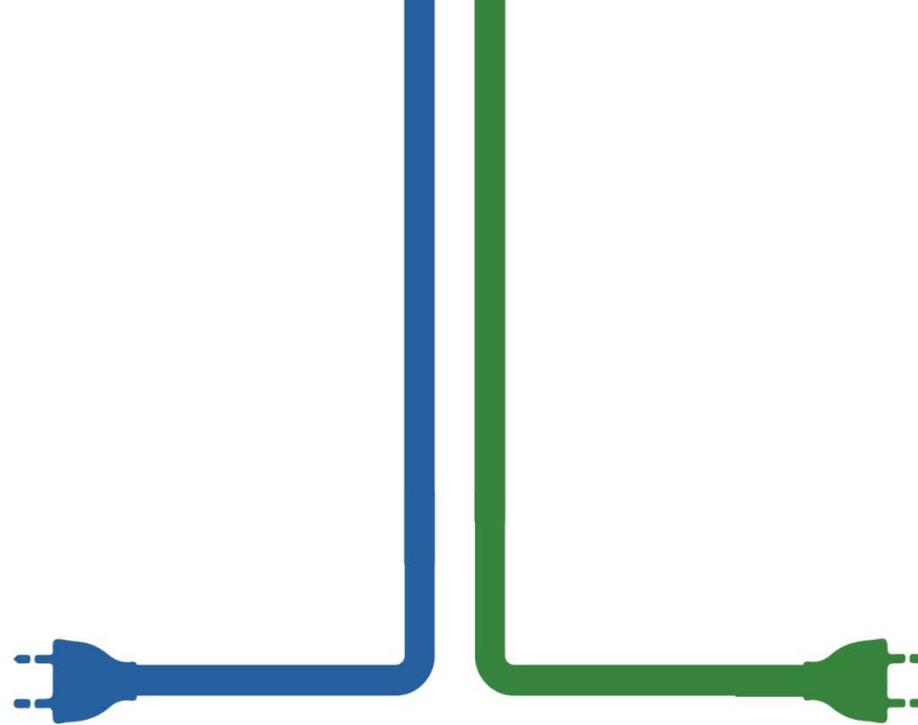


WELCOME





EMR: WORKING OUT YOUR COSTS

An EMR made simple webinar





The Capacity Market in a nutshell



Can the UK generate enough electricity for everyone, all the time?





The Capacity Market in a nutshell



Can the UK generate enough electricity for everyone, all the time?



“ The Capacity Market will ensure security of electricity supply by providing a payment for reliable sources of capacity. ”





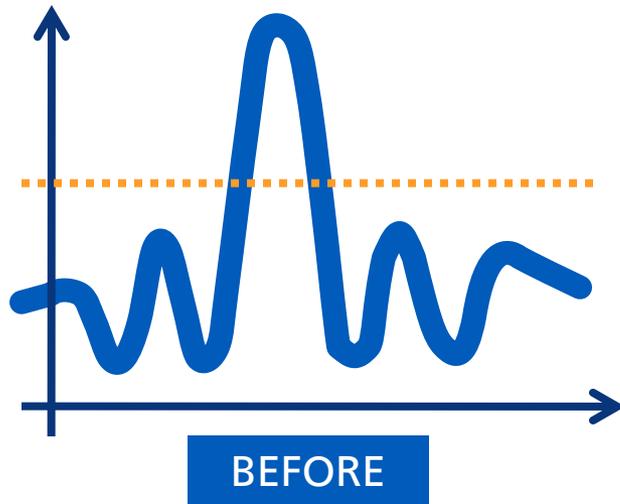
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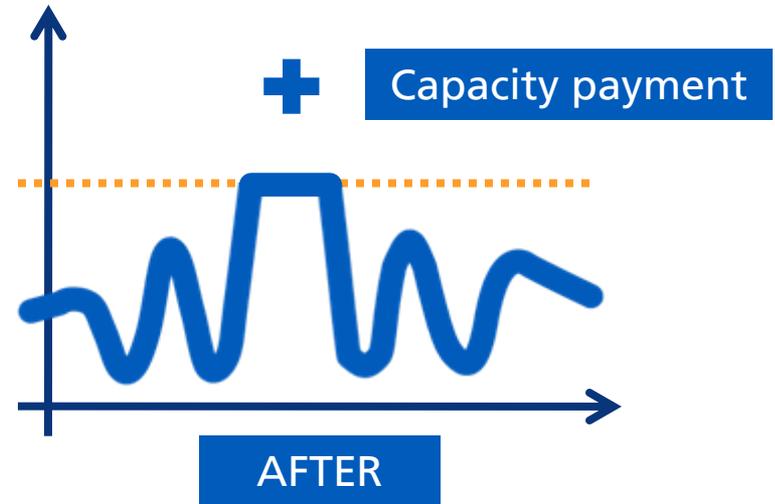
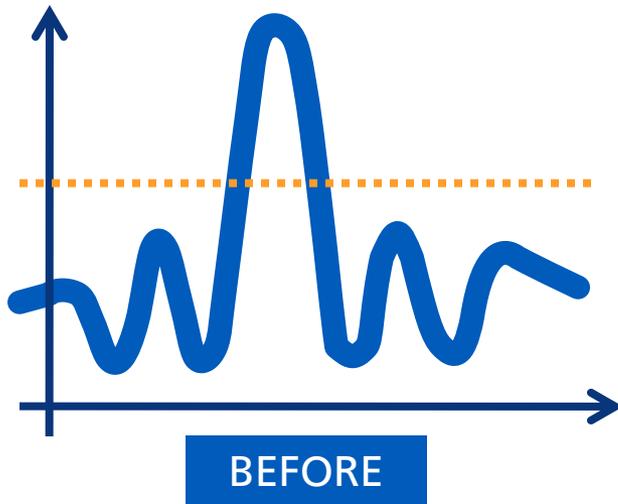
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Contracts for Difference in a nutshell



Can the UK meet its targets for reductions in carbon emissions?





Contracts for Difference in a nutshell



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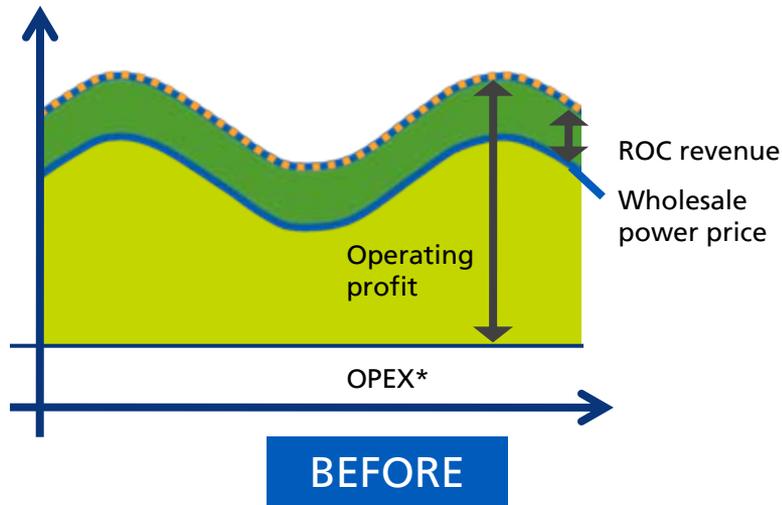
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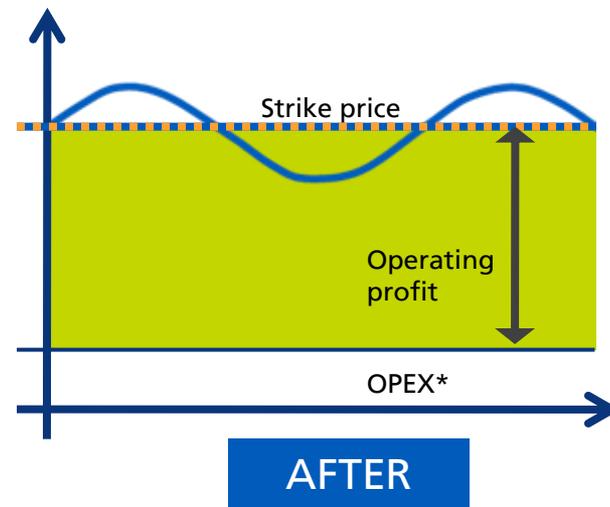
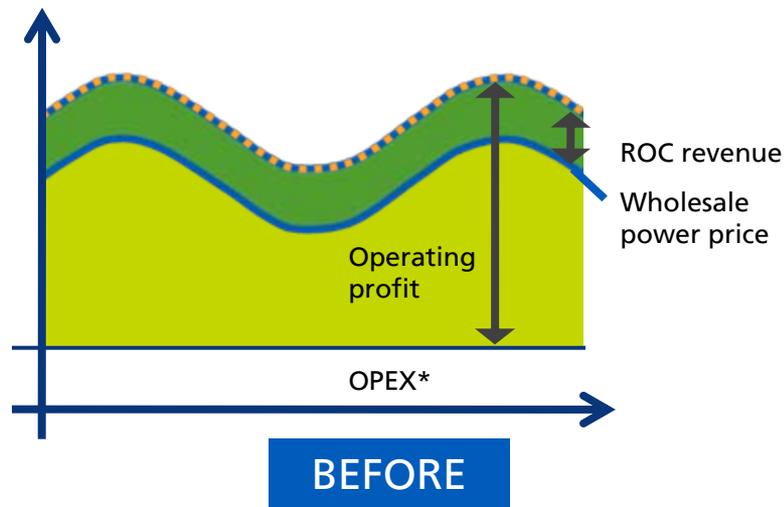
Contracts for Difference in a nutshell



Can the UK meet its targets for reductions in carbon emissions?



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* Includes fuel and maintenance costs, depreciation etc





