United Kingdom Country Report

United Kingdom

Nationally Determined Contribution (NDC) Summary[1]

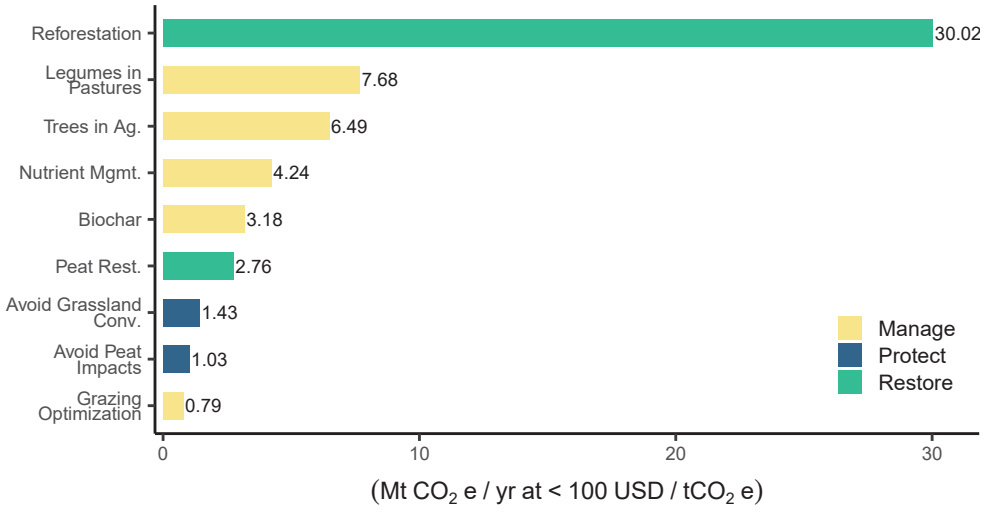
The EU and its Member States are committed to a binding target of an at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990, to be fulfilled jointly, as set out in the conclusions by the European Council of October 2014.

NDC Target[2] & NCS Mitigation[3]

NDC Reduction Target	Estimated NDC Emission Reductions
40%	**319**
Base year target	Mt CO_2e/yr

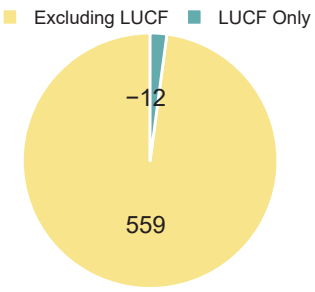
Maximum NCS Mitigation Potential	Cost-effective NCS Mitigation Potential
96	**42**
Mt CO_2e/yr	Mt CO_2e/yr

Cost-effective mitigation potential of NCS actions[3]

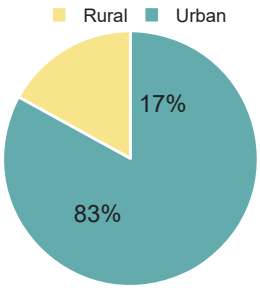


National Level Indicators

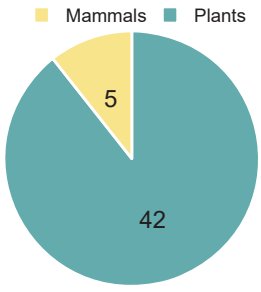
Average Annual Emissions[4]
(Mt CO_2e/yr)



Population[5]
(%)



Species Threatened[6]
(number)



Biodiversity Index[7]	**0.32**
SDG Index[8]	**79**
Climate Risk[1]	**Medium-High**

Data Sources

Country level pathway estimates are approximations based primarily on global datasets. Conducting refined regional/national assessments to improve estimates is encouraged. Pathway estimates do not use official national datasets and/or baseline setting procedures, nor do they use national definitions of accounting pools, therefore caution should be taken when comparing these NCS estimates with country NDCs or results available from national accounting systems.

[1 https://www.climatewatchdata.org, https://germanwatch.org/en/cri], [2 Baruch-Mordo et al., 2018; http://climatecollege.unimelb.edu.au/], [3 Griscom et. al., 2017; Lipsett-Moore et al., 2018; Fargione et al., 2018; Sanderman et al., 2018; Busch et al., 2019; Griscom et. al., 2020; Chapman et al., 2020; Liu et al., 2020; Cook-Patton et al., 2020], [4 http://cait.wri.org], [5 https://datacatalog.worldbank.org], [6 https://www.iucn.org], [7 https://www.cbd.int/gbo1], [8 https://www.sdgindex.org]

NCS Country Report - data descriptions and references

[1] NDC Summaries and Climate Risk

NDC Summary: Sourced from the NCD Registry, The World Resources Institute, each country's latest Nationally Determined Contribution (NDC) submission to the UNFCCC.

Climate Risk: Indicates a level of exposure and vulnerability to more frequent and/or more severe climatic events for which countries should prepare. It analyses to what extent countries have been affected by the impacts of weather-related loss events such as storms, floods, heat waves). Developed by Germanwatch, it analyses the quantified impacts in terms of fatalities, as well as economic losses that have occurred based on data from the Munich RE NatCatSERVICE

- Climate Watch. 2019. Washington, D.C.: World Resources Institute. https://www.climatewatchdata.org
- Germanwatch. 2019. Global Climate Risk Index 2019, Available online at: https://germanwatch.org/en/cri

[2] NDC targets

The "Estimated NDC Emission Reductions" are a country's annual GHG emission reductions upon meeting their reduction target goal - determined by multiplying a country's "NDC Reduction Target" (%) by the country's NDCs-specified reference emissions. (Baruch-Mordo et al. 2018).

