United Nations

FCCC/IDR.8/ISL–FCCC/TRR.5/ISL

Framework Convention on Climate Change

Distr.: General
31 May 2024

English only

Report on the technical review of the eighth national communication and the technical review of the fifth biennial report of Iceland

Parties included in Annex I to the Convention were requested by decision 6/CP.25 to submit their eighth national communication to the secretariat by no later than 31 December 2022. According to decision 15/CMP.1, Parties included in Annex I to the Convention that are also Parties to the Kyoto Protocol are required to include in their national communications supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. This report presents the results of the technical review of the eighth national communication and relevant supplementary information under the Kyoto Protocol of Iceland, conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention" and the "Guidelines for review under Article 8 of the Kyoto Protocol".

Developed country Parties were requested by decision 6/CP.25 to submit their fifth biennial report to the secretariat by no later than 31 December 2022. This report presents the results of the technical review of the fifth biennial report of Iceland, conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention".

The review of these submissions took place in Reykjavik from 5 to 9 February 2024.

Contents

Abbreviations and acronyms

AR	Assessment Report of the Intergovernmental Panel on Climate Change
BR	biennial report
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
COPERT	software tool for calculating road transport emissions
CTF	common tabular format
EAI	Environment Agency of Iceland
ERT	expert review team
ESD	European Union effort-sharing decision
EU	European Union
EU ETS	European Union Emissions Trading System
GCF	Green Climate Fund
GDP	gross domestic product
GHG	greenhouse gas
GRÓ	GRÓ International Centre for Capacity Development, Sustainability and Societal Change
GWP	global warming potential
HFC	hydrofluorocarbon
IE	included elsewhere
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
N_2O	nitrous oxide
NA	not applicable
NAP	national adaptation plan
NC	national communication
NE	not estimated
NF_3	nitrogen trifluoride
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
OECD DAC	Development Assistance Committee of the Organisation for Economic Co-operation and Development
PaMs	policies and measures
PFC	perfluorocarbon
reporting guidelines for supplementary information	“Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol. Part II: Reporting of supplementary information under Article 7, paragraph 2”
SF_6	sulfur hexafluoride
UNFCCC reporting guidelines on BRs	“UNFCCC biennial reporting guidelines for developed country Parties”
UNFCCC reporting guidelines on NCs	“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications”
WAM	‘with additional measures’
WASH	water, sanitation and hygiene
WEDO	Women’s Environment and Development Organization
WEM	‘with measures’
WOM	‘without measures’

I. Introduction and summary

A. Introduction

1. This is a report on the in-country technical review of the NC8 and BR5 of Iceland. The review was organized by the secretariat in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention", particularly "Part IV: UNFCCC guidelines for the technical review of biennial reports from Parties included in Annex I to the Convention" and "Part V: UNFCCC guidelines for the technical review of national communications from Parties included in Annex I to the Convention" (annex to decision 13/CP.20), and the "Guidelines for review under Article 8 of the Kyoto Protocol" (annex to decision 22/CMP.1 and annex I to decision 4/CMP.1).

2. In accordance with decision 13/CP.20, a draft version of this report was transmitted to the Government of Iceland, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.

3. The review was conducted from 5 to 9 February 2024 in Reykjavik by the following team of nominated experts from the UNFCCC roster of experts: Zubaida da Conceição Esperança (Mozambique), Ricardo Fernandez (EU), Ben Morrow (New Zealand), Tatiana Tugui (Republic of Moldova) and Kristine Zommere-Rotcenkova (Latvia). Ricardo Fernandez and Tatiana Tugui were the lead reviewers. The review was coordinated by Davor Vesligaj (secretariat).

B. Summary

4. The ERT conducted a technical review of the information reported in the NC8 of Iceland in accordance with the UNFCCC reporting guidelines on NCs,[1] the reporting guidelines for supplementary information, in particular the supplementary information required under Article 7, paragraph 2, and on the minimization of adverse impacts under Article 3, paragraph 14, of the Kyoto Protocol[2] and of the information reported in the BR5 of Iceland in accordance with the UNFCCC reporting guidelines on BRs.[3]

1. Timeliness

5. The NC8 was submitted on 24 May 2023, after the deadline of 31 December 2022 mandated by decision 6/CP.25. A corrigendum to the NC8 and BR5 was submitted on 23 February 2024 to address issues raised during the review. The corrigendum included changes and additions to the chapter on financial, technological and capacity-building support. Detailed information on improvements related to the corrigendum is provided in paragraph 13 below. Unless otherwise specified, the information and values from the latest submission are used in this report.

6. Iceland did not inform the secretariat about its difficulties with making a timely NC8 submission. In accordance with decision 13/CP.20, a Party should inform the secretariat thereof by the due date of the submission in order to facilitate the arrangement of the review process. The ERT noted with great concern the delay in the submission and recommended that Iceland make its next submission on time.

7. The BR5 was submitted on 24 May 2023, after the deadline of 31 December 2022 mandated by decision 6/CP.25. The CTF tables were also submitted on 24 May 2023. A corrigendum to the NC8 and BR5 was submitted on 23 February 2024 to address issues raised during the review. The CTF tables were resubmitted on 7 February 2024 to address issues raised during the review. The resubmission included additions to CTF tables 2 and 4. Detailed

[1] Decision 6/CP.25, annex.
[2] Decision 15/CMP.1, annex, and decision 3/CMP.11, annex III.
[3] Decision 2/CP.17, annex.

information on improvements related to the corrigendum and resubmission is provided in paragraph 13 below. Unless otherwise specified, the information and values from the latest submission are used in this report.

8. Iceland did not inform the secretariat about its difficulties with making a timely BR5 submission. In accordance with decision 13/CP.20, a Party should inform the secretariat thereof by the due date of the submission in order to facilitate the arrangement of the review process. The ERT noted with great concern the delay in the submission.

2. Completeness, transparency of reporting and adherence to the reporting guidelines

9. Issues and gaps identified by the ERT related to the information reported by Iceland in its NC8 are presented in tables 1–2. The information reported, including the supplementary information under the Kyoto Protocol, mostly adheres to the UNFCCC reporting guidelines on NCs.

10. The ERT noted that Iceland made improvements to the reporting in its NC8 compared with that in its NC7, including by addressing many recommendations and encouragements from the previous review report in the areas of PaMs; financial, technological and capacity-building support; vulnerability assessment, climate change impacts and adaptation measures; and supplementary information related to the Kyoto Protocol.

Table 1
Assessment of completeness and transparency of mandatory information reported by Iceland in its eighth national communication

Section of NC	*Completeness*	*Transparency*	*Reference to description of recommendation*
Executive summary	Complete	Transparent	–
National circumstances relevant to GHG emissions and removals	Complete	Transparent	–
GHG inventory	Complete	Transparent	–
PaMs	Complete	Mostly transparent	Issue 1 in table I.1
Projections and the total effect of PaMs	Mostly complete	Transparent	Issue 4 in table I.2
Vulnerability assessment, climate change impacts and adaptation measures	Mostly complete	Transparent	Issue 1 in table I.3
Financial resources and transfer of technology	Complete	Transparent	–
Research and systematic observation	Mostly complete	Transparent	Issue 1 in table I.4
Education, training and public awareness	Complete	Transparent	–

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in annex I. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

Table 2
Assessment of completeness and transparency of mandatory supplementary information under the Kyoto Protocol reported by Iceland in its eighth national communication

Supplementary information under the Kyoto Protocol	*Completeness*	*Transparency*	*Reference to description of recommendation*
National system	Complete	Transparent	–
National registry	Complete	Transparent	–
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Complete	Transparent	–
PaMs in accordance with Article 2	Complete	Transparent	–
Domestic and regional programmes and/or arrangements and procedures	Complete	Transparent	–

Supplementary information under the Kyoto Protocol	*Completeness*	*Transparency*	*Reference to description of recommendation*
Information under Article 10[a]	Complete	Transparent	–
Financial resources	Complete	Transparent	–
Minimization of adverse impacts in accordance with Article 3, paragraph 14	Complete	Transparent	–

Note: The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

[a] The assessment refers to information provided by the Party on the provisions contained in Article 4, paras. 3, 5 and 7, of the Convention, as reported under Article 10 of the Kyoto Protocol, which is relevant to Parties included in Annex II to the Convention only. An assessment of the information on the other provisions of Article 10 of the Kyoto Protocol is provided under the relevant substantive headings under the Convention, for example research and systematic observation.

11. Issues and gaps identified by the ERT related to the information reported by Iceland in its BR5 are presented in table 3. The information reported mostly adheres to the UNFCCC reporting guidelines on BRs.

12. The ERT noted that Iceland made improvements to the reporting in its BR5 compared with that in its BR4, by addressing many recommendations and encouragements from the previous review report in the areas of progress in achievement of quantified economy-wide emission reduction targets and relevant information, and the provision of financial, technological and capacity-building support to developing country Parties.

Table 3
Summary of completeness and transparency of mandatory information reported by Iceland in its fifth biennial report

Section of BR	*Completeness*	*Transparency*	*Reference to description of recommendation*
GHG emissions and removals	Complete	Transparent	–
Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies	Complete	Transparent	–
Progress in achievement of targets	Complete	Mostly transparent	Issue 1 in table II.1
Provision of support to developing country Parties	Complete	Transparent	–

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in annex II. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

13. The NC8 and BR5 corrigendum and CTF tables resubmission made during the review improved:

(a) The information reported on the quantified economy-wide emission reduction target and related assumptions, conditions and methodologies by providing information on the use of market-based mechanisms under the Convention;

(b) The information reported on progress in achievement of the quantified economy-wide emission reduction target and relevant information by providing information on the quantity of units used from market-based mechanisms under the Convention;

(c) The information reported on financial, technological and capacity-building support by providing information on underlying assumptions used for producing data on financial support, an explanation of how the Party seeks to ensure that the resources it provides effectively address the needs of non-Annex I Parties, examples of success stories in technology development and transfer and an explanation of how its capacity-building support responds to the existing and emerging capacity-building needs identified by non-Annex I Parties.

II. Technical review of the information reported in the eighth national communication and fifth biennial report

A. National circumstances relevant to greenhouse gas emissions and removals

1. Technical assessment of the reported information

14. The NC8 contains key data on legislation, population trends, geography and land use, climate and climate change, economic developments, energy, transport, the buildings sector, industry, trade, the services sector, agriculture, forestry, resource efficiency and wastewater.

15. The coronavirus disease 2019 pandemic had a significant impact on both economic development and GHG emissions owing to the collapse of foreign tourism and international travel. GDP decreased by 8.8 per cent between 2019 and 2020, but recovered, reaching 2.7 per cent in 2021. The fishing and fish processing sector is still one of the main economic pillars in Iceland even though it has diminished in relation to other sectors, such as tourism, that have been growing rapidly in recent years. Aluminium and aluminium products accounted for the largest share of exports of manufacturing products. Total GHG emissions (excluding LULUCF) increased by 27 per cent from 1990 to 2021. The greatest change in the trend over the time series is the increase in the contribution of the IPPU sector to total emissions, primarily due to the increase in aluminium production in Iceland. Renewable resources, particularly hydro and geothermal power, accounted for 85 per cent of primary energy use in 2019. This share was even higher in 2020–2021 owing to lower transport fuel consumption as a result of the pandemic. The remaining 15 per cent of primary energy use emissions came from imported fossil fuels, which are mainly used in the road transportation, aviation and fishing sectors.

2. Assessment of adherence to the reporting guidelines

16. The ERT assessed the information reported in the NC8 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs. There were no issues raised during the review relating to the topics discussed in this chapter of the review report.

B. Greenhouse gas inventory information[4]

1. Technical assessment of the reported information

17. Iceland reported information in its BR5 and NC8 on its historical GHG emissions and inventory arrangements using GWP values from the AR4. More recent information on GHG emissions was reported in Iceland's 2023 inventory submission, which used GWP values from the AR5. Total GHG emissions[5] excluding emissions and removals from LULUCF increased by 22.8 per cent between 1990 and 2020, whereas total GHG emissions including net emissions or removals from LULUCF increased by 4.9 per cent over the same period. Emissions peaked in 2008 and decreased thereafter. Emissions excluding emissions and removals from LULUCF in 2021 increased compared with 2020. The changes in total emissions were driven mainly by factors such as the increase in the contribution of the IPPU sector, primarily due to an increase in the production of aluminium, which is a highly energy-intensive process.

18. Table 4 illustrates the emission trends by sector and by gas for Iceland. The emissions reported in the 2023 inventory submission differ from the data reported in CTF table 1 in that

[4] GHG emission data in this section, which use GWP values from the AR5, are based on Iceland's 2023 inventory submission, version 1, which has not yet been subject to review. All emission data in subsequent chapters are based on Iceland's BR5 CTF tables, which use GWP values from the AR4 unless otherwise noted.

[5] In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of CO_2 eq excluding LULUCF, unless otherwise specified.

recalculations were made for several sectors as a result of comments made by the ERT during the review. The recalculations incorporated changes in activity data and emission factors, upgrades to methodological tiers and resolution of issues detected by sectoral experts.

