United Nations

FCCC/TRR.4/ISL*

Framework Convention on Climate Change

Distr.: General
1 June 2021

English only

Report on the technical review of the fourth biennial report of Iceland

Developed country Parties were requested by decision 2/CP.17 to submit their fourth biennial report to the secretariat by 1 January 2020. This report presents the results of the technical review of the fourth 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 took place from 22 to 26 March 2021 remotely.

* Reissued for technical reasons on 3 December 2021.

Contents

Abbreviations and acronyms

AAU	assigned amount unit
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
CTF	common tabular format
ERT	expert review team
ESD	European Union effort-sharing decision
ESR	European Union effort-sharing regulation
EU	European Union
EU ETS	European Union Emissions Trading System
F-gas	fluorinated gas
GHG	greenhouse gas
GNI	gross national income
GWP	global warming potential
HFC	hydrofluorocarbon
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
NA	not applicable
NC	national communication
NE	not estimated
NF_3	nitrogen trifluoride
non-Annex I Party	Party not included in Annex I to the Convention
non-ETS	not covered by the European Union Emissions Trading System
N_2O	nitrous oxide
PaMs	policies and measures
PFC	perfluorocarbon
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”
UNU	United Nations University
WASH	water, sanitation and hygiene
WEDO	Women’s Environment and Development Organization
WEM	‘with measures’

I. Introduction and summary

A. Introduction

1. This is a report on the centralized technical review of the BR41 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" (annex to decision 13/CP.20).

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

3. The review was conducted together with the review of one other Party included in Annex I to the Convention from 22 to 26 March 2021 remotely[2] by the following team of nominated experts from the UNFCCC roster of experts: Laura Elena Dawidowski (Argentina), Marco Orsini (Belgium), Pinar Pamukcu Albers (Turkey), Christopher Sherry (United States of America) and Dingane Sithole (Zimbabwe). Ms. Dawidowski was the lead reviewer. The review was coordinated by Veronica Colerio and Martina Kuehner (secretariat).

B. Summary

4. The ERT conducted a technical review of the information reported in the BR4 of Iceland in accordance with the UNFCCC reporting guidelines on BRs (annex I to decision 2/CP.17).

1. Timeliness

5. The BR4 was submitted on 25 November 2020, after the deadline of 1 January 2020 mandated by decision 2/CP.17. The BR4 CTF tables were also submitted on 25 November 2020.

6. Iceland informed the secretariat on 11 November 2019 about its difficulties with making a timely 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.

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

7. Iceland made efforts to improve its reporting in the BR4 by addressing recommendations and encouragements from the previous review report. The ERT noted that the Party had improved:

(a) The completeness of its reporting of projections by presenting WEM projections by gas;

(b) The completeness and transparency of the information on provision of support to developing country Parties by:

(i) Including a description of its national approach to tracking the provision of support to non-Annex I Parties and the delivery mechanisms used;

[1] The BR submission comprises the text of the report and the CTF tables, which are both subject to the technical review.

[2] Owing to the circumstances related to the coronavirus disease 2019, the technical review of the BR submitted by Iceland had to be conducted remotely.

(ii) Reporting information on the economic and social consequences of response measures related to financial support;

(iii) Reporting on the PaMs in place to promote the upscaling of private investment in mitigation and adaptation in developing countries;

(iv) Correctly reporting the status of all technology transfer programmes.

8. Issues and gaps identified by the ERT related to the reported information are presented in table 1. The information reported by Iceland in its BR4 mostly adheres to the UNFCCC reporting guidelines on BRs.

Table 1
Summary of completeness and transparency of mandatory information reported by Iceland in its fourth biennial report

Section of BR	*Completeness*	*Transparency*	*Reference to description of recommendation(s)*
GHG emissions and removals	Complete	Mostly transparent	Issue 2 in table 3
Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies	Complete	Mostly transparent	Issue 1 in table 4
Progress in achievement of targets	Mostly complete	Mostly transparent	Issues 1 and 4 in table 6 Issues 1–2 in table 8 Issues 3 and 5 in table 12
Provision of support to developing country Parties	Mostly complete	Transparent	Issues 1, 2 and 4 in table 15

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

II. Technical review of the information reported in the fourth biennial report

A. Information on greenhouse gas emissions and removals related to the quantified economy-wide emission reduction target

1. Technical assessment of the reported information

9. Total GHG emissions[3] excluding emissions and removals from LULUCF increased by 30.1 per cent between 1990 and 2018, whereas total GHG emissions including net emissions or removals from LULUCF increased by 6.0 per cent over the same period. Emissions peaked in 2008 and decreased thereafter. The changes in the total emissions were driven mainly by the tenfold increase in aluminium production between 1990 and 2018, the increase in gross domestic product and significant population growth.

10. In Iceland, where renewables account for 99 per cent of electricity production, IPPU is a key contributor to emissions, aluminium production in particular, which accounted in 2018 for 38 per cent of total national CO_2 emissions excluding LULUCF. The increase in aluminium production capacity between 2006 and 2008 led to an increase in the total national emissions. Economic growth since the mid-1990s and population growth have also resulted in an increase in Iceland's total emissions, mainly from the transport and construction sectors. However, the economy did experience a contraction between 2008 and 2011 owing to the financial crisis. As a result, emissions from fuel combustion in the transport and construction

[3] 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.

sectors decreased each year between 2008 and 2011. In 2015 emissions were 5 per cent above the 2011 level, yet 19 per cent below the peak in 2007.

11. Table 2 illustrates the emission trends by sector and by gas for Iceland. Note that information in this paragraph and table 2 is based on Iceland's 2020 annual submission, version 1, which has not yet been subject to review. All emission data in subsequent chapters are based on Iceland's BR4 CTF tables unless otherwise noted. The emissions reported in the 2020 annual submission differ from the data reported in CTF table 1, which are based on Iceland's 2019 annual submission. The 2020 annual submission includes recalculations with respect to the latest version of the CTF tables submitted in 2019, including major changes for the agriculture and LULUCF sectors.