EMR timetable

EMR passed
into law

1 Aug
2014





EMR timetable

EMR passed
into law

1 Aug
2014

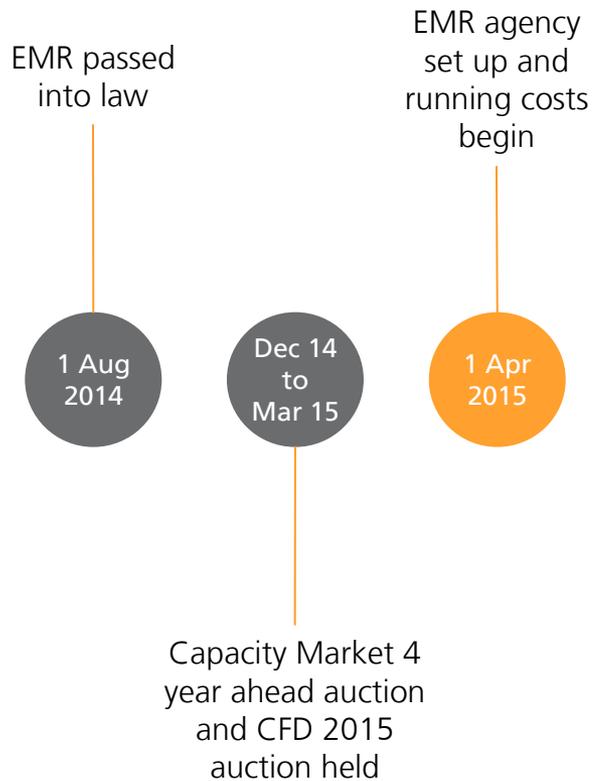
Dec 14
to
Mar 15

Capacity Market 4
year ahead auction
and CFD 2015
auction held



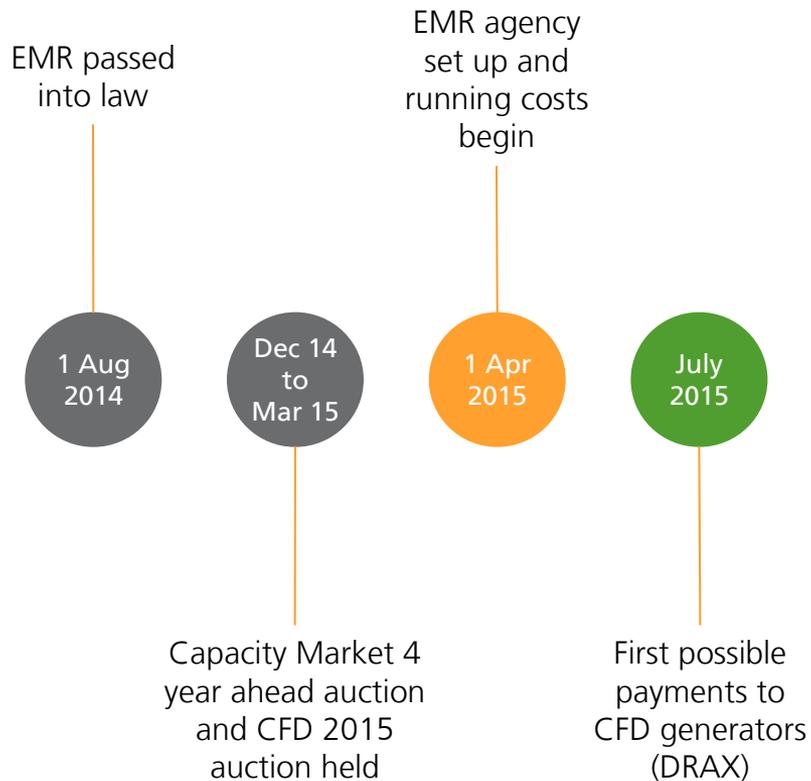


EMR timetable



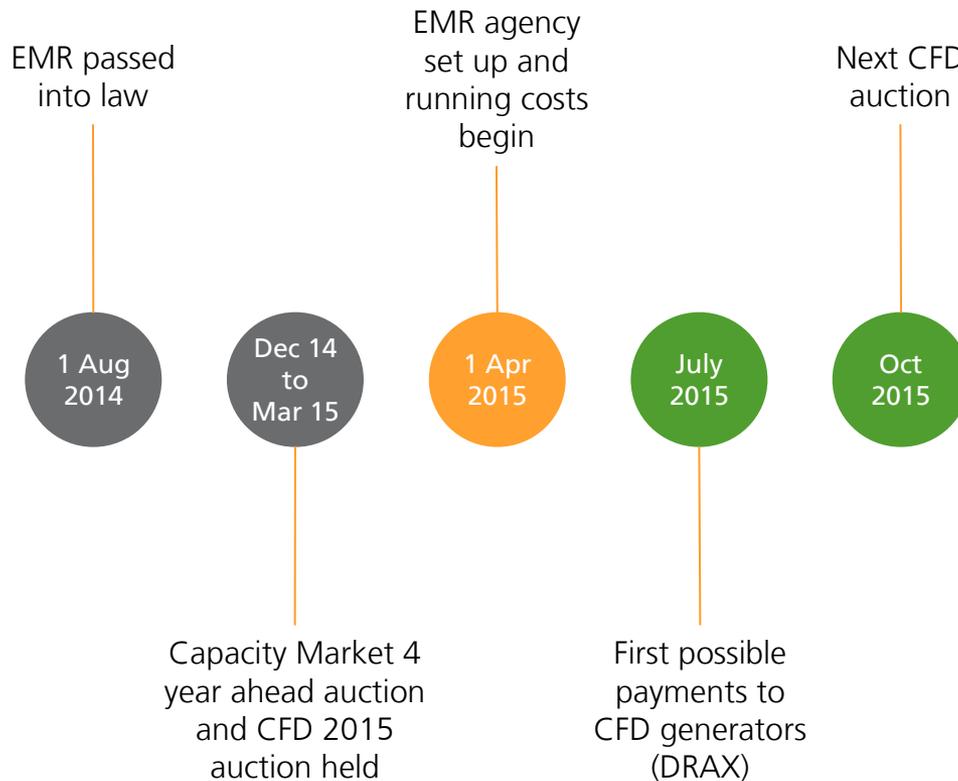


EMR timetable



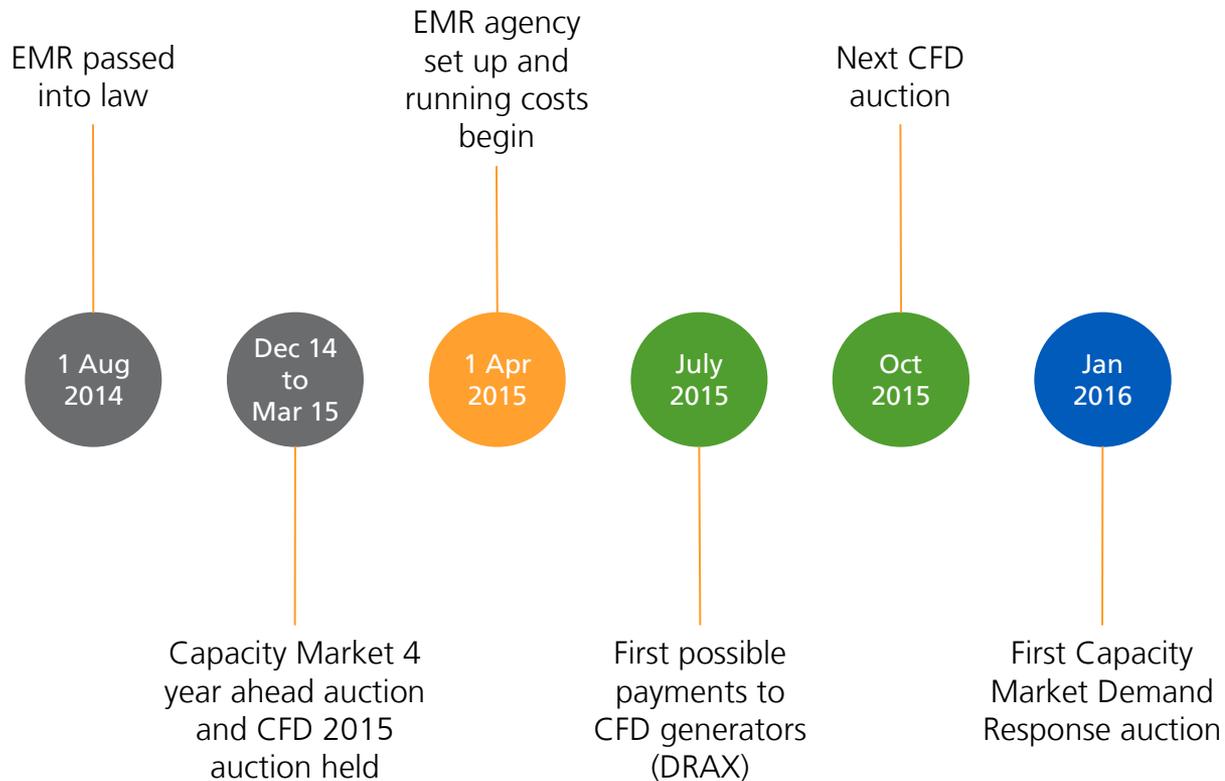


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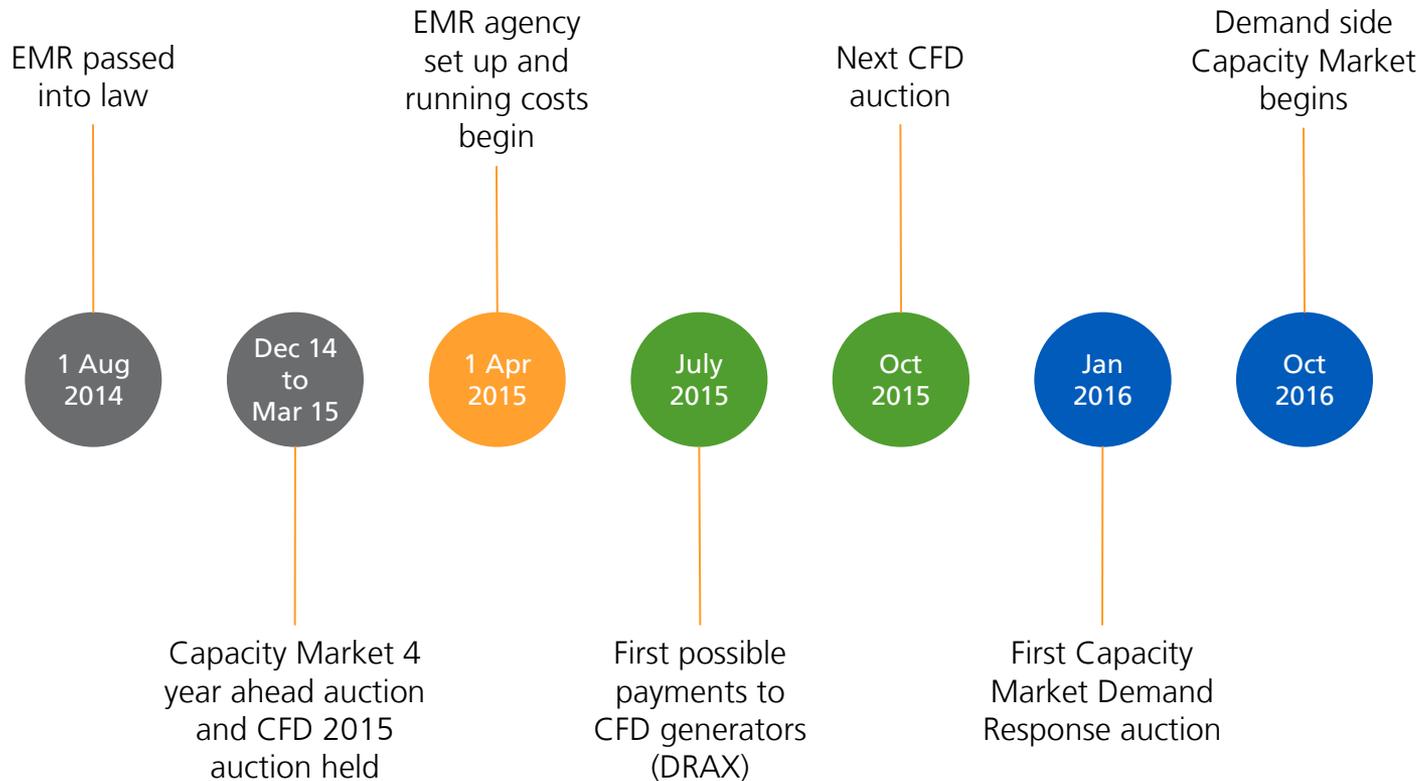


EMR timetable



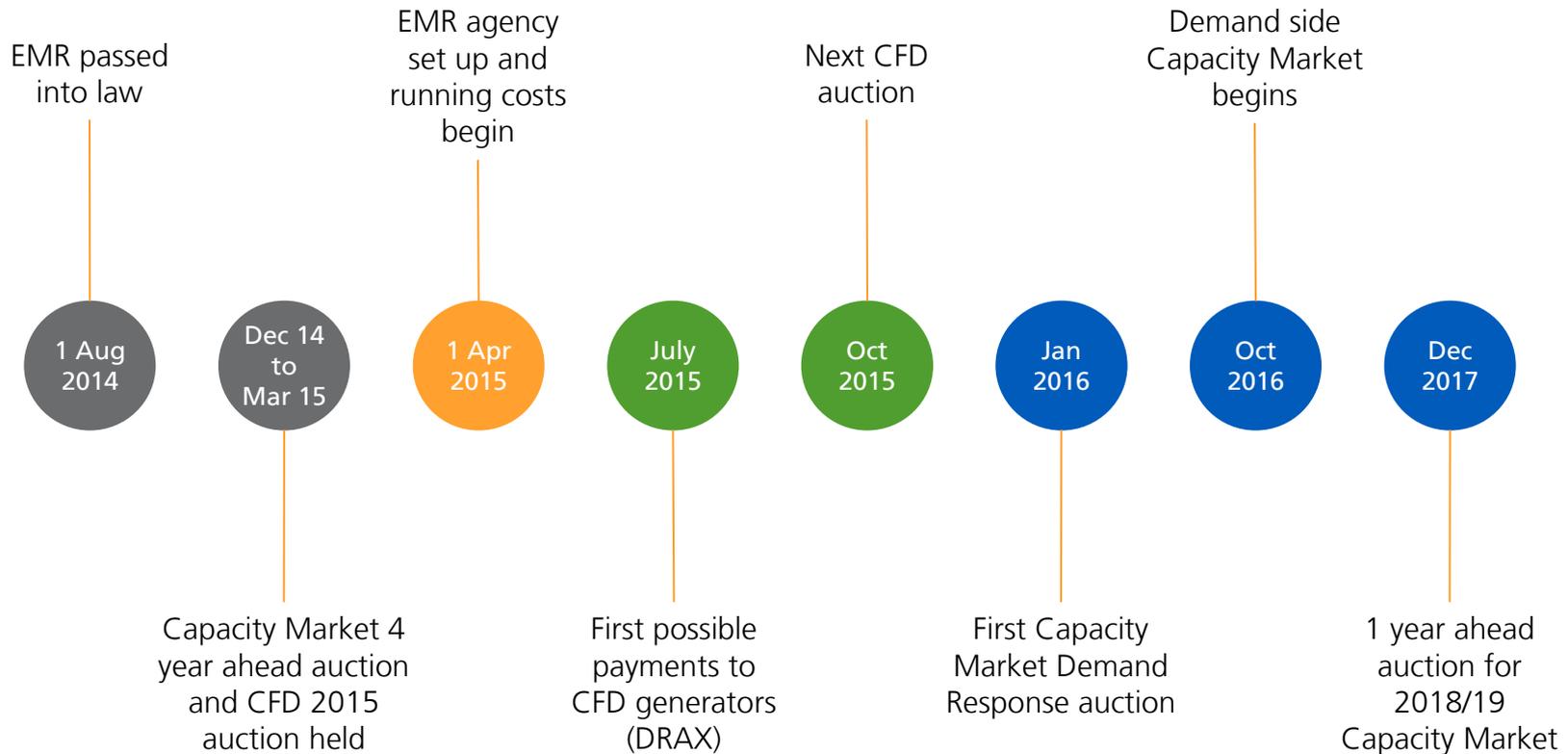


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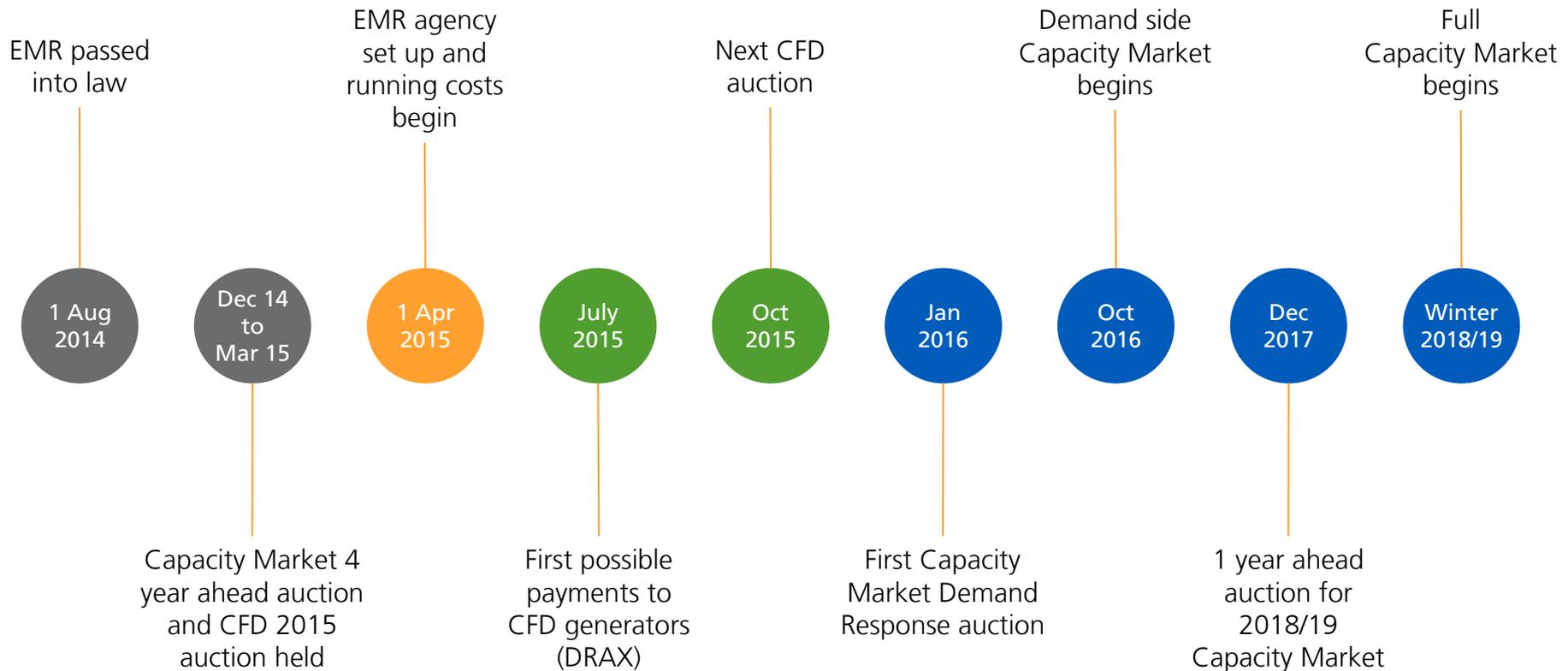


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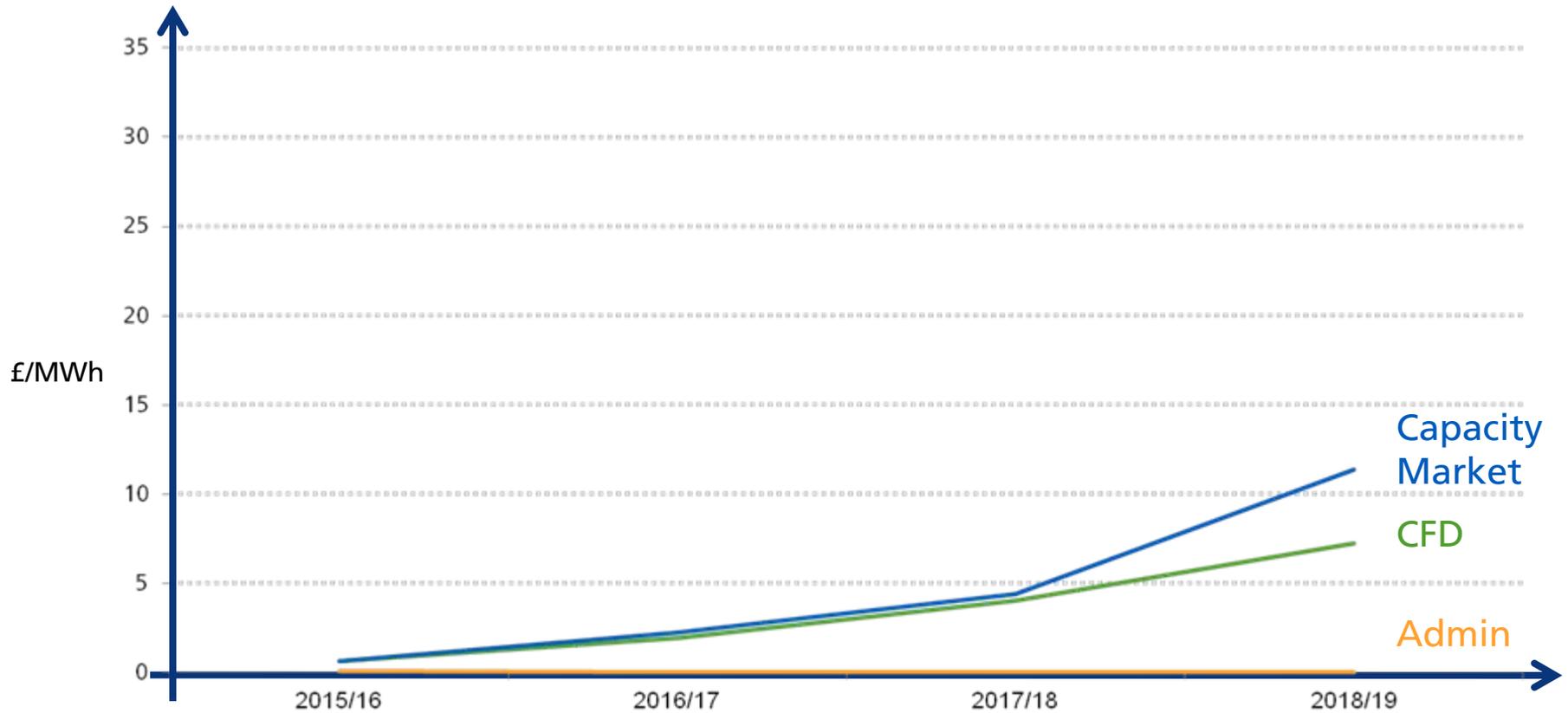


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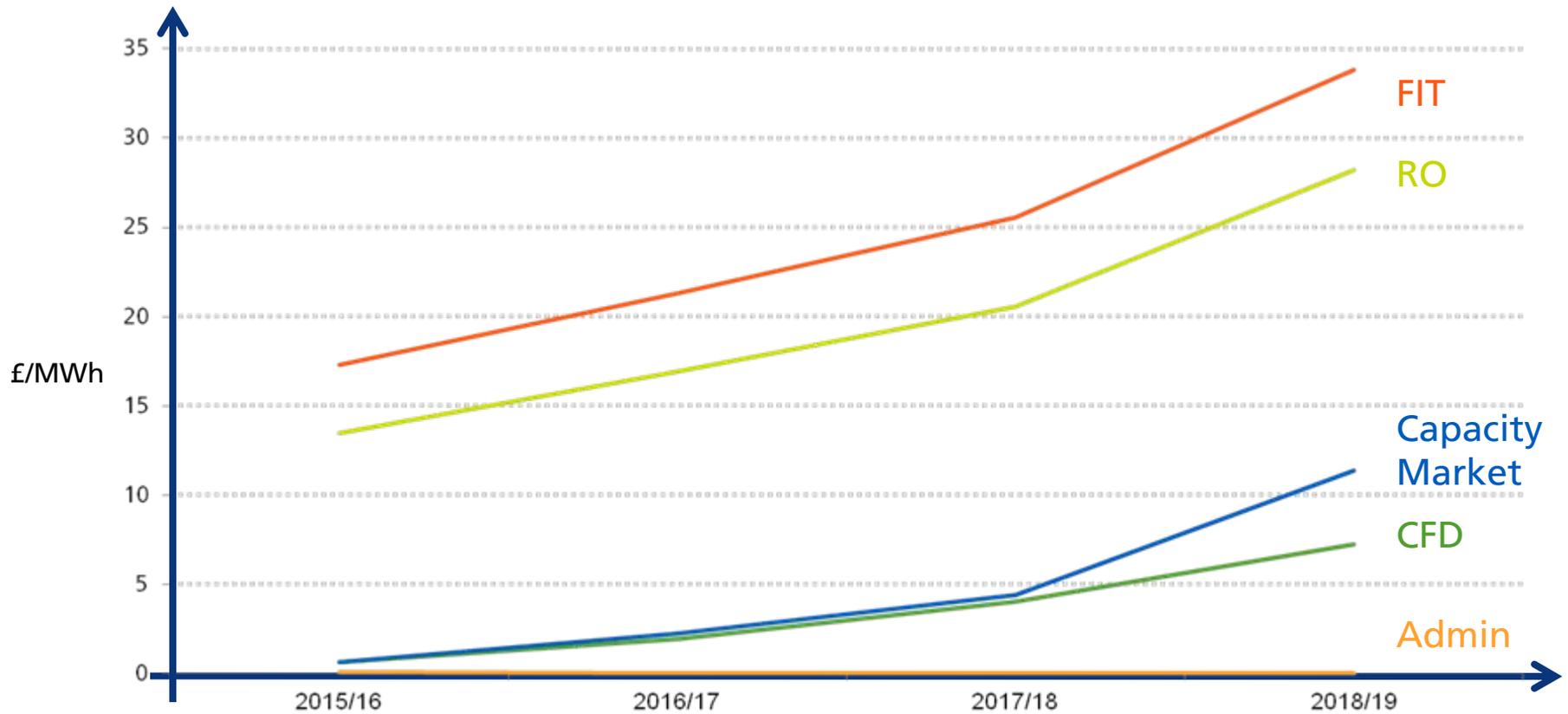


Our view of the costs





Our view of the costs





The admin costs



Set up
costs

Running
costs





Capacity Market Supplier Charge (CMSC): The auction results

Through the auction, government has procured 49.26GW of capacity at a clearing price of £19.40kW. This will cost a total of £0.96bn (in 2012 prices), which works out at around £11 for the average household.