Table 4
Greenhouse gas emissions by sector and by gas for Iceland for 1990–2021

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2020*	*2021*	*1990–2020*	*2020–2021*	*1990*	*2021*
Sector									
1. Energy	1 840.54	2 184.77	2 026.70	1 663.79	1 766.89	–9.6	6.2	50.0	37.9
A1. Energy industries	13.50	6.53	8.55	1.79	2.57	–86.8	43.7	0.4	0.1
A2. Manufacturing industries and construction	301.84	329.56	138.32	54.46	76.64	–82.0	40.7	8.2	1.6
A3. Transport	621.07	695.75	895.39	883.13	901.13	42.2	2.0	16.9	19.3
A4. and A5. Other	842.00	998.09	789.11	544.72	606.30	–35.3	11.3	22.9	13.0
B. Fugitive emissions from fuels	62.12	154.84	195.32	179.69	180.25	189.3	0.3	1.7	3.9
C. CO_2 transport and storage	NO	NO	NO	NO, IE	NO, IE	NA	NA	NA	NA
2. IPPU	902.66	991.79	1 898.80	1 974.61	2 006.80	118.8	1.6	24.5	43.0
3. Agriculture	695.25	641.40	646.37	617.01	620.07	–11.3	0.5	18.9	13.3
4. LULUCF	9 609.60	9 603.81	9 596.24	9 420.78	9 397.83	–2.0	–0.2	NA	NA
5. Waste	243.59	336.27	334.49	265.65	268.48	9.1	1.1	6.6	5.8
6. Other[a]	NO	NO	NO	NO	NO	NA	NA	NA	NA
Gas[b]									
CO_2	2 222.79	2 933.19	3 627.42	3 339.56	3 510.05	50.2	5.1	60.4	75.3
CH_4	717.89	755.25	755.45	651.91	654.08	–9.2	0.3	19.5	14.0
N_2O	295.11	286.65	254.39	244.77	248.94	–17.1	1.7	8.0	5.3
HFCs	0.31	42.99	109.92	195.61	157.25	62 267.6	–19.6	0.0	3.4
PFCs	444.82	134.79	154.37	85.96	88.95	–80.7	3.5	12.1	1.9
SF_6	1.13	1.35	4.81	3.25	2.97	187.7	–8.5	0.0	0.1
NF_3	NO, NA	NO, NA	NO	NO	NO	NA	NA	NA	NA
Total GHG emissions excluding LULUCF	**3 682.04**	**4 154.23**	**4 906.35**	**4 521.06**	**4 662.24**	**22.8**	**3.1**	**100.0**	**100.0**
Total GHG emissions including LULUCF	**13 291.65**	**13 758.04**	**14 502.59**	**13 941.84**	**14 060.07**	**4.9**	**0.8**	**NA**	**NA**

Source: GHG emission data: Iceland's 2023 inventory submission, version 1.
[a] Emissions and removals reported under the sector other (sector 6) are not included in total GHG emissions.
[b] Emissions by gas without LULUCF. The Party did not report indirect CO_2 emissions separately in CTF table 6.

19. In brief, Iceland's national inventory arrangements were established in accordance with the Climate Change Act (Act 70/2012). In accordance with this Act the EAI, an agency under the auspices of the Ministry of the Environment, Energy and Climate, has overall responsibility for the national inventory. The EAI compiles and maintains the GHG emissions inventory, except for the LULUCF sector, the inventory for which is compiled by the Soil Conservation Service of Iceland and the Icelandic Forest Service in collaboration with the Agricultural University of Iceland. There have been no substantial changes in these arrangements since the BR4 other than that the Soil Conservation Service of Iceland and the Icelandic Forest Service were merged into one agency, Land and Forest Iceland, on 1 January 2024.

2. Assessment of adherence to the reporting guidelines

20. The ERT assessed the information reported in the NC8 and BR5 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. No issues

relating to the topics discussed in this chapter of the review report were raised during the review.

3. National system for the estimation of anthropogenic emissions by sources and removals by sinks

(a) Technical assessment of the reported information

21. Iceland provided in the NC8 a description of how its national system for the estimation of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol is performing the general and specific functions defined in the annex to decision 19/CMP.1 in conjunction with decisions 3/CMP.11 and 4/CMP.11. The description includes all the elements mandated by paragraph 30 of the annex to decision 15/CMP.1. The NC8 also contains a reference to the description of the national system provided in the report mandated by decision 2/CMP.8, submitted in 2016.[6] During the review, Iceland informed the ERT that regulation 520/2017 on data collection and information from institutions related to Iceland's inventory is being recast to reflect, among other things, changes in the responsibilities of various data providers. This updated information on the national system was reported in the national inventory report of the 2023 inventory submission. The ERT took note of the review of the changes to the national system reflected in the report on the individual review of the 2022 annual submission of Iceland.

(b) Assessment of adherence to the reporting guidelines

22. The ERT assessed the information reported in the NC8 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

4. National registry

(a) Technical assessment of the reported information

23. In its NC8 Iceland provided information on how its national registry performs the functions in accordance with the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11 and the annex to decision 5/CMP.1 and complies with the requirements of the technical standards for data exchange between registry systems. The ERT took note of the review of the changes to the national registry reflected in the report on the individual review of the 2022 annual submission of Iceland.

(b) Assessment of adherence to the reporting guidelines

24. The ERT assessed the information reported in the NC8 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

C. Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies

1. Technical assessment of the reported information

25. Iceland reported information on its economy-wide emission reduction target in its BR5. For Iceland the Convention entered into force on 21 March 1994. The ERT noted that information relevant to Iceland's 2020 target, as contained in document FCCC/SB/2011/INF.1/Rev.1 (paras. 12–13), was updated by a submission from Iceland on

[6] Iceland's report to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol for the second commitment period (2013–2020), available at https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-kyoto-protocol/second-commitment-period/initial-reports.

10 May 2012 entitled "Clarification of Quantified Economy-Wide Emission Reduction Targets".[7] Iceland's economy-wide emission reduction target under the Convention will be achieved using the accounting and compliance rules under the Kyoto Protocol.

26. Iceland's 2020 target, as part of the joint fulfilment agreement between Iceland and the EU and its member States, was primarily implemented through the EU ETS and ESD. The EU ETS covers mainly point emissions sources in the energy, industry and aviation sectors. An EU-wide emission cap was put in place for 2013–2020 for the EU ETS with the goal of reducing emissions by 21 per cent below the 2005 level by 2020. The ESD was operational in 2013–2020 and covered sectors outside the EU ETS, including transport (excluding aviation and international maritime transport), residential and commercial buildings, agriculture, small industry and waste. The ESD was regulated through targets for each member State, the United Kingdom of Great Britain and Northern Ireland, and Iceland. In addition to the EU ETS and the ESD, activity-based accounting rules for the LULUCF sector were applied to each member State, the United Kingdom and Iceland.

27. Under the Convention Iceland committed to a joint effort with the EU and its member States to achieve an EU economy-wide emission reduction target of 20 per cent below the 1990 level by 2020, in accordance with Article 4 of the Kyoto Protocol and its Doha Amendment and EU decisions 2015/1339 and 2015/146. Based on the joint fulfilment agreement with the EU and its member States, Iceland's initial assigned amount corresponded to its annual emission allocations for 2013–2020 for the sectors not covered by the EU ETS (EU decision 406/2009/EC).

28. Iceland cooperates closely with the EU on climate change policy. EU legislation has been transposed into Icelandic law and implemented in Iceland, including the EU ETS (in 2013) and most of the pieces of legislation from the EU "Fit for 55" package intended to reduce net GHG emissions by at least 55 per cent below the 1990 level by 2030 (in 2023). Iceland closely cooperates with the EU in its participation in the EU ETS, the EU effort-sharing regulation and the EU LULUCF regulation. Some of the details of this collaboration up until 2030 are being negotiated between Iceland and the EU. Iceland has also set the domestic target of becoming carbon neutral by no later than 2040.

2. Assessment of adherence to the reporting guidelines

29. The ERT assessed the information reported in the BR5 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

D. Information on policies and measures

1. Technical assessment of the reported information

30. Iceland provided in its NC8 and BR5 information on its PaMs[8] implemented, adopted and planned to fulfil its commitments under the Convention. Iceland's set of PaMs is similar to that previously reported. In 2020, Iceland published an updated Climate Action Plan covering 2020–2030 as the main instrument to fulfil its emission reduction commitment under the Paris Agreement and to reach its goal of carbon neutrality by no later than 2040.

31. Iceland reported on its policy context and legal and institutional arrangements in place for implementing its commitments and monitoring and evaluating the effectiveness of its PaMs. Iceland also indicated that there have been no changes to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of progress towards its target. In 2018 the EAI, which is responsible for compiling the national GHG inventory, was given the role of preparing and submitting a report on PaMs and projections in accordance with EU regulation

[7] See https://unfccc.int/resource/docs/2012/awglca15/eng/misc01a02.pdf.

[8] The UNFCCC reporting guidelines on BRs use the term "mitigation actions", whereas the UNFCCC reporting guidelines on NCs use the term "policies and measures". The terms are used interchangeably in this report to refer to the relevant information in either the NC or BR.

525/2013. Iceland submits its GHG inventory of emissions by sources and removals by sinks annually to the European Commission, the European Environment Agency and the European Free Trade Association Surveillance Authority, and every two years it reports to the same organisations information on national systems and on PaMs for climate change mitigation, as well as national projections of anthropogenic GHG emissions by sources and removals by sinks.

32. In its reporting on PaMs, Iceland provided the estimated emission reduction impacts for some of its PaMs. Where estimated impacts were not provided, the Party did not supply an explanation specific to individual PaMs. The ERT noted that the impact of individual PaMs was not estimated and reported for a large number of PaMs even though some of the PaMs reported in the BR5 and the NC8 include expected emission impacts. The Party explained during the review that impacts were estimated for individual PaMs if they were quantifiable at the time of submission of the BR5 and the NC8. Iceland also clarified that the objectives of its PaMs should be viewed as goals, whereas the quantitative estimates reported for individual PaMs are based on a formal assessment of the emission reductions that are expected to be achieved.

33. The key overarching cross-sectoral policy reported by Iceland is the 2020 Climate Action Plan launched by the Ministry of Environment, Energy and Climate, which includes 48 measures across all sectors aimed at reducing GHG emissions and increasing carbon sequestration. Iceland reported that 15 measures have been added since its 2018 version of the Plan. The main sectoral changes that are expected to affect Iceland's GHG emissions up until 2030 are the phase-out of fossil fuels, leading to a decrease in emissions in the transport sector, and increased afforestation and revegetation and the restoration of wetlands, leading to an increase in carbon sequestration in the LULUCF sector. A cost–benefit analysis of 23 actions from the 2020 Climate Action Plan conducted by the Institute of Economic Studies at the University of Iceland showed that actions in the LULUCF sector have the highest net benefit in terms of climate mitigation.

34. According to the 2020 Climate Action Plan, the Government of Iceland, in consultation with stakeholders, is mandated to review and update the Plan every four years on the basis of international commitments and Government goals. The Interministerial Steering Committee for Climate Action must prepare an annual progress report on the status of implementation of the Plan and its measures, including whether emission trends align with the Plan.

35. Iceland cooperates closely with the EU in relation to the 2030 climate targets. This involves (1) continuing to participate in the EU ETS in accordance with directive 2003/87/EC; (2) reducing emissions that fall under the scope of the EU effort-sharing regulation (regulation 2018/842) relative to the 2005 level and consistent with the EU "Fit for 55" package; (3) implementing the reporting and accounting rules pertaining to emissions and removals from the LULUCF sector under the EU LULUCF regulation (regulation 2018/841); and (4) implementing the relevant parts of the EU regulation on governance of the Energy Union and climate action (regulation 2018/1999) for the reporting of, among other things, GHG inventories, projections and PaMs to the EU and the European Environment Agency.

36. Iceland reported that its PaMs are designed to help it meet its commitments to the EU and under the Convention and the Paris Agreement, as well as to support it in reaching its goal of becoming carbon neutral by 2040 at the latest. In addition, Iceland reported that its PaMs should ensure that it remains carbon neutral or becomes carbon negative in the long term, thereby contributing to the objective of the Convention. Table 5 provides a summary of the reported information on the PaMs of Iceland.