Table 2
Greenhouse gas emissions by sector and by gas for Iceland for 1990–2018

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2017*	*2018*	*1990–2018*	*2017–2018*	*1990*	*2018*
Sector									
1. Energy	1 869.45	2 204.98	2 063.27	1 877.88	1 919.91	2.7	–12.7	50.1	39.5
A1. Energy industries	13.83	11.19	14.02	2.34	2.38	–82.8	3.9	0.4	0.0
A2. Manufacturing industries and construction	376.73	456.18	231.27	171.89	150.14	–60.1	2.7	10.1	3.1
A3. Transport	622.67	656.95	871.20	1 007.87	1 047.16	68.2	2.6	16.7	21.6
A4. and A5. Other	794.18	925.99	752.06	545.97	560.45	–29.4	305.8	21.3	11.5
B. Fugitive emissions from fuels	62.04	154.66	194.71	149.81	159.78	157.5	6.7	1.7	3.3
C. CO_2 transport and storage	NA	NA	NA	NA	NA	NA	NA	NA	NA
2. IPPU	957.68	1 009.57	1 910.66	2 025.66	2 025.70	111.5	0.0	25.7	41.7
3. Agriculture	678.27	631.57	631.25	666.48	634.97	–6.4	–4.7	18.2	13.1
4. LULUCF	9 343.54	9 238.13	9 261.75	9 053.15	9 009.76	–3.6	–0.5	NA	NA
5. Waste	227.47	324.93	323.74	265.48	276.37	21.5	4.1	6.1	5.7
6. Other[a]	NA	NA	NA	NA	NA	–	–	–	0.0
Gas[b]									
CO_2	2 247.80	2 946.47	3 660.12	3 614.87	3 674.53	63.5	1.7	60.2	75.7
CH_4	610.59	680.25	681.86	637.05	630.02	3.2	–1.1	16.4	13.0
N_2O	378.40	349.16	305.51	322.36	305.47	–19.3	–5.2	10.1	6.3
HFCs	0.35	43.96	105.11	190.91	167.23	48 366.2	–12.4	0.0	3.4
PFCs	494.64	149.89	171.66	68.01	76.44	–84.5	12.4	13.3	1.6
SF_6	1.10	1.31	4.66	2.31	3.26	197.3	41.3	0.0	0.1
NF_3	NA	NA	NA	NA	NA	–	–	–	–
Total GHG emissions excluding LULUCF	**3 732.87**	**4 171.05**	**4 928.92**	**4 835.51**	**4 856.95**	**30.1**	**0.4**	**100.0**	**100.0**
Total GHG emissions including LULUCF	**13 076.41**	**13 409.18**	**14 190.67**	**13 888.66**	**13 866.71**	**6.0**	**–0.2**	**NA**	**NA**

Source: GHG emission data: Iceland's 2020 annual submission, version 1.
[a] Emissions and removals reported under the sector other (sector 6) are not included in the total GHG emissions.
[b] Emissions by gas without LULUCF. The Party did not report indirect CO_2 emissions.

12. In brief, Iceland's national inventory arrangements were established in accordance with act 70/2012, which identified the Environment Agency of Iceland as the authority responsible for the national GHG inventory and established a national system for estimating GHG emissions by sources and removals by sinks, a national registry, emission permits and the legal basis for installations and aviation operators participating in the EU ETS. The changes in these arrangements since the BR3 include the strengthening of the legal mandate of the Environment Agency of Iceland to collect information and data in order to enhance the GHG inventory.

2. Assessment of adherence to the reporting guidelines

13. The ERT assessed the information reported in the BR4 of Iceland and identified issues relating to transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 3.

Table 3
Findings on greenhouse gas emissions and removals from the review of the fourth biennial report of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 2 Issue type: transparency Assessment: encouragement	Iceland based its BR4, which was submitted on 25 November 2020, on the GHG inventory submitted in November 2019 for 1990–2017. Iceland made its 2020 annual inventory submission, for 1990–2018, in April 2020. Therefore, the information on GHG emissions and trends in the BR4 is not consistent with that in the most recent national inventory submission at the time the BR4 was submitted. During the review, Iceland confirmed that the BR4 was prepared on the basis of the national inventory report submitted in November 2019. The ERT reiterates the encouragement from the previous review report for Iceland to provide in its next BR information on GHG emissions and trends that is consistent with that provided in the most recent annual inventory submission.
2	Reporting requirement specified in paragraph 2 Issue type: transparency Assessment: recommendation	Iceland reported GHG emissions with and without LULUCF in BR4 table 2.1 and CTF table 1. The information on GHG emissions without LULUCF reported in BR4 table 2.1 differs from that reported in CTF table 1, which is consistent with that reported in the national inventory report and common reporting format tables submitted in November 2019. During the review, Iceland clarified that there was an error in BR4 table 2.1. The ERT recommends that Iceland ensure that the information on GHG emissions reported in the textual part of its next BR and in CTF table 1 is consistent.

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

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

1. Technical assessment of the reported information

14. For Iceland the Convention entered into force on 21 March 1994. Under the Convention Iceland committed to a joint effort with the EU and its member States in accordance with Article 4 of the Kyoto Protocol.[4] Iceland is further committed to contributing to the achievement of the joint EU economy-wide emission reduction target of 20 per cent below the 1990 level by 2020 under the Doha Amendment to the Kyoto Protocol by agreement with the EU and its member States (EU decisions 2015/1339 and 2015/146).

15. The target for the EU and its member States is formalized in the EU 2020 climate and energy package. The legislative package regulates emissions of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 using GWP values from the AR4 to aggregate the GHG emissions of the EU until 2020. Emissions and removals from the LULUCF sector are not included in the quantified economy-wide emission reduction target under the Convention. The EU generally allows its member States to use units from the Kyoto Protocol mechanisms for compliance purposes, subject to a number of restrictions in terms of origin and type of project and up to an established limit. Operators and airline operators can use such units to fulfil their requirements under the EU ETS. As Iceland is not an EU member State, the terms and conditions under which the Party contributes to the joint EU target have been agreed bilaterally between Iceland and the EU (EU decision 2015/1340).

