United Nations

Framework Convention on Climate Change

FCCC/ETF/TERR.1/2024/GBR

Distr.: General
17 October 2025

English only

Report on the technical expert review of the first biennial transparency report of the United Kingdom of Great Britain and Northern Ireland

Summary

This report presents the results of the technical expert review of the first biennial transparency report of the United Kingdom of Great Britain and Northern Ireland, conducted by a technical expert review team in accordance with the modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement. The review took place from 19 to 23 May 2025 in London.

Abbreviations and acronyms

A6.4ER	emission reduction under Article 6, paragraph 4, of the Paris Agreement
BTR	biennial transparency report
CARIB	Climate Adaptation Research and Innovation Board
CCRA	Climate Change Risk Assessment
CER	certified emission reduction
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CRT	common reporting table
CTF	common tabular format
DEFRA	Department for Environment, Food and Rural Affairs of the Government of the United Kingdom of Great Britain and Northern Ireland
GBP	pound(s) sterling
GHG	greenhouse gas
HFC	hydrofluorocarbon
ICF	international climate finance
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
ITMO	internationally transferred mitigation outcome
LULUCF	land use, land-use change and forestry
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
N_2O	nitrous oxide
NA	not applicable
NAP	National Adaptation Programme
NDC	nationally determined contribution
NE	not estimated
NF_3	nitrogen trifluoride
PaMs	policies and measures
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
SF_6	sulfur hexafluoride
TERT	technical expert review team
WAM	‘with additional measures’
WM	‘with measures’

I. Introduction and summary

A. Introduction

1. This report covers the technical expert review of the BTR1 of the United Kingdom of Great Britain and Northern Ireland. The review was organized by the secretariat and conducted by the TERT in accordance with the MPGs,[1] particularly chapter VII thereof. The United Kingdom, on a voluntary basis, requested the secretariat to organize a review of the information reported pursuant to chapter IV of the MPGs as part of the technical expert review.[2] The outcome of the voluntary review is presented in annex I.

2. A draft version of this report was transmitted to the Government of the United Kingdom, which provided comments that were taken into account, as appropriate, in this final version of the report.[3]

3. The review was conducted as an in-country review from 19 to 23 May 2025 in London by the following team of nominated experts from the UNFCCC roster of experts: Oumar Bakayoko (Côte d'Ivoire), Zhuolun Chen (United Nations Environment Programme), Ana-Maria Danila (European Union), Thomas Grammig (Germany), Eray Ozdemir (Türkiye), Jacqueline Pham (Australia), Marcelo Theoto Rocha (Brazil), Hiroyuki Ueda (Japan) and Shanshan Yang (China). Ana-Maria Danila and Marcelo Theoto Rocha were the lead reviewers. The review was coordinated by Javier Hanna Figueroa (secretariat).

B. Scope

4. The TERT conducted a technical expert review of the information reported in the BTR1 of the United Kingdom as per the scope of the review defined in paragraph 146 of the MPGs and decision 9/CMA.4, consisting of:

(a) Review of the consistency of the information submitted by the Party under Article 13, paragraphs 7 and 9, of the Paris Agreement with the MPGs (see chap. II.A below);

(b) Consideration of the Party's implementation and achievement of its NDC under Article 4 of the Paris Agreement (see chap. II.B below);

(c) Consideration of the support provided by the Party, as relevant (see chap. II.C below);

(d) Identification of areas of improvement[4] for the Party related to implementation of Article 13 of the Paris Agreement (see chap. II.D below);

(e) Voluntary review of the information reported by the Party pursuant to chapter IV of the MPGs (see annex I).

C. Summary

5. The United Kingdom submitted its BTR1 on 24 December 2024, before the deadline of 31 December 2024 mandated in decision 18/CMA.1. The United Kingdom also submitted its national inventory document as a stand-alone document on 24 December 2024, before the deadline of 31 December 2024. The United Kingdom further submitted its CRTs on 24 December 2024, before the deadline of 31 December 2024, which were resubmitted on 29 December 2024.[5] Its CTF tables for reporting information necessary to track progress in implementing and achieving NDCs were submitted on 24 December 2024, before the deadline of 31 December 2024, and its CTF tables for reporting information on financial,

[1] Decision 18/CMA.1, annex.
[2] See decision 9/CMA.4, para. 1.
[3] As per para. 162(e) of the MPGs.
[4] As referred to in paras. 7, 8, 146(d) and 162(d) of the MPGs.
[5] The technical expert review was conducted on the basis of the version of the CRTs submitted on 29 December 2024.

technology development and transfer, and capacity-building support provided and mobilized were submitted on 26 February 2025. The TERT noted the delay in the submission of the latter CTF tables.

6. A list of the areas of improvement identified on the basis of the review of the consistency of the reported information with the MPGs can be found in the assessment tables.[6]

D. Information provided by the Party pursuant to paragraphs 143–145 of the modalities, procedures and guidelines

7. The United Kingdom considers itself a developed country Party under the Paris Agreement and as such did not report information on support needed and received for implementing Article 13 of the Paris Agreement and transparency-related activities, including for transparency-related capacity-building.

II. Technical expert review[7]

A. Review of the consistency of the submitted information with the modalities, procedures and guidelines[8]

1. National inventory report[9]

8. The TERT assessed the information reported in the BTR1 of the United Kingdom and identified areas of improvement relating to consistency with the MPGs, which are described in tables 3–7 of the assessment tables referred to in paragraph 6 above and summarized in table 1.

[6] Contained in document FCCC/ETF/TERR.1/2024/GBR/Add.1, available at https://unfccc.int/first-biennial-transparency-reports.
[7] As per para. 187 of the MPGs.
[8] As per para. 146(a) of the MPGs.
[9] As per para. 150(a) of the MPGs.

Table 1
Information reported in the United Kingdom's national inventory report and review of consistency with the modalities, procedures and guidelines

Element	*Elements of information to be reported*	*Summary of information reported*	*ID#(s) for the area(s) of improvement identified*[a]
Submission type (para. 12 of the MPGs)	Has the national inventory report been submitted as a stand-alone document?	Yes	No areas of improvement were identified
Time series (paras. 57–58 of the MPGs)	What years have been reported and is the time series in accordance with the MPGs?	1990–2022 in accordance with the MPGs	No areas of improvement were identified
Metrics (para. 37 of the MPGs)	Has the Party used the 100-year global warming potential values from the IPCC Fifth Assessment Report?	Yes	No areas of improvement were identified
	Has the Party used other metrics?	No	No areas of improvement were identified
Gases (paras. 47–49 and 51 of the MPGs)	Which gases have been reported?	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3	No areas of improvement were identified
Indirect emissions (para. 52 of the MPGs)	Has the Party reported indirect CO_2 emissions and national totals with and without indirect CO_2?	No	No areas of improvement were identified
	Has the Party reported indirect N_2O emissions from sources other than those in the agriculture and LULUCF sectors as a memo item?	Yes	No areas of improvement were identified
National circumstances and institutional arrangements (paras. 18–19 of the MPGs)	Has the Party reported information on the functions related to inventory planning, preparation and management?	Yes	No areas of improvement were identified
Methodologies, parameters and data (paras. 20–24 of the MPGs)	Has the Party used the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*?	Partly	4.I.1
	Has the Party used other IPCC methodological guidance?	Yes, the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* and the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*	No areas of improvement were identified
Key category analysis (paras. 25 and 41–42 of the MPGs)	Has the Party reported a key category analysis?	Yes, a key category analysis was performed using approach 1 and 2 and a	No areas of improvement were identified

Element	*Elements of information to be reported*	*Summary of information reported*	*ID#(s) for the area(s) of improvement identified*[a]
		95 per cent threshold for level and trend assessment for the starting year (1990) and the latest reporting year (2022) and with and without LULUCF	
Time-series consistency and recalculations (paras. 26–28 and 43 of the MPGs)	Has the Party reported a consistent time series?	Yes	No areas of improvement were identified
	Has the Party provided justification and explanatory information for recalculations?	Yes	No areas of improvement were identified
Uncertainty assessment (paras. 29 and 44 of the MPGs)	Has the Party reported the results of the uncertainty analysis and the methods used, underlying assumptions and trends?	Partly	5.A.4
QA/QC plan and procedures (paras. 34–36 and 46 of the MPGs)	Has the Party elaborated information on an inventory QA/QC plan, including information on the inventory agency responsible for implementing QA/QC, and current and future QA/QC procedures?	Partly	5.A.2
Assessment of completeness (paras. 30–33, 45, 47 and 50 of the MPGs)	Have any areas of improvement for lack of completeness been identified for the following sectors?		
	Energy	No	No areas of improvement were identified
	IPPU	No	No areas of improvement were identified
	Agriculture	Yes	5.A.5
	LULUCF	No	No areas of improvement were identified
	Waste	Yes	7.W.2
Threshold for reporting significant categories (para. 32 of the MPGs)	For categories reported as “NE” owing to insignificance, has information been reported showing that the likely level of emissions is below the threshold of significance?	Yes	No areas of improvement were identified