However, previous modelling shows us that if a bill payer looked back over their bill in 2030 for the last 15 years then the impact of the Capacity Market would average out at £2 on their annual bill (in 2012 prices).

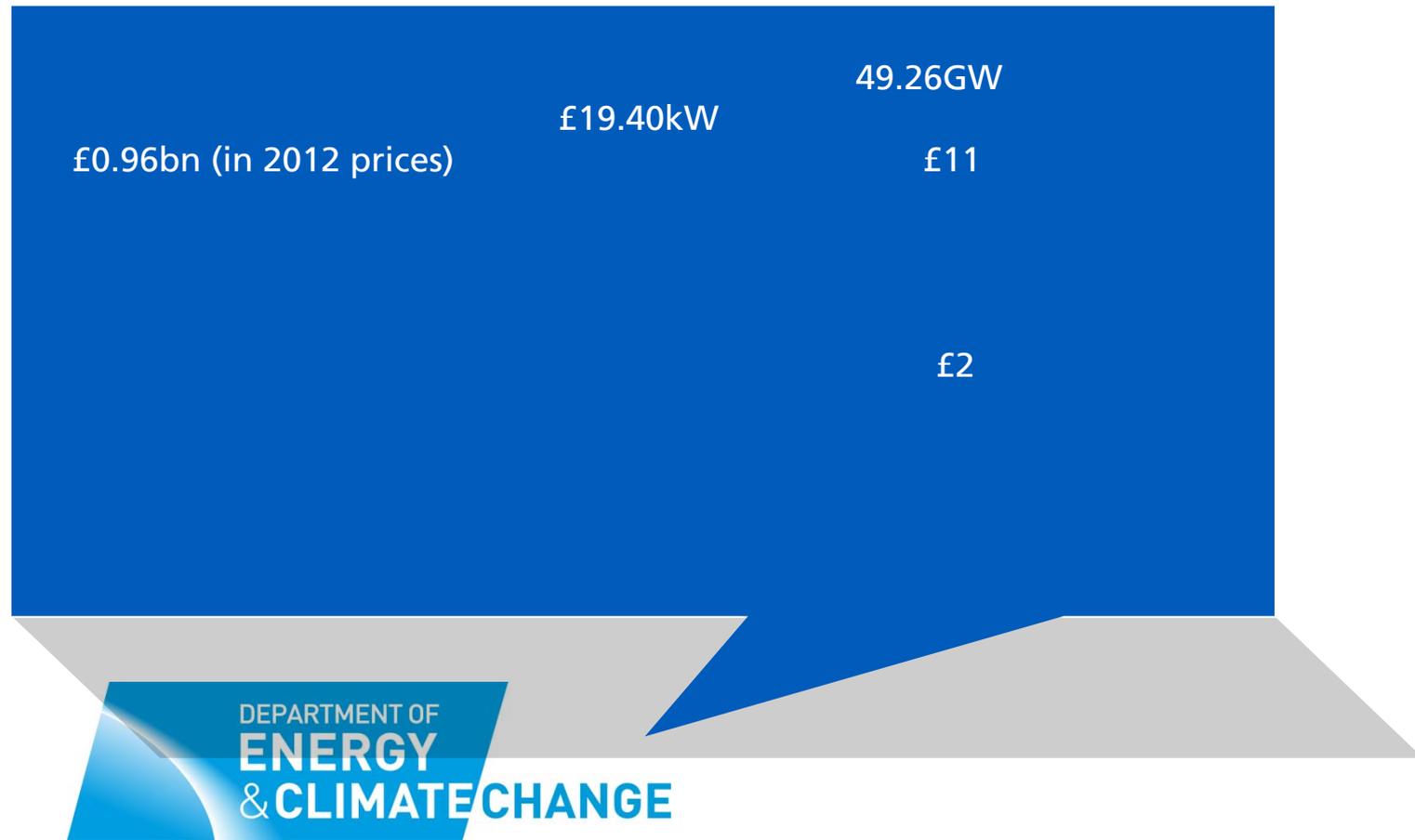
This is because we expect average wholesale prices to come down with the security of a capacity market, compared to a world without one.

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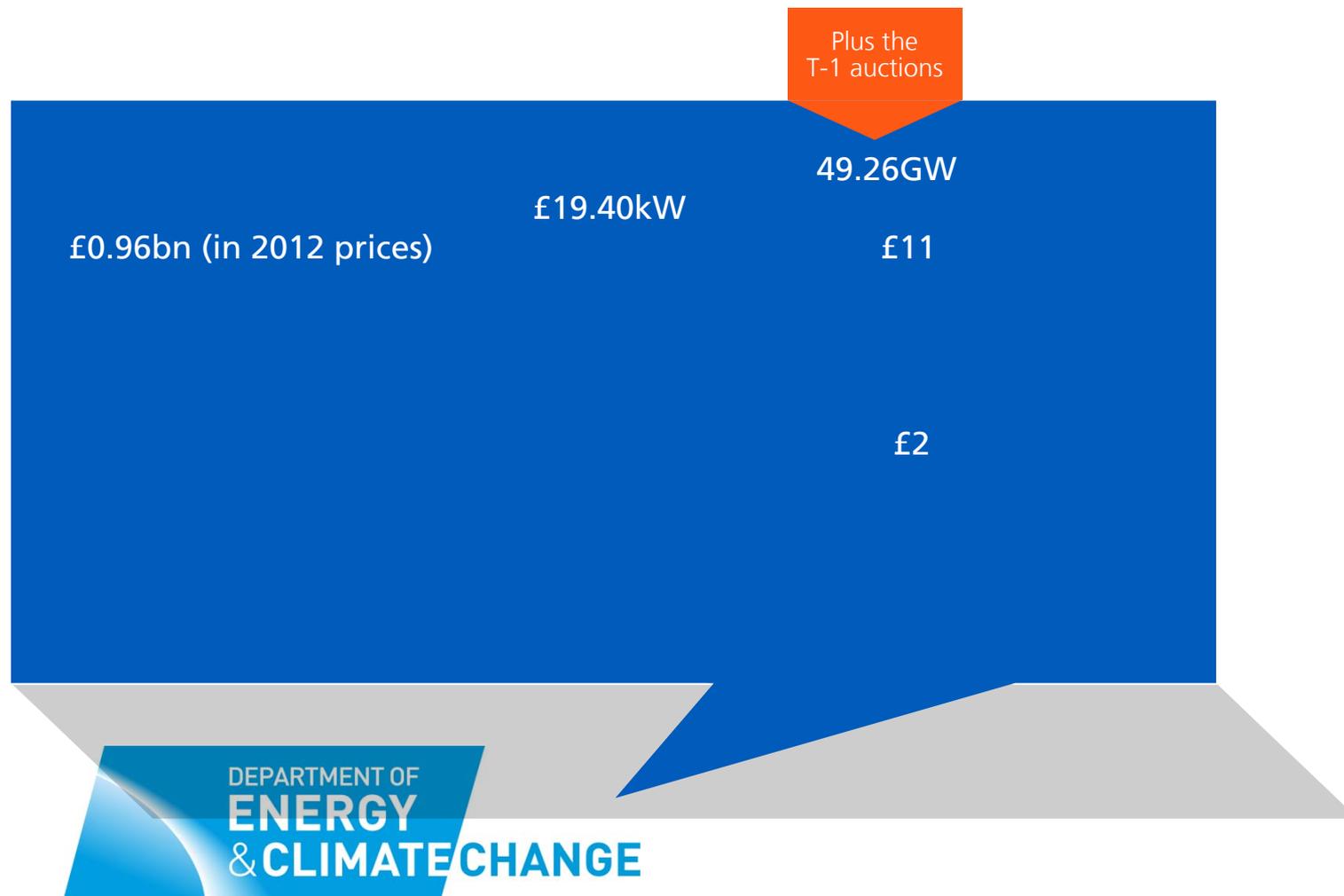