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

16. The EU 2020 climate and energy package includes the EU ETS and the ESD (see paras. 27–29 below). The EU ETS covers mainly point emissions sources in the energy, industry and aviation sectors. An EU-wide emission cap has been put in place for 2013–2020 with the goal of reducing emissions by 21 per cent below the 2005 level by 2020. For 2030, a reduction target of 43 per cent below the 2005 level has been set for emissions covered by the EU ETS. Iceland participates in the EU ETS, while its non-ETS emissions are not covered by the ESD but a bilateral effort-sharing agreement between Iceland and the EU and its member States that covers all non-ETS sources, including LULUCF. Under the agreement, Iceland has cumulative allocated emissions for non-ETS sectors of 15,327.22 t CO_2 eq for 2013–2020.[5]

17. Iceland reported a general description of its target and related conditions and assumptions in its BR4 and CTF tables 2(a–f). In its BR4 and CTF table 2(f), Iceland reported an emission reduction target of 20 per cent below the 2005 level by 2020 for non-ETS sectors, and cumulative allocated emissions for non-ETS sectors of 15,327,217 t CO_2 eq for 2013–2020. The allocated emissions for 2013–2020 reported in the BR4 are the same as those reported in the BR3, but the reported percentage emission reduction target differs: in the BR3, a target of 22 per cent was reported. During the review, Iceland explained that the target was calculated using a method similar to that used by EU member States under the ESD, based on emissions in 2005, but the target was defined in tonnes rather than as a percentage. The ERT is of the view that Iceland could improve the transparency of reporting in its next BR by explaining that the emission reduction target for non-ETS sectors agreed bilaterally with the EU is defined as a total amount of cumulative emissions for 2013–2020 and not as a percentage reduction by a target year.

18. In 2016, Iceland announced its intention to join other European countries in committing to reducing emissions by 40 per cent by 2030 compared with the 1990 level. Later, the Party took the decision to increase its level of ambition by committing in December 2020 to reducing net emissions by 55 per cent by 2030 compared with the 1990 level jointly with the EU and its member States and Norway within the framework of their climate cooperation agreement. In the submission of its updated nationally determined contribution,[6] submitted to the secretariat in February 2021, the Party included information on its pledge to become carbon-neutral by 2040.

19. The ESR, successor to the ESD, was adopted in 2018 by Iceland with a target of reducing non-ETS emissions by 29 per cent below the 2005 level by 2030.

20. The European Commission set out its vision for a climate-neutral EU in November 2018, and in December 2019 presented the European Green Deal as a road map with actions for making the EU economy sustainable. The European Council endorsed in December 2019 the objective of making the EU climate-neutral by 2050. As part of the European Green Deal, the Commission proposed in March 2020 to enshrine the 2050 climate-neutrality target into the first European Climate Law. The European Green Deal calls for increasing the ambition of the 2030 emission reduction target to at least 50 per cent below the 1990 level. Member States will set out any increased ambition in the update of their National Energy and Climate Plans.

2. Assessment of adherence to the reporting guidelines

21. The ERT assessed the information reported in the BR4 of Iceland and identified an issue relating to transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The finding is described in table 4.

[5] See https://data.consilium.europa.eu/doc/document/ST%2010941%202014%20INIT/EN/pdf.

[6] Available at https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Iceland%20First/Iceland_updated_NDC_Submission_Feb_2021.pdf.

Table 4
Findings on the assumptions, conditions and methodologies related to the quantified economy-wide emission reduction target from the review of the fourth biennial report of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation*
1	Reporting requirement specified in paragraph 4	Iceland reported in CTF table 2(a) an emission reduction target of 8,000 per cent below the 1990 level by 2020, which differs substantially from the 20 per cent reported in its previous BRs.
	Issue type: transparency	During the review, in response to a question raised by the ERT, Iceland clarified that this is a typographical error in CTF table 2(a).
	Assessment: recommendation	The ERT recommends that Iceland report its quantified economy-wide emission reduction target correctly in CTF table 2(a).

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

C. Progress made towards achievement of the quantified economy-wide emission reduction target

1. Mitigation actions and their effects

(a) Technical assessment of the reported information

22. Iceland provided information on its package of PaMs implemented, adopted and planned, by sector and by gas, in order to fulfil its commitments under the Convention. 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.

23. Iceland's set of PaMs is similar to that previously reported, with the addition of new PaMs in all sectors from Iceland's updated 2020 Climate Action Plan. In the BR4 and during the review, Iceland provided information on changes since its previous submission to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of progress towards its target. The main change since its previous submission is the establishment in 2018 of the Icelandic Climate Council, an independent body whose role is to hold governmental authorities accountable for the implementation of climate policy and provide advice to the Government on PaMs related to climate change (mitigation and adaptation). The Council reviews and monitors Icelandic climate policies on a yearly basis and reports on the progress of the actions presented in the 2020 Climate Action Plan.

24. In its reporting on its PaMs, Iceland did not provide the estimated emission reduction impacts, but it explained during the review that estimated impacts for most of the PaMs are presented in either the 2019 report on policies, measures and projections or the 2020 Climate Action Plan. Owing to difficulties streamlining information from different sources, Iceland was unable to include estimated emission reduction impacts for its reported PaMs in the BR4. The Party explained that the BR4 is based on a few sources that provided overlapping, but not exactly the same, information, which made it difficult to calculate consistent estimates. The ERT noted that Iceland plans to include quantitative information on its PaMs in its next BR.

25. Iceland's self-assessment of compliance with its emission reduction targets is undertaken by the Icelandic Climate Council. During the review, Iceland clarified that there are no established national rules for taking local action against domestic non-compliance with emission reduction targets.