Table 5
Summary of information on policies and measures reported by Iceland

Sector	*Key PaMs*[a]	*Estimated mitigation impact in 2020 (kt CO_2 eq)*	*Estimated mitigation impact in 2030 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	The 2020 Climate Action Plan	NE	NE

Sector	*Key PaMs*[a]	*Estimated mitigation impact in 2020 (kt CO_2 eq)*	*Estimated mitigation impact in 2030 (kt CO_2 eq)*
	Implementation of the EU ETS	NE	NE
Energy	Carbon capture from geothermal energy plants	NE	NE
Energy supply and renewable energy	Energy transition in fisheries	NE	NE
	Electrification of fishmeal production plants	48.49	73.91
	Electrical infrastructure in ports	4.17	13.96
Transport	Incentives for low- and zero-emission vehicles	NE	NE
	Infrastructure for low- and zero-emission vehicles	NE	NE
	Low-emission rental cars	NE	NE
IPPU	Carbon capture and storage from heavy industry	NE	NE
	Regulation on fluorinated gases	0.00	60.92
Agriculture	Improve feeding of livestock to reduce enteric fermentation	NE	NE
	Climate-friendly agriculture	NE	NE
	Carbon neutral beef production	NE	NE
LULUCF	Expanding revegetation	NE	133.00
	Restoration of wetlands	NE	113.00
	Enhanced action in forestry	NE	75.00
Waste	Ban on landfilling of organic waste and gas and compost plant	0.13	102.67
	Pay-as-you-throw system	NE	NE
	Reduction in food waste	NE	NE
Other	Climate education at schools	NE	NE
	Issuing of green bonds	NE	NE
	Climate impact assessment of legislation	NE	NE

Note: The estimated mitigation impacts are estimates of emissions of CO_2 eq avoided in a given year as a result of the implementation of mitigation actions.

[a] Names of PaMs reproduced as reported in Iceland's BR5.

2. Assessment of adherence to the reporting guidelines

37. The ERT assessed the information reported in the NC8 and BR5 of Iceland and identified issues relating to transparency, and thus adherence to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The findings are described in tables I.1 and II.1.

3. Domestic and regional programmes and legislative arrangements and procedures related to the Kyoto Protocol

(a) Technical assessment of the reported information

38. In its NC8 Iceland reported that the implementation of the Kyoto Protocol for the second commitment period is underpinned by the joint fulfilment agreement between the EU and its member States and Iceland, which committed them to reducing their GHG emissions by 20 per cent below the base-year (1990) level by 2020. It is also underpinned by the Climate Change Strategy adopted in 2007, which sets out Iceland's aim to reduce its net GHG emissions by 50–75 per cent by 2050 compared with the 1990 level. The Government of Iceland published its second Climate Action Plan, covering 2018–2030, in September 2018, and an updated version of that Plan, covering 2020–2030, in June 2020, which is the version being implemented. The 2020 Climate Action Plan has two main goals: achieving emission reductions in 2030 in line with the goals of the Paris Agreement and reaching carbon neutrality in 2040. The 2020 Climate Action Plan includes PaMs that mostly focus on electrification of the transport sector and afforestation, revegetation and wetland restoration.

The Plan also contains a significantly improved analysis of the estimated individual and collective mitigation gains of the PaMs presented in the first Climate Action Plan endorsed by the Government of Iceland in 2010 and the Special Climate Action Plan 2015. During the review, Iceland informed the ERT that an updated version of the 2020 Climate Action Plan is under development; it will contain 89 PaMs and 53 supporting measures.

39. For the second commitment period of the Kyoto Protocol, from 2013 to 2020, Iceland committed, jointly with the EU and its member States, to reducing its GHG emissions by 20 per cent below the base-year level (see para. 27 above).

40. The Party has arrangements and enforcement procedures to meet its commitments under the Kyoto Protocol, including procedures for addressing non-compliance. The overall responsibility for climate change policymaking lies with the Ministry of the Environment, Energy and Climate and a number of other ministries and national institutions, such as the Ministry of Finance and Economic Affairs, the Ministry of Food, Agriculture and Fisheries, the Ministry of Infrastructure and the Icelandic Association of Local Authorities, are involved in policy implementation. A Climate Council was established in June 2018 with the aim of involving non-governmental organizations in decision-making processes. The Council, which consists of representatives of universities, nature conservation associations, industry associations, the Icelandic Association of Local Authorities, the Farmers Association of Iceland and consumer organizations, was tasked with delivering in 2019 recommendations on achieving carbon neutrality. During the review, Iceland informed the ERT about changes to the regulation on the qualification criteria for members of the Climate Council, which are undergoing public consultation.

41. Iceland has provisions in place to make information on legislative arrangements and administrative procedures related to compliance and enforcement publicly accessible, such as the website of the Icelandic Government, which contains official information on climate change, including relevant acts, regulations and policies, the latest news, questions and answers, information on the UNFCCC and relevant external links.

42. Iceland has national legislative arrangements and administrative procedures in place that seek to ensure that the implementation of activities under Article 3, paragraph 3, and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and the sustainable use of natural resources. Iceland's Nature Conservation Act (Act 44/1999) sets out criteria for nature conservation and human interaction with nature and provides the main legal basis for the protection of areas, organisms, ecosystems and biodiversity. The Soil Conservation Service of Iceland, which was founded in 1907 to promote sustainable land use and the reclamation and restoration of degraded land, initiated in 2016 a programme aimed at wetland restoration through which landowners receive advice and funding for restoring organic soils in wetlands. Rewetting of drained wetlands provides the potential to reduce CO_2 emissions.

(b) Assessment of adherence to the reporting guidelines

43. The ERT assessed the information reported in the NC8 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

4. Policies and measures in accordance with Article 2 and minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol

(a) Technical assessment of the reported information

44. In the NC8 Iceland reported information on how it strives to implement PaMs under Article 2 of the Kyoto Protocol in such a way as to minimize adverse effects, including the adverse effects of climate change and effects on international trade and social, environmental and economic impacts on other Parties, especially developing country Parties. Iceland's efforts to reduce emissions and increase carbon sequestration are expected to contribute to limiting adverse impacts in other countries. In addition, Iceland has focused on supporting

developing countries with projects aimed at strengthening infrastructure in order to increase resilience to climate change.

45. The NC8 includes information on how Iceland promotes and implements the decisions of the International Civil Aviation Organization and the International Maritime Organization to limit emissions from aviation and marine bunker fuels. Flights within Iceland and flights between Iceland and the European Economic Area fall under Act 70/2012, which requires airlines to submit allowances to competent authorities to cover their GHG emissions.

46. Further information on how Iceland strives to implement its commitments under Article 3, paragraph 14, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties was reported in the 2022 annual submission. During the review, Iceland clarified that it considers the information related to Article 3, paragraph 14, of the Kyoto Protocol provided in its 2022 annual submission to still be up to date. Iceland reported information on what it prioritized in implementing its commitments under Article 3, paragraph 14, including developing economic instruments for limiting emissions from GHG-emitting sectors; implementing the multinational project Carbfix, for capturing CO_2 from geothermal steam and injecting it back into basaltic rock underground; and supporting developing countries in the area of sustainable use of natural resources by delivering the GRÓ Geothermal Training Programme.[9]

(b) Assessment of adherence to the reporting guidelines

47. The ERT assessed the information reported in the NC8 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

E. Estimates of emission reductions and removals and the use of units from market-based mechanisms and land use, land-use change and forestry and progress in achieving the quantified economy-wide emission reduction target

1. Technical assessment of the reported information

48. On its use of units from LULUCF activities, Iceland reported in CTF tables 4 and 4(a) that in 2019 and 2020 it used units to offset 21.5 and 23.8 per cent respectively of its total GHG emissions excluding those covered under the EU ETS. Iceland reported that it intends to use units from market-based mechanisms under the Kyoto Protocol. It reported in CTF tables 4 and 4(b) that it used units from market-based mechanisms in 2020 towards achieving its 2020 target in the amount of 3,403.77 kt CO_2 eq. Table 6 illustrates Iceland's total GHG emissions, contribution of LULUCF and use of units from market-based mechanisms towards achieving its target.

Table 6
Summary of information on greenhouse gas emissions, use of units from market-based mechanisms and land use, land-use change and forestry by Iceland
(kt CO_2 eq)

Year	*Emissions excluding LULUCF*	*Emissions excluding LULUCF and excluding emissions covered under the EU ETS*	*Contribution of LULUCF*	*Use of units from market-based mechanisms*	*Net emissions including LULUCF and market-based mechanisms*
1990 (base year)	3 674.48	NA	NA	NA	NA
2013	4 661.03	2 861.53	–417.63	0	2 443.90
2014	4 661.46	2 886.97	–448.02	0	2 438.95
2015	4 746.02	2 913.54	–479.60	0	2 433.94

[9] The Geothermal Training Programme was run in cooperation with the United Nations University from 1978 to 2019 as the United Nations University Geothermal Training Programme and is now under the auspices of the United Nations Educational, Scientific and Cultural Organization.

Year	*Emissions excluding LULUCF*	*Emissions excluding LULUCF and excluding emissions covered under the EU ETS*	*Contribution of LULUCF*	*Use of units from market-based mechanisms*	*Net emissions including LULUCF and market-based mechanisms*
2016	4 692.48	2 888.94	–512.50	0	2 376.44
2017	4 776.97	2 922.34	–566.46	0	2 355.88
2018	4 847.09	2 967.82	–609.25	0	2 358.57
2019	4 713.01	2 872.55	–618.39	0	2 254.16
2020	4 509.64	2 716.43	–647.28	3 403.77	–1 334.62
Cumulative 2013–2020	NA	23 030.12	–4 299.13	3 403.77	15 327.22
				Emission budget 2013–2020[a]	15 327.22

Sources: Iceland's BR5 and BR5 CTF tables 1, 2(a), 4, 4(a)I, 4(a)II and 4(b), and information provided by the Party during the review.

[a] Corresponds to Iceland's assigned amount for the second commitment period.

2. Assessment of adherence to the reporting guidelines

49. The ERT assessed the information reported in the BR5 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

3. Assessment of achievement of the quantified economy-wide emission reduction target

50. In assessing the Party's achievement of its 2020 target on the basis of the information reported in its BR5, the ERT noted that Iceland's cumulative emission allocation for sectors not covered under the EU ETS is 15,327.22 t CO_2 eq for 2013–2020 under the joint fulfilment agreement with the EU and its member States (see para. 27 above). Between 2013 and 2020 the Party's total GHG emissions for sectors not covered by the EU ETS excluding LULUCF amounted to 23,030.12 kt CO_2 eq, the contribution of LULUCF amounted to –4,299.13 kt CO_2 eq and the use of market-based mechanisms amounted to 3,403.77 kt CO_2 eq, resulting in a net figure of 15,327.22 kt CO_2 eq, which equals 100 per cent of the Party's assigned amount for the second commitment period of the Kyoto Protocol (15,327.22 kt CO_2 eq). The ERT concluded that, on the basis of the information reported in the BR5 and provided during the review, the total GHG emissions for sectors not covered by the EU ETS excluding LULUCF of Iceland, including the contribution of LULUCF and use of units from market-based mechanisms, does not exceed the Party's assigned amount for the second commitment period of the Kyoto Protocol, and thus the target has been achieved in accordance with its joint fulfilment agreement with the EU under Article 4 of the Kyoto Protocol. The final assessment of the achievement of the 2020 target is subject to the review of Iceland's report upon expiration of the additional period for fulfilling commitments for the second commitment period of the Kyoto Protocol.

F. Projections

1. Projections overview, methodology and results

(a) Technical assessment of the reported information

51. Iceland reported in its BR5 and NC8 updated projections for 2030–2040 relative to actual inventory data for 2020 under the WEM scenario, using GWP values from the AR4. The WEM scenario reported by Iceland includes PaMs implemented and adopted until 2040.

52. The projections are presented on a sectoral basis, using the same sectoral categories as those used in the reporting on mitigation actions, and on a gas-by-gas basis for CO_2, CH_4, N_2O, PFCs, HFCs and SF_6 (treating PFCs and HFCs collectively in each case) for 2030–2040. The projections are also provided in an aggregated format for each sector and for a Party total using GWP values from the AR4. Iceland reported on factors and activities affecting emissions for each sector.

(b) Methodology, assumptions and changes since the previous submission

53. The methodology used for the preparation of the projections is different from that used for the preparation of the emission projections for the NC7. Iceland did not provide information on changes since the submission of its NC7 in the assumptions, methodologies, models and approaches used for the projection scenarios. During the review, Iceland explained that the projections reported in the NC7 were prepared by the Institute of Economic Studies. The reporting of projections has since been institutionalized within the EAI. As the EAI was reporting projections for the first time in the NC8, it was unable to provide specific differences in assumptions, methodologies, models and approaches used since the submission of Iceland's NC7.

54. To prepare its projections, Iceland relied on key underlying assumptions relating to population and GDP growth rate. The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections. During the review, Iceland explained that the projections for fuel use in the energy and transport sectors were based on fuel projections to 2060 published by the National Energy Authority in 2021. The key variables for the fuel projections are population and GDP growth rate. The population and GDP growth rate were also used by the Party in preparing the projections for sectors other than energy and transport.