Capacity Market Supplier Charge (CMSC): The auction results



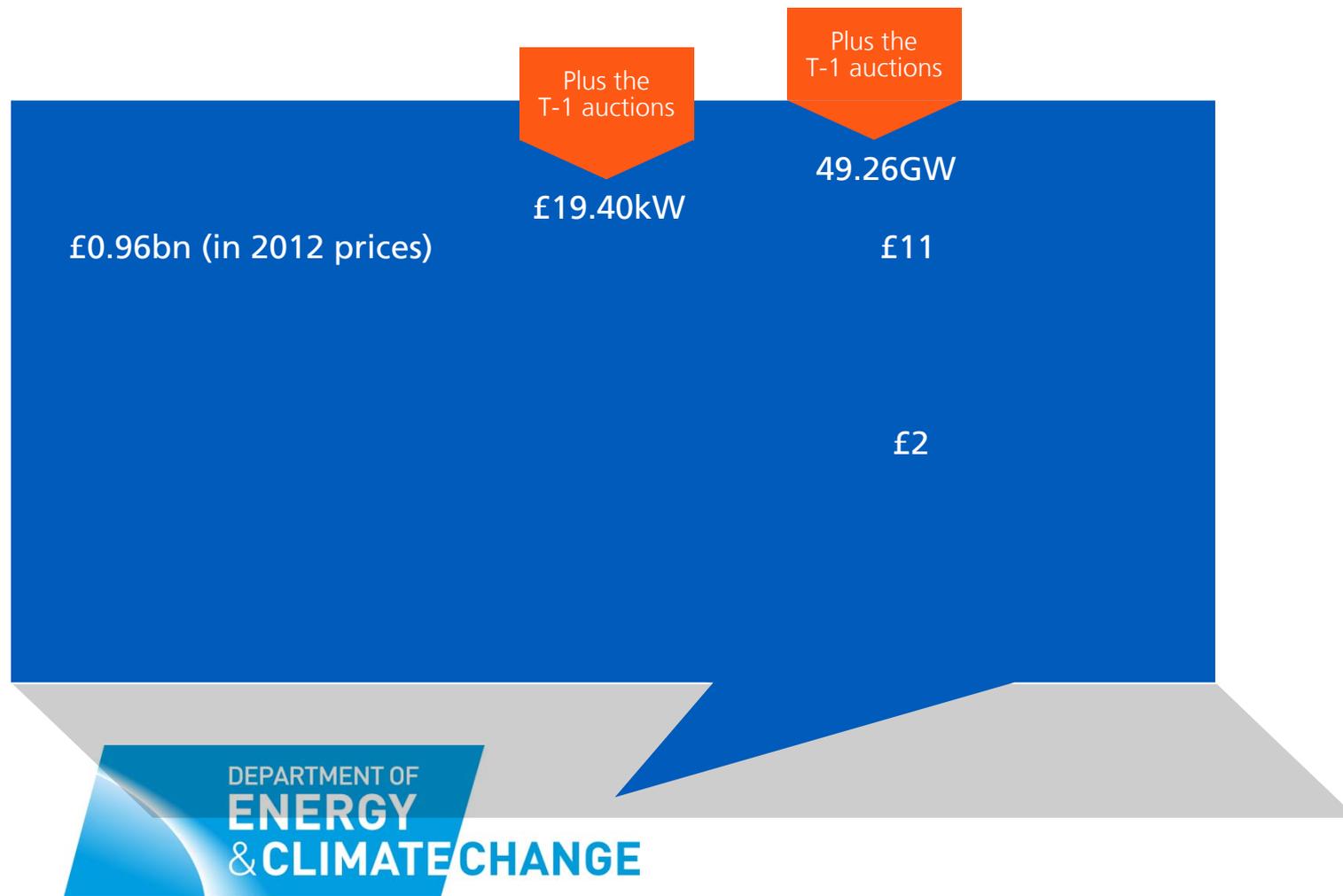


Capacity Market Supplier Charge (CMSC): The auction results



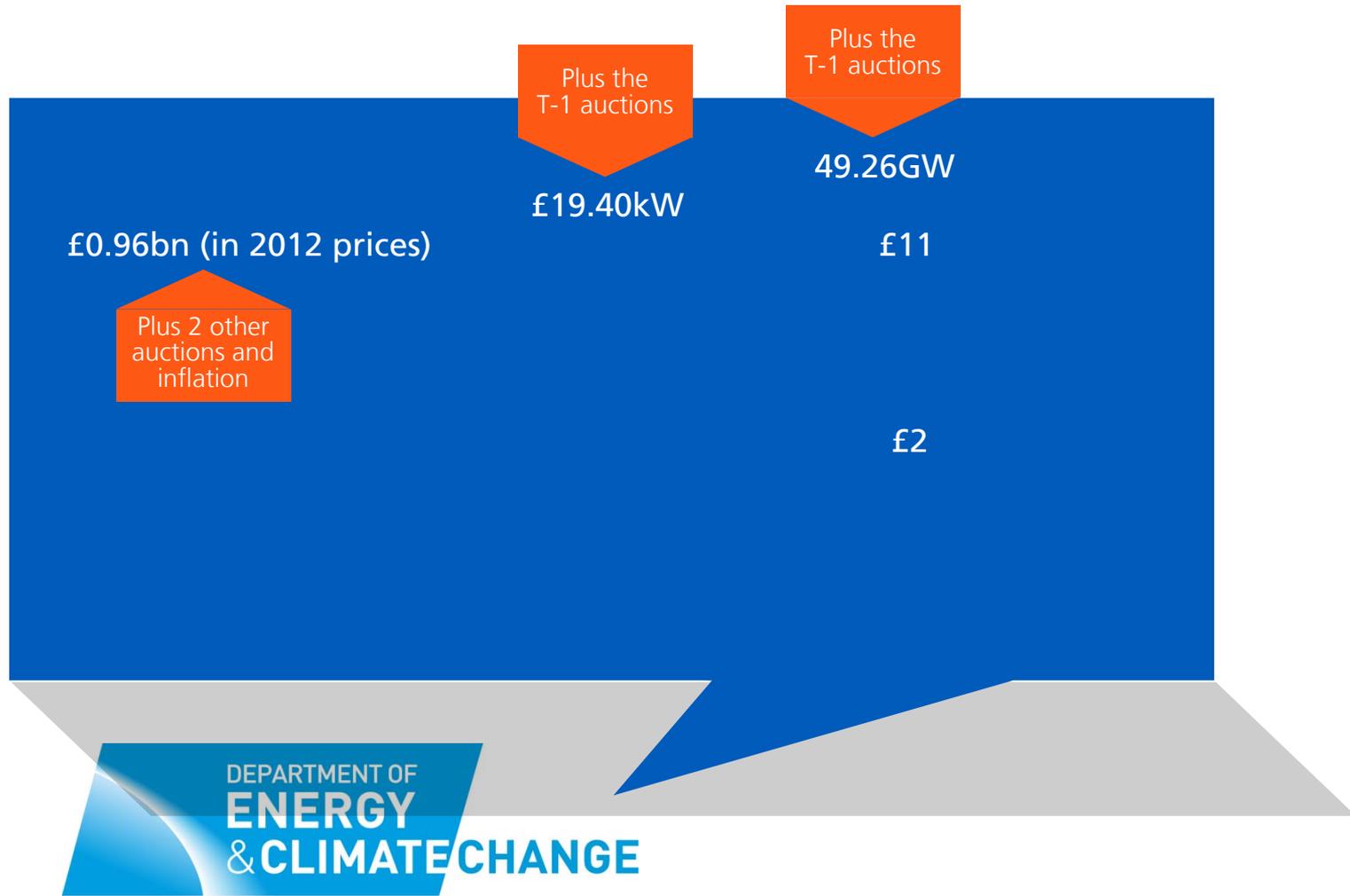


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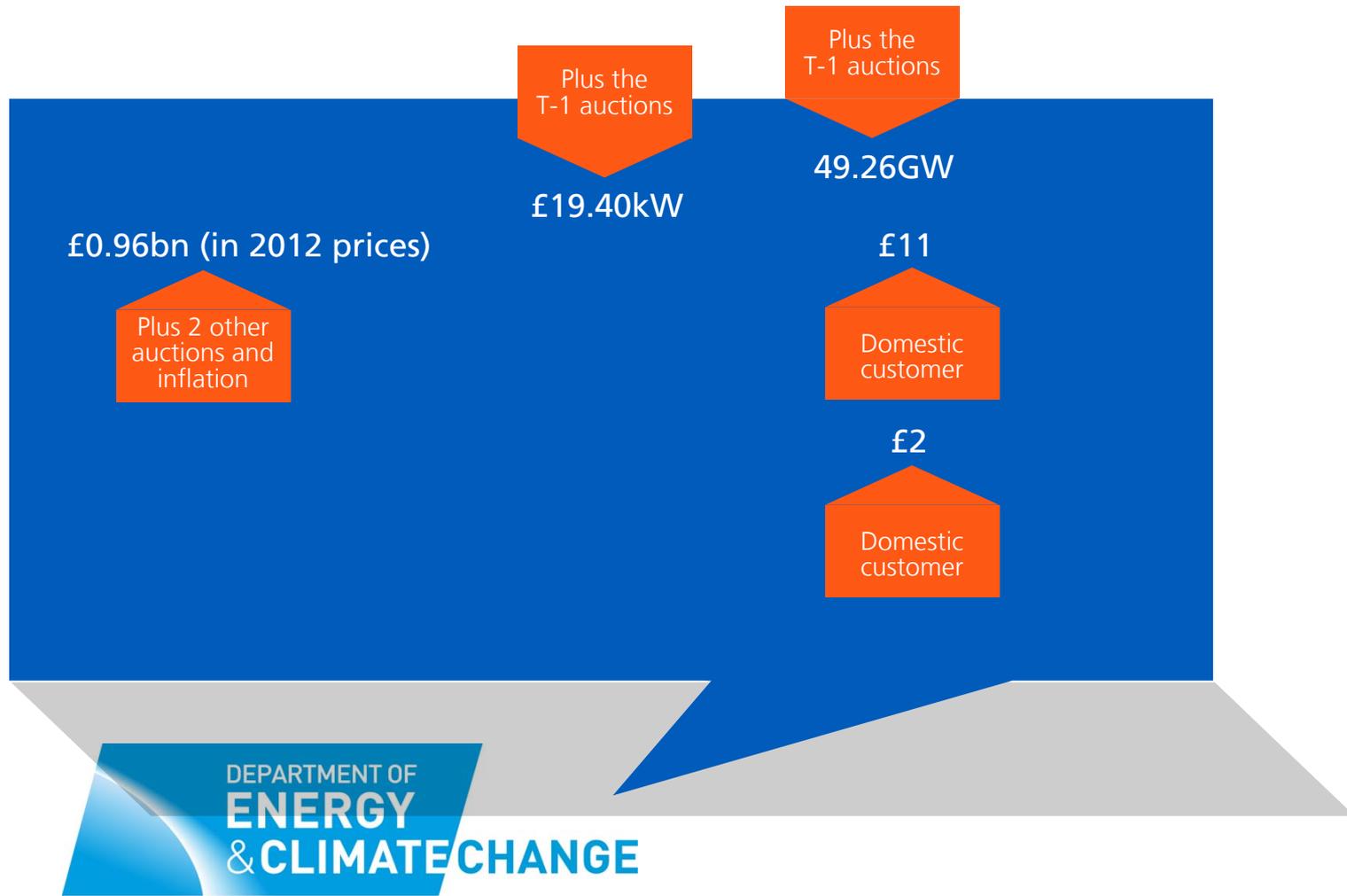


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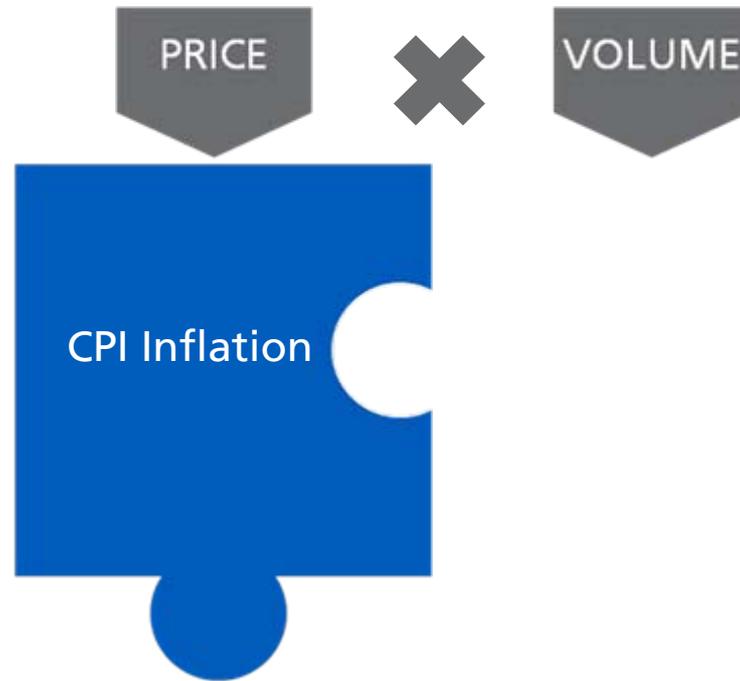


Piecing together a Capacity Market cost forecast



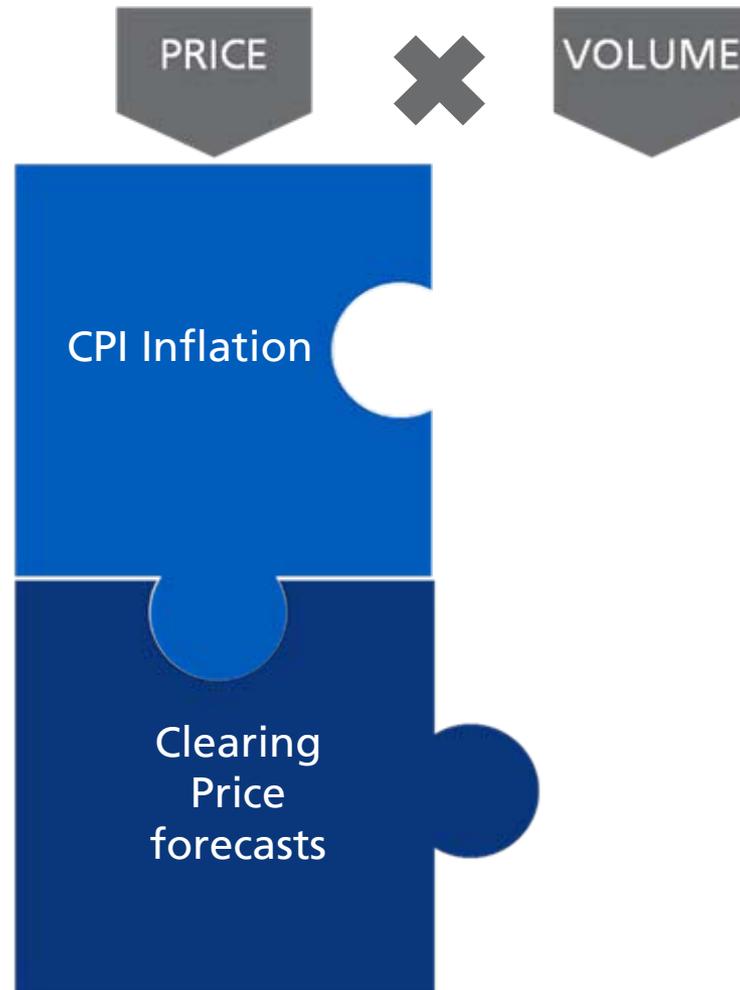


Piecing together a Capacity Market cost forecast



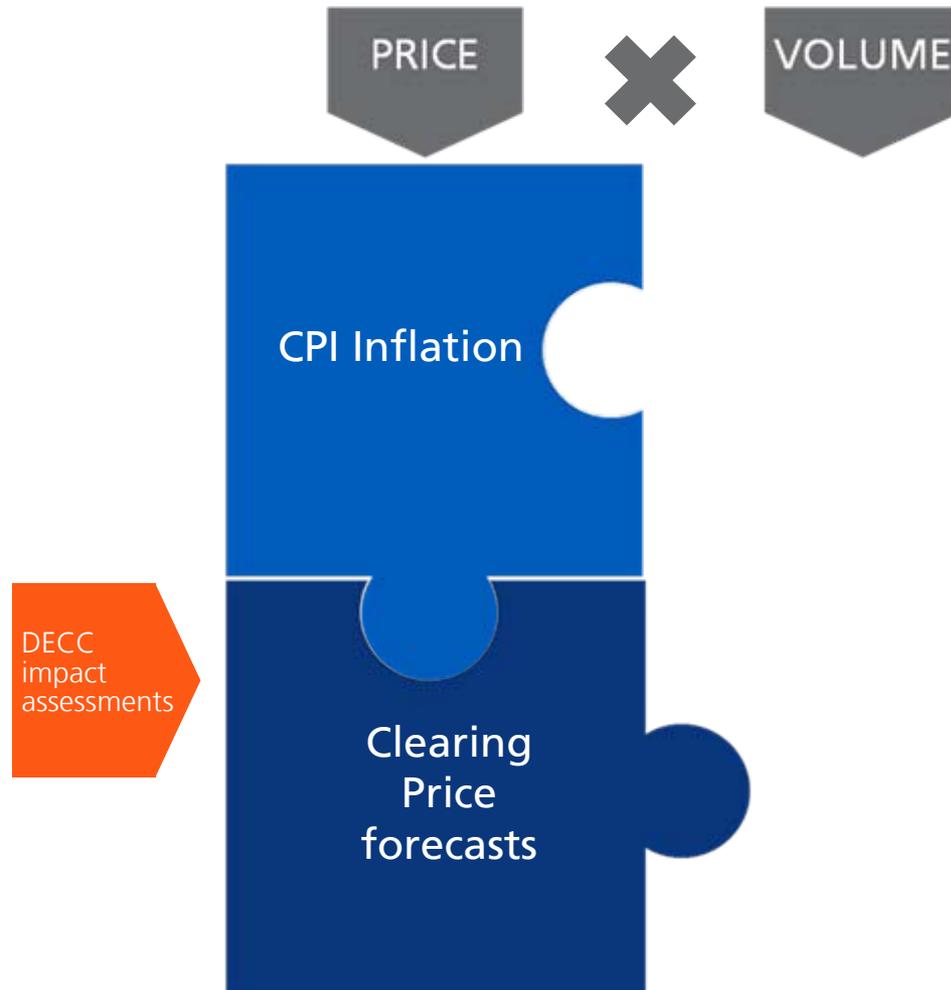


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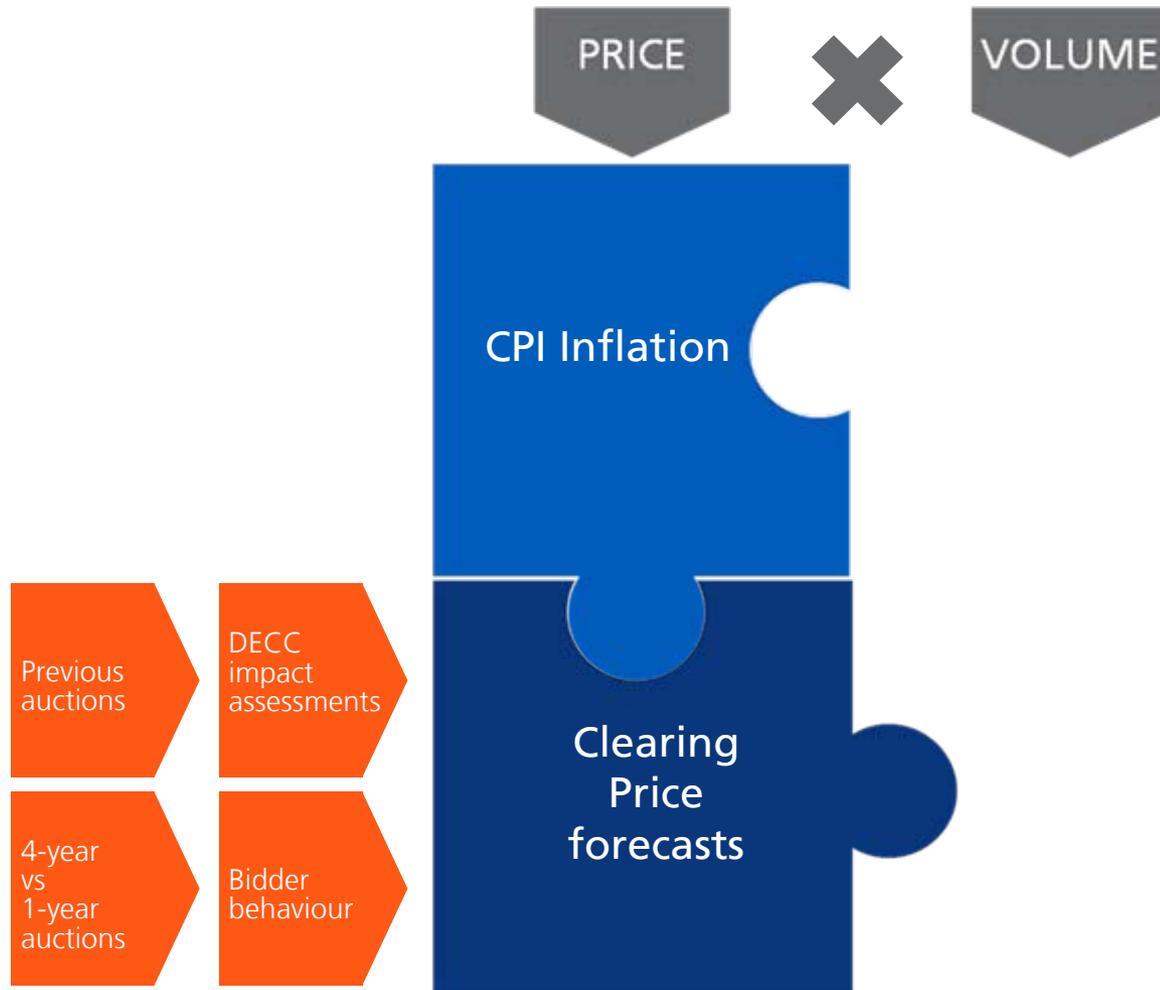


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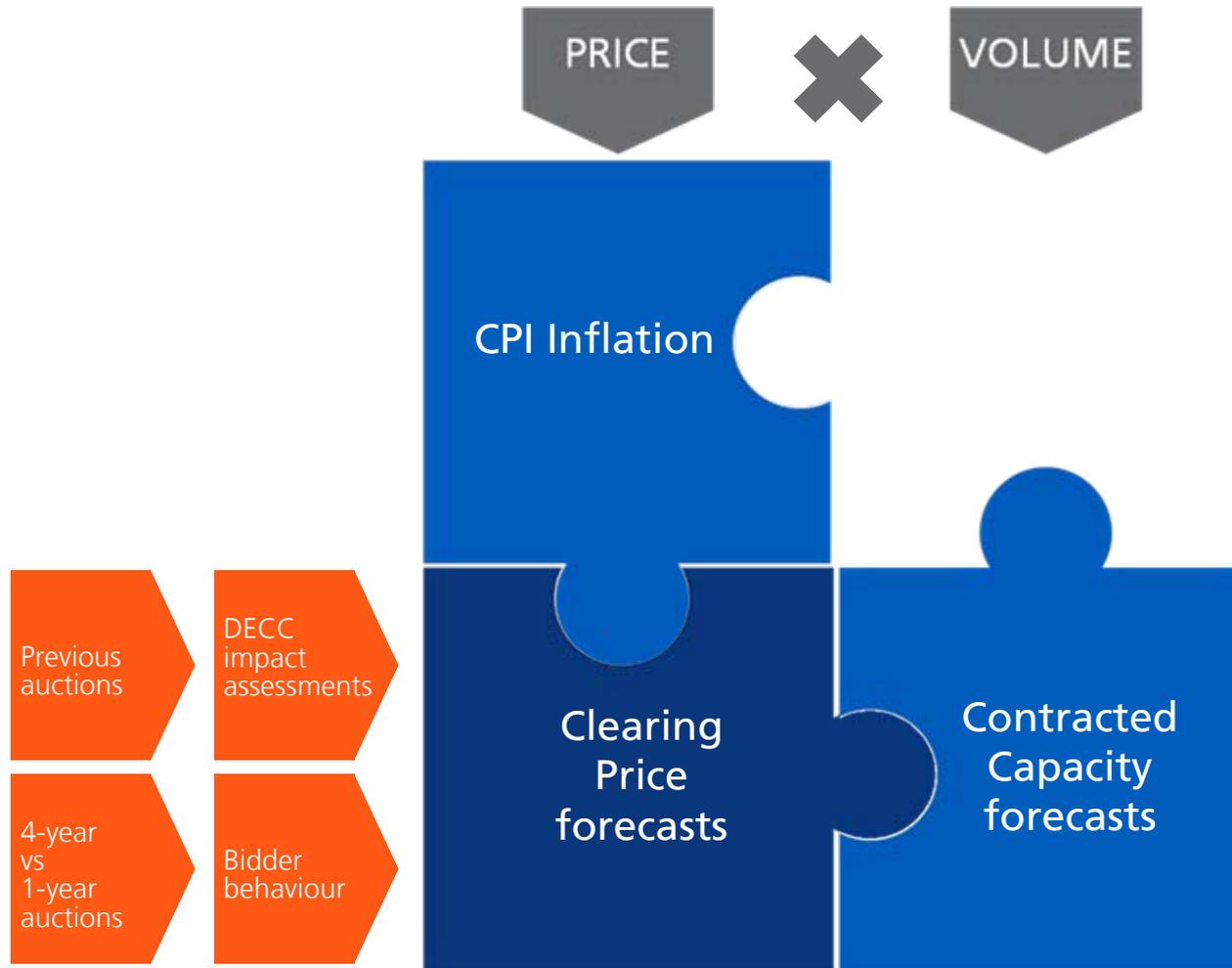