26. Iceland's main instrument for defining and implementing mitigation PaMs is a succession of climate action plans. The first Climate Action Plan was released in 2010 and included participation in the EU ETS, a carbon tax and measures in the transport and LULUCF sectors. The Plan was complemented by the 2015 Special Climate Action Plan,

which provided additional funding for 2016–2018 for selected measures, with a focus on the transport and LULUCF sectors. In 2018, a new Climate Action Plan to enable Iceland to reach its ambitious emission reduction targets for 2030 (reducing non-ETS emissions by 29 per cent) and 2040 (carbon neutrality) was announced. In June 2020, the Government of Iceland published an updated version of the Climate Action Plan with new measures in all sectors.

27. The two overarching cross-sectoral policies reported by Iceland are its participation in the EU ETS and its wide range of national individual policies addressing non-ETS emissions sources.

28. In operation since 2005, the EU ETS is a cap-and-trade system that covers all significant energy-intensive installations (mainly large point emissions sources such as power plants and industrial facilities), which produce 40–45 per cent of the GHG emissions of the EU. It is expected that the EU ETS will guarantee that the 2020 and 2030 targets (a 21 and 43 per cent emission reduction below the 2005 level, respectively) will be achieved for sectors under the scheme. The third phase of the EU ETS started in 2013 and the system now includes aircraft operations (since 2012) as well as N_2O emissions from chemical industry, PFC emissions from aluminium production and CO_2 emissions from some industrial processes that were not covered in the previous phases of the EU ETS (since 2013). Auctioning is the default method for allocating allowances; however, harmonized rules for free allocations, based on benchmark values achieved by the most efficient 10 per cent of installations, are still in place as a safeguard for the international competitiveness of industrial sectors at risk of carbon leakage. The EU ETS was transposed into Icelandic law in 2011 (act 64/2011) for Iceland to participate in the EU ETS as of 1 January 2012 and its relevant emissions sources, notably industrial processes such as aluminium production, to be covered by the EU ETS.

29. Iceland's non-ETS emissions accounted for approximately 60 per cent of its total GHG emissions in 2018. Those emissions are not covered by the ESD but are subject to a bilateral effort-sharing agreement between Iceland and the EU and its member States that covers all non-ETS sources, including LULUCF. Under the agreement, Iceland has a target to reduce emissions from non-ETS sectors to ensure that they do not exceed 15,327.22 t CO_2 eq cumulatively in 2013–2020. The ESR sets national emission reduction targets for 2030 ranging from 0 to 40 per cent below the 2005 level, and trajectories with annual limits for 2021–2030, for all member States. Iceland adopted the ESR in 2018, under which its target is to reduce non-ETS emissions by 29 per cent below the 2005 level by 2030.

30. Iceland and the EU have intensified their climate cooperation. Iceland has aligned its actions with those of the EU to reduce emissions from non-ETS sectors, namely agriculture, transport, waste management and buildings; and to enhance the benefits of carbon removals from land use and forestry. Iceland has finalized the legal implementation of its joint fulfilment with the EU member States and Norway of the EU LULUCF regulation (regulation 2018/841) and the parts of the EU regulation on the governance of the Energy Union and climate action (regulation 2018/1999) that are relevant to climate matters.

31. Iceland introduced national-level policies to achieve its targets for non-ETS sectors and domestic emission reduction targets. These PaMs are described in the 2020 Climate Action Plan, which was last updated in June 2020. The 2020 Climate Action Plan presents a substantial increase in government funding for climate change mitigation plans: the 46 billion Icelandic króna budget for measures in 2020–2024 is significantly higher than the 7 billion Icelandic króna budget for 2019–2023 in the 2018 Climate Action Plan. However, while half of the mitigation measures in the 2020 Climate Action Plan have already been initiated, the extent of their implementation and thus contribution to Iceland's 2020 emission reduction target is limited.

32. Iceland reported a number of implemented actions across all sectors with a focus on transitioning to a carbon-free transport sector, and increasing carbon sequestration in land use through afforestation, revegetation and restoration of wetlands.

33. Iceland also reported planned mitigation actions, most of which are from the 2020 Climate Action Plan. Focused on the additional emission reductions needed for reaching the Party's 2030 and 2040 targets, the measures include reducing emissions from maritime

transport and fishing vessels, agriculture and heavy industry, and increasing carbon sequestration and reducing emissions from land. Among the mitigation actions that provide a foundation for significant additional emission reductions are measures related to CO_2 capture from heavy industry, facilitating the energy transition in fisheries, and improving livestock feed to reduce enteric fermentation.

34. 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*	*Estimate of mitigation impact in 2020 (kt CO_2 eq)*	*Estimate of mitigation impact in 2030 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	2018 and 2020 Climate Action Plans	NE	NE
	EU ETS	NE	NE
Energy	Carbon tax	NE	NE
Energy efficiency	National regulations 822/2004 on vehicle design and equipment and 855/2012 on tyre labelling, implementing EU regulations on vehicle performance	NE	NE
Energy supply and renewables	National Renewable Energy Action Plan	NE	NE
	Renewable electricity for fishmeal production	NE	NE
Transport	Supporting development of infrastructure for electric cars and other clean-energy vehicles	NE	NE
	Excise duty and semi-annual car tax based on CO_2 emissions	NE	NE
	Exemption from value added tax for zero-emission vehicles, with a cap	NE	NE
IPPU	Adoption of the EU F-gas regulation (regulation 517/2014) through national regulation 1279/2018	NE	NE
Agriculture	–	NA	NA
LULUCF	Revegetation, including establishing vegetation on eroded or desertified land	NE	NE
	Planning land use under the National Planning Strategy 2015–2026	NE	NE
Waste	National Waste Management Plan for 2013–2024	NE	NE
	New gas and composting power plant	NE	NE

35. Iceland reported in the BR4 that its cost-effective mitigation options in the energy sector are limited because electricity and heating come mostly from renewable sources. As emissions from the IPPU sector are covered by the EU ETS, Iceland is focusing mainly on tackling emissions from transport and fisheries and increasing carbon sequestration in land use through restoration of woodlands and wetlands, revegetation and afforestation. Although Iceland did not report the impacts of its PaMs, the Party stated in the BR4 that its mitigation actions have had an impact on emissions in the transport sector: there has been a significant increase in the sale of electric cars and plug-in hybrid cars and rapid installation of charging infrastructure with government support. Cycling and use of public transport have also increased. The Party also stated that GHG emissions from fisheries have decreased (accounting for 11 per cent of Iceland's total GHG emissions in 2017), which is potentially due to actions promoted by industry but also clearly supported by government action, such as the carbon tax and promotion of efficient fisheries.