Element	*Elements of information to be reported*	*Summary of information reported*	*ID#(s) for the area(s) of improvement identified*[a]
Methodologies, emission factors, parameters and activity data (paras. 39–40 and 53–56 of the MPGs)	Has information been reported on categories, gases, methodologies (including the rationale for selecting them), emission factors and activity data at a disaggregated level for the following sectors?		
	Energy	Partly	3.E.1, 3.E.2
	Has information been reported on international aviation and marine bunker fuel emissions as two separate entries and such emissions distinctly reported from national totals?	Yes	NA
	Has information been reported indicating how feedstocks and non-energy use of fuels have been accounted for in the inventory, under the energy or IPPU sector?	Yes	NA
	IPPU	Partly	4.I.2
	Agriculture	Partly	5.A.1
	LULUCF	Partly	6.L.2, 6.L.3, 6.L.4, 6.L.5
	Did the Party provide information on the approach taken to address emissions and subsequent removals from natural disturbances on managed land in a manner consistent with IPCC guidance, and indicate whether the estimates are included in national totals?	No	6.L.1
	Waste	Partly	7.W.1, 7.W.3, 7.W.4, 7.W.5

[a] See document FCCC/ETF/TERR.1/2024/GBR/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.

2. Information necessary to track progress in implementing and achieving the nationally determined contribution[10]

9. The TERT assessed the information reported in the BTR1 of the United Kingdom and identified areas of improvement relating to consistency with the MPGs, which are described in tables 8, 11 and 13 of the assessment tables referred to in paragraph 6 above and summarized in table 2.

Table 2
Information reported in the United Kingdom's submission

Topic	*ID#(s) for the area(s) of improvement identified*[a]
National circumstances and institutional arrangements (paras. 59–63 of the MPGs)	8.1
Description of the NDC under Article 4 of the Paris Agreement, including updates (para. 64 of the MPGs)	No areas of improvement were identified
Information necessary to track progress in implementing and achieving the NDC under Article 4 of the Paris Agreement (paras. 65–79 of the MPGs)	No areas of improvement were identified
Mitigation PaMs, actions and plans related to implementing and achieving the NDC under Article 4 of the Paris Agreement (paras. 80–90 of the MPGs)	11.1, 11.3, 11.4
Summary of GHG emissions and removals (para. 91 of the MPGs)	No areas of improvement were identified
Projections of GHG emissions and removals (paras. 92–102 of the MPGs)	No areas of improvement were identified[b]

[a] See document FCCC/ETF/TERR.1/2024/GBR/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.
[b] See document FCCC/ETF/TERR.1/2024/GBR/Add.1 for the encouragement under ID# 13.1 not included in this table.

3. Financial, technology development and transfer, and capacity-building support provided[11]

10. The United Kingdom reported information on financial, technology development and transfer, and capacity-building support provided under Articles 9–11 of the Paris Agreement.

11. The TERT assessed the information reported in the BTR1 of the United Kingdom and identified areas of improvement relating to consistency with the MPGs, which are described in tables 15–16 and 19–20 of the assessment tables referred to in paragraph 6 above and summarized in table 3.

Table 3
Review of the consistency of the information on financial, technology development and transfer, and capacity-building support reported in the United Kingdom's submission with the modalities, procedures and guidelines

Topic	*ID#(s) for the area(s) of improvement identified*[a]
National circumstances and institutional arrangements (paras. 119–120 of the MPGs)	15.1, 15.2
Underlying assumptions, definitions and methodologies (paras. 121–122 of the MPGs)	16.1
Information on financial support provided under Article 9 of the Paris Agreement (paras. 123–124 of the MPGs)	No areas of improvement were identified

[10] As per para. 150(b) of the MPGs.
[11] As per para. 150(c) of the MPGs.

Topic	*ID#(s) for the area(s) of improvement identified*[a]
Information on support for technology development and transfer provided under Article 10 of the Paris Agreement (paras. 126–127 of the MPGs)	19.1
Information on capacity-building support provided under Article 11 of the Paris Agreement (paras. 128–129 of the MPGs)	20.1, 20.2

[a] See document FCCC/ETF/TERR.1/2024/GBR/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.

B. Consideration of the Party's implementation and achievement of its nationally determined contribution[12]

12. In considering the United Kingdom's progress in implementing and achieving its NDC, the TERT noted that the NDC[13] is a commitment to reduce national economy-wide net GHG emissions by at least 68 per cent by 2030 compared with the reference-year (1990 for CO_2, CH_4 and N_2O, and 1995 for HFCs, PFCs, SF_6 and NF_3) level, expressed as a single-year target for 2030. The implementation period of the NDC is 1 January 2021 to 31 December 2030 and the territorial scope covers England, Scotland, Wales and Northern Ireland, the three Crown dependencies (the Bailiwicks of Jersey and Guernsey, and the Isle of Man) and one overseas territory (Gibraltar), which the United Kingdom's ratification of the Paris Agreement has been extended to cover. The NDC covers the energy (including transport), IPPU, agriculture, LULUCF and waste sectors, and includes all seven GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3), which is consistent with the sectoral and gas scope of the total net emissions reported in the national GHG inventory.

13. The indicator that the United Kingdom selected to track progress in implementing and achieving its NDC is described in table 4.

Table 4
Description of the indicator selected by the United Kingdom to track progress in implementing and achieving its nationally determined contribution

NDC target	*Indicator*	*Description*
Reducing net GHG emissions by at least 68 per cent by 2030 compared with the reference-year level	Net GHG emissions and removals in Mt CO_2 eq	The indicator in the reference year (1990 for CO_2, CH_4 and N_2O, and 1995 for HFCs, PFCs, SF_6 and NF_3) will be calculated using the data in the national GHG inventory for 1990–2030, submitted in 2032; the value for the target year (2030) will be calculated by applying a fixed 68 per cent reduction target to the indicator value

Source: The United Kingdom's BTR1.

14. The TERT noted that the contribution of LULUCF to achieving the NDC is included in the Party's base-year level and target-year level and that the United Kingdom has not used units from cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement or the mechanism established by Article 6, paragraph 4, of the Paris Agreement towards the achievement of its NDC.

15. Table 5 summarizes information on progress in implementing the NDC based on net GHG emissions and removals expressed in kt CO_2 eq taking into account the type of the United Kingdom's NDC target, including quantitative values for the base year, implementation period, including the most recent year available, and target year.

[12] As per para. 146(b) of the MPGs.

[13] The consideration of the Party's implementation and achievement of its NDC is in the context of the NDC submitted by the United Kingdom on 22 September 2022. The TERT noted that the Party submitted a new NDC on 30 January 2025.

Table 5
Summary of information on the United Kingdom's progress in implementing and achieving its nationally determined contribution

(kt CO_2 eq)

	Net GHG emissions and removals	*Contribution of LULUCF, as applicable*	*ITMOs, A6.4ERs and/or CERs used towards NDC, as applicable*	*Indicator adjusted for contribution of LULUCF and ITMOs, A6.4ERs and/or CERs used towards NDC, as applicable*
NDC base year (1990 for CO_2, CH_4 and N_2O, and 1995 for HFCs, PFCs, SF_6 and NF_3)	817 137.93			
2021	422 660.37	NA	NA	NA
2022	407 813.80	NA	NA	NA
Target level (2030)				261 484.14

Sources: The United Kingdom's BTR1 and CTF table 4.

16. According to the most recent information on net GHG emissions and removals provided in CTF table 4, in 2022 the United Kingdom's net GHG emissions and removals were 407,813.80 kt CO_2 eq. The indicator is 50.1 per cent (409,324.14 kt CO_2 eq) below the emission level corresponding to the base-year level and 56.0 per cent (146,329.66 kt CO_2 eq) above the emission level corresponding to the target level in 2030.

17. The United Kingdom reported information on the actions and PaMs that support the implementation and achievement of its NDC. Table 6 provides a summary of the reported information on the key PaMs of the United Kingdom.

