml

Changes to Renewable Obligation Banding

What is happening?

The Renewables Obligation (RO) is currently the main mechanism by which the government enables renewable electricity generation to compete effectively with fossil fuel generation. The long term goal is to achieve around 108TWh/year of large-scale renewable electricity generation in 2020.

DECC has released the first set of scheduled changes to the RO bands (for England and Wales).



Changes will come into force for new installations from 01 April 2013.

For a summary of all the changes, see page 5. From 1 April 2015 new installations with CHP will not be eligible to receive the Renewable Obligation Certificate (ROC) uplift for the heat they generate. The Renewable Heat Incentive (RHI) will become the financial instrument for heat generated from CHP. Installations that do not qualify for RHI will continue to be eligible for the RO. Details are being finalised by DECC.

What does it mean for your business?

DECC has introduced a specific band for biomass conversion plants and reduced the level of support available. Construction of dedicated biomass generators will continue to receive the same support.

Other changes for biomass include;

- Creation of new co-firing bands offering different degrees of RO support. Existing accredited co-fired generators will be moved to the appropriate new band.

- Mid and high-range co-firing generators will benefit from grandfathering, while low-range plants will not.
- RO accreditation will be considered on a unit-by-unit basis, and not based on the entire output of a station.
- Another consultation on ROCs for biomass will take place if a non-legislative 400MW generator cap is reached.

Changes to offshore and onshore wind turbines

- Reduction in support for offshore and onshore wind to reflect expected reductions in the cost of construction.
- A call for evidence is taking place regarding onshore wind generation costs. Generators accredited before April 2014 are guaranteed to be unaffected by any changes made; other projects that have already received significant financial commitment will be protected from the changes.

Changes to solar photovoltaic (PV)

- Building mounted and ground mounted categories introduced. Building mounted Solar PV will receive more ROCs than ground mounted to help compensate for a smaller load factor.
- Both categories will receive a lower rate of support than before April 2013.
- The option to choose RO or Feed In Tariff (FIT) support for generator capacities between 50kW - 5MW is still open for Solar PV installations.



Learn



Watch



Act now

What action do I need to take?

Businesses with biomass

- Gain clarity from Ofgem on which co-firing band (low, mid, high) you are eligible for from April 2013.
- Consider co-firing vs. biomass conversation in light of the RO re-banding.
- If you have CHP, investigate the impacts of RHI for new installations.

Businesses with offshore and/or onshore wind turbines

- Understand the risks to your business plan if your construction programme slips.

Businesses with solar PV

- Review business cases in light of reduced RO support.
- Be more selective on the location of your Solar PV to maximise financial rewards.

Find out more

Read about the RO banding consultation <https://www.gov.uk/government/consultations/supporting-large-scale-renewable-electricity-generation>

Visit the Ofgem website for information on RHI <http://www.ofgem.gov.uk/e-serve/RHI/Pages/RHI.aspx>