(c) Results of projections

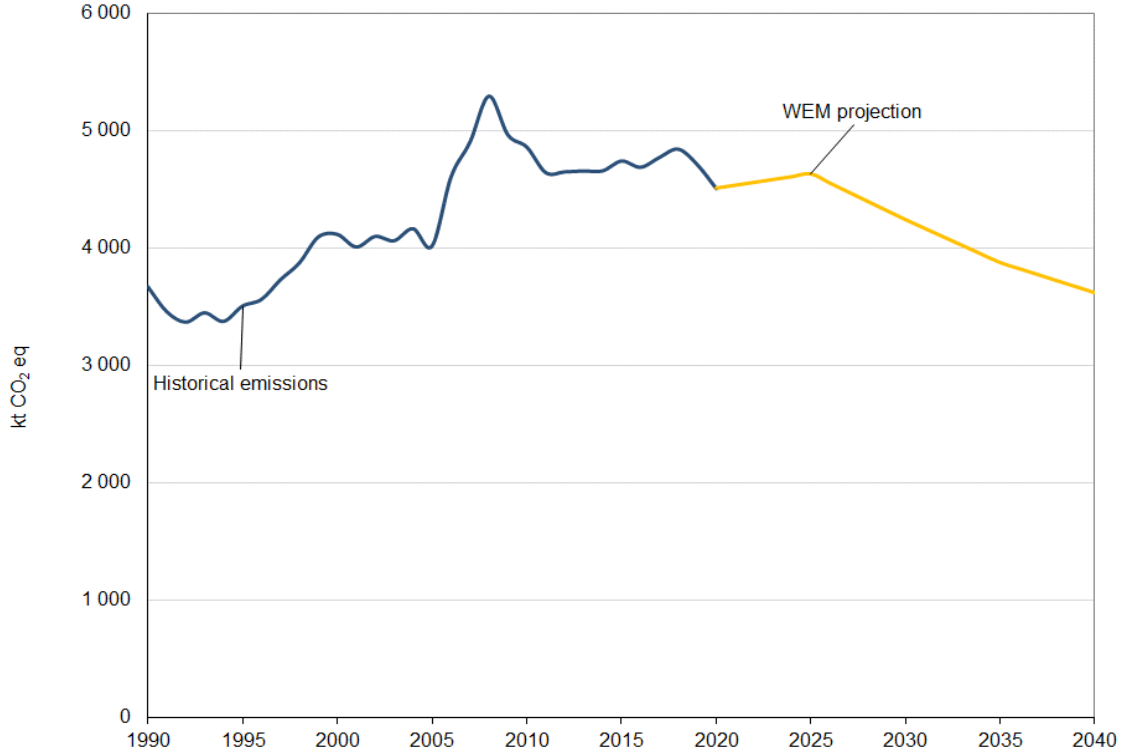
55. The projected emission levels under different scenarios are presented in table 7 and figure 1.

Table 7
Summary of greenhouse gas emission projections for Iceland

	GHG emissions (kt CO_2 eq/year)	*Change in relation to 1990 level (%)*	*Change in relation to 2020 level (%)*
Inventory data 1990	3 674.48	NA	NA
Inventory data 2020	4 509.63	22.7	NA
WEM projections for 2030	4 241.01	15.4	–6.0
WEM projections for 2040	3 620.00	–1.5	–19.7

Sources: Iceland's NC8 and BR5 CTF table 6, which use GWP values from the AR4.
Note: The projections are of GHG emissions excluding LULUCF and excluding indirect CO_2.

Figure 1
Greenhouse gas emission projections reported by Iceland

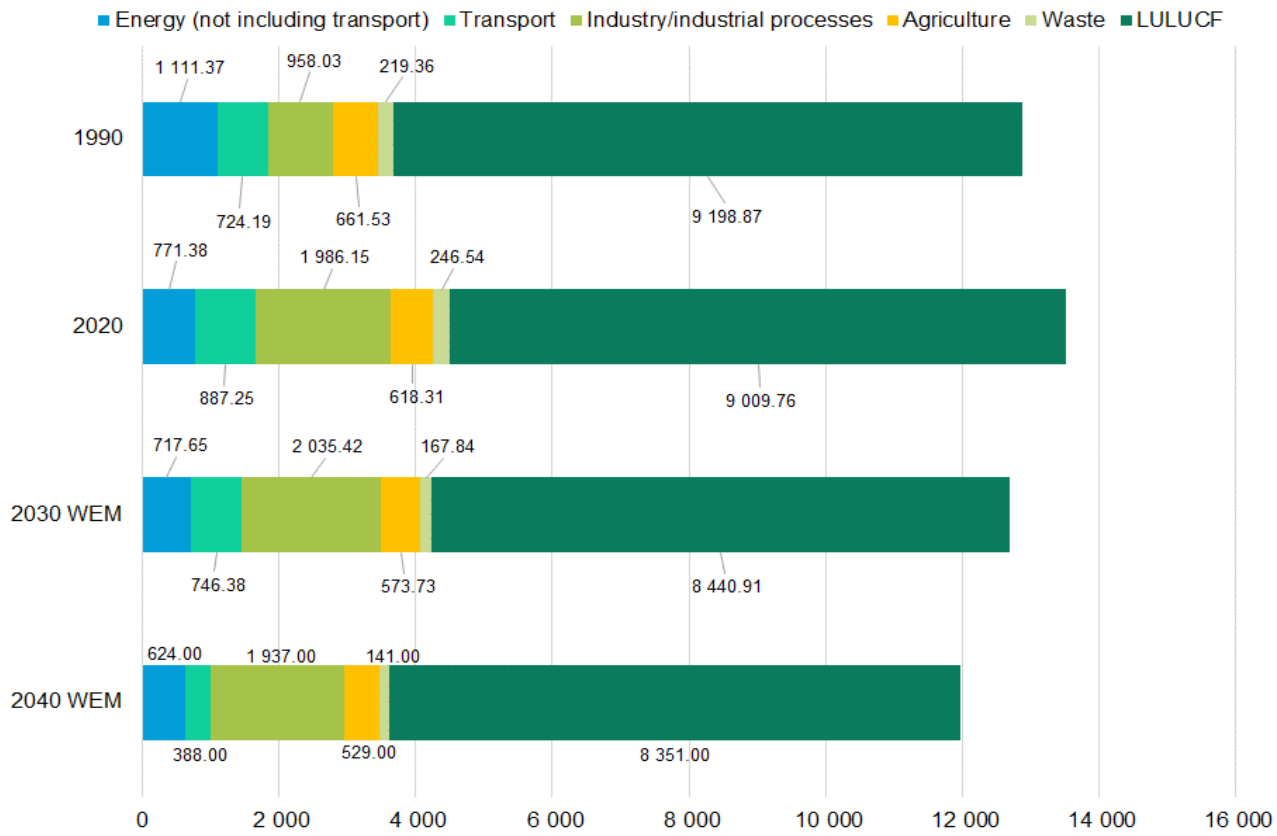


Sources: Iceland's NC8 and BR5 CTF tables 1 and 6 (total GHG emissions excluding LULUCF), which use GWP values from the AR4.

56. Iceland's total GHG emissions excluding LULUCF are projected under the WEM scenario to increase by 15.4 per cent and decrease by 1.5 per cent below the 1990 level in 2030 and 2040 respectively. When including LULUCF, total GHG emissions are projected under the WEM scenario to decrease by 1.5 and 7.0 per cent below the 1990 level in 2030 and 2040 respectively.

57. Iceland presented the WEM scenario by sector for 2030 and 2040, as summarized in figure 2 and table 8.

Figure 2
Greenhouse gas emission projections for Iceland presented by sector
(kt CO_2 eq)



Sources: Iceland's NC8 and BR5 CTF table 6, which use GWP values from the AR4.

Table 8
Summary of greenhouse gas emission projections for Iceland presented by sector

	GHG emissions and removals (kt CO_2 eq)			*Change (%)*	
Sector	*1990*	*2030 WEM*	*2040 WEM*	*1990–2030 WEM*	*1990–2040 WEM*
Energy (not including transport)	1 111.37	717.65	624.00	–35.4	–43.9
Transport	724.19	746.38	388.00	3.1	–46.4
Industry/industrial processes	958.03	2 035.42	1 937.00	112.5	102.2
Agriculture	661.53	573.73	529.00	–13.3	–20.0
LULUCF	9 198.87	8 440.91	8 351.00	–8.2	–9.2
Waste	219.36	167.84	141.00	–23.5	–35.7
Other	NA	NA	NA	NA	NA
Total GHG emissions excluding LULUCF	**3 674.48**	**4 241.01**	**3 620.00**	**15.4**	**–1.5**

Sources: Iceland's NC8 and BR5 CTF table 6, which use GWP values from the AR4.

58. According to the projections reported for 2030 under the WEM scenario, the most significant absolute emission reductions are expected to occur in the energy (not including transport) sector, amounting to projected reductions of 35.4 per cent between 1990 and 2030. In the same period, a significant increase (112.5 per cent) in emissions from industrial processes is expected. The pattern of projected emissions reported for 2040 under the same scenario is significantly different owing to emission reductions expected in transport and further reductions occurring in the energy, agriculture and waste sectors.

59. Iceland presented the WEM scenario by gas for 2030 and 2040, as summarized in table 9.

Table 9
Summary of greenhouse gas emission projections for Iceland presented by gas

	GHG emissions and removals (kt CO_2 eq)			*Change (%)*	
Gas[a]	*1990*	*2030 WEM*	*2040 WEM*	*1990–2030 WEM*	*1990–2040 WEM*
CO_2	2 215.86	3 329.76	2 828.00	50.3	27.6
CH_4	606.42	470.50	412.00	–22.4	–32.1
N_2O	356.12	288.63	271.00	–19.0	–23.9
HFCs	0.34	67.58	23.00	19 776.5	6 664.7
PFCs	494.64	81.86	82.00	–83.5	–83.4
SF_6	1.10	2.68	2.70	143.6	145.5
NF_3	NO	NO	NO	NA	NA
Total GHG emissions without LULUCF	**3 674.48**	**4 241.01**	**3 620.00**	**15.4**	**–1.5**

Sources: Iceland's NC8 and BR5 CTF table 6, which use GWP values from the AR4.
[a] Iceland did not include indirect CO_2 emissions in its projections.

(d) Assessment of adherence to the reporting guidelines

60. The ERT assessed the information reported in the NC8 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

2. Assessment of the total effect of policies and measures

(a) Technical assessment of the reported information

61. In its NC8 Iceland did not present the estimated and expected total effect of implemented and adopted PaMs or an estimate of the total effect of its PaMs, in accordance with the WEM scenario, compared with a situation without such PaMs.

(b) Assessment of adherence to the reporting guidelines

62. The ERT assessed the information reported in the NC8 of Iceland and identified issues relating to completeness and thus adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table I.2.

3. Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

(a) Technical assessment of the reported information

63. In the NC8 Iceland reported that it has used market-based mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol to meet its Kyoto Protocol target. During the review, Iceland provided information on how its use of market-based mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action.

(b) Assessment of adherence to the reporting guidelines

64. The ERT assessed the information reported in the NC8 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

G. Provision of financial, technological and capacity-building support to developing country Parties

1. Technical assessment of the reported information

(a) Approach and methodologies used to track support provided to non-Annex I Parties

65. In its NC8 and BR5 Iceland reported information on its provision of financial, technological and capacity-building support to non-Annex I Parties.

66. Iceland has provided support that it considers to be "new and additional". Its definition of "new and additional" is financial resources focusing on climate-related activities included in the growing number of new aid programmes for developing country Parties and at the same time do not divert funds from existing development priorities and programmes. Iceland's process for determining resources to be "new and additional" is the allocation of a separate budget line in the State budget for environmental and climate actions in international development cooperation. However, in addition to the budget line earmarked for climate actions, climate projects can be found throughout the development budget, especially under the budget for bilateral development cooperation.

67. Iceland reported on the support that it has provided to non-Annex I Parties, distinguishing between support for mitigation and adaptation activities and identifying the capacity-building elements of such support. Iceland reported that it works in close cooperation with local communities in identifying their needs by using detailed needs assessments.

68. Iceland's national approach to tracking the provision of support, including information on indicators, delivery mechanisms used and allocation channels tracked, is based on OECD DAC statistical reporting methods (the Creditor Reporting System) and Rio markers for tracking finance for adaptation, mitigation, desertification and biodiversity. Iceland reports finance as 100 per cent climate-relevant if the objective of the programme or project has been marked as a significant (i.e. with a Rio marker score of 1) or a principal (i.e. with a Rio marker score of 2) objective. There have been no changes to the tracking of the provision of support since the previous reporting period. Indicators are included in project documents, which are used in tracking progress of both bilateral and multilateral projects. All programmes are entered in an OECD DAC project database maintained by the Ministry for Foreign Affairs, where climate markers are applied. For bilateral programmes, progress is reported annually in line with the agreed logical framework for each project. Cross-cutting elements such as climate markers are included in yearly reports. For multilateral programmes, progress is reported in annual reports and progress reports on individual projects and programmes.

69. Iceland's methodology and underlying assumptions used for collecting and reporting information on financial support and for evaluating projects are set out in guidelines for programme specialists, which describes how to mark projects with a specific grade in the OECD DAC project database. In addition, the Development Cooperation Directorate of the Ministry for Foreign Affairs is developing a climate and environment policy that should provide a more detailed methodology, including clearer articulation of the assumptions used. Regarding the underlying assumptions used for producing information on financial support, all support (financial, technical and capacity-building) is in line with Iceland's policy on international development cooperation, which sets specific objectives for providing support directed at the cross-cutting priority areas of the environment and climate change. In addition, specific strategies, such as the strategy for bilateral development cooperation and the strategy for multilateral development cooperation, are used for identifying assumptions for reporting on financial support. In bilateral development cooperation, country strategic papers further outline Iceland's underlying assumptions, and all programme documents include a monitoring and evaluation framework where specific indicators linking to climate and the environment are included. Programme indicators provide information on the underlying assumptions used when assessing the Rio markers to be used when projects are added into the OECD DAC project database, as well as complement the above-mentioned guidelines for programme specialists.