Table 6
Summary of information on key policies and measures reported by the United Kingdom

Sector	*Key PaMs*	*Estimate of mitigation impact in 2030 (kt CO_2 eq)*	*Estimate of mitigation impact in 2050 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	Net Zero Strategy	NE	NE
	Emissions Trading Scheme[a]	NE	NE
Energy			
Energy efficiency	Building regulations Part L (2021)[a]	2 051.61	3 068.20
Energy supply and renewables	Clean Power 2030 Action Plan	NE	NE
Transport	Car policies (CO_2 standards, zero-emission vehicle mandates, Local Electric Vehicle Infrastructure fund)[a]	23 120.80	63 500.45
	Van (light-goods vehicle) policies[a]	5 839.22	14 355.01
	Heavy-goods vehicle policies[a]	3 637.94	8 219.74
IPPU	Fluorinated gas regulations[a]	6 657.17	16 107.75
Agriculture	Environmental Land Management schemes	NE	NE
LULUCF	England Trees Action Plan	NE	NE
Waste	Resources and Waste Strategy	NE	NE

Sources: The United Kingdom's BTR1 and CTF table 5.
[a] Included in the WM scenario projections.

18. The TERT noted that the Party's PaMs have started to have an impact on GHG emission reductions. GHG emissions have declined by over 50 per cent since 1990 in all sectors, while emissions from transport (within the energy sector) and the agriculture sector,

although decreasing, have remained comparatively stable. The decreasing trend has been driven predominantly by the decrease in emissions from the energy sector, with reductions notably due to improvements in end-use efficiency and economy-wide fuel switching from carbon-intensive fossil fuels, such as coal, and to greater use of natural gas, nuclear power and renewable energy sources. The TERT also noted that the Party's strategies and PaMs linked to the Net Zero Strategy published in 2021, which sets out the country's plans for achieving subsequent carbon budgets, the NDC and its vision for a decarbonized economy in 2050, were either adopted in 2021–2022 or are planned; thus their effects on emission trends are not yet visible. They include the United Kingdom Emissions Trading Scheme, under which the emission cap was aligned in 2024 with the net zero target, as well as measures for meeting targets under the Clean Power 2030 Action Plan and measures stemming from the Transport Decarbonisation Plan.

19. The TERT further noted that the institutional arrangements established at the national and subnational level in the United Kingdom facilitate economy-wide emission mitigation actions. The Climate Change Act 2008 sets out legally binding emission limits for the United Kingdom over five-year periods. In addition, each of the devolved governments (of Scotland, Wales and Northern Ireland), as well as the three Crown dependencies and Gibraltar, have set their own emission targets and carbon budgets, with institutional arrangements in place to enable implementation of measures and monitoring of progress towards achieving the targets, which are intended to contribute to the United Kingdom's ability to achieve the NDC goal.

20. The United Kingdom reported projections for 2023–2050 under the WM scenario.[14] The WM scenario reported by the Party includes PaMs implemented and adopted until June 2024. In addition to the WM scenario, the United Kingdom reported the WAM scenario. The projected emission levels are presented in table 7. The TERT noted that information on GHG emission projections was not used in considering the United Kingdom's progress in implementing its NDC.

Table 7
Summary of greenhouse gas emission projections for the United Kingdom

	GHG emissions (kt CO_2 eq/year)	*Change in relation to 2022 level (%)*	*Change in relation to 2020 level (%)*
Inventory data 2020	405 607.41	–0.5	NA
Inventory data 2022	407 813.80	NA	0.5
WM projections for 2030	335 215.91	–17.8	–17.4
WAM projections for 2030	328 463.88	–19.5	–19.0
WM projections for 2050	325 000.24	–20.3	–19.9
WAM projections for 2050	312 870.93	–23.3	–22.9

Sources: The United Kingdom's BTR1 and CTF tables 6–8.
Note: The projections are for GHG emissions with LULUCF and excluding indirect CO_2 emissions.

21. The TERT notes that, while the Party has already reduced its total net GHG emissions by 50.1 per cent compared with the base-year level, they need to be reduced by 146,329.66 kt CO_2 eq from the level in the most recent reported year (2022) to reach the target level. The TERT also notes that there are not yet enough data to sufficiently assess the Party's progress in implementing the NDC, as it is early in the implementation period (2021–2030). The TERT further notes that regular monitoring of net GHG emissions and removals and the results of mitigation actions allows adjustments to PaMs to be made as needed towards achieving the net GHG emission reduction of 146,329.66 kt CO_2 eq and thus achieving the target of reducing net GHG emissions by at least 68 per cent by 2030 compared with the base-year level.

[14] Note that, as per para. 93 of the MPGs, projections shall not be used to assess progress towards the implementation and achievement of an NDC under Article 4 of the Paris Agreement unless the Party has identified a reported projection as its baseline.

C. Consideration of the Party's support provided[15]

22. In its BTR1 the United Kingdom reported information on national circumstances and institutional arrangements relevant to reporting on the provision and mobilization of support. The Party reported information on the systems and processes used to identify, track and report on support provided; challenges and limitations; experience and good practices relating to public policy and regulatory frameworks for private climate financing and investment; and efforts to enhance the comparability and accuracy of the information reported on financial support provided. In this context, the Party reported on the spending reviews for four government departments responsible for delivering its committed ICF support (DEFRA, Department for Energy Security and Net Zero, Department for Science, Innovation and Technology and Foreign, Commonwealth and Development Office), to which the ICF budgets are allocated for 2021–2022 to 2025–2026. All ICF programmes apply four means for tracking and reporting support provided: theory of change with respective log frames, reviews, key performance indicators and evaluations. The TERT noted that several hundred programmes using these means for tracking and reporting support are publicly available, but aggregated information at the level of these four means is so far limited. The Independent Commission for Aid Impact produced in October 2024 four detailed recommendations for improving aggregated and disaggregated reporting, which are currently being implemented. For the BTR1, three case studies and three evaluation programmes were chosen to illustrate the range of means for incentivizing private financing. Collaboration with the Development Assistance Committee of the Organisation for Economic Co-operation and Development to harmonize United Kingdom reporting on provision of support is ongoing; in particular, key performance indicator 12 (2024) was developed to measure the amount of private funding mobilized for climate change as a result of ICF funding and forms part of the QA procedures across the four government departments. Key performance indicator results are added together for all relevant programmes to give results for the ICF portfolio.

23. The United Kingdom described its national circumstances and institutional arrangements relevant to the provision of technology development and transfer, and capacity-building support. The Party indicated in its BTR1 that each of the four government departments responsible for delivering its committed ICF support leads in its corresponding focus areas of work, and illustrated how these departments coordinate through four case studies. Such institutional arrangements are established from the bottom up for each ICF programme, while the Party's governance and approval processes that cover all technology development and transfer and capacity-building support facilitate coordination among the departments.

24. The United Kingdom's BTR1 contains key information on underlying assumptions, methodologies and definitions used by the Party to identify and/or report information on financial support provided. The Party described the general principles used to ensure that financial support provided addresses the needs and priorities of developing country Parties, so that all official development assistance is aligned with the goals of the Paris Agreement and, where possible, with countries' NDCs and adaptation plans. In particular, climate risk assessments are undertaken and carbon pricing is used in programme appraisals for ensuring consistency with the long-term goals of the Paris Agreement. No carbon credits are generated from official development assistance.

25. The United Kingdom's BTR1 contains key information on underlying assumptions, methodologies and definitions used by the Party to identify and/or report information on technology development and transfer, and capacity-building support provided. No specific assumptions or definitions that distinguish technology development and transfer from capacity-building were proposed. Four key performance indicators are described in the BTR1 that are used to monitor ICF technical assistance programmes, which cover countries supported, climate policies informed and emissions reduced or avoided. In particular, they are used to identify and/or report information on technology development and transfer, and capacity-building support provided. In addition, case studies taken from 30 clean energy research, development and demonstration platforms and programmes under the Ayrton Fund

[15] As per para. 146(c) of the MPGs.

(a United Kingdom ICF commitment for clean energy innovation) were reported in the BTR1 to illustrate strategies employed for supporting the development of new and improved technologies.

1. Financial support provided under the Article 9 of the Paris Agreement

(a) Bilateral, regional and other channels

26. The United Kingdom provided financial support through bilateral, regional and other channels with a widespread focus, covering 113 global projects, programmes or activities, 33 regional projects, programmes or activities and 118 individual country projects, programmes or activities (264 projects, programmes or activities were reported in total for 2022). The projects, programmes or activities that received financial support related to promoting renewable energy and energy efficiency, combating deforestation and other environmentally unsustainable land-use practices, translating climate targets into specific strategies and measures, developing new crop varieties and farming systems that are more productive and resilient to the effects of climate change, supporting early-stage testing and scale-up of innovative technologies and accelerating access to affordable, clean and modern energy, reducing the impacts of drought, hurricanes and floods by enabling earlier and more effective response and faster recovery, and accelerating climate change mitigation by improving the capacity and capability of key institutions in recipient countries to create a stable and predictable environment for climate projects. The majority of financial support provided through bilateral, regional and other channels was allocated to the following sectors: energy (12.8 per cent), agriculture (3.3 per cent), forestry (8.2 per cent), cross-cutting (65.2 per cent) and emergency response (5.5 per cent).