New Renewable Obligation Banding

Pre April 2013 Bands	2012/13 ROCs	GF?	Post April 2013 Bands	2013/14 ROCs	2014/15 ROCs	2015/16 ROCs	2016/17 ROCs	GF?
Standard Gasification	1	Y	Advanced Conversion Technologies (ACT), exempt from the bioliquid cap	2	2	1.9	1.8	Y
Standard Pyrolysis	1	Y						
Advanced Gasification	2	Y						
Advanced Pyrolysis	2	Y						
Anaerobic digestion	2	Y	Anaerobic digestion	2	2	1.9	1.8	Y
Dedicated biomass (includes conversion)	1.5*†	N	Biomass Conversion (inc. bioliquids (4%bioliquid supplier cap))	1*	1*	1	1	Y
After uplift the entitlement is capped:	2		Dedicated biomass (includes bioliquids) (400MW generator cap, generators with CHP excluded from the cap)	1.5*†	1.5*†	1.5†	1.5†	Y
			After uplifts dedicated biomass entitlement is capped:	2	2	1.9	1.8	
Co-firing of biomass (12% supplier cap)	0.5*†	N	Co-firing of biomass (standard) < 50% includes bioliquids	0.3*^	0.3*^	0.5	0.5	N
			Co-firing of biomass (enhanced - mid-range) 50-85%	0.6*	0.6*	0.6	0.6	Y
			Co-firing of biomass (enhanced - high-range) >85% - <100%	0.7*^	0.9*	0.9	0.9	Y
Landfill Gas	0.25	Y	Landfill gas - open landfill site	0	0	0	0	Y
			Landfill gas - closed landfill site	0.2	0.2	0.2	0.2	Y
			Landfill gas - Waste Heat to Power (open and closed sites)	0.1	0.1	0.1	0.1	Y
Sewage Gas	0.5	Y	Sewage gas	0.5	0.5	0.5	0.5	Y
Energy from Waste with CHP	1	Y	Energy from waste with CHP, exempt from the bioliquid cap	1	1	1	1	Y
Geopressure	1	Y	Geopressure	1	1	1	1	Y
Geothermal	2	Y	Geothermal	2	2	1.9	1.8	Y
Hydro-electricity	1	Y	Hydro-electricity (Scotland: entitlement is 1)	0.7	0.7	0.7	0.7	Y
Microgeneration (>50kW)	2	Y	Microgeneration (<50kW), exempt from the bioliquid cap	2	2	1.9	1.8	Y
Offshore wind	2	Y	Offshore wind (Scotland: consulting on a new floating band)	2	2	1.9	1.8	Y
Offshore wind	1	Y	Onshore wind (reviewing entitlement. Outcome: early 2013)	0.9	0.9	0.9	0.9	Y
Solar PV	2	Y	Solar PV (building mounted)	1.7	1.6	1.5	1.4	Y
			Solar PV (ground mounted)	1.6	1.4	1.3	1.2	Y
Tidal impoundment – tidal barrage	2	Y	Tidal impoundment – tidal barrage	2	2	1.9	1.8	Y
Tidal impoundment – tidal lagoon	2	Y	Tidal impoundment – tidal lagoon	2	2	1.9	1.8	Y
Tidal-stream	2^	Y	Tidal -stream (first 30MW)	5	5	5	5	Y
			(power over the first 30MW)	2	2	2	2	Y
Wave	2^	Y	Wave (first 30MW)	5	5	5	5	Y
			power over the first 30MW	2	2	2	2	Y

^Exception to normal grandfathering rules, generators accredited in this compliance year will be uplifted to the following year's entitlement when it begins.

Note: in Northern Ireland entitlements for generators with capacities under 5MW may differ for anaerobic digestion, hydro, onshore wind and PV technologies.

GF = Grandfathered

* CHP 0.5ROCs/MWh uplift available

† Energy crop 0.5ROCs/MWh uplift available

Table is up to date as of January 2013

GHG reporting protocol

What is happening?

In 2012, DEFRA confirmed plans to require UK listed companies to report their carbon emissions as part of their annual reporting process. This requirement comes into effect in October this year and covers businesses listed on any UK, European or US exchange.

Those businesses affected must report emissions within their normal Companies House financial reporting parameters and justify their choice of reporting standard.

Businesses will need to consider which choice of Greenhouse Gas (GHG) reporting standard best suits their requirements. For UK reporting the most common and credible standards are the WRI GHG Protocol and DEFRA's UK Guidance to using the WRI GHG Protocol.

Treatment of direct emissions are almost identical in the two protocols. For indirect emissions relating to energy consumed on-site but generated elsewhere the WRI encourages the use of source or supplier specific emission rates provided certain criteria can be met.

By contrast DEFRA recommends the use of a five year rolling grid average, meaning end consumers are unable to report emission reductions based on supply contracts.

Companies that have invested in off-site generation, chosen low carbon supply contracts or are internationally based will need to consider if the WRI GHG Protocol is more appropriate for their businesses. Any claims made based on lower emission rates will need to be carefully justified.

What does it mean for your business?

Companies who need to comply with this new requirement will have an increased focus on the sustainability of their business and this will increase interest in how they can manage and reduce their emissions most effectively. For a variety of reasons many companies will have a limited scope for reducing energy consumption and will focus on ways of reducing their emission rate.

If you are required to report your carbon emissions or are a direct supplier to a business captured under this new requirement you can expect to provide more detailed information on your carbon emissions.

Companies who wish to manage their indirect emissions will also be increasingly interested in methods to lower their emission rate through their choice of supplier or by establishing more direct relationships with generators.

“This will create a “pull” demand for verifiable low carbon energy

Generators need to be aware that appropriate reporting standards can make existing business demand for low carbon energy more tangible and increase the demand for all kinds of low carbon and sustainable generation.



Learn



Watch



Act now

What action do I need to take?