(b) Policies and measures in the energy sector

36. **Energy efficiency.** Iceland did not report any significant PaMs for energy efficiency owing to its already high level of self-sufficiency in terms of using renewable energy sources for space and domestic heating.

37. **Energy supply and renewables.** Iceland has exploited its renewable energy potential, in particular for hydropower and geothermal energy, to reach a share of renewables in gross final energy consumption of 72.2 per cent in 2018, higher than the 67 per cent target for 2020 set in its National Renewable Energy Action Plan. With 99 per cent of Iceland's electricity and 67 per cent of its heat sourced from renewables, PaMs in the energy sector target mainly transport (see para. 39 below), where renewables account for only 9 per cent of gross final energy consumption. The carbon tax introduced on 1 January 2010 through act 129/2009 has played an important role in reducing emissions from the energy sector. The tax, levied on liquid and gaseous fossil fuels depending on their carbon content, was increased by 50 per cent in 2018, 10 per cent in 2019 and by a further 10 per cent at the beginning of 2020.

38. **Residential and commercial sectors.** The Party did not report any significant PaMs for the residential and commercial sectors owing to its already high level of self-sufficiency in terms of using renewable energy sources for space and domestic heating.

39. **Transport sector.** Iceland's main efforts towards curbing emissions in the energy sector have been focused on the transition to a cleaner transport sector. Under the national action plan on energy transition (resolution 18/146 of May 2017), there are targets to increase the share of renewables in gross final energy consumption in the transport sector from 6 per cent in 2017 to 10 per cent in 2020 and 40 per cent in 2030. According to the BR4, Iceland has implemented a dual strategy for reducing road transport emissions. First, several market measures were brought in, including reinforcing the carbon tax, excise duty and semi-annual car tax based on CO_2 emissions and banning the new registration of diesel and gasoline cars after 2030. Alongside promoting cleaner-energy cars, such as through the exemption from value added tax for zero-emission vehicles, there has been a strong push towards transitioning the car fleet to electric. Second, the Government of Iceland has strongly supported the development of infrastructure (such as installation of charging stations) for electric cars and other clean-energy vehicles.

40. A notable measure for supporting electric mobility was amending the building regulations to make it mandatory to include the potential for installing charging stations for electric cars in all car parks and garages in plans for both the construction of new buildings and the major renovation of older ones. Iceland reported in the BR4 that there are clear signs of the positive effects of these PaMs, such as the significant increase in sales of electric cars and other zero-emission vehicles.

41. Furthermore, Iceland has implemented several measures to reduce emissions from domestic maritime transport (including fishing vessels) and aviation. With regard to maritime transportation, the Party has introduced several measures, such as increasing the electrification of ferries and improving grid infrastructure in harbours. In addition, Iceland is planning to phase out the use of heavy fuel oil by its fishing fleet, with the first step being to reduce the maximum permissible percentage of sulfur in ship fuel for use within Icelandic waters to 0.1 per cent.

42. **Industrial sector.** Iceland reported in its BR4 on measures for facilitating use of electricity in the sector, in particular for the fishmeal industry, such as reducing congestion and increasing capacity in the electricity transmission grid. Such measures enable fishmeal factories, particularly in remote locations, to switch from oil to electric boilers and thus reduce oil consumption.

(c) Policies and measures in other sectors

43. **Industrial processes.** The most significant emissions source in the IPPU sector is the production of aluminium and ferroalloys, which is covered by the EU ETS. Reducing the use of ozone-depleting substances is addressed through the implementation of EU legislation: for example, national regulation 1066/2019 implements the EU F-gas regulation (regulation 517/2014). Additionally, as of January 2020, taxes are levied on all emissions of F-gases

(HFCs, PFCs and SF_6) in proportion to their GWP in order to encourage a shift to using climate-friendly cooling agents.

44. **Agriculture.** The main agricultural emissions sources are enteric fermentation and manure management for CH_4 and manure management and fertilizers for N_2O. Given that agricultural activities in Iceland focus on rearing livestock and cultivating grass fields for producing winter feed for livestock, planned actions in the updated 2020 Climate Action Plan include reducing use of synthetic fertilizers and increasing use of domestic organic waste as fertilizer (and changing the quantity of fertilizer applied or the time of year it is applied); and exploring the possibility of carbon-neutral beef production and improving livestock feed to reduce enteric fermentation.

45. **LULUCF.** Iceland reported that the LULUCF sector offers significant potential for mitigation and long-term climate benefits. The Party reported increasing afforestation and reforestation for carbon uptake, increasing soil reclamation for CO_2 capture, and increasing wetland restoration and drainage management as planned actions whose implementation is important for reaching its 2030 and 2040 emission targets. During the review, Iceland explained that increasing afforestation for CO_2 capture is one of the most important PaMs in this sector owing to its large potential for removing carbon.