27. Table 8 summarizes information on financial support provided by the Party through bilateral, regional and other channels by type of support.

Table 8
Summary of financial support provided through bilateral, regional and other channels in 2021–2022 by the United Kingdom

	Amount (climate-specific) (face value – USD million)				*Share of total for bilateral, regional and other channels (%)*
Type of financial instrument	*Adaptation*	*Mitigation*	*Cross-cutting*	*Total*	
Grant	1 070.82	1 112.83	30.09	2 213.74	55.5
Equity	–	1 703.64	–	1 703.64	42.7
Other	–	74.11	–	74.11	1.9
Total	**1 070.82**	**2 890.58**	**30.09**	**3 991.49**	**–**
Share of total for bilateral, regional and other channels (%)	**26.8**	**72.4**	**0.8**	**100.0**	**–**

Sources: The United Kingdom's BTR1 and CTF table III.1.

(b) Multilateral channels

28. The United Kingdom provided financial support through multilateral channels, focusing mainly on funding global action through the Green Climate Fund (USD 355.26 million in 2022), the Climate Investment Funds (USD 174.69 million in 2022), the Global Environment Facility (USD 46 million in 2022), the Multilateral Fund for the Implementation of the Montreal Protocol (USD 13.85 million in 2022) and the Adaptation Fund (USD 18 million in 2022). The projects, programmes or activities that received financial support related to supporting low-carbon and climate-resilient economic growth, accelerating climate action by empowering transformations towards clean technology, energy access, climate resilience and sustainable forests, and financing adaptation projects and programmes in developing countries. The majority of financial support provided through multilateral channels was allocated to the following sectors: cross-cutting (76.4 per cent) and energy (23.1 per cent). The sectoral allocation parameters are less accurate than for bilateral channels

because these multilateral bodies do not record the support provided using the same sectors or categories.

29. Table 9 summarizes information on financial support provided by the Party through multilateral channels by type of support.

Table 9
Summary of financial support provided through multilateral channels in 2021–2022 by the United Kingdom
(USD million)

	Climate-specific inflows (face value)			
Institution	*Adaptation*	*Mitigation*	*Cross-cutting*	*Total*
Adaptation Fund	18.50	–	–	18.50
Food and Agriculture Organization of the United Nations	–	–	2.25	2.25
Global Environment Facility	74.70	74.70	–	149.40
Global Fund for Coral Reefs	4.93	–	6.88	11.81
Global Green Growth Institute	–	–	3.44	3.44
Global Plastic Action Partnership	2.26	1.31	–	3.56
International Cooperative Programme on Effects of Air Pollution on Natural Vegetation and Crops	–	–	0.19	0.19
IPCC	–	–	0.16	0.16
Multilateral Fund for the Implementation of the Montreal Protocol	–	34.08	–	34.08
Nagoya Protocol Implementation Fund	0.13	–	–	0.13
Ocean Risk and Resilience Action Alliance	1.51	–	–	1.51
Taskforce on Nature-Related Financial Disclosures	–	–	2.40	2.40
United Nations Convention to Combat Desertification	–	–	0.35	0.35
United Nations Environment Programme	0.22	–	–	0.22
UNFCCC	–	–	6.87	6.87
World Bank	370.85	666.86	7.50	1 045.21
Total	**473.10**	**776.95**	**30.03**	**1 280.07**
Share of total (%)	**37.0**	**60.7**	**2.3**	**100.0**

Sources: The United Kingdom's BTR1 and CTF table III.2.

30. In addition to the CTF tables, the Party provided textual information and complete tabular information (identifying recipients for each line and year of disbursement line) on support provided by the Crown dependencies. The Bailiwick of Jersey streamlined its overseas aid and development programme for six countries across three thematic areas: enhancement of dairy production, financial inclusion and conservation of livelihoods (e.g. USD 9.65 million for 2021–2022). Guernsey's overseas aid and development funds focused on charity programmes and disaster and emergency relief, which in many cases relate to or include elements helping to mitigate the impacts of climate change (e.g. USD 5.05 million for 2021–2022). The Isle of Man's international development funds were focused on addressing specific disaster situations, including climate-related emergencies such as flooding and cyclones, and projects tackling the causes and impacts of climate change (e.g. USD 2.1 million for 2021–2022).

2. Technology development and transfer support provided under the Article 10 of the Paris Agreement

31. The United Kingdom implemented a large portfolio of programmes related to technology development and transfer, including activities undertaken by both the public and the private sector. The Party employed the following strategies to support technology development and transfer via multilateral initiatives and large bilateral programmes: focusing on relevant technology areas, addressing the whole energy system and its applications, and covering all stages of the technology cycle. Several case studies were reported, covering foundational research, business accelerators, market-building and country demonstrators among 67 developing country Parties. Programmes were initiated in 2023–2024 by the Party with defined specific support for individual developing country Parties.

32. The United Kingdom provided support for the deployment and enhancement of the endogenous capacities and technologies of developing country Parties. Examples reported in the BTR1 include the Clean Climate Growth programme, involving support for improving data management and long-term planning in sub-Saharan Africa; the country programme BRILHO for increasing access to clean energy in Mozambique; and the Mission Efficiency Partnership, which funds the development of innovation road maps for industrial decarbonization in three countries and a toolkit facilitating support for improving energy efficiency by identifying priority sectors by country and leveraging existing tools under partner programmes and platforms. These examples illustrate the breadth of Ayrton Fund programmes, providing training on using tools for several countries and tailored support for individual countries, as well as support for developing and enhancing endogenous capacities by inviting national policy actors to express their needs. In addition, the support for developing national expertise reported by the Party under technology development includes support for private and public sector organizations in all targeted developing country Parties.

33. The United Kingdom encouraged private sector activities aimed at supporting developing country Parties with technology development and transfer. The BTR1 presents three examples of investment in early-stage testing and scale-up of new clean energy technologies and business models for developing countries, leveraging additional private investment in clean energy research, innovation and scale-up, and supporting innovators, start-ups, expansion of clean energy business and transport decarbonization in low- and middle-income countries. The Party's ICF covers all stages of the technology cycle, business models and market phases, while the Ayrton Fund and British International Investment focus covers all developing country Parties.

34. The United Kingdom engaged in measures and activities related to technology innovation, including research, development and deployment, using a collaborative approach. The Party reported on the knowledge generated from the support provided for technology development and transfer to developing country Parties. As examples of these measures and activities, the Party reported on activities under the International Science Partnerships Fund and the Transforming Energy Access platform for accelerating innovation and research, development and demonstration of new clean energy technologies and business models; and the Clean Energy Innovation Facility and the Climate Compatible Growth programme, aimed at accelerating the commercialization of innovative clean energy technologies in key areas such as industrial decarbonization, sustainable cooling, smart energy and energy storage, and producing knowledge used in teaching and research at universities or research institutes in low- and middle-income countries.

35. The United Kingdom supported measures and activities related to technology development and transfer mainly through the Clean Investment Funds, the Transforming Energy Access platform and the Clean Energy Innovation Facility, focusing on clean energy research, development and demonstration to help to improve the performance of innovative technologies and accelerate the clean energy transition; accelerating climate action by empowering transformations in the areas of clean technology, energy access, climate resilience and sustainable forests in low- and middle-income developing countries; and supporting early-stage testing and scale-up of innovative technologies and business models that can accelerate access to affordable, clean and modern energy in developing countries. Such measures and activities covered the following target sectors: energy, industry,

agriculture and cross-cutting. Most of the technology development and transfer support provided related to cross-cutting, followed by mitigation and adaptation. The types of technology that received support include green hydrogen; green steel; fuel switching; circular economy; digitalization; digital twinning; simulations to support grid modernization; integrating renewable energy sources into energy generation and improving efficiency; solar cooling; cold storage solutions; cooling as a service; energy storage; innovative battery technology; mini-grids; smart meters; plug-and-play business models; renewable energy technology; cooling and cold chain technologies; clean energy technology; climate change technologies and services; low-carbon and climate-resilient technologies; agricultural innovation and technology adoption; use of digital technology for urban services; efficient and cleaner industrial technologies; energy-efficient appliances; clean cooking technologies; use of climate-friendly technology for infrastructure; and clean agricultural, manufacturing and health technologies. For the reporting period 2021–2022, most of the measures or activities aimed at supporting technology development and transfer were reported as ongoing, while some were reported as completed. The recipient entities for the United Kingdom's technology development and transfer support were operating at the national (e.g. India, Nepal and Sierra Leone), regional or global level.