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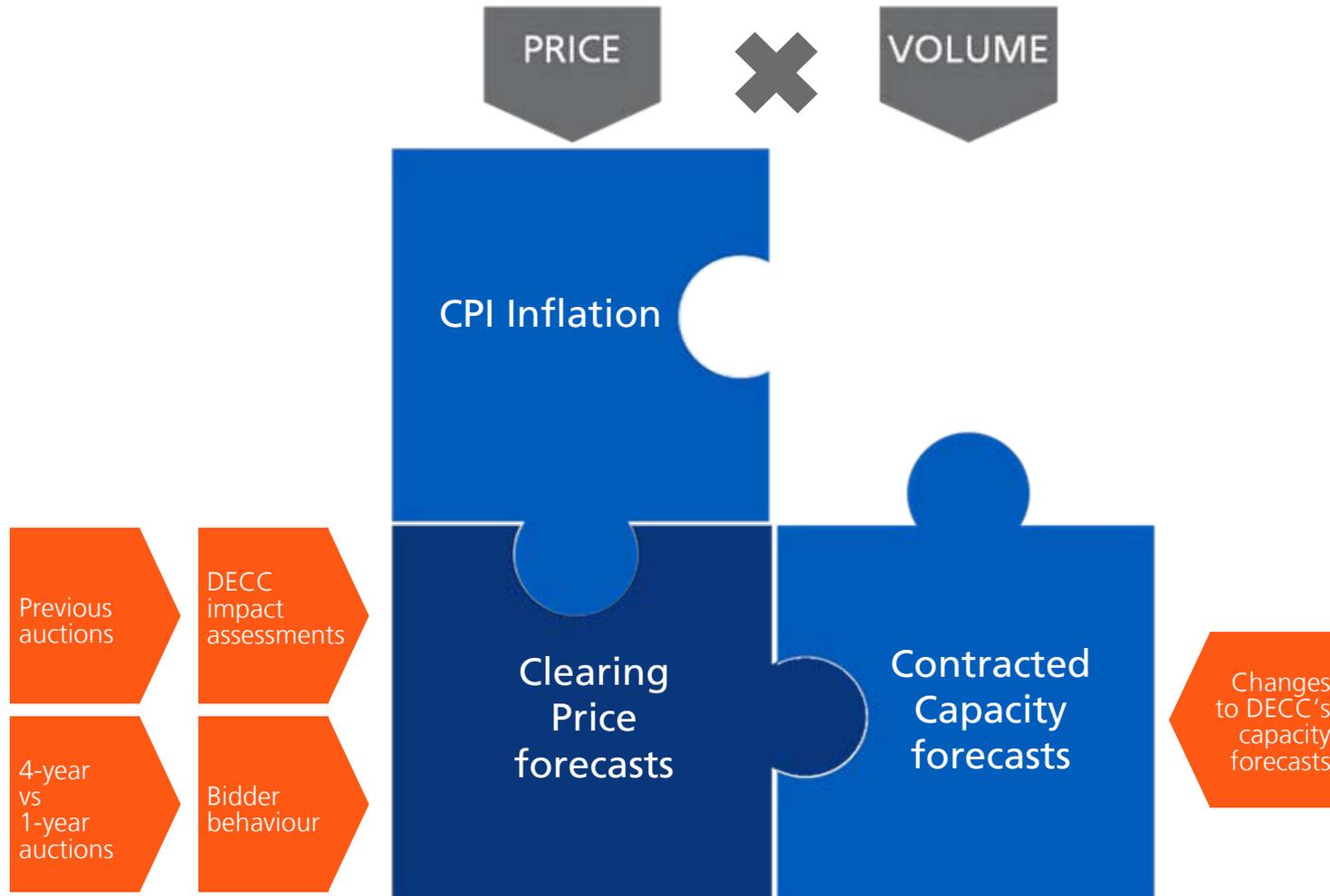


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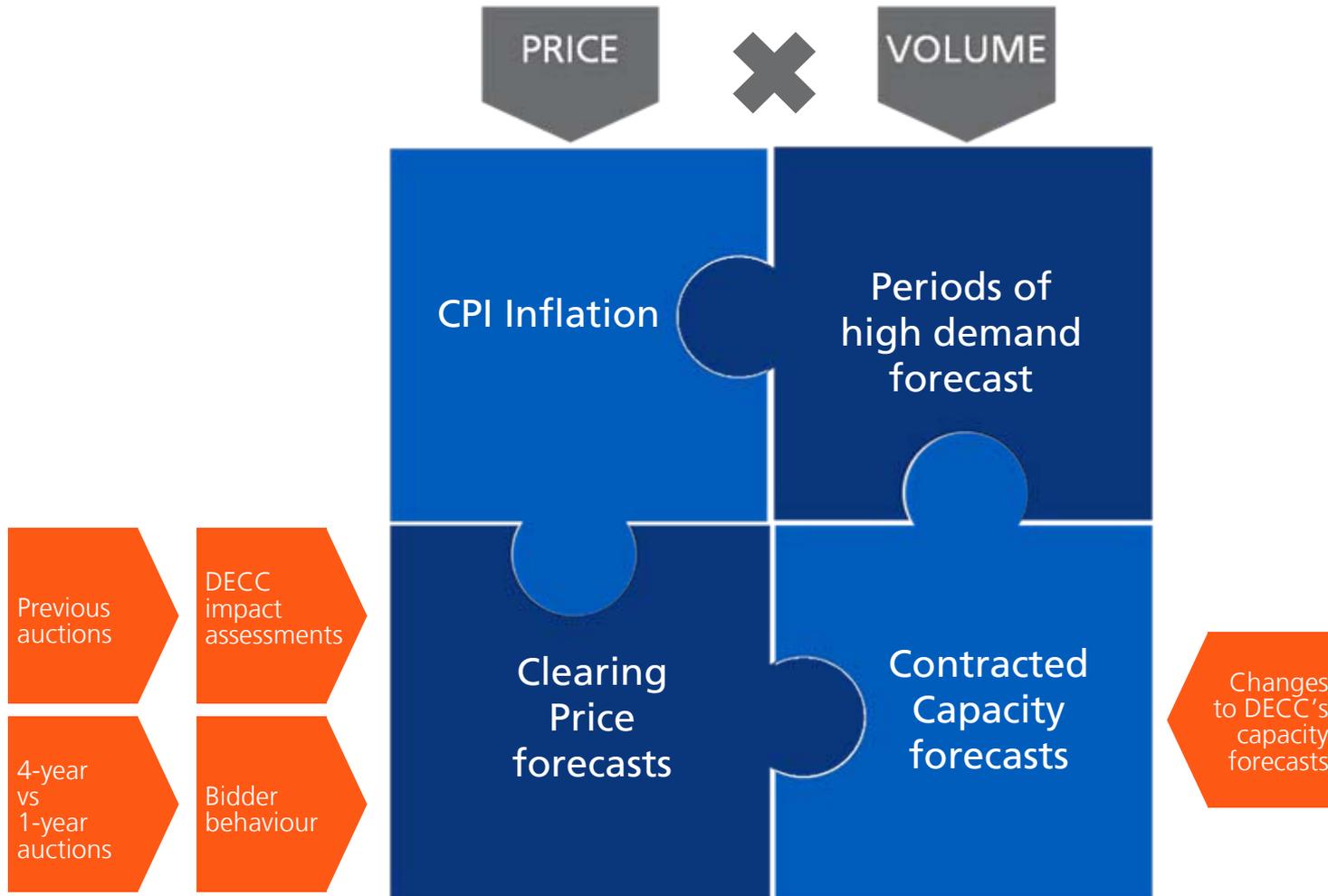


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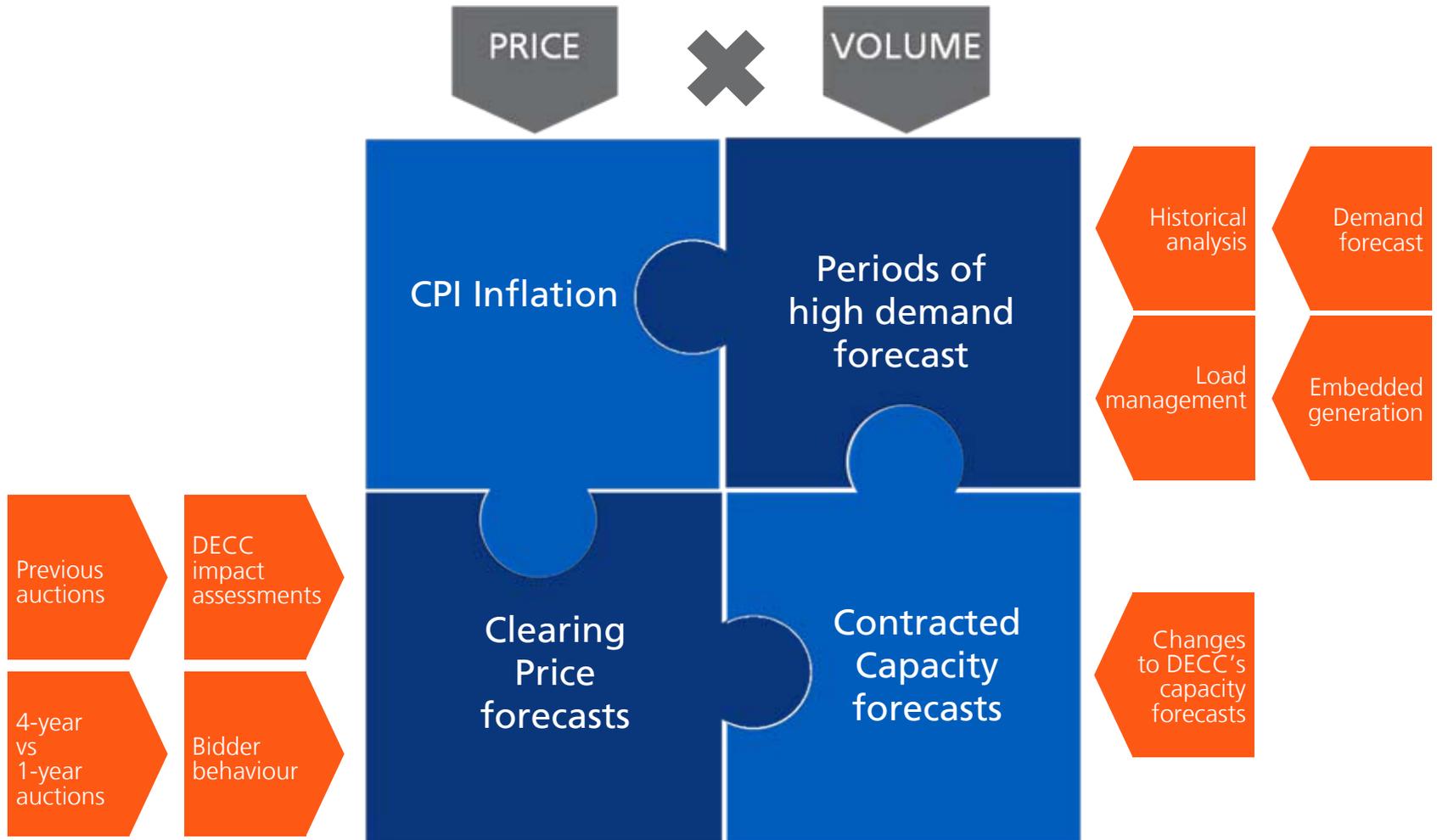


Piecing together a Capacity Market cost forecast





Piecing together a Capacity Market cost forecast





Working it out in practice

1. What will I pay for my consumption during winter peak demand periods?
2. What is that as an average annual figure for my budget?



Working it out in practice

1. What will I pay for my consumption during winter peak demand periods?

$$\left(\begin{array}{l} \text{Main 4 year} \\ \text{auction results} \\ \\ \text{£19.40/kW} \\ \times \\ 49.26\text{GW} \end{array} \right) + \left(\begin{array}{l} \text{Both top up} \\ \text{1 year auction} \\ \text{results} \\ \\ \text{Clearing Price} \\ \times \\ \text{Contracted} \\ \text{Capacity} \end{array} \right) \div \left(\begin{array}{l} \text{National periods} \\ \text{of high demand} \\ \\ 4 - 7\text{pm} \\ \text{Nov - Feb} \\ \text{Working days} \end{array} \right) = \text{Capacity Market} \\ \text{Supplier Charge} \\ \text{£110/MWh}$$

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Working it out in practice

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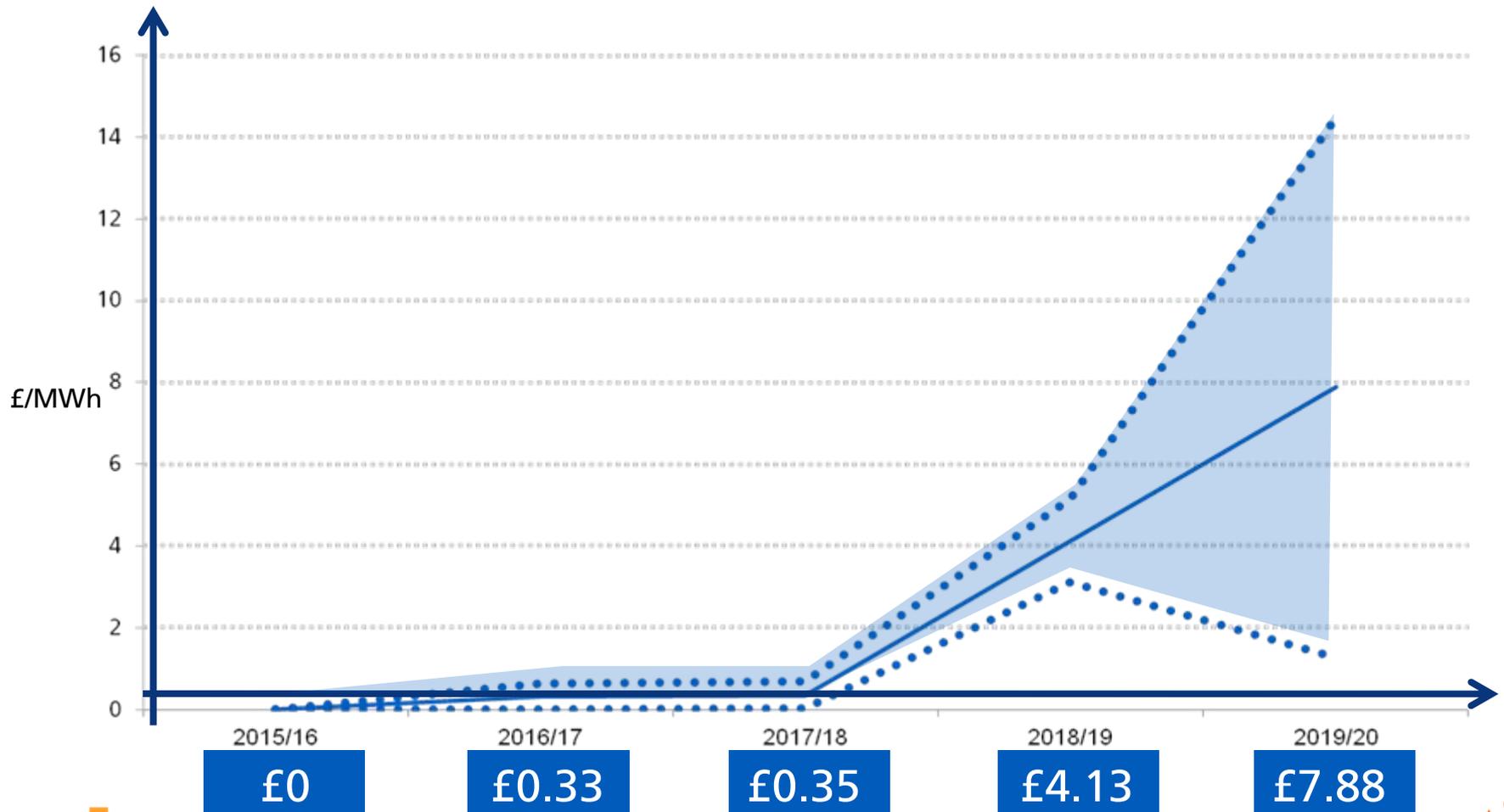
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2. What is that as an average annual figure for my budget?

$$\left(\begin{array}{l} \text{Forecast cost for the delivery year} \end{array} \right) \div \left(\begin{array}{l} \text{National annual} \\ \text{demand forecast} \end{array} \right) = \text{Average annual} \\ \text{charge for billing} \\ \text{£4.13/MWh}$$



Our annual average Capacity Market cost forecast





Contracts for Difference (CfD) Supplier Obligation

The auction results

The auction has successfully allocated 27 contracts to projects which could deliver over 2GW of new renewable energy capacity across England, Scotland and Wales.