(b) Financial resources

70. Iceland reported in its NC8 and BR5 information on its provision of financial support to non-Annex I Parties as required under the Convention, including on financial support committed and disbursed, allocation channels and annual contributions.

71. Iceland described how it seeks to ensure that the resources it provides to non-Annex I Parties effectively address their adaptation and mitigation needs. The Party reported that it supports projects related to climate change adaptation, mitigation and cross-cutting issues. It considers the diverse needs of non-Annex I Parties in selecting the projects and works with bilateral and multilateral partners to implement them. Iceland emphasized the great importance it places on measuring and communicating the support it has provided to developing country partners for measures aimed at climate change adaptation and mitigation, thus ensuring that the resources it provides effectively address the needs of developing country Parties in relation to climate change adaptation and mitigation. At the international level, Iceland is working actively with its partners and serves on committees and boards that best serve the needs of developing country Parties, such as the steering committees of Climate Promise and the Systematic Observations Financing Facility. Iceland has also served as an alternate member of the Board of the GCF and as a permanent member to the Board of the Nordic Development Fund. Table 10 summarizes the information reported by Iceland on its provision of financial support.

Table 10
Summary of information on provision of financial support by Iceland in 2019–2020
(Millions of United States dollars)

Allocation channel of public financial support	*Disbursement in 2019–2020*
Official development assistance	119.32
Climate-specific contributions through multilateral channels, including:	7.61
Least Developed Countries Fund	0.10
GCF	0.51
Financial institutions, including regional development banks	3.10
United Nations bodies	3.90
Climate-specific contributions through bilateral, regional and other channels	22.89

Sources: Iceland's BR5 CTF tables and Query Wizard for International Development Statistics, available at http://stats.oecd.org/qwids/.

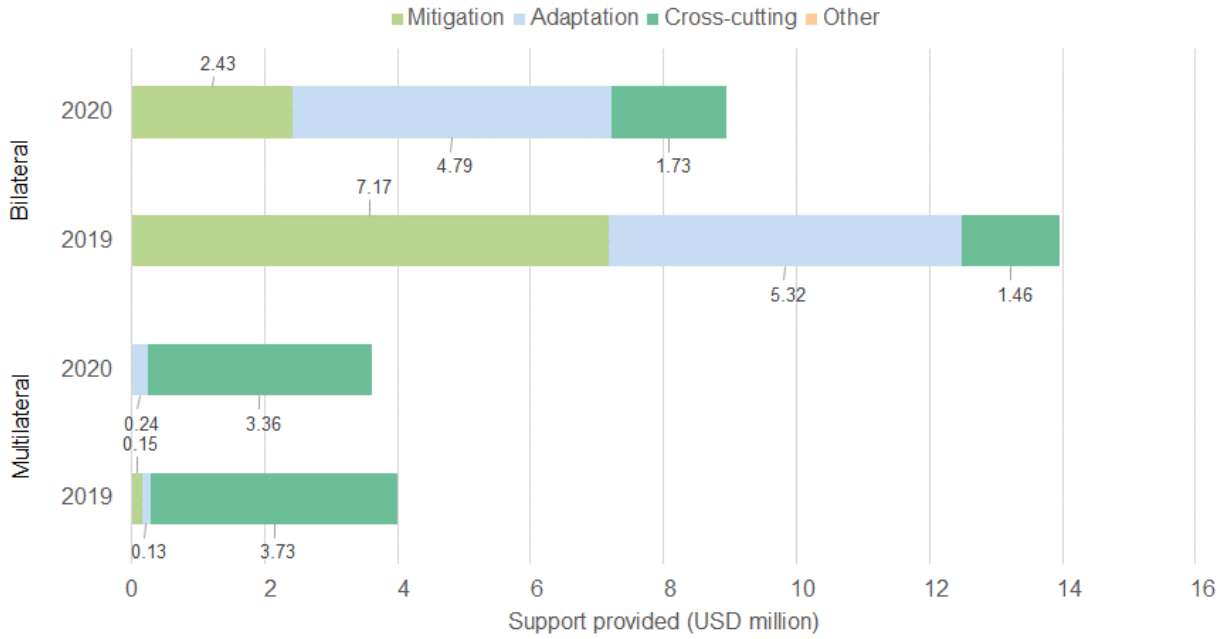
72. Iceland's climate-specific public financial support[10] totalled USD 30.51 million in 2019–2020, representing a decrease of 16.4 per cent since the BR4 (2017–2018).[11] With regard to future financial pledges aimed at enhancing the implementation of the Convention by developing countries, Iceland reported that in its newly adopted policy on international development cooperation it significantly increased funds for climate and environmental projects in 2021 and 2022.

73. Iceland contributed through multilateral channels USD 7.61 million in 2019–2020. The contributions were made to specialized multilateral climate change funds, such as the Least Developed Countries Fund and the GCF. Information on financial support from the public sector provided through multilateral and bilateral channels and the allocation of that support by target area is presented in figure 3 and table 11.

[10] For the remainder of this chapter, the term "financial support" means climate-specific financial support, unless otherwise noted.

[11] Comparisons with data from previous years have been calculated directly without adjusting for inflation.

Figure 3
Provision of support by Iceland in 2019–2020



Sources: Iceland's BR5 CTF tables 7, 7(a) and 7(b).

Table 11
Summary of information on channels of financial support reported by Iceland
(Millions of United States dollars)

Allocation channel of public financial support	*Amount disbursed in 2019–2020*	*Amount disbursed in 2017–2018*	*Change (%)*[a]	*Share of total (2019–2020) (%)*
Detailed information by type of channel				
Multilateral channels				
Mitigation	0.15	0.00	–	2.0
Adaptation	0.37	0.30	23.5	4.9
Cross-cutting	7.09	4.90	44.7	93.1
Other	0.00	0.00	–	–
Total multilateral	7.61	5.20	46.4	100.0
Bilateral channels				
Mitigation	9.60	7.30	31.5	41.9
Adaptation	10.11	17.60	–42.6	44.2
Cross-cutting	3.19	6.40	–50.2	13.9
Other	0.00	0.00	–	–
Total bilateral	22.89	31.30	–26.9	100.0
Total multilateral and bilateral	**30.51**	**36.50**	**–16.4**	**100.0**

Sources: Iceland's BR5 CTF tables 7, 7(a) and 7(b), and the report on the technical review of the BR4 of Iceland for 2017–2018 data.

[a] Note that variances in contribution amounts from year to year can occur that are not reflective of trends, owing to factors such as the biennial or triennial contribution cycles of some multilateral funds, the timing of approvals for individual bilateral projects or changes in exchange rates.

74. The Party reported detailed information on the total financial support provided though bilateral (USD 22.89 million) channels in 2019–2020. During the reporting period, Iceland placed a particular focus on Africa, including Liberia, Malawi, Sierra Leone and Uganda, to which it allocated USD 6.06 million in total.

75. The NC8 and the BR5 provide information on the types, sectors and instruments of support provided. The information reported shows that in 2019–2020 the average shares of bilateral financial support allocated to mitigation, adaptation and cross-cutting projects were

41.9, 44.2 and 13.9 per cent respectively. In 2019–2020, the majority of financial contributions through bilateral channels were allocated to the energy, health, education, water and sanitation, and cross-cutting sectors. The ERT noted that the grants provided in 2019–2020 accounted for most of the bilateral financial support. Most of Iceland's bilateral support goes to its partner countries, Malawi and Uganda, through local authorities and international partners.

76. Iceland reported on how it uses public funds to promote private sector financial support for developing countries to increase mitigation and adaptation efforts in developing countries by establishing, in 2018, the Regional Cooperation and Partnerships Department within the Ministry for Foreign Affairs. The Department is overseeing a three-year experimental project called the Sustainable Development Goals Partnership Fund, which is aimed at increasing business community partnerships in development cooperation. Financial resources and technology transfer for the purposes of adaptation to and mitigation of climate change have, in recent years, been channelled mainly through the public sector rather than the private sector. Iceland indicated that it will take decisive steps towards making improvements in promoting private sector financial support, including within the framework of its development cooperation strategy.

77. An example of Iceland's support is WASH projects in Malawi and Uganda, which are providing rural communities with improved access to clean water and sanitation facilities. The Party also reported on a geothermal exploration project in East Africa that is focused on identifying areas with potential for geothermal energy production.

(c) Technology development and transfer

78. Iceland reported on its measures and activities related to technology transfer, access and deployment benefiting developing countries, including activities undertaken by the public and private sector. Examples of support provided for the deployment and enhancement of the endogenous capacities and technologies of non-Annex I Parties include the provision of research and training for practising professionals in the fields of education and WASH in the Mangochi district of Malawi and in the Buikwe and Namayingo districts of Uganda. In collaboration with the United Nations Children's Fund, Iceland supported a new initiative in Liberia and Sierra Leone on improving access to climate-resilient WASH facilities in fishing communities to improve livelihoods and living conditions.

79. Iceland focused the provision of its technology transfer support on projects and programmes in the health, education, energy, land restoration, and water and sanitation sectors in the least developed countries.

80. Since its previous NC and BR, Iceland has implemented additional measures and activities and increased the number of non-Annex I Parties that have received technology development and transfer support. Iceland also described success stories in relation to technology transfer, and in particular measures taken to promote, facilitate and finance the transfer and deployment of climate-friendly technologies. The Party reported that there were no examples of failure stories related to technology development and transfer in this reporting period.

(d) Capacity-building

81. Iceland reported on its capacity-building support for mitigation, adaptation and technology that responds to the existing and emerging needs identified by non-Annex I Parties. It described individual measures and activities related to capacity-building support in textual and tabular format. The information was also reported in CTF table 9, where the Party reported capacity-building support provided within the framework of four GRÓ training programmes, on land restoration, fisheries, gender equality and gender studies, and geothermal energy; the WEDO Women Delegates Fund; and projects addressing gender and climate change. Iceland reported that participants in the programmes are trained in applied science and research relevant to their home country and they usually conduct their research with the involvement of a national representative or research institution. Through the GRÓ land restoration training programme, Iceland provides research and training on land restoration for experts from developing countries. The aim of the WEDO Women Delegates

Fund is to increase women's participation in international negotiations on climate issues by funding their participation on behalf of their countries.

82. Iceland has supported climate-related capacity development activities relating to adaptation, mitigation, and gender and climate change. Since the BR4, the focus of support has remained the same. Iceland did not provide information in its NC8 on how it has provided capacity-building support that responds to the existing and emerging capacity-building needs identified by non-Annex I Parties in the areas of mitigation, adaptation, and technology development and transfer. During the review, Iceland explained that such support has been provided in two ways: through the GRÓ programmes and in cooperation with private sector experts, who possess expertise in the fields required. Specifically, all programmes are demand driven and run by developing countries and their respective domestic institutions and developed in response to demand from international partner developing institutions. In providing technology transfer and capacity-building to non-Annex I countries, Iceland builds on its long-standing collaboration with international partner agencies such as the World Bank (Energy Sector Management Assistance Program), the United Nations Development Programme, the International Renewable Energy Agency and Sustainable Energy for All. In addition, the four GRÓ programmes are offered to developing countries and their relevant local institutions. The theory of change for GRÓ is to facilitate sustainable development by supporting effective and targeted capacity strengthening in selected partner countries (particularly low- and middle-income countries) and by delivering development results in line with the Sustainable Development Goals through capacity-building programmes that focus on specific thematic areas. BR5 table 6 and CTF table 8 summarize Iceland's capacity-building programmes categorized by mitigation, adaptation and sector-specific support.

2. Assessment of adherence to the reporting guidelines

83. The ERT assessed the information reported in the NC8 and BR5 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

3. Reporting on finance, capacity-building and technology transfer information related to the Kyoto Protocol

(a) Technical assessment of the reported information

84. In its NC8 Iceland reported its activities, actions and programmes undertaken in fulfilment of its commitments under Article 10 of the Kyoto Protocol. Iceland provided information on steps taken to promote, facilitate and finance the transfer of technology to developing countries and to build their capacity in order to facilitate implementation of Article 10 of the Kyoto Protocol. Iceland reported information on financial support for 2019 and 2020; therefore, the information provided is relevant for the reporting period. Iceland supported bilateral projects in Albania, Burkina Faso, El Salvador, Ethiopia, Fiji, Indonesia, Kazakhstan, Liberia, Malawi, Mozambique, Philippines, Sierra Leone, Uganda and Viet Nam; and in multilateral projects with a marked focus on mitigation, adaptation and cross-cutting environmental issues implemented by the African Rift Geothermal Development Facility, the Food and Agriculture Organization of the United Nations, the International Federation of Red Cross and Red Crescent Societies, the Nordic Development Fund, the Sustainable Development Goals Partnership Fund – Ocean Excellence, and the World Bank, among others. Contributions for 2020 to multilateral agencies that have a main mandate relating to climate action, such as the GCF, Sustainable Energy for All and the United Nations Convention to Combat Desertification, totalled 7.84 billion Icelandic krónur. Iceland plans to continue its support for developing country Parties, including through bilateral channels, in the future.

