



HM Treasury

# Environmental Discount Rate

## Review

## Conclusion

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September 2021

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# Summary and findings

- 1.1 Social discounting allows proposals of different lengths and with different profiles of costs and benefits to be compared on a common basis. The Green Book's social time preference discount rate measures the rate at which society values the present compared to the future and provides a time series of discount factors which are applied to costs and benefits in appraisal. The UK's approach to social discounting and calibration of the headline 3.5% rate was subject to academic review in 2018<sup>1</sup>.
- 1.2 The Green Book Review 2020<sup>2</sup> announced an expert, external review to examine the application of this discount rate to environmental impacts, considering the interaction with valuation approaches. HM Treasury consulted leading economic experts in this field which culminated in two academic round tables, to examine whether there is a theoretically justified case for lowering the discount rate for environmental effects.
- 1.3 The review concludes that the Green Book should not change the discount rate for environmental impacts. This was deemed to be an imprecise way of accounting for effects such as lack of substitutability and increasing scarcity in the environment. The interaction with valuation approaches was also considered and how these effects can already be adequately accounted for in the Green Book methodology through relative price adjustments and the uprating of values over the appraisal period. This approach is consistent with the recent Dasgupta Review on the Economics of Biodiversity.<sup>3</sup>
- 1.4 In particular, the academics favoured improved valuation for environmental impacts and updating these estimates to reflect latest evidence. A key example of this is supplementary guidance to the Green Book on the valuation of Greenhouse Gas Impacts developed by the Department for Business, Energy and Industrial Strategy (BEIS). In September 2021, BEIS published updated values for the impact of Greenhouse Gas Emissions, to reflect latest evidence and the UK's net zero target. Reflecting these updates in appraisal leads to an increase in the cost estimates resulting from increased emissions.
- 1.5 The Green Book is continuously developed and maintained in line with best practice. This includes current work with academics on new guidance on the valuation of biodiversity in appraisal, as well as continuously maintaining and updating the range of valuation approaches outlined in the Green Book and its supplementary guidance. Updates such as these follow a well-established process of peer review led by the Chief Economist Appraisal Group.

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<sup>1</sup> Green Book Supplementary Document: Social discount rates for Cost-Benefit Analysis: A Report for HM Treasury. <https://www.gov.uk/government/publications/green-book-supplementary-document-social-discount-rates-for-cost-benefit-analysis-a-report-for-hm-treasury>

<sup>2</sup> Final Report of the 2020 Green Book Review. <https://www.gov.uk/government/publications/final-report-of-the-2020-green-book-review>

<sup>3</sup> The Economics of Biodiversity: The Dasgupta Review – Full Report. <https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review>

- 1.6 HM Treasury would like to thank the academics who took part in this review for their valuable contributions, as well as analysts and Chief Economists who provided their time and contributions.

## HM Treasury contacts

This document can be downloaded from [www.gov.uk](http://www.gov.uk)

If you require this information in an alternative format or have general enquiries about HM Treasury and its work, contact:

Correspondence Team  
HM Treasury  
1 Horse Guards Road  
London  
SW1A 2HQ

Tel: 020 7270 5000

Email: [public.enquiries@hmtreasury.gov.uk](mailto:public.enquiries@hmtreasury.gov.uk)