3. Capacity-building support provided under Article 11 of the Paris Agreement

36. The United Kingdom provided capacity-building support to developing country Parties for mitigation, adaptation and cross-cutting needs, with a comprehensive, long-term and coordinated offer of support for addressing clean energy needs especially for the least developed countries and small island developing States. The Party employed the following strategies to provide such capacity-building support: enhancing the capacity and ability of developing country Parties to tackle climate change, especially the most vulnerable, such as the least developed countries and small island developing States; supporting policymakers, decision makers and practitioners in enhancing their skills and knowledge through training, workshops and conferences; and sharing best practices and lessons learned through knowledge products, data-sharing and the deployment of in-person expertise. Therefore, many programmes supported by ICF contribute to capacity-building objectives, and the technical assistance provided typically includes funding projects and advisory services to support developing country Parties in setting targets for and implementing emission reductions and adaptation commitments. The Party described two cases (Partnering for Accelerating Climate Transitions, and Accelerating Smart Power and Renewable Energy) as relevant examples of how these strategies are employed. The Party considers capacity-building to be a cross-cutting theme across the Ayrton Fund programmes and reported on 42 specific programmes and initiatives with a capacity-building focus.

37. Capacity-building support provided by the United Kingdom responded to the existing and emerging capacity-building needs, priorities and gaps of developing country Parties by adopting a demand-led approach. For instance, the Ayrton Fund, which supports the endogenous capacity and capability of developing country Parties for technology development, and the Partnering for Accelerating Climate Transitions programme illustrate how the United Kingdom's approach embeds the principle of providing demand-led capacity-building support. The ICF programmes and multilateral funds financed by the United Kingdom respond directly to requests for capacity-building support from developing country Parties received through the NDC Partnership and sectoral matchmaking platforms. The aim of the Party's bilateral capacity-building support is to explicitly respond to requests from partner governments for capacity interventions, seeking to achieve transformational change by frequently providing a combination of development finance and technical assistance, which ranges from grant-funding for longer-term capacity-building to the rapid mobilization of short-term expertise.

38. The United Kingdom described its key policies that promote capacity-building support in developing country Parties. A key finding from the third ICF portfolio evaluation was that the ICF empowers others to advocate for or deliver policy change through capacity-building. The United Kingdom is using ICF to support regulatory reforms and build the capacity of key institutions in developing country Parties. The ICF methodology for

monitoring the technical assistance programmes measures the number of climate policies informed through capacity-building as a key performance indicator.

39. The United Kingdom supported capacity-building measures or activities that focused mainly on clean energy transition; translating NDCs into specific strategies, measures and projects; low-carbon infrastructure and transport; access to poverty-reducing technologies; planning low-carbon transition and climate action; technical, legal and logistical support for developing country negotiators; climate-resilient urban development; biodiversity conservation and provision of support to related communities; and effective disaster risk management and recovery. Most of the capacity-building programmes and activities related to cross-cutting (17 in total), followed by mitigation with global scope (12 in total) and adaptation with regional or country focus (13 in total). For the reporting period 2021–2022, most (34) of the capacity-building measures or activities were reported as ongoing, though 7 were reported as completed and 1 as closed. Two mitigation programmes were reported as completed but have successor programmes. The recipient entities for the United Kingdom's capacity-building support were operating at the national, regional or global level. Twelve programmes have a country focus, with adaptation or cross-cutting activities in the areas of agriculture, forests, job creation, climate resilience, and recovery and disaster relief. Those for adaptation reported as completed were single-country programmes (e.g. in Afghanistan, Dominica and Yemen).

D. Identification of areas of improvement[16]

40. During the technical expert review, the TERT identified areas of improvement in relation to the United Kingdom's implementation of Article 13 of the Paris Agreement, which are summarized in chapter II.A above and included in the assessment tables referred to in paragraph 6 above.

III. Conclusions and recommendations

41. The TERT conducted a technical expert review of the information reported in the BTR1, national inventory document, CRTs and CTF tables of the United Kingdom in accordance with the MPGs.

42. The areas of improvement identified by the TERT on the basis of the review of the consistency of the information reported by the United Kingdom with the MPGs are summarized in chapter II.A above and included in the assessment tables referred to in paragraph 6 above.

43. The TERT considers that, on the basis of a comparison of information on net GHG emissions and removals for the most recent reported year (i.e. 2022) with the base-year level and target level, and taking into account information on mitigation actions, projections and national circumstances and relevant underlying drivers, the United Kingdom is making progress towards its NDC target by implementing mitigation actions.

44. The TERT notes that PaMs, actions and plans have started to have an impact on GHG emission reductions in some sectors of the economy, but as the data in the BTR1 reflect the start of the NDC implementation period (2021–2022) there are not yet enough data to sufficiently assess the Party's progress in implementing the NDC. The TERT also notes that net GHG emissions were 50.1 per cent lower in 2022 than in the base year and have declined in all sectors, while emissions from transport (within the energy sector) and the agriculture sector, although decreasing, have remained comparatively stable. The TERT also notes that emissions are expected to decrease by 17.8 per cent by 2030 compared with the 2022 level under the WM projections scenario.

45. The United Kingdom has provided financial support through bilateral, regional and other channels and through multilateral channels to developing country Parties. The financial support through bilateral, regional and other channels in 2021–2022 totalled USD 3,991.5

[16] As per para. 146(d) of the MPGs.

million. Similarly, financial support through multilateral channels in 2021–2022 amounted to USD 1,280.1 million (inflows).

46. The United Kingdom continued to provide support for technology development and transfer, and capacity-building. Priority for technological support was given to programmes and projects on energy access, energy efficiency and clean energy technologies, innovation and research, development and demonstration of new clean technologies in all sectors, transport and industrial decarbonization and integration of renewable energy sources into energy generation. Priority for capacity-building support was given to programmes and projects aimed at supporting the transition to clean energy; enhancing the capacity and ability of developing country Parties to tackle climate change, including through negotiations; translating NDCs into specific strategies, measures and projects; planning for low-carbon transition and relevant climate action; supporting climate-resilient urban development; and promoting biodiversity conservation and provision of support to related communities.

Annex I

Outcome of the review conducted on a voluntary basis of the information reported by the Party in its first biennial transparency report pursuant to chapter IV of the modalities, procedures and guidelines

I. Summary of reported information

1. In its BTR1 the United Kingdom provided information related to climate change impacts and adaptation under Article 7 of the Paris Agreement pursuant to chapter IV of the MPGs and, as per paragraph 1 of decision 9/CMA.4, on a voluntary basis, requested the secretariat to organize a review of that information as part of the technical expert review pursuant to chapter VII of the MPGs. As per paragraph 3 of decision 9/CMA.4, the Party selected sections 3.1–3.22, covering the whole chapter on information related to climate change impacts and adaptation, of its BTR1 for particular attention by the TERT.

2. The United Kingdom provided a description of the national circumstances relevant to its adaptation action, its institutional arrangements and governance, and legal and policy frameworks and regulations. The United Kingdom is experiencing intensifying climate impacts, including human-induced rising temperature (0.25 °C/decade) and more frequent extreme weather events such as flooding, drought and heatwaves. Its Climate Change Act 2008 mandates climate risk assessments to be undertaken and adaptation strategies in the NAP to set out actions for addressing the identified risks. Adaptation responsibilities are decentralized across England, Scotland, Wales and Northern Ireland, which each have their own tailored adaptation policies. The Climate Change Committee advises the Government and independently assesses adaptation progress on a biennial basis. The Climate Resilience Steering Board oversees strategic, cross-cutting climate adaptation and resilience issues and drives further government action to increase the United Kingdom's resilience to climate change. Via its adaptation reporting power, the DEFRA Secretary of State has the power to require infrastructure providers and public bodies to demonstrate climate change preparedness. Meanwhile, the Environment Act 2021 is aimed at strengthening resilience through legally binding biodiversity and adaptation targets.

3. The United Kingdom provided information on climate change impacts, risks and vulnerabilities. The Party is experiencing impacts that are in line with general climate change warming trends. The United Kingdom's climate projections show an increased chance of warmer, wetter winters and hotter, drier summers, along with an increase in the frequency and intensity of extreme events, including heatwaves and heavy rainfall. The climate change impacts in the country span various sectors, with significant vulnerabilities identified across the economy, environment, infrastructure and public health. The third CCRA, undertaken in 2022, identified 61 risks and opportunities resulting from climate change, with the risks including increased flooding, deterioration in soil health and agricultural productivity, increased water stress and disruptions to energy generation. The United Kingdom uses various tools and methodologies for assessing climate risks and developing adaptation strategies, which are aligned with the IPCC definitions from its Fifth and Sixth Assessment Reports, enabling the assessment of climate vulnerabilities independently of hazards to ensure that it does not incorporate uncertainties associated with climate projections. The tools and methodologies used include the United Kingdom's climate projections, the Green Book supplementary guidance on accounting for the effects of climate change, the 10 principles for good adaptation recommended by the Climate Change Committee in the third CCRA and tools available under the United Kingdom Climate Resilience Programme.