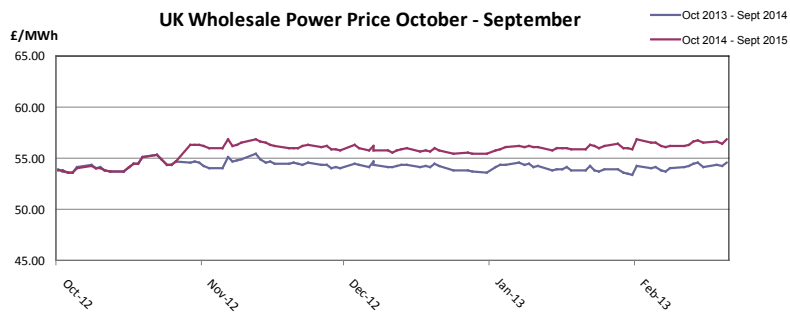
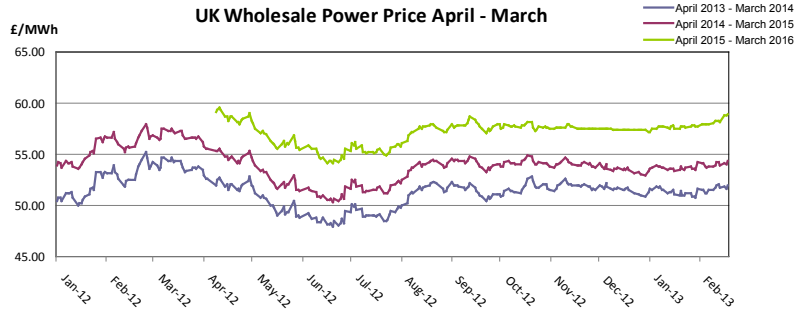
- Find out more about the DEFRA and WRI GHG Protocols and understand how this may help create demand for your energy.
- When the WRI GHG Protocol Scope 2 proposals are put out to consultation contribute to the consultation on your own account or through a trade association.

Find out more

View the World Resources Institute's Greenhouse Gas Protocol guidelines:
<http://www.ghgprotocol.org/>

Visit DEFRA's website for more information:
<http://www.defra.gov.uk/environment/economy/business-efficiency/reporting>

Some factors driving the price of electricity



Recent Developments

Most energy commodities broadly trending sideways

- Non-OPEC oil production was at 43.9mbpd in October, the highest level since November 2010
- US shale oil production reached a 19-year high at 7mbpd in October
- Concerns remain that Eurozone economic weakness is spreading to the US and developing economies
- Geopolitical tensions in the Middle East remain at the forefront of market concerns

US LNG growth plans

The Obama administration looks set to approve more LNG export licences following a report that concluded exports would be a net benefit to the economy

- Two out of five trains at Cheniere's Sabine Pass are now under construction with the first expected to be online late 2015
- 15 more applications for liquefaction facilities have been submitted



Learn



Watch



Act now

What does it mean?

- Strong North American oil production has reduced imports to their lowest levels since 1997. This has enabled European refiners to re-build their stocks from 10-year lows in 2011.
- Reduced LNG availability to the UK will require gas to be taken from storage (currently 40% full, slightly down in 2012) and is likely to trigger imports from Europe via the interconnector, IUK.
- UK NBP prices will need to be competitive compared to those in Continental Europe to attract higher LNG imports.
- The growth of US LNG production is being supported by the US Government, meaning production is likely to continue to rise.

Find out more

Understand more about wholesale market movements, register to access our free insight portal and listen to monthly broadcasts from our experts.

www.edfenergy.com/market-insight

Legal Disclaimer

- The material in this presentation is provided for information purposes only. It is provided solely for the information of the recipient and should not be reproduced, copied or circulated to any other party. It does not constitute or shall be deemed to constitute:
 - the provision of financial or other advice; and/or
 - making an offer or recommendation to invest or otherwise deal in shares or any other securities or to enter into any other transaction.
- EDF Energy does not represent or warrant that the information provided is accurate, comprehensive, up-to-date, verified or complete, and shall have no liability whatsoever for the accuracy of the information or for omission therein or for any reliance placed on the information or use made of it by any person.
- This presentation may incorporate information provided to EDF Energy by third party sources, including (without limitation) market reports. EDF Energy provides no representations or warranties, and shall have no liability, as to the accuracy or completeness of information from those sources.
- The figures presented are merely indicative and cannot be and are not guaranteed and are not binding in any way. Anyone participating in this presentation should take appropriate steps to verify the information and opinions contained within it and seek their own independent advice (financial or otherwise) before acting upon anything contained within it.
- EDF Energy shall not be liable for any claims or losses of any nature (including, without limitation, punitive or indirect or consequential loss or damages, or any loss of income, profits, goodwill, data, business opportunity, contracts, or damages arising from any business interruption, arising indirectly or directly, whether in tort, contract or otherwise, from access to or use of the information or otherwise howsoever arising (except to the extent required by law). Nothing in this document shall exclude or limit EDF Energy's liability for death or personal injury caused by negligence or any liability for fraud.