£315m of contracts have been offered to 5 technologies – including two new offshore wind farms, 15 onshore wind farms, and 5 new solar projects. Together, these projects could power 1.4m homes, and could lead to the UK emitting 4m fewer tonnes of CO₂ per year, helping to meet our ambitions on climate change.

The first allocation round attracted a high level of interest. This has ensured we have delivered a competitive auction, which has driven down the costs to consumers, resulting in the capacity costing up to £110m per year less than it would have in the absence of competition.

The Low Carbon Contract Company will be issuing contracts to successful developers over the next 10 days, with the contract signature window closing on the 27 March 2015. Once these contracts are signed, the new Contracts for Difference will provide long-term certainty for investors.

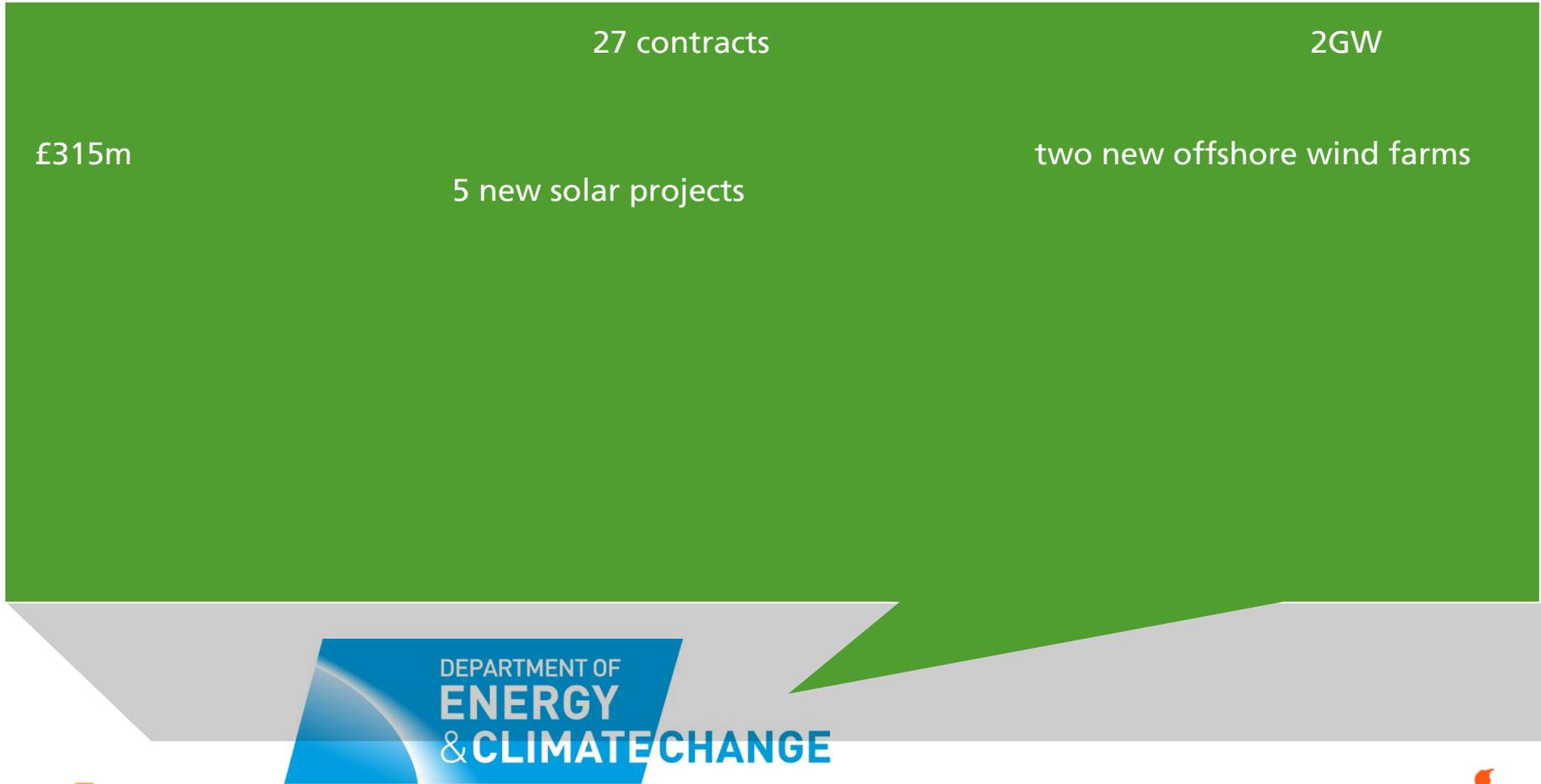
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Contracts for Difference (CfD) Supplier Obligation

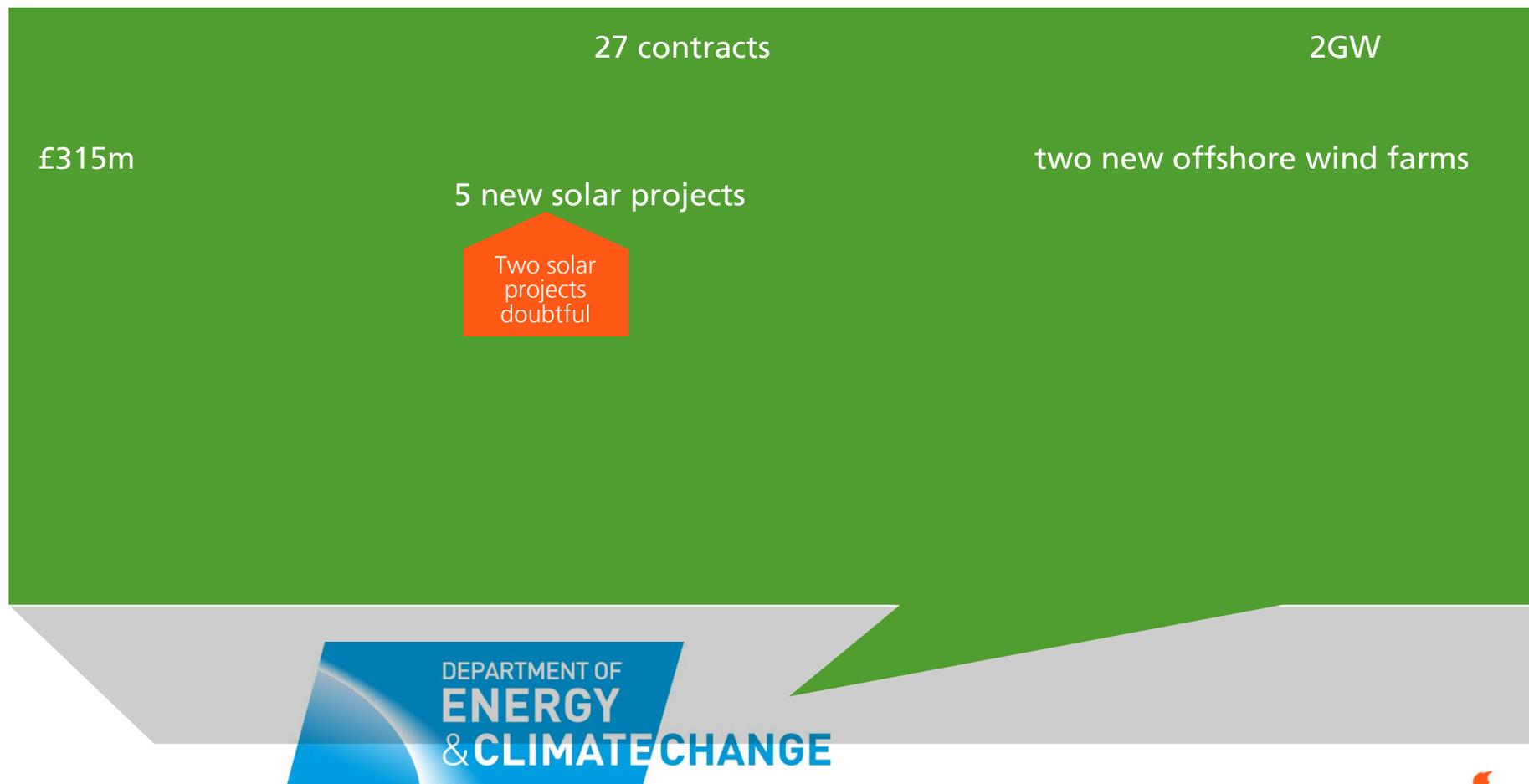
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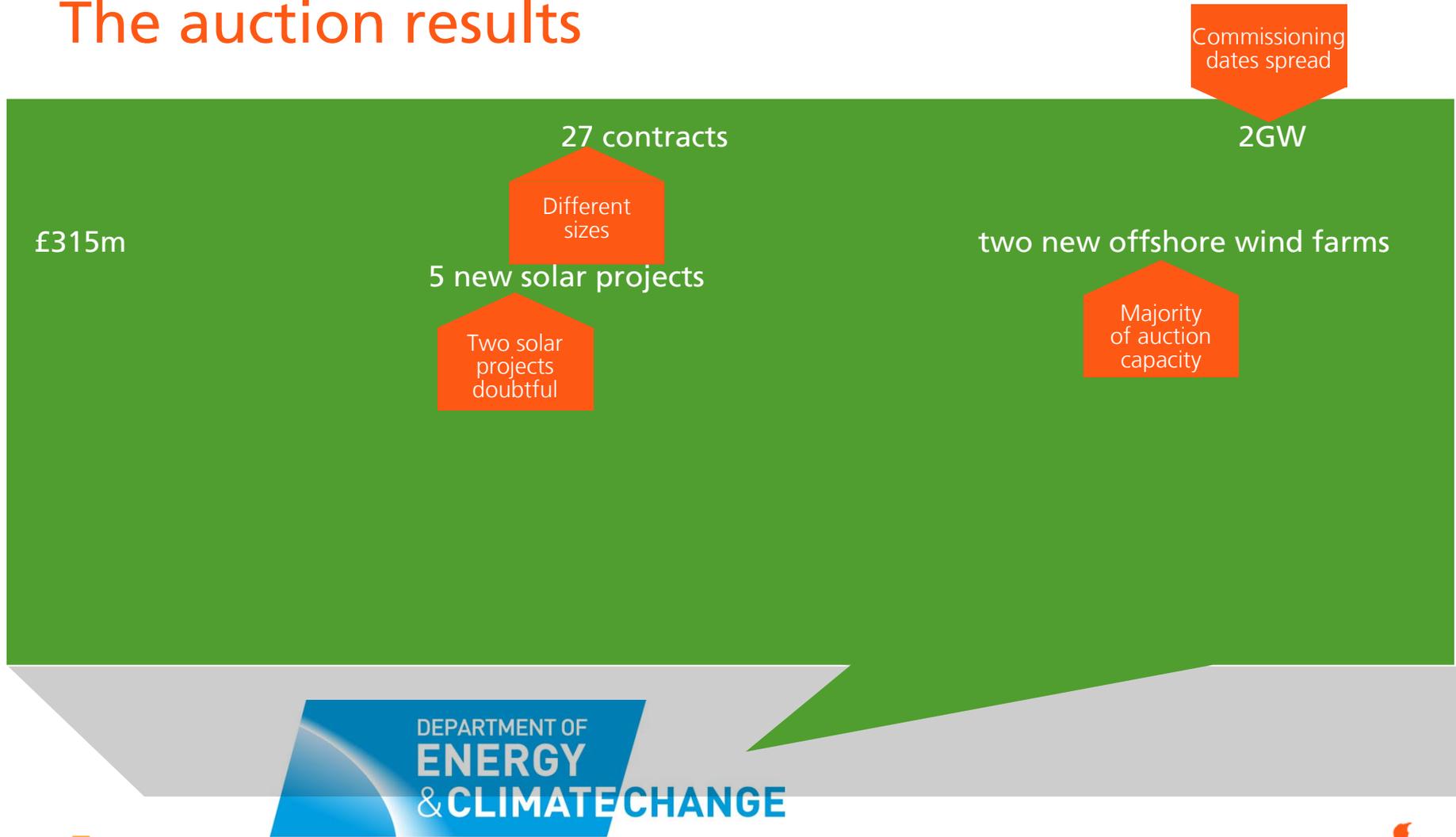
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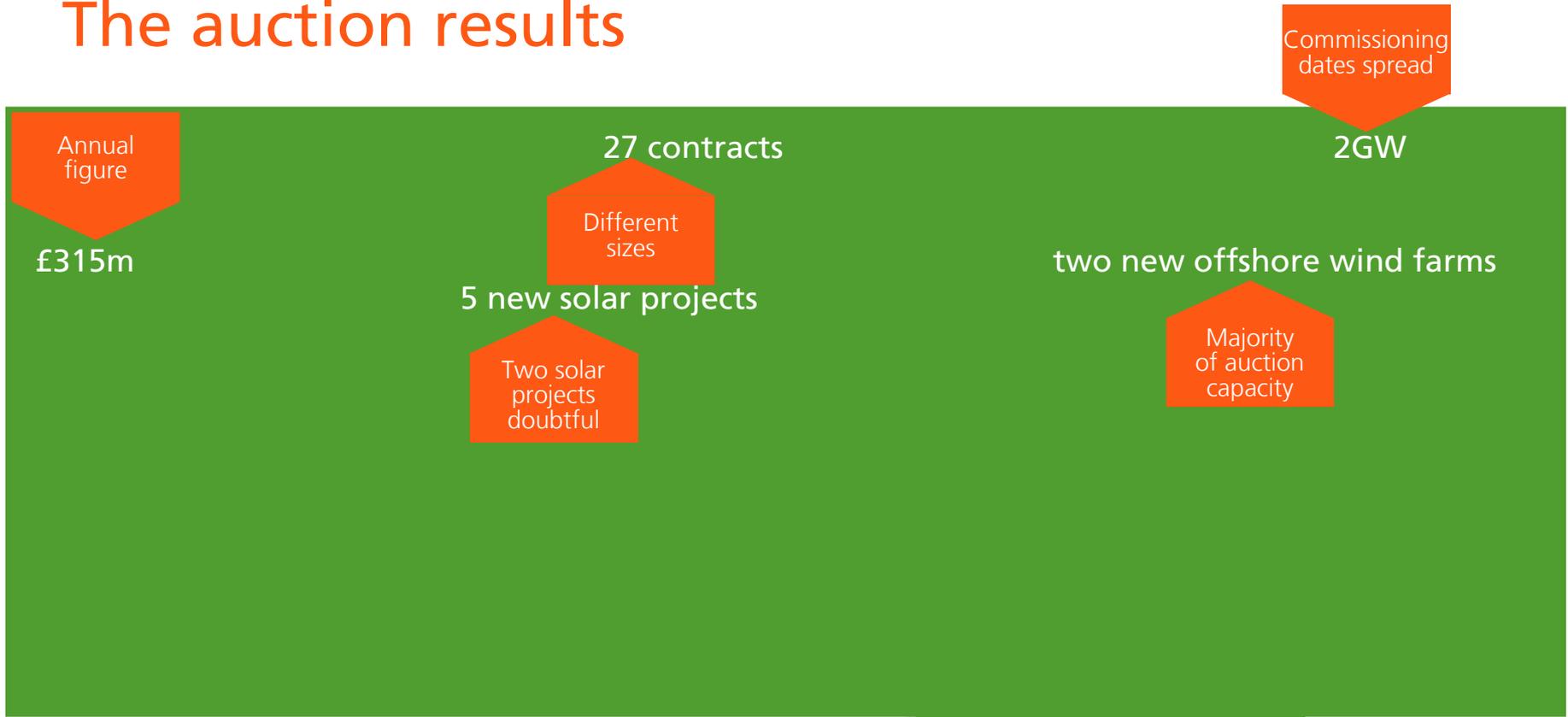
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Contracts for Difference (CfD) Supplier Obligation

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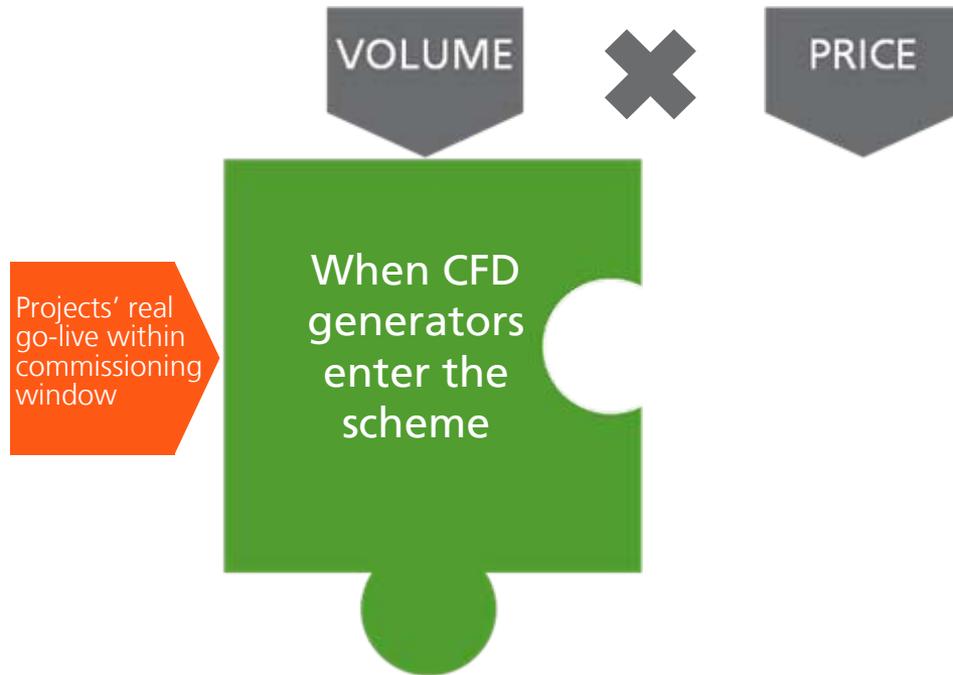