4. The United Kingdom described its adaptation priorities and barriers to implementing adaptation action. The Government identified several key priorities for climate change adaptation, informed by the third CCRA, including addressing risks to natural habitats and biodiversity, soil health, carbon stores and sequestration, crops, livestock and commercial

trees, food, goods and vital services supply, people and the economy, human health, well-being and productivity, and water security. The United Kingdom Government has since made substantial progress in taking action to limit these risks and setting priorities going forward. For example, the third NAP (2023), with 2023–2028 as its implementation period, outlines specific actions for mitigating these risks and the Environment Act 2021 sets out binding targets for biodiversity, ensuring that adaptation efforts align with nature recovery. Research and development of methods for monitoring and evaluating adaptation action have been prioritized, and support has been provided for monitoring and evaluating actions in the third NAP to better understand to what extent they achieve their objectives and what could be done differently to inform the next NAP. Despite significant efforts, several barriers to effective adaptation persist, including financial constraints on mobilizing sufficient private sector funding, uncertainty of projections, data and monitoring challenges, and challenges in coordinating adaptation efforts across the devolved governments.

5. The United Kingdom described its adaptation strategies, policies, plans and goals, and action to integrate adaptation into national policies and strategies. The United Kingdom's adaptation framework, enshrined in the Climate Change Act 2008, which provides a strong foundation for enhancing resilience to climate impacts, and operationalized through the NAP and periodic CCRA, is both legally robust and strategically aligned with the Paris Agreement's global goal on adaptation. By translating CCRA-identified risks into sector-specific actions, ranging from flood defences and climate-resilient transport networks to heatwave plans and climate-smart agriculture, alongside nature-based solutions such as wetland restoration and urban greening, the United Kingdom builds resilience across infrastructure, health, ecosystems and the economy. Subnational strategies (e.g. Scottish National Adaptation Plan, Northern Ireland Climate Change Adaptation Programme and Well-being of Future Generations Act in Wales) ensure that devolved governments and local stakeholders share ownership of this cyclical, science-driven process of adaptation, while innovations in early warning and smart management systems enhance preparedness for addressing identified risks. Importantly, many adaptation measures, including peatland restoration, low-emission farming, and grid upgrades that integrate use of renewable energy sources, deliver significant mitigation co-benefits, underscoring the United Kingdom's forward-looking commitment to sustainable development, economic diversification and global climate resilience.

6. The United Kingdom described its progress in implementing adaptation action. The United Kingdom has anchored its adaptation actions in the Climate Change Act 2008, the adaptation reporting power of DEFRA and successive NAPs backed by regular CCRAs and independent reviews by the Climate Change Committee. Notable achievements include strengthened flood defences and ecosystem restoration through flagship nature-based initiatives, new building regulations to tackle overheating, mandatory adaptation reporting across critical infrastructure and over 120 private sector entities, and establishing Government-wide adaptation governance to provide oversight of and strategic direction to the implementation of adaptation and resilience policies. A devolved governance model, reinforced by the Government Resilience Framework and aligned with the Green Finance Strategy, has enabled coordinated action on and investment in resilience. Internationally, the United Kingdom's contribution of GBP 120 million to regional risk pools in 2021 under ICF and its sharing of best practices via the United Arab Emirates Framework for Global Climate Resilience underscore its dual commitment to reducing domestic vulnerability and providing global adaptation support.

7. The United Kingdom provided information on its monitoring and evaluation of adaptation actions and processes. The United Kingdom's multilayered adaptation monitoring and evaluation framework combines statutory five-year updates of the NAP under the Climate Change Act 2008 with independent biennial assessments by the Climate Change Committee to ensure accountability and expert oversight. Sector-specific reporting by government departments, spanning infrastructure, health and agriculture, uses targeted indicators (e.g. flood risk reduction and infrastructure resilience) to gauge progress, while the DEFRA theory of change approach to developing adaptation policy, informed by the Magenta Book, which sets out guidance on evaluation of efficiency and effectiveness of interventions in the central Government, rigorously links adaptation actions to outcomes, identifies assumptions made in the design of interventions and fosters continuous learning.

Regular national CCRA refresh the evidence base for adaptation actions, and devolved governments in Scotland, Wales and Northern Ireland operate tailored regional monitoring and evaluation systems, ensuring that adaptation efforts remain transparent, inclusive of diverse stakeholder perspectives and agile in responding to emerging climate risks.

8. The United Kingdom reported on the effectiveness and sustainability of its adaptation actions. Such actions follow a collaborative model, with DEFRA at the helm supported by the sectoral leadership of the Department for Energy Security and Net Zero, devolved governments and local authorities tailoring region-specific measures, and private sector partners and non-governmental organizations driving on-the-ground resilience projects. Robust stakeholder engagement, through public consultations, resilience forums and business incentives, ensures that adaptation actions reflect community needs and benefit from diverse expertise. National mandates under the Climate Change Act 2008 and the NAP are seamlessly reinforced by subnational plans and instruments like the National Planning Policy Framework and the Scottish National Adaptation Plan, creating coherent policy alignment at the national and subnational level. By codifying replicable nature-based solutions (such as wetland restoration) and through a decentralized governance structure, the United Kingdom not only strengthens domestic flood defences, infrastructure and health protection but also provides a transferable blueprint for other jurisdictions. Ongoing monitoring and independent review by the Climate Change Committee provides proof of measurable reductions in flood losses, enhanced infrastructure resilience and improved health outcomes, underpinning the long-term sustainability of the Party's adaptation gains.

9. The United Kingdom provided information related to averting, minimizing and addressing loss and damage associated with climate change impacts. It described a dual-track approach to addressing loss and damage, leveraging robust domestic actions alongside targeted international support, informed by the comprehensive risk analysis contained in the third CCRA and the third NAP, and with a GBP 2.4 billion flood resilience investment through 2026, targeting domestic vulnerabilities via strengthened flood defences, ecosystem restoration and infrastructure adaptation, while embedding financial protection mechanisms. Simultaneously, through ICF, including a commitment of GBP 120 million to regional risk pools, and active participation in the United Arab Emirates Framework for Global Climate Resilience, the United Kingdom is channelling financial and technical assistance to the most vulnerable countries. These efforts are underpinned by cohesive governance structures, such as the Climate Resilience Steering Board supported by the adaptation reporting power, that ensure coordinated action across sectors, devolved governments and private stakeholders, thereby reinforcing both national and global capacity to anticipate, manage and minimize climate-induced losses.

10. The United Kingdom reported on cooperation, good practices, experience and lessons learned in relation to climate change impacts and adaptation, including information-sharing and global cooperation initiatives such as the Met Office Hadley Centre Climate Programme (2024–2027), CARIB, the Adaptation Research Alliance, the Risk-informed Early Action Partnership, and the Gender-responsive Social Protection and Better Assistance in Crisis programmes. The United Kingdom, through these and various other initiatives, is improving its understanding of the distributional impacts of climate change and adaptation action for the fourth CCRA and the DEFRA-funded Maximising UK Adaptation to Climate Change programme for research and innovation, as well as for further developing climate science capability to support adaptation and ensuring that adaptation research and innovation efforts support implementation of the third NAP in the implementation period 2023–2028.

11. Table I.1 summarizes the information on vulnerability and adaptation to climate change presented in the BTR1 of the United Kingdom.

Table I.1
Summary of information on vulnerability and adaptation to climate change reported by the Party

Priority adaptation sector or area	*Vulnerability and adaptation measures reported*	*Challenges and constraints*	*Cooperation, good practices, experience and lessons learned*
Agriculture and food security	Vulnerability: (a) Increased flooding and drought;	(a) Difficulty in measuring adaptation outcomes owing to complex	(a) Government–industry collaboration on

