

Electricity Market Reform 2016

The Electricity Market Reform (EMR) was issued by the UK government as a potential solution to the nation's core energy problems which include; keeping energy costs low, improving supply security and reducing carbon emissions.

The EMR aims to offer organisations incentives to help generate £110bn which will be used to upgrade and improve the UK's electricity infrastructure. These up grades will help improve the transportation of renewable energy across the national grid and so reduce the UK's reliance on fossil fuels and foreign imports.

The reform saw the introduction of two new market mechanisms:

- 1) The Contract For Difference (CfD) – regulated by The Levy Control Framework (LCF)
- 2) The Capacity Market

The Contract for Difference (CFD)

These charges will help incentivise renewable energy generation.

Low carbon energy generators have been offered a compulsory 15 year contract which will see them receive a fixed rate for the electricity they supply; should the wholesale price exceed this rate the generator will then be required to pay the difference.

Consumers will also receive additional security against supply shortages with the implementation of the capacity market which will provide generators with a competitive auction.

This will be achieved with the use of peak demand forecasts devised by the National Grid which will provide successful bidders with a predictable revenue stream for the capacity they supply.

The Capacity Market (CM)

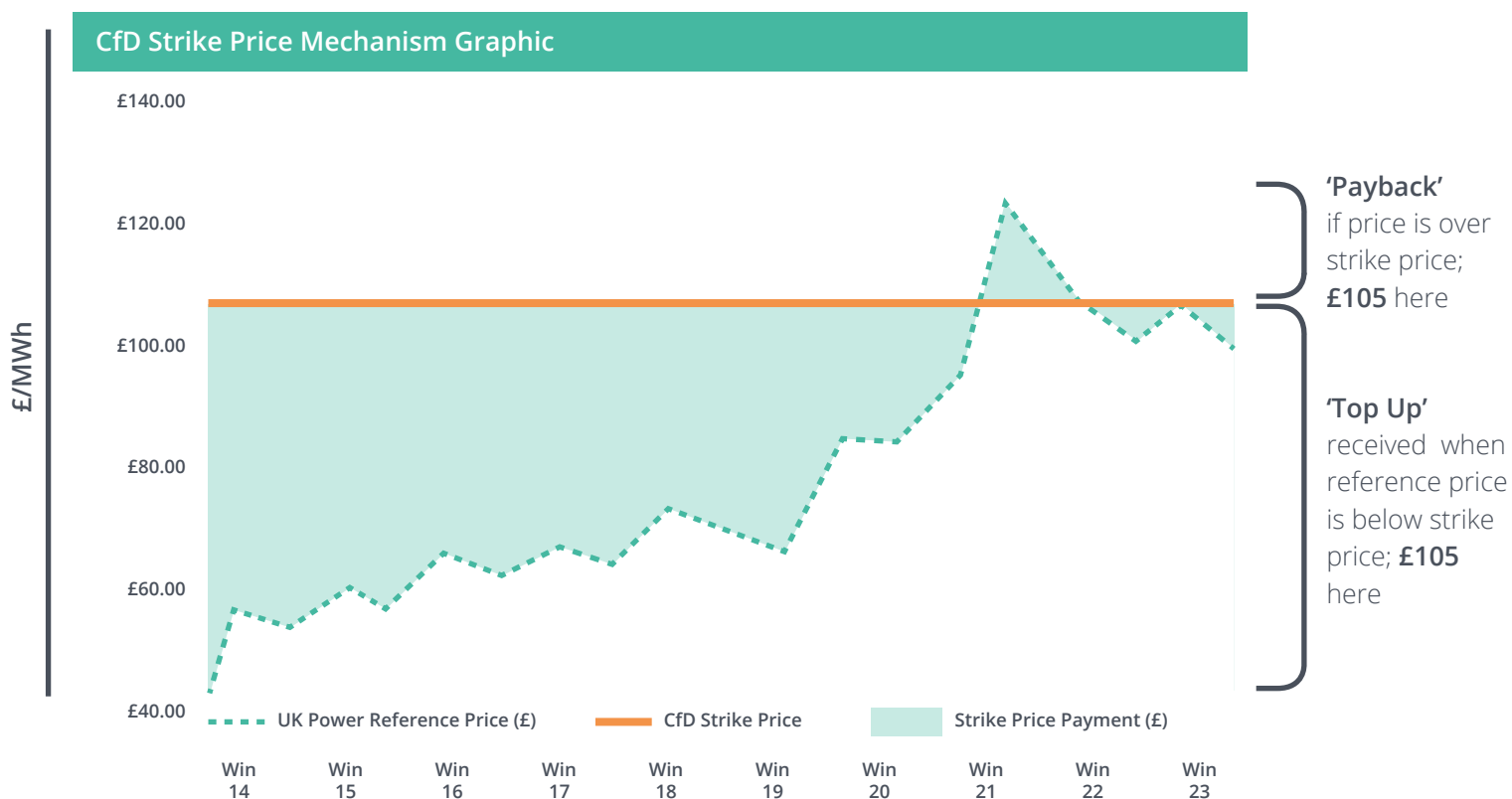
This intends to protect the consumer against supply shortages.

A long-term reliability standard will generate a demand curve prior to each capacity auction. This reliability standard will also set a level of resource adequacy that the Capacity Market needs to deliver to ensure demand can be met.

The Standard is expressed as a Loss of Load Expectation (LOLE) and the UK Electricity Market LOLE is currently 3 hours/year – a system security level of 99.97%.