Piecing together a CFD cost forecast



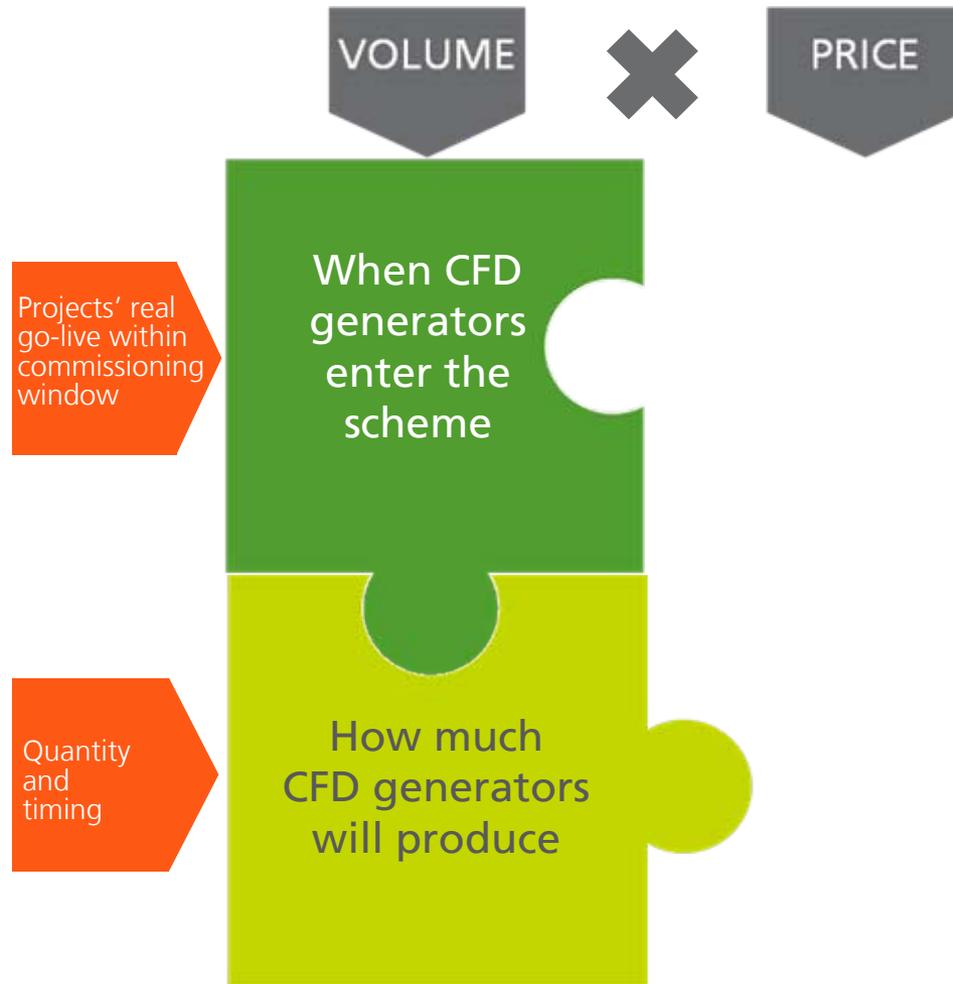


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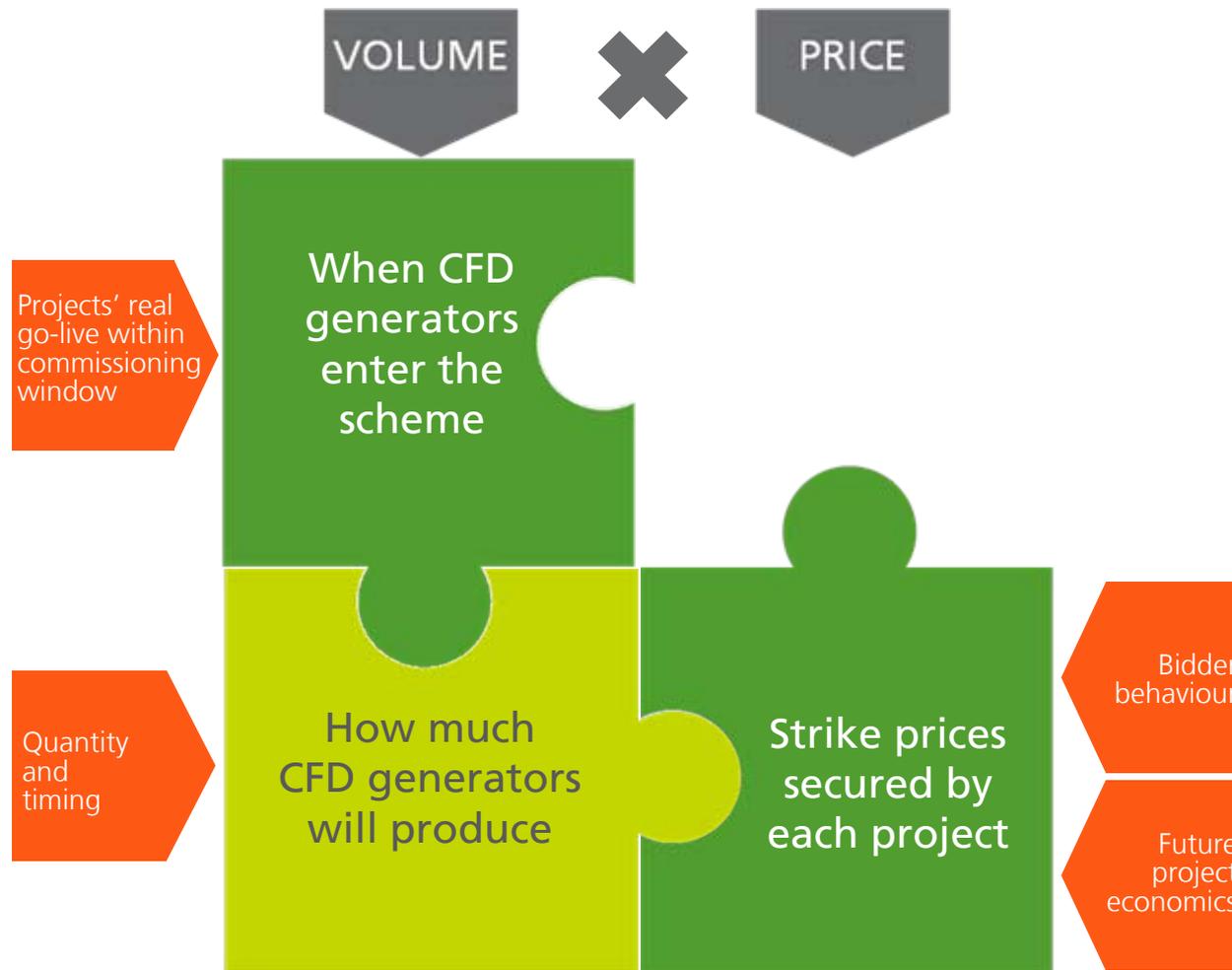


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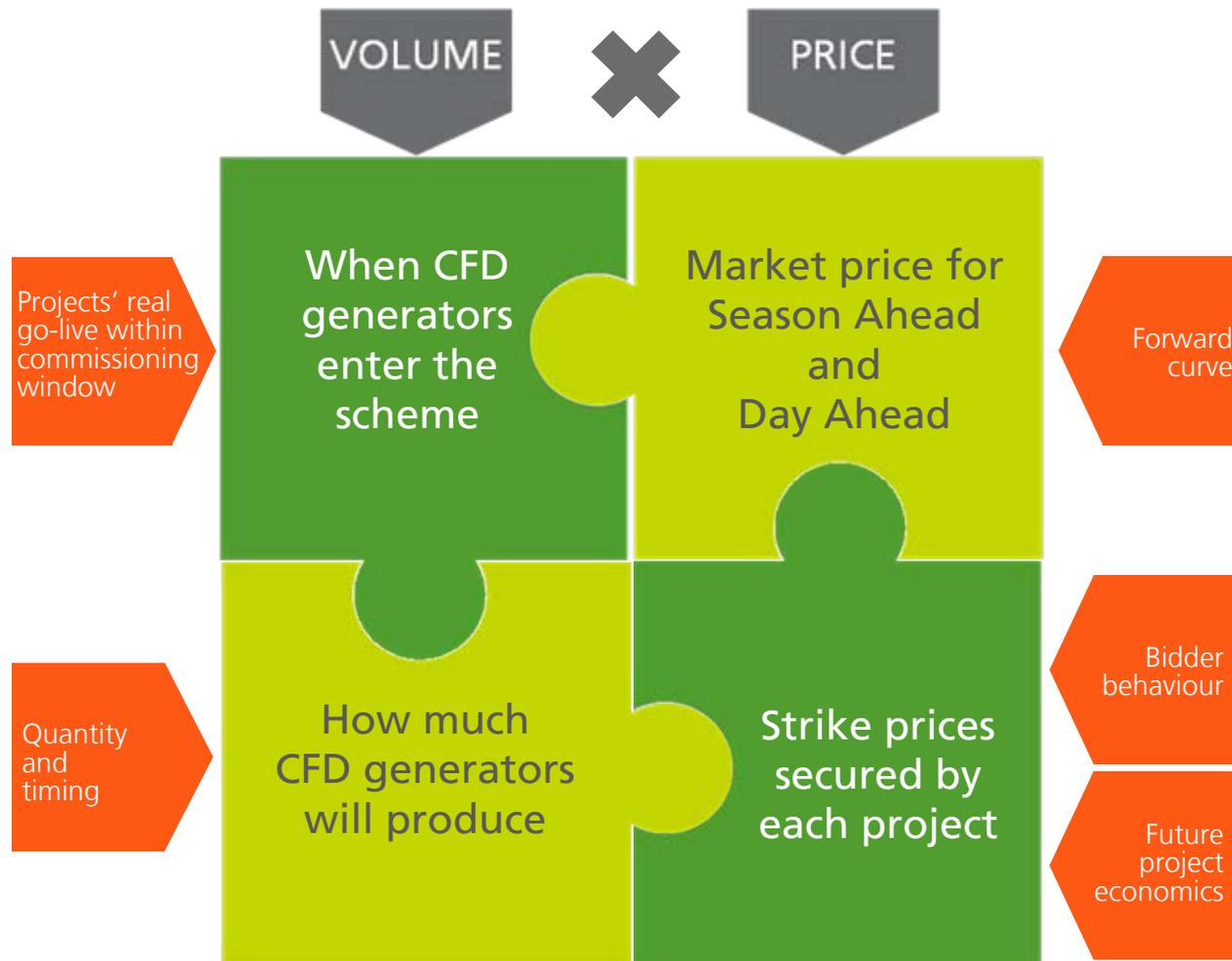


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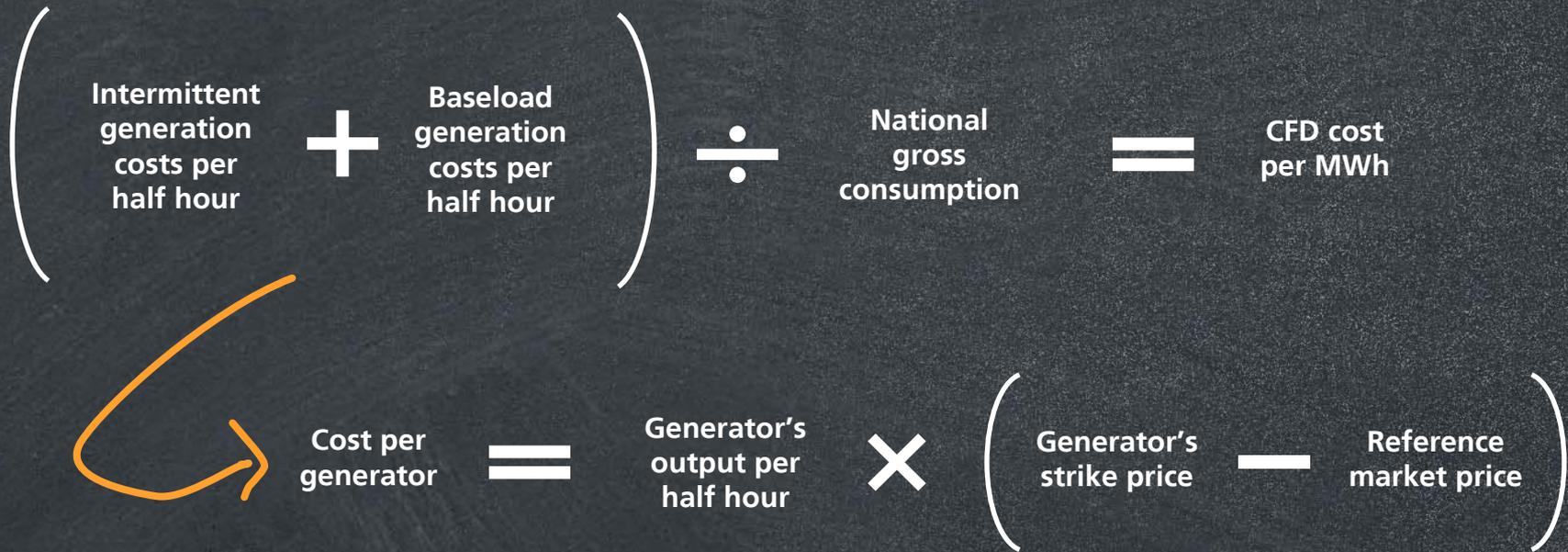


Working it out in practice

$$\left(\begin{array}{l} \text{Intermittent} \\ \text{generation} \\ \text{costs per} \\ \text{half hour} \end{array} + \begin{array}{l} \text{Baseload} \\ \text{generation} \\ \text{costs per} \\ \text{half hour} \end{array} \right) \div \begin{array}{l} \text{National} \\ \text{gross} \\ \text{consumption} \end{array} = \begin{array}{l} \text{CFD cost} \\ \text{per MWh} \end{array}$$



Working it out in practice





Working it out in practice: DRAX

$$\left(\begin{array}{l} \text{Intermittent} \\ \text{generation} \\ \text{costs per} \\ \text{half hour} \end{array} + \begin{array}{l} \text{Baseload} \\ \text{generation} \\ \text{costs per} \\ \text{half hour} \end{array} \right) \div \begin{array}{l} \text{National} \\ \text{gross} \\ \text{consumption} \end{array} = \begin{array}{l} \text{CFD cost} \\ \text{per MWh} \end{array}$$

$$\text{Cost for DRAX} = 645 \text{ MW per hour} \times \left(\begin{array}{l} \text{£110/MWh} \\ \text{—} \\ \text{Season Ahead} \\ \text{market price} \end{array} \right)$$

An orange arrow points from the first equation to the second, indicating the flow of information.