Priority adaptation sector or area	*Vulnerability and adaptation measures reported*	*Challenges and constraints*	*Cooperation, good practices, experience and lessons learned*
	(b) Changes in pest and disease patterns. Adaptation: The following are being carried out: (a) Environmental Land Management schemes; (b) Implementation of Farming Innovation Programme; (c) Nature-based solutions; (d) Collaborative research and monitoring.	climate impacts on agriculture; (b) Lack of precise, outcome-focused indicators to evaluate effectiveness; (c) Need for sustained collaboration across national, regional and local governments, the private sector and farming communities; (d) Misalignment among stakeholders, hindering coherent implementation.	developing agri-environmental scheme; (b) Knowledge-sharing via Met Office Hadley Centre and CARIB; (c) International support through ICF for agricultural adaptation in developing countries.
Biodiversity and natural ecosystems	Vulnerability: (a) Risks to viability and diversity of terrestrial and freshwater habitats and species; (b) Loss of biodiversity due to increased temperatures and altered precipitation patterns; (c) Sea-level rise, extreme heat and storms, threatening coastal and marine ecosystems. Adaptation: The following are being carried out: (a) Implementation of the Nature for Climate Fund; (b) Launch of the Green Infrastructure Framework; (c) Implementation of the Restoring Meadows, Marsh and Reef initiative.	(a) Complexity of ecosystem responses: multifactorial and slow biodiversity changes complicate attribution of adaptation effectiveness; (b) Data limitations in monitoring and evaluation: gaps in tracking long-term ecological outcomes; (c) Funding and resource limitations: insufficient long-term finance for large-scale ecosystem restoration.	(a) Green Infrastructure Framework 2023 to support integration of biodiversity into local planning; (b) CARIB and communities of practice promoting cross-sector collaboration on ecosystem-based adaptation; (c) International leadership through the Leaders' Pledge for Nature and the 2030 Strategic Framework for International Climate and Nature Action.
Coastal zones	Vulnerability: (a) Sea-level rise (up to 1 m by 2100); (b) Coastal erosion and flooding; (c) High-risk areas: Jersey coastal zones; low-lying north and west Guernsey; and severe flood events in the Isle of Man. Adaptation: The following are being carried out: (a) Nature-based infrastructure: saltmarsh, seagrass and mangrove restoration; (b) Implementation of policy and planning frameworks: shoreline management plans (2020, Jersey), Guernsey local planning briefs with climate risk, Bridging Island Plan (2022), Marine and Coastal Access Act (2009) and Climate Change Act (2008); (c) Community engagement: Isle of Man Flood Hub.	(a) Coastal defences under strain; (b) Aging coastal infrastructure and implied resource needs for modernization and expansion; (c) Localized risk variation across islands of Jersey, Guernsey, Isle of Man and Gibraltar complicates uniform planning and demands tailored solutions.	(a) Integrated coastal adaptation planning through Jersey's Shoreline Management Plan and Bridging Island Plan; (b) Use of the United Kingdom's 2018 climate projections in Guernsey's Local Planning Brief for harbour infrastructure planning; (c) Institutionalizing adaptation in governance through the Isle of Man's Climate Change Plan (2022–2027) as a statutory duty for public bodies.

Priority adaptation sector or area	*Vulnerability and adaptation measures reported*	*Challenges and constraints*	*Cooperation, good practices, experience and lessons learned*
Drought	Vulnerability: (a) Increased frequency of summer drought in accordance with the United Kingdom's climate projections; (b) Hotter, drier summers driving water scarcity; (c) Particularly prolonged dry spells in south-east England; (d) Reduced water availability leading to agricultural productivity losses. Adaptation: The following are being carried out: (a) Environment Act 2021: water resource management provisions for meeting the legally binding target for species abundance for 2030; (b) Investment in water efficiency measures; (c) Nature-based solutions: peatland and wetland restoration for water storage and flood risk reduction; (d) Development of updated national water resource management plans.	(a) Complexity of monitoring and evaluation: difficulty developing outcome-based drought resilience indicators owing to complex environmental and social interactions; (b) Data and infrastructure needs: public acceptance, regulatory alignment and capital investment barriers to large-scale smart meter roll-out and meeting water efficiency targets; (c) Implementation uncertainty: reliance on coordinated commitment and enforcement by water companies and regulators for leakage reduction and limits on non-household use.	(a) Catchment-based approaches to integrated water management; (b) Science-policy coordination through initiatives like the Water Tracker for National Climate Planning; (c) Cross-departmental coordination via the Climate Resilience Steering Board to address cascading risks.
Fisheries	Vulnerability: Climate-driven ecological changes to marine ecosystems affecting fisheries: shifting species distribution, warming seas and acidification. Adaptation: The following are being carried out: (a) Fisheries Act 2020: climate change objective for sustainable, climate-aware fisheries management; (b) Third NAP: actions to protect, restore and create blue carbon habitats, and manage marine climate risks and opportunities; (c) United Kingdom Marine Strategy (2019) and devolved marine plans: provision of legal and policy framework for climate-resilient marine environments and fisheries; (d) Manx Blue Carbon Project (ongoing since 2022): mapping and managing marine carbon stores for sequestration and ecosystem resilience; (e) Scotland's Blue Economy Vision: fisheries management reforms, including offshore marine protected areas by 2025 and inshore network planning; (f) Scottish Wild Salmon Strategy: fisheries-linked ecosystem resilience initiatives.	(a) Sectoral complexity: coordinating policy and enforcement across jurisdictions amid uncertain future climate impacts; (b) Data gaps and monitoring needs: complex and evolving long-term tracking of marine ecosystem health and fisheries resilience.	(a) Gibraltar's marine strategy framework directive: updated monitoring programme, marine protected areas expansion, and innovative biodiversity projects; (b) Manx Blue Carbon Project: research partnership for fisheries adaptation, climate mitigation and marine ecosystem health; (c) Northern Ireland's Blue Carbon Action Plan (2021): protection of marine carbon stores and fisheries sustainability; (d) Strategic Framework for International Nature and Climate Action (2023): resilience-building for marine biodiversity and fisheries through international cooperation.

Priority adaptation sector or area	*Vulnerability and adaptation measures reported*	*Challenges and constraints*	*Cooperation, good practices, experience and lessons learned*
Forests	Vulnerability: (a) Pests and diseases; (b) Drought; (c) Wildfires. Adaptation: The following are being carried out: (a) Tree Health Resilience Strategy: adaptive management, climate-informed planting and post-Nature for Climate Fund policies by 2026; (b) Wildfire adaptation guidance: land management guidance and wildfire management plans by 2026; (c) Habitat and ecosystem restoration to restore over 500,000 ha wildlife-rich habitat and bring 75 per cent of protected sites to favourable condition by 2042.	(a) Developing outcome-based adaptation indicators owing to complex ecological responses; (b) Need for prioritization of forest adaptation using future hazard and land-suitability projections; (c) Technical and institutional complexity of aligning national and local stakeholders and integrating climate-informed planning into forest policies.	(a) Promotion and mainstreaming of nature-based solutions; (b) Coordination of forest adaptation research through CARIB under the third NAP; (c) Use of spatial prioritization tools informed by climate hazard projections to guide investment in forest and habitat restoration.
Human health	Vulnerability: (a) Heat stress and overheating in buildings; (b) Air quality deterioration; (c) Impacts of flooding on physical and mental health; (d) Vector-borne diseases; (e) Disproportionate risks to older adults and disabled populations. Adaptation: The following are being carried out: (a) Introduction of new requirements in building regulations (June 2022) for new residential buildings; (b) Real-time air quality and public health info via open-access web platforms; (c) Flood and coastal erosion risk management research programme on flooding, social vulnerability and health inequalities; (d) Enhanced surveillance of vector-borne diseases and capacity-building; (e) Implementation of the Climate Resilient and Sustainable Health Systems Programme.	(a) Addressing the disproportionate risks for older adults and persons with disabilities (e.g. 38 per cent of disabled people are ≥65 years old); (b) Complex, cross-sectoral health risks requiring multi-agency coordination and integrated early warning systems; (c) Unequal exposure and adaptive capacity among low-income and marginalized communities.	(a) Climate Resilient and Sustainable Health Systems Programme: promotion of global cooperation on climate-health governance and early warning systems; (b) Human Animal Infections and Risk Surveillance group: cross-sector science-based risk assessment for vector-borne diseases; (c) Integration of health impacts into country-wide and subnational CCRA and adaptation strategies; (d) Public access to environmental health information via national platforms to support tailored public health responses.
Infrastructure and economy	Vulnerability: (a) Floods, heatwaves and storms; (b) Rail track buckling; (c) Coastal erosion undermining roads; (d) Storm surges flooding ports; (e) Power outages and grid overload. Adaptation: The following are being carried out:	(a) Cross-sectoral coordination required across energy, water, transport, housing and economic policy; (b) Monitoring and evaluation challenges: difficulty measuring adaptation outcomes owing to complex causality and long feedback loops;	(a) Reforms to the nationally significant infrastructure projects system to streamline climate-proof project approvals; (b) United Kingdom Resilience Framework promoting common adaptation standards and periodic reviews of

