

Mr Andrew Montford

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Dear Mr Montford

Ref: IC-46878-R8K0

## Freedom of Information Act 2000

In your request on 13 June 2019, you asked for the following information:

*"I understand that the Treasury recently gave the cost of reaching net zero carbon emissions by 2050 as £1 trillion. I would like a copy of the underlying calculations so I can understand how this figure was derived."*

Further to the Information Commissioner's Decision Notice of IC-46878-R8K0, we are now releasing the information requested at Annex A and have provided more detail in our response below. Please note that 'CX' is standard shorthand used in the Treasury for the Chancellor of the Exchequer whilst as is standard practice, the names of the relevant civil servants have been redacted.

BEIS are currently undertaking work with other government departments to update their estimate of the cost of the transition to Net Zero in their response to the CCC's advice on setting Carbon Budget Six.

The costs of the transition are highly uncertain. This was especially the case when the £1 trillion estimate was generated in 2019. When the Climate Change Committee (CCC) first published their advice in 2019 to set the Net Zero 2050 target they were "deliberately cautious" in their approach due to this uncertainty, stating:

*"Our scenarios are based on existing technologies and make conservative assumptions around their development and take-up of low-carbon behaviours."*

This uncertainty has been further illustrated in the CCC's Carbon Budget Six report, which highlighted the extent to which costs can change with a different technology mix. The estimates rely on assumptions about future technology cost curves, future technology choices, efficiency gains, wider economy impacts, behaviour change and do not account for wider benefits such as improved air quality. The initial 2050 cost estimate of £70bn, produced by BEIS, related to a single, illustrative scenario of how the UK could meet a net zero target in 2050 and continues to be under development.

In December 2020 the HM Treasury Net Zero Review Interim report (Chapter 3) outlined a summary of the CCC's latest costs and their limitations:

<https://www.gov.uk/government/publications/net-zero-review-interim-report>

Later this year, BEIS in their Net Zero Strategy and HM Treasury in the Net Zero Review final report will present the government's view on the costs of meeting the Net Zero 2050 target.

Yours sincerely

Information Rights Unit

12 June 2019

CX also asked for an explanation of the £1 trillion cost figure – see below.

- You asked how HMT came to the £1 trillion cost figure for net zero.
- The CCC estimate that meeting net zero will cost £50bn annually in 2050. BEIS estimates put the figure at £70bn per annum. We consider the BEIS figure to be more realistic.
- These are net costs: gross costs would be even higher but are partially offset by cost savings in certain sectors, such as buildings (through energy efficiency), power (through cheap renewables) and road transport (where EVs will become cheaper than petrol/diesel cars during the 2020s). However, these figures do not capture the wider co-benefits of decarbonisation, such as better air quality.
- We do not know the profile of these costs, although the CCC argue that the UK should frontload its decarbonisation trajectory. On the assumption that the UK currently spends c. £15bn p.a. on decarbonisation, and that we adopt a straight line cost trajectory to 2050, spending would rise from £15bn to £50/70bn p.a. over the next 30 years.
- This equates to £975bn of total costs using the CCC figures (green area in the graph below) and £1,275bn using the BEIS estimates (green and blue areas). Costs will also continue on an ongoing basis post 2050. A number of commentators have acknowledged that costs are likely to be around the £1 trillion mark e.g. BBC editorial, Lord Adair Turner (former CCC Chair).
- No10 and BEIS have distanced themselves from the £1 trillion figure. We have suggested using the following public lines.

Does this mean that HMT has signed up to the costs of £1 trillion of meeting net zero?

- All experts have stated that a move to a net zero economy will generate significant costs and challenges, as well as benefits. The Committee on Climate Change say this will cost £50bn annually in 2050.
- But what is important is that we consider how to pay for this without pushing costs unfairly onto households and businesses, or damaging the economy.
- That is why I have accepted the CCC's recommendation to conduct a review into the costs of decarbonisation.

