

# Updated short-term traded carbon values used for modelling purposes

15 October 2012

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The following estimates for EU Allowance (EUA) prices have been used in DECC's emission projections model and other models of electricity generation and investment across Government. These are shown graphically in Annex A.

**Table 1: DECC's updated traded carbon values for modelling purposes**

£/tCO <sub>2</sub> e Real 2012	Updated Low	Updated Central	Updated High
2012	0.00	5.76	11.98
2013	0.00	5.98	12.42
2014	0.00	6.24	12.88
2015	0.00	6.45	13.36
2016	0.00	6.67	13.85
2017	0.00	7.10	14.37
2018	0.00	7.55	15.29
2019	0.00	8.03	16.28
2020	0.00	8.55	17.33
2021	0.32	8.87	17.97
2022	0.63	9.20	18.63
2023	0.95	9.54	19.32
2024	1.27	9.89	20.04
2025	1.58	10.26	20.78
2026	1.90	10.64	21.55
2027	2.22	11.03	22.35
2028	2.54	11.44	23.18
2029	2.85	11.86	24.04
2030	3.17	12.30	24.93

Note that these values are identical to those used for appraisal purposes up to 2020.<sup>1</sup> The central values are based on market prices of EUA futures contracts up to 2020, whereas the low and high values up to 2020 have been calculated using a fundamentals-based approach.

After 2020, the values rise at the cost of carry implied by market prices of EUA futures contracts (estimated at about 3.7% p.a. in real terms). This is justified in the absence of a clear understanding of the likely policy mix post-2020. Key uncertainties are around the quantity of access to international offsets that will be available in the system and the extent to which

<sup>1</sup> Available at: <https://www.gov.uk/government/publications/2012-update-to-carbon-valuation-methodology-for-uk-policy-appraisal>

abatement will be brought on by wider EU policies. For modelling purposes, carbon prices need to be relatively consistent with the current legislative framework, as modelling work is partly used to determine the extent to which current legislation is sufficient to drive the required level of decarbonisation.

These estimated values should not be considered as “forecasts” of future prices and DECC accepts no responsibility for any liability arising from the use of these figures.

Most electricity generation and investment models will need to consider not just the price of EUAs but also the impact of the Carbon Price Floor (CPF). Government has announced a trajectory out to 2030 in real terms for the total carbon price (EUA price plus the Carbon Price Support rate) that electricity generators will face, while the level of the Carbon Price Support (CPS) rates has been set for financial years 2013/14 and 2014/15 in nominal terms. These have been converted into corresponding rates for calendar years using a weighted average approach. The following table shows the total carbon price (including the CPS rates) which has been used in electricity investment and generation models. This has been calculated as follows:

- For 2012, the carbon price is in line with the EUA price
- For 2013 and 2014, the announced levels of CPS rates have been added to the EUA price for 2013
- For 2015 onwards, the price level is the higher of either the trajectory of the CPF trajectory or the EUA price

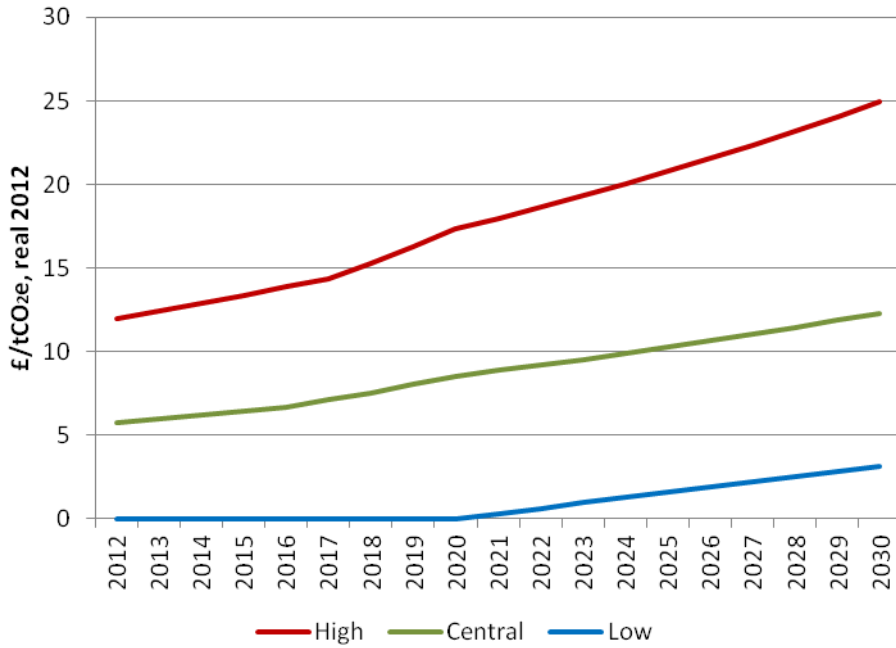
**Table 2: DECC’s updated estimated total carbon prices including CPF**

<b>£/tCO<sub>2</sub>e</b>	<b>Total carbon price including CPF</b>
<b>Real 2012</b>	
<b>2012</b>	5.76
<b>2013</b>	9.59
<b>2014</b>	14.23
<b>2015</b>	19.87
<b>2016</b>	23.59
<b>2017</b>	25.80
<b>2018</b>	28.01
<b>2019</b>	30.22
<b>2020</b>	32.42
<b>2021</b>	36.75
<b>2022</b>	41.07
<b>2023</b>	45.39
<b>2024</b>	49.72
<b>2025</b>	54.04
<b>2026</b>	58.36
<b>2027</b>	62.69
<b>2028</b>	67.01
<b>2029</b>	71.33

2030 75.65

## Annex A

**Chart 1: Updated traded carbon values used for modelling purposes (excluding Carbon Price Floor)**



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