46. **Waste management.** Solid waste disposal is the main emissions source in the waste sector. National regulation 737/2003 on waste management stipulates that municipalities must describe in their regional waste management plans what measures they will take to reduce biowaste destined for landfill. Furthermore, the Party has drafted a new National Waste Management Plan, which will be published in early 2021. Most municipalities have developed regional waste management plans that are based on the National Waste Management Plan for 2013–2024, but they will have to be revised once the new Plan has been published. By 2020, biowaste disposed to landfill must be reduced to 35 per cent of the total amount of biowaste produced in 1995. A new gas and composting power plant was commissioned in 2020, which will be able to treat 35 kt organic waste per year.

47. Iceland has plans to implement a landfill tax and ban landfilling of organic waste. The Party reported that more funding will be provided for projects aimed at reducing food waste. National regulation 738/2003 requires the collection of landfill gas to be further outlined in operating permits. Landfill gas is now collected at four of Iceland's largest landfills. At two of the landfills, the gas is flared, but at the other two, the gas is cleaned and the CH_4 is used to power local vehicles.

(d) Response measures

48. Iceland did not report on the assessment of the economic and social consequences of its response measures in its BR4. During the review, Iceland announced that an analysis of the economic and social consequences of the mitigation actions in the updated 2020 Climate Action Plan is under way and will be published in June 2021. Social justice impacts and the potential impacts of the mitigation actions on people from different income groups, as well as the costs and benefits of the different actions, are being analysed.

(e) Assessment of adherence to the reporting guidelines

49. The ERT assessed the information reported in the BR4 of Iceland and identified issues relating to completeness, transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 6.

Table 6
Findings on mitigation actions and their effects from the review of the fourth biennial report of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 6	Several planned PaMs reported in the textual part of the BR4 were not included in CTF table 3.

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
	Issue type: transparency	During the review, Iceland clarified that planned PaMs under the 2020 Climate Action Plan were not included in CTF table 3.
	Assessment: recommendation	The ERT recommends that Iceland increase the transparency of its reporting by including in CTF table 3 all the PaMs reported in the textual part of the BR.
2	Reporting requirement specified in paragraph 8	Iceland did not report information on the assessment of the economic and social consequences of its response measures in its BR4.
	Issue type: transparency	During the review, Iceland provided information on the ongoing analysis of the economic and social consequences of the mitigation actions in the 2020 Climate Action Plan and explained that the results will be published in June 2021.
	Assessment: encouragement	The ERT reiterates the encouragement from the previous review report for Iceland to improve the transparency of its reporting by including in its next BR information on the assessment of the economic and social consequences of its response measures.
3	Reporting requirement specified in CTF table 3	Iceland did not report on the costs of individual PaMs in its BR4; it reported only the overall budgets for the Climate Action Plans.
	Issue type: transparency	During the review, Iceland explained that, while no specific budget was allocated to individual actions in the 2018 Climate Action Plan, more detailed information is given in the updated 2020 Climate Action Plan on the budgets for individual actions. Iceland provided the ERT with the 2020 Climate Action Plan, which contains quantitative information on the costs of individual actions.
	Assessment: encouragement	The ERT reiterates the encouragement from the previous review report for Iceland to improve the transparency of its reporting by including the costs of individual PaMs in CTF table 3. The ERT notes that such information could build on the information provided during the review.
4	Reporting requirement specified in CTF table 3	Iceland did not report the mitigation impacts for individual PaMs in CTF table 3 or clearly explain in its BR4 why this was not possible.
	Issue type: completeness	During the review, Iceland provided information on the estimates of mitigation impact included in the 2020 Climate Action Plan and the 2019 report on policies, measures and projections. Iceland explained that it plans to include this information in the next BR.
	Assessment: recommendation	The ERT reiterates the recommendation from the previous review report for Iceland to increase the completeness of its reporting by providing in CTF table 3 the mitigation impacts of individual PaMs or clearly explain why this may not be possible owing to its national circumstances.
5	Reporting requirement specified in paragraph 24	Iceland did not report on progress in establishing national rules for taking local action against domestic non-compliance with emission reduction targets.
	Issue type: completeness	During the review, Iceland explained that there are no such rules in place for the current commitment period of the Kyoto Protocol and no plans to establish any such specific domestic rules. Nevertheless, Iceland has implemented EU regulation 2018/842, which establishes the general compliance rules for 2021–2030.
	Assessment: encouragement	The ERT encourages Iceland to provide information in its next BR on progress in establishing national rules for taking local action against domestic non-compliance with emission reduction targets. The ERT notes that such information could build on the information provided during the review.

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, transparent and thus adhering to the UNFCCC reporting guidelines on BRs.

2. Estimates of emission reductions and removals and the use of units from market-based mechanisms and land use, land-use change and forestry

(a) Technical assessment of the reported information

50. Iceland intends to use units from market-based mechanisms under the Kyoto Protocol to meet its commitment for non-ETS sectors. However, the use of units from market-based mechanisms was not reported in CTF tables 4 and 4(b). During the review, Iceland informed the ERT that it will complete its ongoing consideration of use of units no later than 2022, in line with the rules of relevant EU climate legislation applicable to Iceland. Also, Iceland clarified that it has not determined a specific emission allocation for each year, but total cumulative emissions of 15,327,217 t CO_2 eq for 2013–2020 for non-ETS sectors were allocated under its bilateral effort-sharing agreement with the EU. Table 7 illustrates Iceland's emissions and use of units from market-based mechanisms for achieving its target for non-ETS emissions.

51. On its use of units from LULUCF activities, Iceland reported in CTF tables 4 and 4(a) its intention to use such units (activity-based accounting) towards its target, but did not report on the contribution of LULUCF in CTF table 4. During the review, Iceland informed the ERT that its net removals of 475 and 513 kt CO_2 eq offset 10.2 and 10.8 per cent of its total GHG emissions for 2016 and 2017, respectively. Iceland also provided additional information on the envisaged amount of removal units to be used towards its target, which are estimated at 388 kt CO_2 eq, 421 kt CO_2 eq, 456 kt CO_2 eq, 475 kt CO_2 eq and 513 kt CO_2 eq for 2013, 2014, 2015, 2016 and 2017, respectively.