Working it out in practice: DRAX

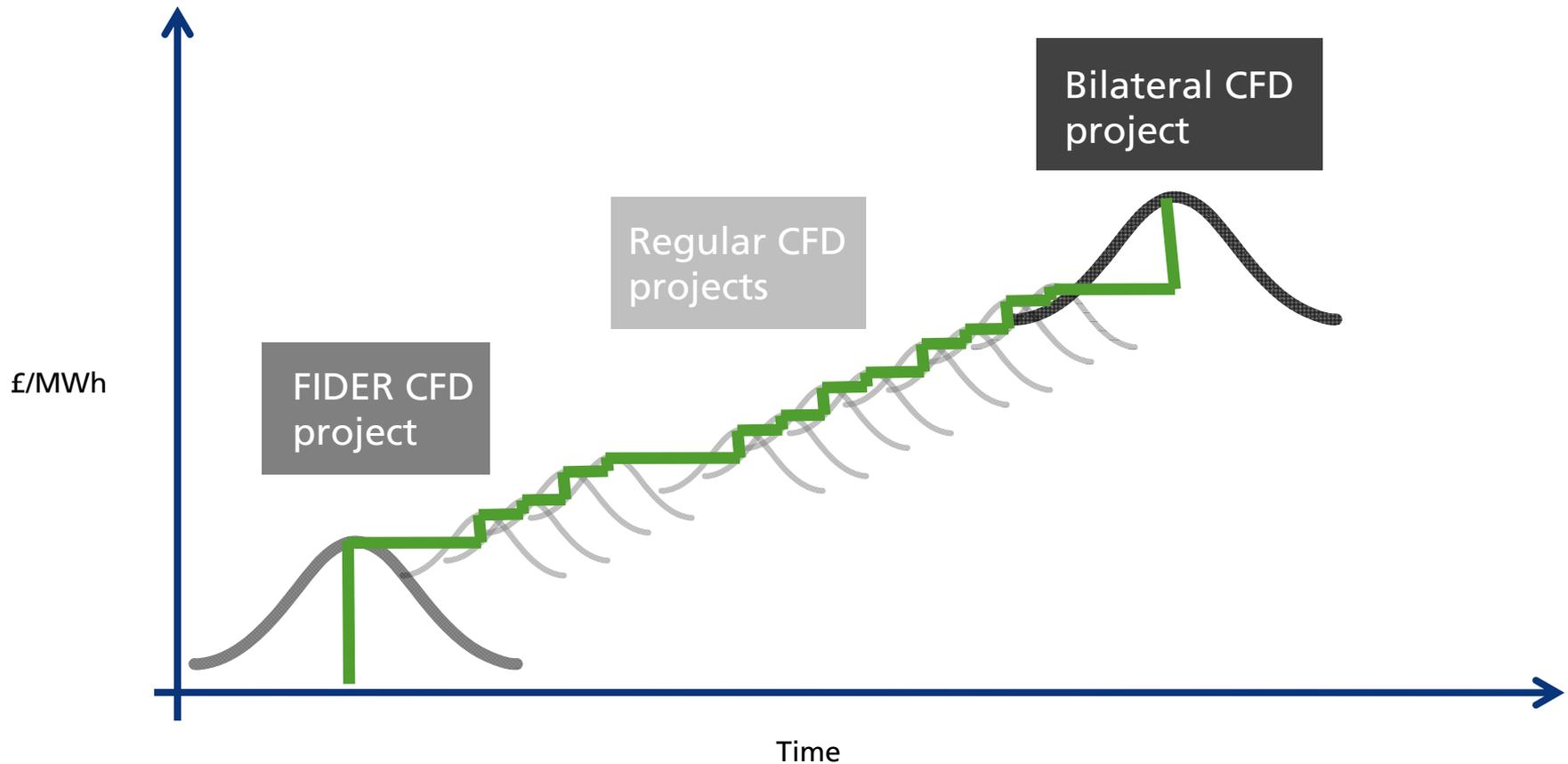
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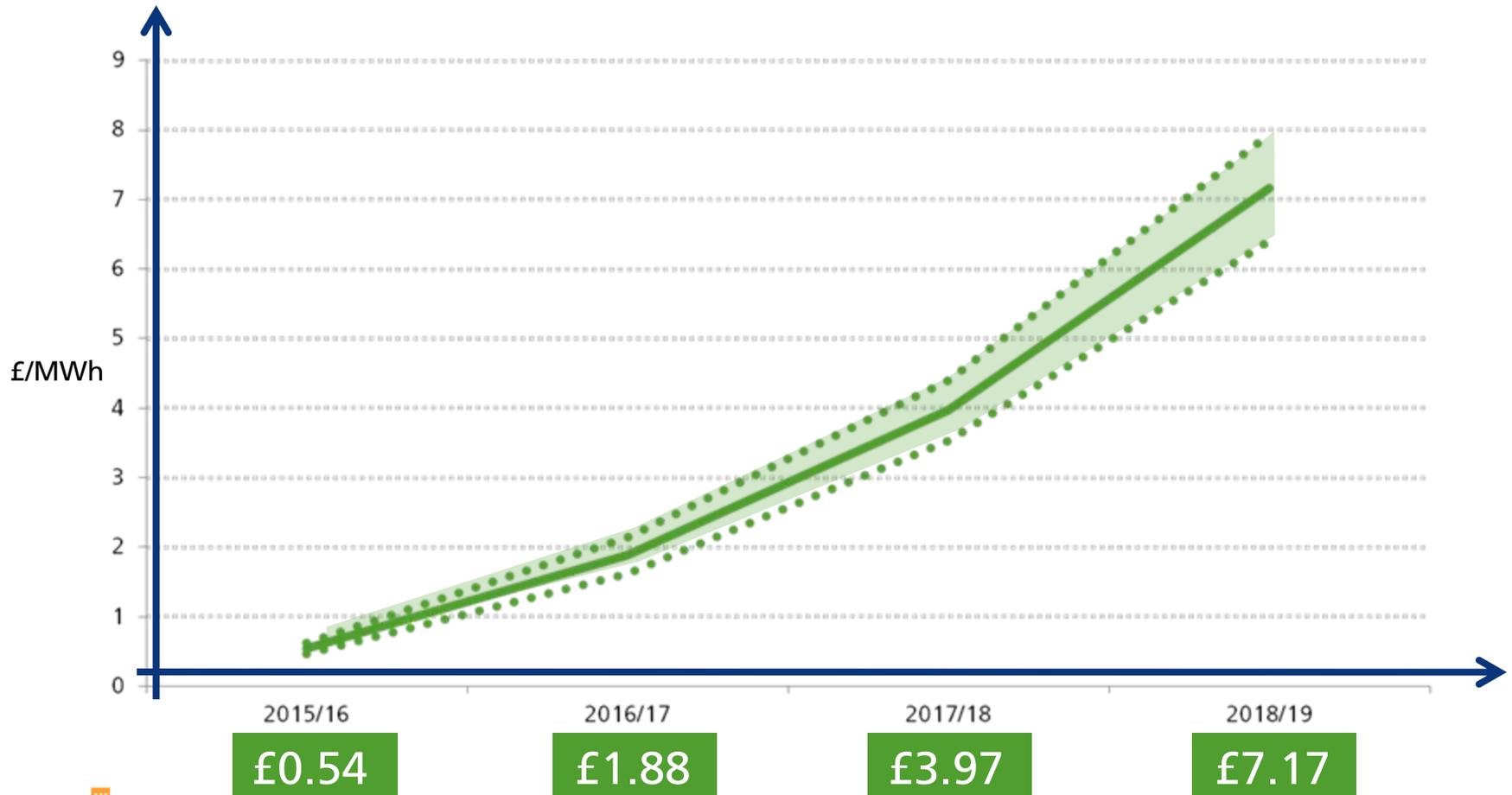


Modelling multiple CFD projects



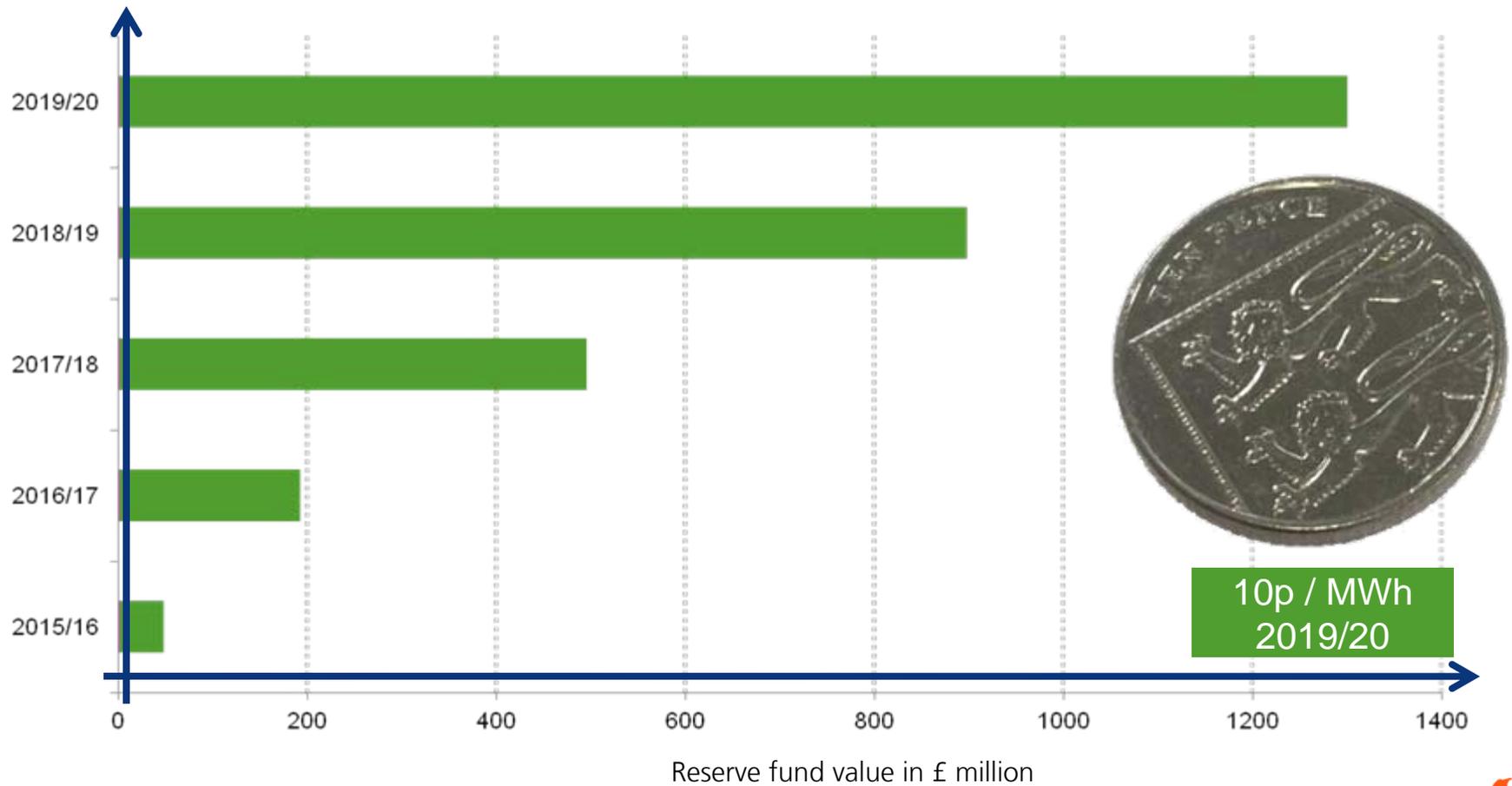


Our CFD cost forecast





CfD reserve fund cost of capital

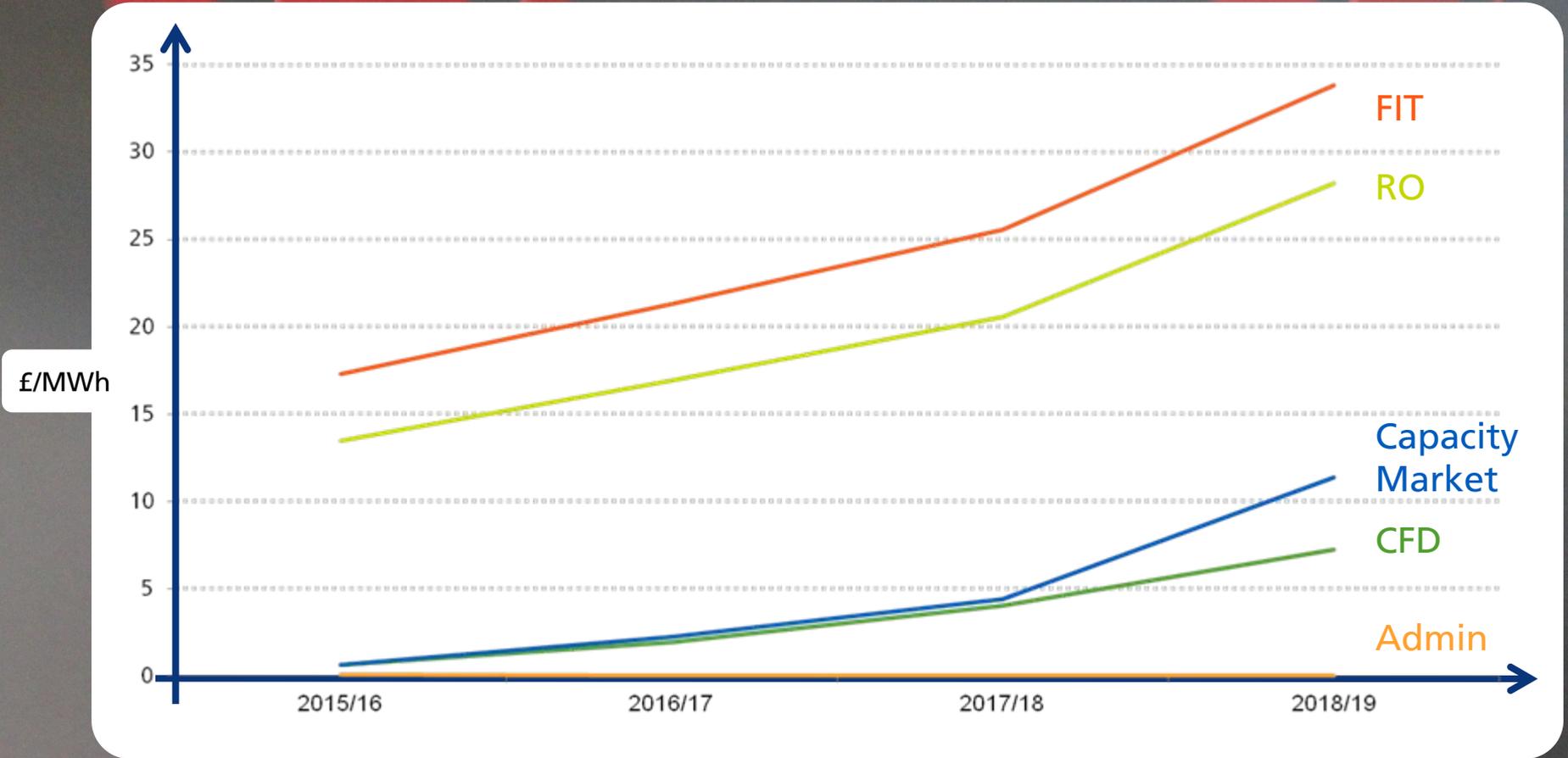




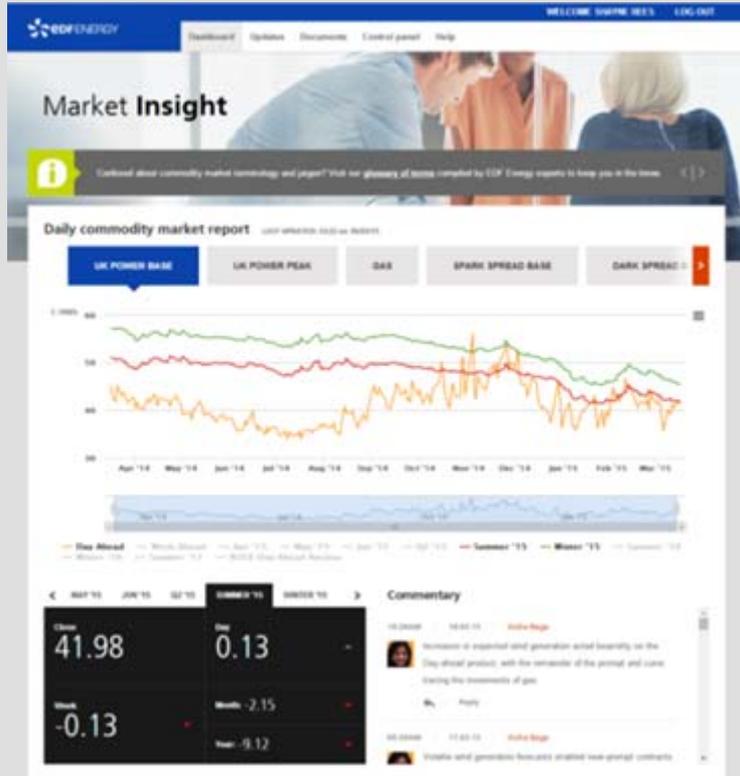
The full picture

This Much

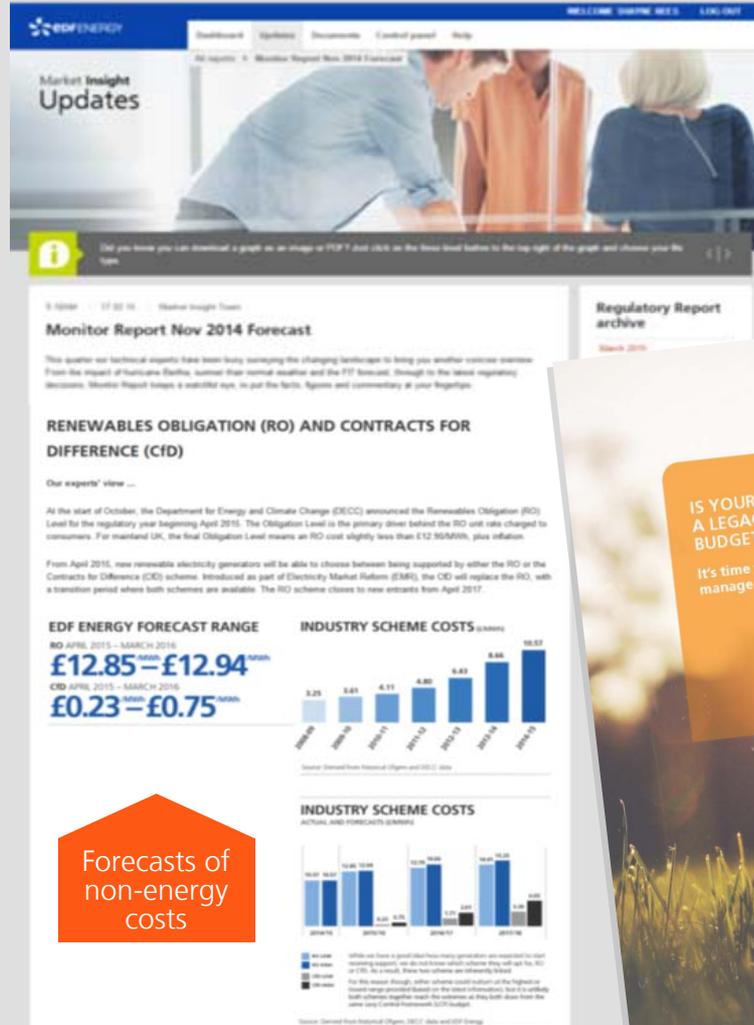
The full picture



Staying up to date and adapting your energy plan



Analysis of power prices



Forecasts of non-energy costs

Whitepaper coming soon



THANK YOU