85. Iceland provided information on its implementation of Article 11 of the Kyoto Protocol, including its provision of "new and additional" financial resources through bilateral and multilateral channels for climate-related activities and its close cooperation with local

communities in identifying their needs by using detailed needs assessments. The Party described how its contributions are "new and additional" (see para. 66 above).

(b) Assessment of adherence to the reporting guidelines

86. The ERT assessed the information reported in the NC8 of Iceland and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

H. Vulnerability assessment, climate change impacts and adaptation measures

1. Technical assessment of the reported information

87. In its NC8 Iceland provided information on the expected impacts of climate change in the country. Iceland provided a description of climate change vulnerabilities and the increasing impacts of natural systems and highlighted the adaptation response actions taken and planned at different levels of government. Specifically, Iceland is prone to several hazards, including extreme storms, floods, earthquakes, volcanic eruptions, avalanches and landslides. The impact of rising temperatures on sectors of the Icelandic economy such as agriculture, fisheries and forestry is likely to be positive owing to a longer growing season and increased yields. However, these positive effects are accompanied by risks such as an increase in the prevalence of pests and diseases. Large run-off changes resulting from rapid glacier retreat as well as more intense precipitation have already increased surface water and, combined with rising sea level, could affect infrastructure, including roads and communication lines.

88. Iceland has addressed adaptation matters through the adoption of the first National Adaptation Strategy (2021) and the 2023 Climate Resilient Iceland report (prepared by the National Adaptation Plan Steering Group), which includes a description of the governance structure and adaptation measures covering 5 cross-cutting categories and 18 specific categories. This report includes a proposal for developing a NAP and a proposal for four priority measures, namely, developing (1) a climate atlas for Iceland, (2) a research and monitoring strategy, (3) a natural hazard data dissemination platform and (4) transboundary climate risk indicators. A scientific committee, headed by the Icelandic Meteorological Office, has been tasked with evaluating the effects of climate change in Iceland. The 2023 Climate Resilient Iceland report, which is the fourth version of the report published, assesses the impacts on nature and society, emphasizing various sectors and strategies for adaptation. The Government of Iceland is actively involving municipalities and regions in integrating the adaptation policy cycle at the municipal level. The Icelandic Regional Development Institute is leading a collaborative project with the Icelandic Meteorological Office and the National Planning Agency. This project aims to develop an approach for assessing local climate change impacts and vulnerabilities while establishing climate change adaptation within the municipal governance structure. The results of the project can then provide further direction to government agencies on enhancing preparedness for climate change. Table 12 summarizes the information on vulnerability and adaptation to climate change presented in the NC8 of Iceland.

Table 12
Summary of information on vulnerability and adaptation to climate change reported by Iceland

Vulnerable area	*Examples/comments/adaptation measures reported*
Agriculture and food security, and forestry	Vulnerability: Warmer temperatures improve plant productivity and create new opportunities for agriculture. An increase in heating degree days benefits crop production, but drought may become a problem. Overseas supply chain disruptions may influence Iceland's agriculture sector. A warmer climate promotes the spread and reproduction of pests. For forestry, higher temperatures result in longer growing seasons and can cause an early start in the growth cycle and increase vulnerability to new pests in forests. Forest fires become a real threat with enhanced tree growth and drought risks.

Vulnerable area	*Examples/comments/adaptation measures reported*
	Adaptation: Further studies are needed to assess the effect on different parts of the agriculture sector. Adaptation measures will be included in the first NAP.
Biodiversity and natural ecosystems	Vulnerability: A warmer climate extends the length of the growing season and increases plant production but invasive species and pests can spread more easily. New invasive species such as pink salmon and Atlantic rock crab have appeared in Icelandic waters owing to ocean warming. The highland permafrost string bogs, which are important habitats for plants and breeding grounds for birds, are at risk of disappearing owing to the recent climate warming. These bogs hold much soil organic matter and their thawing could release more GHG emissions.
	Adaptation: Studies are ongoing.
Coastal zones	Vulnerability: Thermal expansion of the ocean, loss of ice mass and changes in gravity determine absolute sea level change. This means that ice mass loss in Greenland and Iceland will lead to a drop in absolute sea level. According to the latest studies, the rapid uplift in southeast Iceland may actually result in a drop in relative sea level by more than 1 m by 2100. In turn, in areas where subsidence is most rapid, relative sea level rise may exceed 1 m by 2100. The sea level in Reykjavik has risen continuously since 1957.
	Adaptation: Recommendations for adaptation measures for coastal communities.
Fisheries	Vulnerability: Increases in temperature affect the range and distribution of commercial fishing species. The number of new fish species in Icelandic waters is increasing and is expected to result in an increased abundance of some commercial stock (e.g. mackerel), while statistics show other species are in decline (e.g. Arctic char, in all parts of Iceland). In general, both direct and indirect influences of climate change on the fishing industry can have socioeconomic consequences for livelihoods, work opportunities, migration, and rural and urban development. Ocean acidification may cause a decline in fisheries' productivity. Ocean acidification is occurring more quickly in the icy waters near Iceland than in the ocean in general.
	Adaptation: There is a lack of a risk assessment for the fishing industry and societal aspects.
Human health	Vulnerability: The increase in tourism and population growth in recent years has caused additional pressure on the health-care system. Warmer temperatures can result in new infections and pests, such as mosquitoes and ticks. Increased pollen concentrations are leading to more cases of allergies.
	Adaptation: Adaptation measures are under development.
Infrastructure and economy	Vulnerability: Substantial changes in glacier run-off have implications for the operation of hydroelectric power plants. Rapid glacial retreat affects fluvial erosion and river flow, affecting roads and communications. Increasing temperatures, increasing surface water and more frequent precipitation in the form of rain is increasing the frequency of coastal flooding. Increasing precipitation increases risk of avalanches and landslides and can cause road, household and infrastructure damage. Changes in the range and distribution of commercial fishing species affects the main sector of the Icelandic economy.
	Adaptation: Studies are ongoing. Adaptation measures will be included in the first NAP.
Water resources	Vulnerability: Melting glaciers and glacier run-off lead to fluvial erosion and changes to river flow, affecting roads, communications and the design and operation of hydroelectric power plants.
	Adaptation: Adaptation measures will be included in the first NAP.

89. Iceland provided a detailed description of international adaptation activities, including climate-related bilateral work, especially in education and WASH. Large adaptation projects in 2019 and 2020 include Iceland's provision of support to WASH projects for rural communities in Malawi and Uganda. Iceland also provided information on bilateral cooperation with developing countries on adaptation, such as a new initiative in Liberia and Sierra Leone on improving access to climate-resilient WASH facilities in fishing communities. Also, a geothermal exploration project in the East African Rift Valley was implemented to build capacity and expertise in the utilization of geothermal energy.

2. Assessment of adherence to the reporting guidelines

90. The ERT assessed the information reported in the NC8 of Iceland and identified an issue relating to completeness and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.3.

I. Research and systematic observation

1. Technical assessment of the reported information

91. In its NC8 Iceland provided information on both domestic and international activities, including contributions to the World Climate Programme, the International Geosphere–Biosphere Programme, the Global Climate Observing System and the Intergovernmental Panel on Climate Change. Iceland also provided an overview of current and ongoing research projects. During the review, Iceland provided information on its general policy and funding relating to research and systematic observation and provided information on the identification of opportunities for and barriers to free and open international exchange of data and information and on action taken to overcome such barriers.

92. Iceland has implemented and planned international and domestic policies and programmes on climate change research, systematic observation and climate modelling that aim to advance capabilities to predict and observe the physical, chemical, biological and human components of the Earth's system over space and time. Key priority research projects presented in the NC8 include a series of Nordic–Baltic climate impact projects focusing on three main renewable energy sources: hydropower, biofuels and wind power. Two other examples of projects are the Stability and Variations of Arctic Land Ice project, which examines the complex effects of climate change on Arctic glaciers, ice and snow; and the 'ICEWIND' project, which focuses on wind energy in cold areas. The 2023 Climate Resilient Iceland report provides a comprehensive overview of key considerations for assessing vulnerability in crucial sectors, areas and species in Iceland. The report includes preliminary work on vulnerability assessment for the fishing, agriculture and tourism sectors. This fourth report emphasizes the influence of climate change on social factors within the context of culture and education, the health-care system and public health. Building on this report, two pilot projects are under way to assess vulnerability to climate change in specific areas and sectors.

93. In terms of activities related to systematic observation, Iceland reported on national plans, programmes and support for ground- and space-based climate observing systems, including satellite and non-satellite climate observation. Iceland also reported on challenges related to the maintenance of a consistent and comprehensive observation system. The Icelandic Meteorological Office participates in the Global Atmospheric Observing Systems. It also monitors hydrological conditions and runs a flow monitoring network to watch, measure and warn against danger from floods originating in subglacial volcano and geothermal systems, melt water, heavy rain and ice blockage of river flow. The Icelandic Meteorological Office participates in the Global Cryosphere Watch and, with the Marine and Freshwater Research Institute, contributes to oceanographic observations. The Marine and Freshwater Research Institute has been involved in several monitoring projects of ocean currents, in cooperation with European and American scientists.

2. Assessment of adherence to the reporting guidelines

94. The ERT assessed the information reported in the NC8 of Iceland and identified issues relating to completeness and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.4.

J. Education, training and public awareness

1. Technical assessment of the reported information

95. In its NC8 Iceland provided information on its actions relating to education, training and public awareness at the domestic and international level. The Party provided information

on the general policy on education, training and public awareness; primary, secondary and higher education; public information campaigns; training programmes; education materials; resource or information centres; the involvement of the public and non-governmental organizations; and its participation in international activities. Key policy documents that emphasize the priority of sustainability and climate change include Welfare for the Future (first published in 2002 and revised in 2007 and 2010), the Climate Change Strategy (2007) and the Climate Action Plan (first developed in 2010 and updated in 2018 and 2020). These policies contain actions regarding education, public participation, awareness-raising, the media and the role of civil society. The updated Climate Action Plan launched in 2018 includes actions regarding education, training and public awareness. The Plan was again updated in 2020, and two status reports were issued in 2021 and 2022. A white paper on climate adaptation was issued in 2021.

96. Local authorities have taken steps towards raising awareness of sustainability and climate change. Reykjavik, in cooperation with Festa (the Icelandic Center for Corporate Social Responsibility), has taken decisive steps towards increasing climate change awareness and actions of companies in the city. The companies were asked to sign a joint declaration on actions intended to fight climate change and adapt to it; 200 companies had signed it at the point when the NC8 was prepared.

97. Several public awareness campaigns have been conducted, such as the Bike to Work campaign and the Bike to School and Walk to School events. The annual Bike to Work campaign was organized by the National Olympic and Sports Association of Iceland, with financial support from the public sector. In 2021, six of the largest municipalities, which contain more than 60 per cent of the population, participated in European Mobility Week, encouraging people to use environmentally friendly modes of transport. The special climate change agenda of the Government issued in 2015 introduced the Melting Glaciers project on glaciers as a natural laboratory to study climate change, which was implemented by the Vatnajökull National Park and the Icelandic Meteorological Office. The web portal for the project, launched in 2022, provides access to glacier measurements, including mass balance, glacier termini positions and glacier outlines. The web portal also provides access to a comprehensive photographic archive of Icelandic glaciers, including historical and repeat photographs.

2. Assessment of adherence to the reporting guidelines

98. The ERT assessed the information reported in the NC8 of Iceland and identified an issue relating to completeness and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.5.

III. Conclusions and recommendations

99. The ERT conducted a technical review of the information reported in the NC8 of Iceland in accordance with the UNFCCC reporting guidelines on NCs. The ERT concluded that the reported information mostly adheres to the UNFCCC reporting guidelines on NCs and that the NC8 provides an overview of the national climate policy of Iceland.

100. The information provided in the NC8 includes all of the elements of the supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. Iceland reported on the national system, the national registry, supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol, PaMs in accordance with Article 2 of the Kyoto Protocol, domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures, information under Article 10 of the Kyoto Protocol, and financial resources provided to developing country Parties. Supplementary information under Article 7, paragraph 1, of the Kyoto Protocol on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol was provided by Iceland in its 2022 annual submission.

101. The ERT conducted a technical review of the information reported in the BR5 and BR5 CTF tables of Iceland in accordance with the UNFCCC reporting guidelines on BRs. The ERT concluded that the reported information mostly adheres to the UNFCCC reporting

guidelines on BRs and that the BR5 and its CTF tables provide an overview of emissions and removals related to the Party's quantified economy-wide emission reduction target; assumptions, conditions and methodologies related to the attainment of the target; the progress of Iceland towards achieving its target; and the Party's provision of support to developing country Parties.