Contract for Difference (CfD)

CfD's are the EMR's instrument for securing a revenue stream for renewable infrastructure in the UK. This scheme came into effect in 2015. Following the first round of allocation in March 2015, the Low Carbon Contracts Company (LCCC), who are the counterparty to CfDs, awarded 27 CfD contracts & 14 Investment Contracts.



Achieved By

Low Carbon Generators who have an agreed CfD contract in place are gaining an additional fixed price for selling electricity to the grid on top of their normal selling revenue. This 'top up' is the Strike Price.

Operation

Low Carbon Generators were offered 15 year contracts in the first allocation round, with the second round of generators have now been allocated contracts as of March 2016. Throughout these contracts they will receive the 'top up' revenue from the strike price allocated for each method of renewable energy generation.

Raising Strike Price Revenue

In order to raise capital for strike price costs, energy suppliers are financially obliged to support the scheme. This means that the CfD mechanism is now included on your electricity invoices - either as a pass through charge or incorporated into your price per unit (kWh). The revenue collected is re-distributed to low carbon generators whose capacity exceeds 5MW.

CfD's will eventually replace the Renewable Obligation (RO) which closes to new projects in 2017 - Generation capacity may only receive support from one of these schemes.

Contract for Difference (CfD)

CfD Strike Prices

The CfD charges are integrated into your electricity bills, either as a pass through charge or built into your unit rate. The money collected via this additional charge is redistributed across low carbon electricity generators whose capacity exceeds 5MW.

The Renewable Obligation (RO) currently operates alongside the CfD charge, however the RO will eventually be phased out.

The Strike Prices are designed to provide the impetus for renewable electricity generation to make up to 30% of the UK energy mix by 2030. This will be achieved through the construction of ~11GW of wind (both onshore & offshore).

George Osborne announced in his 2016 Budget that £730 million has been dedicated to the next phase of the CfD auctions, which will target wind generation and 'other less established renewables'.

Who Pays?

CfD is compulsory – it has been proposed however that Energy Intensive Industries (EIIs) will be exempt for a proportion of the costs from April 2017.

Current forecasts suggest that CfD charges will increase to £10/MWh in 2020.

Project	Strike Prices £/MWh (2012 Constant Prices)				
	14/15	15/16	16/17	17/18	18/19
Advanced Conversion Technologies (with/without CHP*) 155	155	155	150	140	140
Anaerobic Digestion (with/without CHP)	150	150	150	140	140
Biomass Conversion	105	105	105	105	105
Dedicated Biomass (with CHP)	125	125	125	125	125
Energy from Waste (with CHP)	80	80	80	80	80
Geothermal (with/without CHP)	145	145	145	145	145
Hydro-Electric	100	100	100	100	100
Landfill Gas	55	55	55	55	55
Large Solar Photo-Voltaic	120	120	115	110	100
Offshore Wind	155	155	150	140	140
Onshore Wind	95	95	95	90	90
Scottish Islands Onshore	-	-	-	115	115
Sewage Gas	75	75	75	75	75
Tidal Stream	305	305	305	305	305
Wave	305	305	305	305	305

*Combined Heat and Power Maximum Strike Prices for Projects Commencing in each time band

Capacity Market (CM)

The Department of Energy & Climate Change (DECC) has recently announced changes to the Capacity Market Auction. The intention is to bring the auctions forwards by one year.

Aim

This mechanism has been developed to protect the UK against winter supply shortages by providing remuneration to capacity providers who in turn ensure enough capacity is available to meet demand.

Achieved By

Capacity providers will bid to enter a contractual commitment where they will agree to provide reliable capacity. They will receive predictable revenue, and potential rewards for over-delivery. Once a provider has entered into this agreement, financial penalties will be incurred for non-delivery.

There is a secondary market which enables capacity agreements to be traded. This aids risk management as providers can adjust their obligations accordingly.

2016 Updates

Two Auctions have already been carried out to secure capacity for Winter 2018/19 & 2019/20, however the government is planning to auction capacity in January 2017 for delivery in Winter 2017/18. The UK's coal-fired power plants are set to be shut down by 2025 so it is hoped that by bringing this auction forward it will encourage new capacity to come online and be secured.

Initial forecasts show that this additional auction may result in £1.25 billion of extra costs, these will need to be recovered from the end user through the CM Settlements Costs Levy.

By introducing the Capacity Market earlier than originally intended, the government believes they will manage the increased risks of the transition away for coal.

Supporting Mechanisms

The key elements of the EMR are the Contracts for Difference (CfDs) and the Capacity Market. These are currently being supported by the following mechanisms.

The Carbon Price Floor

Introduced in April 2013, this is a tax which ensures generators pay for their carbon emissions within the UK.

Prices follow those published for the EU Emission Trading Scheme (ETS) and look to provide an impetus for low-carbon investment.

Emissions Performance Standard (EPS)

As part of the EMR an EPS will be served on all new fossil fuel plants with an electric capacity of 50MW or higher to limit their annual carbon emissions.

This represents an annual CO₂ baseload limit of 450g/kWh.

Electricity Demand Reduction (EDR)

The EMR is providing incentives for efficient or reduced use of electricity during peak times.

This ties in with the Capacity Market auctions.

Market Liquidity

Ofgem introduced new regulatory requirements to promote liquidity in 2014 in an attempt to increase competition. These new requirements boost incentives for active demand side response and increase the interconnectivity of the market.

Transitional Arrangement Divisions

These involve arrangements for the transition between the Renewables Obligation (RO) and the CfD, alongside other measures to improve the route to market for potentially smaller, independent renewable generators.

There are also efforts to build up the Demand Side Balancing Reserve (DSBR) which enables consumers to offer demand reduction services to the National Grid.

Further Questions? Please call

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