- Baruch-Mordo, S., Kiesecker, J., Kennedy, C. M., Oakleaf, J. R., & Opperman, J. J. (2018). From Paris to practice: Sustainable implementation of renewable energy goals. Environmental Research Letters. https://doi.org/10.1088/1748-9326/aaf6e0
- Fenhann, Joergen. 2018. Pledge Pipeline | Climate Change. Available online at: http://www.unep.org/climatechange/resources/pledge-pipeline.

[3] NCS Mitigation

The potential proportion of climate change mitigation provided by the restoration, protection and improved management of natural and agricultural systems. The "Maximum NCS Potential" represents the total climate mitigation potential of a country's available climate mitigation pathways **without cost constraints**. The "Cost-effective Potential" shows the amount of a country's available climate mitigation pathways that are considered cost-effective ($100 USD/tonne CO_2e in 2030) based on globally derived marginal abatement costs.

- Cook-Patton, S.C., S.M. Leavitt, D. Gibbs, N.L. Harris, K. Lister, … B. W. Griscom (2020) Mapping Potential Carbon Capture from Global Natural Forest Regrowth. Nature, https://doi.org/10.1038/s41586-020-2686-x
- Busch, J., Engelmann, J., Cook-Patton, S. C., Griscom, B. W., Kroeger, T., Possingham, H., & Shyamsundar, P. (2019). Potential for low-cost carbon dioxide removal through tropical reforestation. Nature Climate Change. https://doi.org/10.1038/s41558-019-0485-x
- Chapman, M., Walker, W. S., Cook-Patton, S. C., Ellis, P. W., Farina, M., Griscom, B. W., & Baccini, A. (2020). Large climate mitigation potential from adding trees to agricultural lands. Global Change Biology, gcb.15121. https://doi.org/10.1111/gcb.15121
- Griscom, B. W., Adams, J., Ellis, P. W., Houghton, R. A., Lomax, G., Miteva, D. A., … Fargione, J. (2017). Natural climate solutions. *Proceedings of the National Academy of Sciences*, *114*(44), 11645–11650. https://doi.org/10.1073/pnas.1710465114

- Griscom, B. W., Busch, J., Cook-Patton, S. C., Ellis, P. W., Funk, J., Leavitt, S. M., … Worthington, T. (2020). National mitigation potential from natural climate solutions in the tropics. Philosophical Transactions of the Royal Society B: Biological Sciences, 375(1794), 20190126. https://doi.org/10.1098/rstb.2019.0126
- Fargione, J. E., Bassett, S., Boucher, T., Bridgham, S. D., Conant, R. T., Cook-Patton, S. C., … Griscom, B. W. (2018). Natural climate solutions for the United States. Sci. Adv (Vol. 4). Retrieved from http://advances.sciencemag.org/
- Lipsett-Moore, G. J., & Wolff, N. H. (n.d.). Countries From Early Dry Season Fi Re Management. Nature Communications, (2018), 1–8. https://doi.org/10.1038/s41467-018-04687-7
- Sanderman J, Hengl T, Fiske GJ. Soil carbon debt of 12,000 years of human land use [published correction appears in Proc Natl Acad Sci U S A. 2018 Feb 5;:]. Proc Natl Acad Sci U S A. 2017;114(36):9575-9580. https://doi:10.1073/pnas.1706103114
- Liu H., Gong P., Wang J., Clinton N., Bai Y., Liang S. Annual dynamics of global land cover and its long-term changes from 1982 to 2015. Earth Syst. Sci. Data, 2020. https://doi:10.5194/essd-12-1217-2020

[4] Emissions Data

Emissions are reported as a county's annual emissions between the years 2004 and 2014 (Boden et al. 2017). Data for Land-Use and Forestry indicator are provided by the Food and Agriculture Organization of the United Nations (FAO).

- CAIT Climate Data Explorer. 2017. Washington, DC: World Resources Institute. Available online at: http://cait.wri.org
- Boden, T.A., G. Marland, and R.J. Andres. 2017. Global, Regional, and National Fossil-Fuel CO2 Emissions. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A. doi 10.3334/CDIAC/00001_V2017. Available online at: http://cdiac.ornl.gov/trends/emis/overview_2014.html.
- Food and Agriculture Organization of the United Nations (FAO). 2016. FAOSTAT Emissions Database. Rome, Italy: FAO. Available at: http://www.fao.org/faostat/en/#data

[5] Population Data

Produced by The World Bank staff estimates of the United Nations Population Division's World Urbanization Prospects 2018 Revision for a country's rural population as a percentage of its total population

- https://data.worldbank.org/indicator

[6] Species Threatened

Sourced from the United Nations Environmental Programme, the World Conservation Monitoring Centre, and the International Union for Conservation of Nature Red List of Threatened Species. Mammal species exclude whales and porpoises. Plant species are based on higher plants - native vascular plant types. Threatened species are the number of species classified by the IUCN as endangered, vulnerable, rare, indeterminate, out of danger, or insufficiently known.

- https://data.worldbank.org/indicator

[7] Biodiversity Index

The National Biodiversity Index is based on estimates of country richness and endemism in four terrestrial vertebrate classes and vascular plants; vertebrates and plants are ranked equally; index values range between a low of 0 and high of 1. The Index includes some adjustment allowing for country size. Countries with land area less than 5,000 km^2 are excluded.

- Copyright ©, Secretariat of the Convention on Biological Diversity Global Biodiversity Outlook, ISBN: 1020-9387. https://www.cbd.int/gbo1/annex.shtml

[8] SDG Index

The SDG Index presents an assessment of countries' ability to achieve the Sustainable Development Goals (SDGs) on a scale from a low of 0 to a high of 100.

- Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G. (2018): SDG Index and Dashboards Report 2018. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).
- https://www.sdgindex.org/reports/sdg-index-and-dashboards-2018/