102. In its NC8 Iceland reported on its key national circumstances related to GHG emissions and removals, including its demographic and economic trends, and on the impact of the coronavirus disease 2019 pandemic and subsequent recovery of the economy. Renewable resources, particularly hydro and geothermal power, accounted for 85 per cent of primary energy use in 2019.

103. Iceland's total GHG emissions excluding LULUCF covered by its quantified economy-wide emission reduction target were estimated to be 22.8 per cent above its 1990 level, using GWP values from the AR5. The changes in total emissions were driven mainly by factors such as the increase in the contribution of the industrial processes sector, primarily due to an increase in the production of aluminium, which is a highly energy-intensive process.

104. As reported in the BR5, under the Convention Iceland committed to a joint effort with the EU and its member States to achieve an EU economy-wide emission reduction target of 20 per cent compared with the base year by 2020, in accordance with Article 4 of the Kyoto Protocol and its Doha Amendment and EU decisions 2015/1339 and 2015/146. Based on the joint fulfilment agreement with the EU and its member States, Iceland's initial assigned amount corresponded to its annual emission allocations for 2013–2020 for the sectors not covered by the EU ETS (EU decision 406/2009/EC).

105. Between 2013 and 2020 Iceland's total GHG emissions excluding emissions from sectors not covered by the EU ETS and LULUCF amounted to 23,030.12 kt CO_2 eq, the contribution of LULUCF amounted to 4,299.13 kt CO_2 eq and the use of market-based mechanisms amounted to 3,403.77 kt CO_2 eq, resulting in a net figure of 15,327.22 kt CO_2 eq, which equals 100 per cent of the Party's assigned amount for the second commitment period of the Kyoto Protocol. The ERT concluded that, on the basis of the information reported in its BR5 and provided during the review, the total GHG emissions for sectors not covered by the EU ETS excluding LULUCF of Iceland, including the contribution of LULUCF and use of units from market-based mechanisms, do not exceed the Party's assigned amount for the second commitment period of the Kyoto Protocol, and thus the target has been achieved in accordance with its joint fulfilment with the EU under Article 4 of the Kyoto Protocol. The final assessment of the achievement of the 2020 target is subject to the review of Iceland's report upon expiration of the additional period for fulfilling commitments for the second commitment period of the Kyoto Protocol.

106. The GHG emission projections provided by Iceland in its NC8 and BR5 correspond to the WEM scenario. Under the WEM scenario, emissions in 2030 are projected to be 15.4 per cent above the 1990 level and 6.0 per cent below the 2020 level.

107. Iceland's main policy framework relating to energy and climate change is an updated Climate Action Plan covering 2020–2030. The main sectoral changes that are expected to affect Iceland's GHG emissions up until 2030 are the phase-out of fossil fuels, leading to a decrease in emissions in the transport sector, and increased afforestation and revegetation and the restoration of wetlands, leading to an increase in carbon sequestration in the LULUCF sector.

108. Iceland continued to provide climate financing to developing countries. It has decreased its contributions by 16.4 per cent since the BR4; its public financial support in 2019–2020 totalled USD 30.51 million. For those years, Iceland provided more support for adaptation. The biggest share of support went to projects and programmes in the energy, health, education, water and sanitation, and cross-cutting sectors. An example of this support is WASH projects in Malawi and Uganda, which are providing rural communities with improved access to clean water and sanitation facilities. The Party also reported on a geothermal exploration project in East Africa that is focused on identifying areas with potential for geothermal energy production.

109. Iceland continued to provide support for technology development and transfer and capacity-building. Priority for technological support was given to projects and programmes in the health, education, energy, land restoration, and water and sanitation sectors in the least developed countries. Over time, the focus has remained the same. Priority for capacity-building support was given to Iceland's bilateral partnership countries, Malawi and Uganda; to GRÓ for its training programmes on land restoration, fisheries, gender equality and gender studies, and geothermal energy; to the WEDO Women Delegates Fund; and to projects addressing gender and climate change. Over time, the focus has remained the same.

110. In its NC8 Iceland provided information on the expected impacts of climate change in the country, including those arising from rising temperatures, large run-off changes resulting from rapid glacier retreat, and more intense precipitation. Iceland has addressed adaptation matters through the adoption of the first National Adaptation Strategy (2021).

111. In its NC8 Iceland provided information on its activities relating to research and systematic observation. Key priority research projects include a series of Nordic–Baltic climate impact projects focusing on hydropower, biofuels and wind power. Two other examples of projects are the Stability and Variations of Arctic Land Ice project, which examines the complex effects of climate change on Arctic glaciers, ice and snow; and the 'ICEWIND' project, which focuses on wind energy in cold areas.

112. In its NC8 Iceland provided information on its actions relating to education, training and public awareness. Key policy documents that emphasize the priority of sustainability and climate change include Welfare for the Future (first published in 2002 and revised in 2007 and 2010), the Climate Change Strategy (2007) and the Climate Action Plan (first developed in 2010 and updated in 2018 and 2020). These policies contain actions regarding education, public participation, awareness-raising, the media and the role of civil society. Several public awareness campaigns have been conducted, such as the Bike to Work campaign and the Bike to School and Walk to School events.

113. In the course of the review, the ERT formulated the following recommendations for Iceland to improve its adherence to the UNFCCC reporting guidelines on NCs in its next NC:

(a) To improve the completeness of its reporting by:

(i) Providing the estimated and expected total effect of implemented and adopted PaMs (see issue 4 in table I.2);

(ii) Providing an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation (see issue 1 in table I.3);

(iii) Providing information on support provided to developing countries for establishing and maintaining observing systems and related data and monitoring systems (see issue 1 in table I.4);

(b) To improve the transparency of its reporting by providing quantitative estimates of the impact for all individual PaMs or groups of PaMs, as applicable, or an explanation as to why such estimations are not possible (see issue 1 in table I.1);

(c) To improve the timeliness of its reporting by submitting its next NC on time (see para. 5 above).

114. In the course of the review of Iceland's BR5, the ERT formulated the following recommendations relating to adherence to the UNFCCC reporting guidelines on BRs:

(a) To improve with the transparency of its reporting by providing quantitative estimates of the impact for all individual PaMs or groups of PaMs, as applicable, or an explanation as to why such estimations are not possible (see issue 1 in table II.1);

(b) To improve the timeliness of its reporting (see para. 7 above).

Annex I

Assessment of adherence to the reporting guidelines for the eighth national communication of Iceland

Tables I.1–I.5 summarize the ERT assessment of adherence to the UNFCCC reporting guidelines on NCs for Iceland's NC8.

Table I.1
Findings on policies and measures from the review of the eighth national communication of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 20	Iceland reported quantitative estimates of the impacts for some individual PaMs in the NC8. The Party did not report why such estimations were not possible for the individual PaMs for which impacts were not quantified.
	Issue type: transparency Assessment: recommendation	During the review, Iceland explained that it reported quantified objectives for many PaMs in its NC8 (tables 15–20). These quantified objectives, which come from the 2020 Climate Action Plan and progress report, should be viewed as goals. The actual quantitative estimates of the impacts of some of the PaMs reported in its NC8 are based on a formal quantitative assessment of the emission reductions that are expected to be achieved.
		The ERT recommends that Iceland report quantitative estimates of the impact for all individual PaMs or groups of PaMs, as applicable, in the next NC, or provide an explanation as to why such estimations are not possible.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.2
Findings on projections including aggregate effects of policies and measures reported in the eighth national communication of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 25	Iceland did not report WAM and WOM projections in its NC8.
	Issue type: completeness	During the review, it reported that work is in progress to produce WAM projections and these will be included in Iceland's first biennial transparency report, due to be submitted in 2024, but that no work is under way to produce WOM projections owing to a lack of reliable information on how emissions would evolve if no measures were implemented.
	Assessment: encouragement	The ERT, noting the Party's explanation for not providing WOM projections, reiterates the encouragement from the previous review report for Iceland to report WAM projections in its next NC.
2	Reporting requirement specified in paragraph 27	In its NC8 Iceland provided information on the sensitivity analyses conducted for parts of the agriculture and LULUCF sectors. It explained that no quantitative sensitivity analyses had been performed for other sectors or for the reported GHG emissions as a whole, but provided no reason for this.
	Issue type: completeness	During the review, Iceland explained that sensitivity analyses were not performed for all sectoral projections or for total GHG emissions owing to a lack of human resources.
	Assessment: encouragement	The ERT reiterates the encouragement from the previous review report for Iceland to include in its next NC the results of sensitivity analyses of its projections.
3	Reporting requirement specified in paragraph 32	Iceland did not report in its NC8 emission projections for indirect GHGs such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur oxides.
	Issue type: completeness	During the review, Iceland explained that as these projections were not reported in its previous NC submissions, they were not included in the current submission. The Party clarified that projections for indirect GHGs had been prepared and reported for the first time in the 2022 Informative Inventory Report submitted under the Convention on Long-range Transboundary Air Pollution, and were again prepared and reported in 2023.

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
	Assessment: encouragement	The ERT reiterates the encouragement from the previous review report for Iceland to include in its next NC projections of indirect GHGs such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur oxides.
4	Reporting requirement specified in paragraph 36 Issue type: completeness Assessment: recommendation	Iceland did not report in its NC8 the estimated and expected total effect of implemented and adopted PaMs. During the review, Iceland explained that although the WEM projections include all the implemented and adopted PaMs, the total effect of the PaMs has not been determined. The ERT reiterates the recommendation from the previous review report for Iceland to include in its next NC the estimated and expected total effect of implemented and adopted PaMs.
5	Reporting requirement specified in paragraph 36 Issue type: completeness Assessment: encouragement	Iceland did not report the estimated and expected total effect of planned PaMs in its NC8. During the review, Iceland explained that although NC8 section 5 includes all implemented and adopted PaMs, the total effect of these PaMs compared with a baseline projection scenario has not been determined. The ERT reiterates the encouragement from the previous review report for Iceland to include in its next NC the expected effect of planned PaMs.
6	Reporting requirement specified in paragraph 40 Issue type: transparency Assessment: encouragement	Iceland did not provide in its NC8 information on the type of model or approach used for preparing the projections, including its characteristics, a summary of its strengths and weaknesses, and how it accounts for any overlap or synergies that may exist among PaMs. During the review, Iceland clarified that it uses a Microsoft Excel spreadsheet for preparing the projections for all sectors, except the transport sector, for which it uses COPERT. Iceland explained the strengths of using Excel, namely that it is transparent and traceable and ensures consistency of the projections with the historical GHG emissions. No information was provided on COPERT. The ERT reiterates the encouragement from the previous review report for Iceland to include in its next NC a description of each model or approach used for preparing its projections, including its characteristics, a summary of its strengths and weaknesses, and how it accounts for any overlap or synergies that may exist among PaMs.
7	Reporting requirement specified in paragraph 41 Issue type: completeness Assessment: encouragement	Iceland did not include in its NC8 a reference to a description of each model and its characteristics. Some information was provided on the activity data that formed the basis of the projections; however, in most cases those data were not documented in the NC8 or CTF tables. During the review, Iceland explained that GHG projections are prepared by inventory experts at the EAI. The approach used for the projections for all sectors except the transport sector is Microsoft Excel. The strengths of using Excel is that it is transparent and traceable and ensures consistency of the projections with the historical GHG emissions. For the transport sector, COPERT is used. The ERT reiterates the encouragement from the previous review report for Iceland to include in its next NC a reference to more detailed information on each model or approach used.
8	Reporting requirement specified in paragraph 42 Issue type: transparency Assessment: encouragement	Iceland did not report in its NC8 the main differences in the assumptions, methods employed and results between the projections in the NC8 and those in earlier NCs. During the review, Iceland explained that the projections included in its NC7 were prepared by the Institute of Economic Studies, under contract to the Ministry of the Environment, Energy and Climate. The projections were of high quality, but their future update was not ensured by any formal institutional arrangements. Furthermore, they were not based on the structure and format laid out by European Commission implementing regulation 749/2014 pursuant to regulation 525/2013. Iceland also explained that updated institutional arrangements will ensure its projections are based on the most up-to-date historical emission data from the EAI and that the methodology used for preparing projections is consistent with that used for estimating historical emissions. The ERT reiterates the encouragement from the previous review report for Iceland to include in its NC the main differences in the assumptions, methods employed and results between projections included in the current NC and those in earlier NCs.