Table 7
Summary of information on the use of units from market-based mechanisms and land use, land-use change and forestry by Iceland for achieving its target

Year	*Emissions excluding LULUCF (kt CO_2 eq)*	*Emissions excluding EU ETS sector and LULUCF (kt CO_2 eq)*[a]	*Contribution of LULUCF (kt CO_2 eq)*[b]	*Use of units from market-based mechanisms (kt CO_2 eq)*[c]	*Net emissions including LULUCF and market-based mechanisms (kt CO_2 eq)*
1990 (base year)	3 613.02	NA	NA	NA	NA
2010	4 854.51	NA	NA	NA	NA
2011	4 591.40	NA	NA	NA	NA
2012	4 611.41	NA	NA	NA	NA
2013	4 608.30	2 799.00	–388.00	NA	2 411.00
2014	4 644.45	2 839.00	–421.00	NA	2 418.00
2015	4 726.25	2 883.00	–456.00	NA	2 427.00
2016	4 651.25	2 836.00	–475.00	NA	2 361.00
2017	4 765.83	2 900.00	–513.00	NA	2 387.00
2020 target[d]	NA	NA	NA	NA	NA

Sources: Iceland's BR4 and BR4 CTF tables 4 and 6(a), and information provided by the Party during the review.

[a] Iceland provided information on emissions from non-ETS sectors that are covered by the second commitment period of the Kyoto Protocol.

[b] Iceland did not report the contribution of LULUCF in CTF table 4, but provided information on the envisaged use of removal units as the contribution of LULUCF during the review.

[c] Iceland intends to use units from market-based mechanisms but did not report thereon in the BR4.

[d] According to the bilateral effort-sharing agreement between the EU and Iceland, Iceland's 2020 target for non-ETS sectors corresponds to its assigned amount for the second commitment period of the Kyoto Protocol of 15,327,217 t CO_2 eq.

52. In assessing the Party's progress towards achieving its 2020 target, the ERT noted that Iceland's cumulative emission allocation for non-ETS sectors is 15,327.22 t CO_2 eq for 2013–2020 under its bilateral effort-sharing agreement with the EU (see para. 15 above). During the review, Iceland reported total non-ETS emissions for 2013–2017 of 14,257 kt CO_2 eq (excluding contribution of LULUCF) and 12,004 t CO_2 eq (including contribution of LULUCF), the latter of which is equal to 78 per cent of Iceland's assigned amount for the second commitment period of the Kyoto Protocol (15,327.22 t CO_2 eq).

53. In its BR4, Iceland reported an estimate of total emissions in the second commitment period of the Kyoto Protocol (2013–2020) for non-ETS sectors of 22,812.00 kt CO_2 eq. This

estimate is based on emission data reported in version 2 of the GHG inventory common reporting format tables submitted in 2019 for 2013, 2014, 2015, 2016 and 2017, and the average of annual emissions in 2013–2017, which was used for 2018, 2019 and 2020. For the contribution of net removals from LULUCF in 2013–2017, Iceland used the data reported in the accounting table for activities under Article 3, paragraph 3, and Article 3, paragraph 4, of the Kyoto Protocol in version 2 of the CTF tables submitted in 2019. Iceland explained in its BR4 that two different methodologies were used for estimating LULUCF net removals for 2018–2020. In one approach, the average of annual net removals in 2013–2017 was used for 2018–2020, resulting in estimated cumulative net removals for 2013–2020 of 3,698.00 kt CO_2 eq. In the other, net removals for 2018–2020 were extrapolated from the linear trend in net removals in 2013–2017, resulting in estimated cumulative net removals for 2013–2020 of 3,970.00 kt CO_2 eq. On that basis, Iceland reported in its BR4 that its non-ETS emissions in 2013–2020 (including contribution of LULUCF) will exceed its allocation by 3,514.00 or 3,787.00 kt CO_2 eq, depending on the approach to calculating the LULUCF contribution.

54. The ERT noted that Iceland faces challenges in implementing mitigation actions that will deliver the emission reductions needed to make sufficient progress towards its target for non-ETS sectors and may face challenges in achieving its target under the Convention without using market-based mechanisms.

(b) Assessment of adherence to the reporting guidelines

55. The ERT assessed the information reported in the BR4 of Iceland and identified issues relating to completeness and thus adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 8.

Table 8
Findings on estimates of emission reductions and removals and on the use of units from market-based mechanisms and land use, land-use change and forestry from the review of the fourth biennial report of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation*
1	Reporting requirement specified in paragraph 9 Issue type: completeness Assessment: recommendation	Iceland did not include in CTF table 4 information on the contribution of LULUCF. It included data on annual emissions and removals from LULUCF activities in CTF table 4(a)II, but made no reference to those data in CTF table 4. During the review, Iceland clarified that the information was omitted in error. The ERT reiterates the recommendation from the previous review report for Iceland to improve the completeness of its reporting by including in its next BR information on the contribution of LULUCF in CTF table 4.
2	Reporting requirement specified in paragraph 10 Issue type: completeness Assessment: recommendation	Iceland did not report in CTF tables 4 and 4(b) information on the use of units from market-based mechanisms. However, it reported in its BR4 that it will need to use units from market-based mechanisms under the Kyoto Protocol in order to meet its target for non-ETS sectors and thus its overall target. During the review, Iceland clarified that it was allocated total cumulative non-ETS emissions of 15,137,217 t CO_2 eq for 2013–2020 under its bilateral effort-sharing agreement with the EU, but it has not determined a specific allocation for each year. The Party explained that it will complete its ongoing consideration of use of units no later than 2022, in line with the rules of relevant EU climate legislation applicable to Iceland. The ERT recommends that Iceland improve the completeness of its reporting by including in CTF tables 4 and 4(b) information on the use of units from market-based mechanisms under the Convention or from other market-based mechanisms. The ERT notes that "NA" should be reported if a Party does not plan to use units from market-based mechanisms, and the value "0" should be reported if a Party intends to use units from market-based mechanisms in general but did not use units in a given year.