Priority adaptation sector or area	*Vulnerability and adaptation measures reported*	*Challenges and constraints*	*Cooperation, good practices, experience and lessons learned*
	(a) Implementation of National Infrastructure Strategy and United Kingdom Resilience Framework; (b) Inclusion of requirements in national policy statements for addressing climate risks in major infrastructure projects.	(c) Investment readiness and risk: limited integration of climate risk into financial decision-making across sectors despite planning guidance (e.g. Green Book).	regulatory regimes across infrastructure sectors; (c) Cross-government learning via communities of practice, expert panels and CARIB for adaptation planning and climate finance; (d) Use of economic resilience tools such as monetary valuation studies and the Green Book for integrating climate risks into investment appraisal.
Water resources	Vulnerability: (a) Increasing demand for water; (b) More frequent and severe drought; (c) Pressure on water supply. Adaptation: The following are being carried out: (a) Implementation of water resource management plans in the context of climate change (resilience to 1-in-500-year drought); (b) Smart meter roll-out for 73 per cent of households by 2040 and 50 per cent leakage reduction by 2050; (c) Water demand target (reduce the use of public water supply by 20 per cent by 2037–2038 compared with 2017–2018 levels); (d) GBP 500 million infrastructure investment (2020–2025).	(a) Difficulty measuring adaptation outcomes owing to ecological and socioeconomic complexity; (b) Institutional and behavioural barriers: limited smart meter roll-out, consumer behavioural change, and limited coordination among regulatory and operational actors; (c) Uncertainty in climate projections complicates long-term spatial planning and supply-demand balancing across catchments and regions.	(a) International leadership through the Water Resilience Tracker for National Climate Planning to support integration of water into NDCs and NAPs and the water–food–energy nexus; (b) Multilevel governance and regulation via economic regulators and long-term water resource management plans; (c) Integration of water resilience into infrastructure and development policy, with legislated water demand targets under the Environment Act 2021.

II. Areas of improvement identified during the technical expert review of the reporting in the Party's first biennial transparency report on climate change impacts and adaptation under Article 7 of the Paris Agreement pursuant to chapter IV of the modalities, procedures and guidelines

12. The TERT assessed the information reported on climate change impacts and adaptation under Article 7 of the Paris Agreement pursuant to chapter IV of the MPGs in the BTR1 of the United Kingdom and identified areas of improvement relating to consistency with the MPGs, which are described in table I.2. All encouragements contained in the table are for the next BTR, unless otherwise specified.

Table I.2
Areas of improvement of the reporting on climate change impacts and adaptation under Article 7 of the Paris Agreement

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
I.2.1	Specified in paragraph 113(b) of the MPGs	The United Kingdom provided information in the BTR1 (section 3.18) on the development of its current monitoring and evaluation system for adaptation actions and processes, and acknowledged gaps in its ability to monitor adaptation progress owing to the challenge of developing suitable indicators. The TERT noted that

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		specific information is missing on how monitoring and evaluation systems are used and what the related indicators and main outputs are. During the review, the Party explained that work is ongoing to further develop the monitoring and evaluation framework so as to move to an outcome-based system that will enable the identification of adaptation indicators using the theory of change approach. The Party stated its intention to identify system-level indicators of climate risks and indicators for enabling actions as part of its fourth NAP. The TERT encourages the Party to provide specific information in its BTR on how its national adaptation monitoring and evaluation system is used and information on the indicators identified for monitoring adaptation progress and adaptation outcomes.
I.2.2	Specified in paragraph 109(e) of the MPGs	The United Kingdom provided information in the BTR1 (section 3.13) on adaptation actions leading to mitigation co-benefits, with a focus on climate-resilient food and agricultural production and supply adaptation. The TERT noted that other adaptation actions could also lead to mitigation co-benefits, including actions in the Crown dependencies and overseas territories. During the review, the Party provided an overview of the fourth independent CCRA (to take place in January 2027) and the fourth NAP, highlighting that these two documents will present information on adaptation actions leading to mitigation co-benefits. The TERT encourages the Party to report in the BTR the mitigation co-benefits of all relevant adaptation actions across the United Kingdom and the Crown dependencies and overseas territories.

Annex II

Documents and information used during the review

A. Reference documents

BTR1 of the United Kingdom. Available at https://unfccc.int/first-biennial-transparency-reports.

BTR1 CTF tables of the United Kingdom.
Available at https://unfccc.int/first-biennial-transparency-reports.

CRTs of the United Kingdom. Available at https://unfccc.int/first-biennial-transparency-reports.

"Guidance for operationalizing the modalities, procedures and guidelines for the enhanced transparency framework referred to in Article 13 of the Paris Agreement". Decision 5/CMA.3. FCCC/PA/CMA/2021/10/Add.2. Available at https://unfccc.int/documents/460951.

IPCC. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. S Eggleston, L Buendia, K Miwa, et al. (eds.). Hayama, Japan: Institute for Global Environmental Strategies. Available at http://www.ipcc-nggip.iges.or.jp/public/2006gl.

IPCC. 2014. *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*. T Hiraishi, T Krug, K Tanabe, et al. (eds.). Geneva: IPCC. Available at https://www.ipcc.ch/publication/2013-supplement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories-wetlands/.

IPCC. 2019. *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*, E Buendia, K Tanabe, et al. (eds.). Geneva: IPCC. Available at https://www.ipcc-nggip.iges.or.jp/public/2019rf/.

"Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement". Annex to decision 18/CMA.1. FCCC/PA/CMA/2018/3/Add.2. Available at https://unfccc.int/documents/184700.

"Reviews on a voluntary basis of the information reported pursuant to decision 18/CMA.1, annex, chapter IV, and respective training courses needed." Decision 9/CMA.4. FCCC/PA/CMA/2022/10/Add.2. Available at https://unfccc.int/documents/626570.

B. Additional information provided by the Party

Responses to questions during the review were received from Stephanie Fuller (Department for Energy Security and Net Zero of the United Kingdom), including additional material. The following references were provided by the United Kingdom and may not conform to UNFCCC editorial style as some have been reproduced as received:

2025GBRQA92_SludgeIncinerationTimeseries.xlsx (Excel worksheets).

Alexandria Murray, Hans Oonk, José Manuel Ramírez García, Mark Hunstone, Sirintornthep Towprayoon. 2024. *In-Depth Sectorial Review of UK Greenhouse Gas Inventory – Review of the Waste sector*, Final-Report – Integrated report of the individual reviews.

Biomass_Burning_Fuel_Mass_Information.xlsx (Excel worksheets).

CARBINE-R Technical Guide. Version 1.4.2. The Research Agency of the Forestry Commission, 2025. Available at: https://cdn.forestresearch.gov.uk/2025/07/Carbine-R-Technical-Guide.pdf.

DESNZ. 2023. *Carbon Budget Delivery Plan.* ISBN 978-1-5286-4015-2, E02888032 03/23, HC 1269.

DESNZ. 2023. *Project 2: Review of Carbon Factors for Fuels – Greenhouse Gas Inventory Improvement Programme*. Available at: https://naei.energysecurity.gov.uk/sites/default/files/2025-05/Greenhouse_Gas_Inventory_Improvement_Project_2_-_Carbon_Factors_for_Fuels_Review.pdf.

George Matthews. 1993. *Forestry Commission Technical Paper 4: The carbon content of trees.* Available at: https://cdn.forestresearch.gov.uk/1993/09/fctp004.pdf.

Landfilled Waste by waste categories.xlsx (Excel worksheets).

LUC_uncertainty comparison_2022i_vs_2019i.xlsx (Excel worksheets).

Mensah, A. A., and Petersson, H. (2024). Carbon concentration of living tree biomass of *Pinus sylvestris*, *Picea abies*, *Betula pendula* and *Betula pubescens* in Sweden. *Scandinavian Journal of Forest Research*, *39*(3–4), 145–155. Available at: https://doi.org/10.1080/02827581.2024.2332439.

Moxley et al. 2014b (Moxley, J., Angelopoulos, N., Buckingham, S., Laidlaw, S., Malcolm. H., Norton, L., Olave, R., Rees, R., Rowe, R., Tomlinson, S., Thomson, A., and Topp., K.) (2014b). *Capturing the effect of Cropland and Grassland Management on biomass carbon stocks in the UK LULUCF inventory*.

Nickerson et al. 2025 (Rachel Nickerson, Sam Tomlinson, Peter Levy and Gwen Buys), *Investigation of Pre-1950 Land Use Data for LULUCF Reporting – Final Report*, MM Ref:100108398-013-RP-002, Issue number 1, UK Centre for Ecology and Hydrology.

Recalculations_UK_2022i_All_Years.xlsx (Excel worksheets).

UK Government. 2024. *Volume of Private Finance Mobilised for Climate Change Purposes as a Result of ICF*. ICF KPI 12 Methodology Note. Available at: https://assets.publishing.service.gov.uk/media/65e0b9913f6945001d036030/KPI-12-volume-private-finace-mobilised.pdf.

UK National Forestry Accounting Plan: UK National Forestry Accounting Plan 2021–2025. Available at: https://assets.publishing.service.gov.uk/media/5e3822cde5274a08e6186389/national-forestry-accounting-plan-2020.pdf.