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
9	Reporting requirement specified in paragraph 43	Iceland did not report in its NC8 qualitative or quantitative information related to the sensitivity of projections to underlying assumptions, except for parts of the agriculture and LULUCF sectors.
	Issue type: completeness	During the review, Iceland explained that sensitivity analyses were not carried out for all sectoral projections or for total GHG emissions owing to a lack of human resources.
	Assessment: encouragement	The ERT reiterates the encouragement from the previous review report for Iceland to provide in its next NC qualitative and, where possible, quantitative information related to the sensitivity of the projections to underlying assumptions.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.3
Findings on vulnerability assessment, climate change impacts and adaptation measures from the review of the eighth national communication of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 46	The Party did not report an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation.
	Issue type: completeness	During the review, Iceland clarified that it has taken concrete actions to implement programmes that address adaptation measures in African countries both through bilateral and, recently, through multilateral cooperation.
	Assessment: recommendation	The ERT reiterates the recommendation from the previous review report for Iceland to include in its next NC an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation, including, but expanding on, the information provided during the review.
2	Reporting requirement specified in paragraph 46	The ERT noted a significant improvement in the reporting of information under adaptation measures compared with that in the previous NC. Iceland reported in its NC8 that the first National Adaptation Strategy was adopted in 2021 and that it is developing its first NAP.
	Issue type: transparency	During the review, Iceland confirmed that the NAP is under development, and explained that it proposes four priority measures, namely, developing (1) a climate atlas for Iceland, (2) a research and monitoring strategy, (3) a natural hazard data dissemination platform and (4) transboundary climate risk indicators. The NAP will involve all ministries and representatives from local governments in implementing adaptation measures covering 5 cross-cutting categories and 18 specific categories.
	Assessment: encouragement	The ERT encourages Iceland to include information on its NAP in the next NC.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.4
Findings on research and systematic observation from the review of the eighth national communication of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 62	Iceland reported in its NC8 summary information on its national plans, programmes and support for global climate observing system activities; however, the ERT noted that the Party did not provide information on the support it provided to developing countries for establishing and maintaining observing systems and related data and monitoring systems.
	Issue type: completeness	During the review, Iceland explained that the Icelandic Meteorological Office, the Norwegian Meteorological Institute, the Department of Climate Change and Meteorological Services of Malawi (as beneficiary) and the United Nations Development Programme (as implementing entity) worked together under the auspices of the multi-partner Systematic Observations Financing Facility to build a sustainable operational network of weather stations in Malawi and to provide essential capacity-
	Assessment: recommendation	

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
		building for the beneficiary Department. The observations will be used to improve regional and global weather forecasts, with a focus on improving early warning systems and strengthening climate adaptation efforts on a global scale. The ERT recommends that the Party include in its next NC information on support provided to developing countries for establishing and maintaining observing systems and related data and monitoring systems.
2	Reporting requirement specified in paragraph 64 Issue type: completeness Assessment: encouragement	Iceland included in its NC8 information on the institutions involved in research and systematic observation and indicated the funding source for some projects. Nevertheless, the ERT could not easily identify the information on funding for research and systematic observation in the Party's NC8. During the review, Iceland explained that the Icelandic Meteorological Office is responsible for research and systemic observation and its coordination, and that the Office is funded by the Government of Iceland. The ERT reiterates the encouragement from the previous review report for Iceland to include in its next NC information on the Party's general policy and funding relating to research and systematic observation.
3	Reporting requirement specified in paragraph 66 Issue type: completeness Assessment: encouragement	Iceland did not provide in its NC8 information on highlights, innovations and significant efforts made with regard to socioeconomic analysis of both the impacts of climate change and the response options. During the review, Iceland explained that its first National Adaptation Strategy covers the planning and assessment of adaptation measures and that the impacts on vulnerable groups and nature are taken into account during these processes. The ERT reiterates the encouragement from the previous review report for Iceland to include in its next NC information on highlights, innovations and significant efforts made with regard to the results of a socioeconomic analysis of both the impacts of climate change and the response options.
4	Reporting requirement specified in paragraph 67 Issue type: completeness Assessment: encouragement	Iceland did not report in its NC8 on the exchange and archiving of data regarding support provided to developing countries for establishing and maintaining observation systems and related data and monitoring systems. During the review, Iceland clarified that it has provided such support to developing countries. The ERT reiterates the encouragement from the previous review report for Iceland to report in its next NC on the support provided to developing countries for establishing and maintaining observation systems and related data and monitoring systems.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.5
Findings on education, training and public awareness from the review of the eighth national communication of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 68 Issue type: completeness Assessment: encouragement	The Party did not report in its NC8 on the extent of public participation in the preparation or domestic review of the NC. During the review, Iceland explained that it has not established formal procedures that would guarantee public participation during the preparation of the NC, but that the information and data used as the basis for the NC have been through a public consultation process. The ERT encourages Iceland to report in the next NC on the extent of public participation in the preparation or domestic review of the NC.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Annex II

Assessment of adherence to the reporting guidelines for the fifth biennial report of Iceland

The BR5 of Iceland is the final BR under the measurement, reporting and verification system established under the Convention.[1] Nevertheless, ERTs continue to provide recommendations and encouragements to the Parties on completeness, transparency and adherence to the UNFCCC reporting guidelines on BRs. Parties may find these recommendations and encouragements relevant, as appropriate, when preparing their initial biennial transparency report under the enhanced transparency framework of the Paris Agreement. Tables II.1–II.2 summarize the ERT assessment of adherence to the UNFCCC reporting guidelines on BRs for Iceland's BR5.

Table II.1
Findings on mitigation actions and their effects from the review of the fifth biennial report of Iceland

No.	*Reporting requirement and issue type*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in CTF table 3 Issue type: transparency Assessment: recommendation	Iceland reported quantitative estimates of the impacts for some individual PaMs in the NC8. The Party did not report why such estimations were not possible for the individual PaMs for which impacts were not quantified. During the review, Iceland explained that it reported quantified objectives for many PaMs in its CTF table 3 (under "Objective and/or activity affected"). These quantified objectives, which come from the 2020 Climate Action Plan and progress report, should be viewed as goals. The actual quantitative estimates of the impacts of some of the PaMs reported in its NC8 are based on a formal assessment of the emission reductions that are expected to be achieved. The ERT recommends that Iceland report quantitative estimates of the impact for all individual PaMs or groups of PaMs, as applicable, or provide an explanation as to why such estimations are not possible.

Note: Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs or to the CTF table number from the "Common tabular format for 'UNFCCC biennial reporting guidelines for developed country Parties'". The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs.

Table II.2
Findings on projections reported in the fifth biennial report of Iceland

No.	*Reporting requirement and issue type*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement[a] specified in paragraph 25 Issue type: completeness Assessment: encouragement	Iceland did not report WAM and WOM projections in its NC8. During the review, it reported that work is in progress to produce WAM projections and these will be included in Iceland's first biennial transparency report, due to be submitted in 2024, but that no work is under way to produce WOM projections owing to a lack of reliable information on how emissions would evolve if no measures were implemented. The ERT, noting the Party's explanation for not providing WOM projections, reiterates the encouragement from the previous review report for Iceland to report WAM projections.
2	Reporting requirement[a] specified in paragraph 27	In its BR5 Iceland provided information on the sensitivity analyses conducted for parts of the agriculture and LULUCF sectors. It explained that no quantitative sensitivity analyses had been performed for other sectors or for the reported GHG emissions as a whole, but provided no reason for this.

[1] The Conference of the Parties, by decision 1/CP.24, decided that the final BRs shall be those submitted to the secretariat no later than 31 December 2022 and reaffirmed that, for Parties to the Paris Agreement, following the submission of the final BR, the modalities, procedures and guidelines contained in the annex to decision 18/CMA.1 will supersede the measurement, reporting and verification system established under decision 1/CP.16, paras. 40–47 and 60–64, and decision 2/CP.17, paras. 12–62.

No.	*Reporting requirement and issue type*	*Description of the finding with recommendation or encouragement*
	Issue type: completeness	During the review, Iceland explained that sensitivity analyses were not performed for all sectoral projections or for total GHG emissions owing to a lack of human resources.
	Assessment: encouragement	The ERT reiterates the encouragement from the previous review report for Iceland to include the results of sensitivity analyses of its projections.
3	Reporting requirement[a] specified in paragraph 32 Issue type: completeness Assessment: encouragement	Iceland did not report in its BR5 emission projections for indirect GHGs such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur oxides. During the review, Iceland explained that as these projections were not reported in its previous NC submissions, they were not included in the current submission. The Party clarified that projections for indirect GHGs had been prepared and reported for the first time in the 2022 Informative Inventory Report submitted under the Convention on Long-range Transboundary Air Pollution, and were again prepared and reported in 2023. The ERT reiterates the encouragement from the previous review report for Iceland to include projections of indirect GHGs such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur oxides.
4	Reporting requirement[a] specified in paragraph 40 Issue type: transparency Assessment: encouragement	Iceland did not provide in its NC8 information on the type of model or approach used for preparing the projections, including its characteristics, a summary of its strengths and weaknesses, and how it accounts for any overlap or synergies that may exist among PaMs. During the review, Iceland clarified that it uses a Microsoft Excel spreadsheet for preparing the projections for all sectors, except the transport sector, for which it uses COPERT. Iceland explained the strengths of using Excel, namely that it is transparent and traceable and ensures consistency of the projections with the historical GHG emissions. No information was provided on COPERT. The ERT reiterates the encouragement from the previous review report for Iceland to include a description of each model or approach used for preparing its projections, including its characteristics, a summary of its strengths and weaknesses, and how it accounts for any overlap or synergies that may exist among PaMs.
5	Reporting requirement[a] specified in paragraph 41 Issue type: completeness Assessment: encouragement	Iceland did not include in its NC8 a reference to a description of each model and its characteristics. Some information was provided on the activity data that formed the basis of the projections; however, in most cases those data were not documented in the NC8 or CTF tables. During the review, Iceland explained that GHG projections are prepared by inventory experts at the EAI. The approach used for the projections for all sectors except the transport sector is Microsoft Excel. The strengths of using Excel is that it is transparent and traceable and ensures consistency of the projections with the historical GHG emissions. For the transport sector, COPERT is used. The ERT reiterates the encouragement from the previous review report for Iceland to include a reference to more detailed information on each model or approach used.
7	Reporting requirement[a] specified in paragraph 43 Issue type: completeness Assessment: encouragement	Iceland did not report in its NC8 qualitative or quantitative information related to the sensitivity of projections to underlying assumptions, except for parts of the agriculture and LULUCF sectors. During the review, Iceland explained that sensitivity analyses were not carried out for all sectoral projections or for total GHG emissions owing to a lack of human resources. The ERT reiterates the encouragement from the previous review report for Iceland to provide qualitative and, where possible, quantitative information related to the sensitivity of the projections to underlying assumptions.
8	Reporting requirement[b] specified in paragraph 12 Issue type: transparency Assessment: encouragement	Iceland did not report in its BR5 on changes since its previous submission in the model or the methodologies used for preparing projections. During the review, Iceland explained that the projections included in its previous submission were prepared by the Institute of Economic Studies, under contract to the Ministry of the Environment, Energy and Climate. The projections were of high quality, but their future update was not ensured by any formal institutional arrangements. Furthermore, they were not based on the structure and format laid out by European Commission implementing regulation 749/2014 pursuant to regulation 525/2013. Iceland also explained that updated institutional arrangements will ensure its projections are based on the most up-to-date historical emission data from the EAI and that the

No.	Reporting requirement and issue type	Description of the finding with recommendation or encouragement
		methodology used for preparing projections is consistent with that used for estimating historical emissions. The ERT encourages Iceland to report the most recent changes since the previous submission in the model and the methodologies used for preparing projections.

Note: The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs and on BRs.

[a] Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs, as per para. 11 of the UNFCCC reporting guidelines on BRs.

[b] Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs.

Annex III

Documents and information used during the review

A. Reference documents

2022 GHG inventory submission of Iceland.
Available at https://unfccc.int/ghg-inventories-annex-i-parties/2022.

2023 GHG inventory submission of Iceland.
Available at https://unfccc.int/ghg-inventories-annex-i-parties/2023.

BR4 of Iceland. Available at https://unfccc.int/BR4.

BR5 CTF tables of Iceland. Available at https://unfccc.int/BR5.

BR5 of Iceland. Available at https://unfccc.int/BR5.

"Common tabular format for 'UNFCCC biennial reporting guidelines for developed country Parties'". Annex to decision 19/CP.18. Available at https://unfccc.int/resource/docs/2012/cop18/eng/08a03.pdf.

"Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention". FCCC/SBSTA/2014/INF.6. Available at http://unfccc.int/resource/docs/2014/sbsta/eng/inf06.pdf.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications". FCCC/CP/2019/13/Add.1. Available at https://unfccc.int/documents/210471.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Annex to 15/CMP.1. Available at https://unfccc.int/documents/4253.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Annex III to decision 3/CMP.11. Available at https://unfccc.int/documents/9101.

"Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention". Annex to decision 13/CP.20. Available at http://unfccc.int/resource/docs/2014/cop20/eng/10a03.pdf.

NC8 of Iceland. Available at https://unfccc.int/NC8.

Report on the individual review of the annual submission of Iceland submitted in 2022. FCCC/ARR/2022/ISL. Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/inventory-review-reports/inventory-review-reports-2022.

Report on the technical review of the BR4 of Iceland. FCCC/TRR.4/ISL. Available at https://unfccc.int/documents/278069.

"UNFCCC biennial reporting guidelines for developed country Parties". Annex I to decision 2/CP.17. Available at http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf.

B. Additional information provided by the Party

Responses to questions during the review were received from Helga Barðadóttir (Ministry of the Environment, Energy and Climate of Iceland), including additional material.