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

3. Projections overview, methodology and results

(a) Technical assessment of the reported information

56. Iceland reported updated projections for 2020 and 2030 relative to actual inventory data for 2017 under the WEM scenario. The WEM scenario reported by Iceland includes PaMs implemented and adopted from 2008 until 2020.

57. 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 2020–2030. 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

58. 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 the changes since the submission of its NC7 in the assumptions, methodologies, models and approaches used for the projection scenarios, but indicated that it used new methods for the projections in its BR4. In 2017, the Ministry for the Environment and Natural Resources assigned the Environment Agency of Iceland to work on GHG projections. The Environment Agency published its first projections in April 2019 in the report on policies, measures and projections, which is the basis for the projections in Iceland's BR4. Iceland indicated that the report was produced in accordance with articles 12–14 of the EU monitoring mechanism regulation (regulation 525/2013).

59. During the review, Iceland indicated that the projections prepared for the NC7 were based on a study on GHG mitigation potential conducted by the University of Iceland. The Party also indicated that, as those projections were compiled by an external entity, it does not currently have access to the full set of methods and assumptions used in that study and was therefore unable to summarize key changes since the study in the methodologies and approaches used for the projections in the BR4. Iceland further indicated that it is in communication with the University of Iceland research team with a view to compiling this information.

60. To prepare its projections, Iceland relied on key underlying assumptions relating to population, gross domestic product and domestic fuel consumption (oil, gas, heavy fuel oil, and gasoline). The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections (based on 2016–2018 data) and projected data for the assumptions for 2020, 2025 and 2030 were also considered. Iceland also relied on some sector-specific activity data projections.

61. Iceland did not provide sensitivity analyses in its BR4. During the review, it indicated that sensitivity analyses (for road transport and agriculture projections) were provided in the 2019 report on policies, measures and projections (chap. 12, pp.60–63).

(c) Results of projections

62. The projected emission levels under different scenarios and information on the quantified economy-wide emission reduction target are presented in table 9 and figure 1.

Table 9
Summary of greenhouse gas emission projections for Iceland

	GHG emissions (kt CO_2 eq/year)	*Change in relation to base-year level (%)*	*Change in relation to 1990 level (%)*
Quantified emission limitation or reduction commitment under the Kyoto Protocol (2013–2020)[a]	1 915.90	NA	NA

	GHG emissions (kt CO_2 eq/year)	*Change in relation to base-year level (%)*	*Change in relation to 1990 level (%)*
Quantified economy-wide emission reduction target under the Convention	NA	NA	NA
Inventory data 1990 (base year)	NA	NA	NA
Inventory data 2017	2 900.00	NA	NA
WEM projections for 2020	2 965.00	NA	NA
WEM projections for 2030	2 513.00	NA	NA

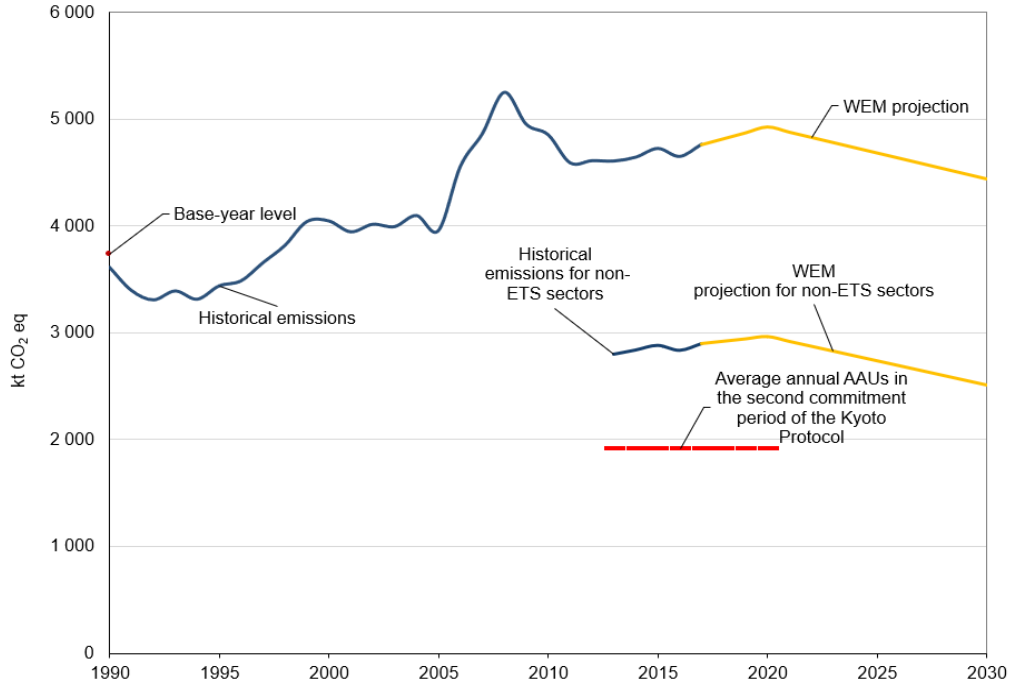
Sources: Iceland's BR4 and BR4 CTF table 6. Updated projections for non-ETS sectors were provided by Iceland during the review.

Note: The projections are for non-ETS emissions without LULUCF and excluding indirect CO_2.

[a] Iceland plans to fulfil its Convention target through its target for the second commitment period of the Kyoto Protocol. According to the bilateral effort-sharing agreement between the EU and Iceland, Iceland's 2020 target for non-ETS sectors is equal to its assigned amount for the second commitment period of the Kyoto Protocol of 15,327,217 t CO_2 eq (annual average 1,915.90 kt CO_2 eq).

Figure 1

Greenhouse gas emission projections reported by Iceland



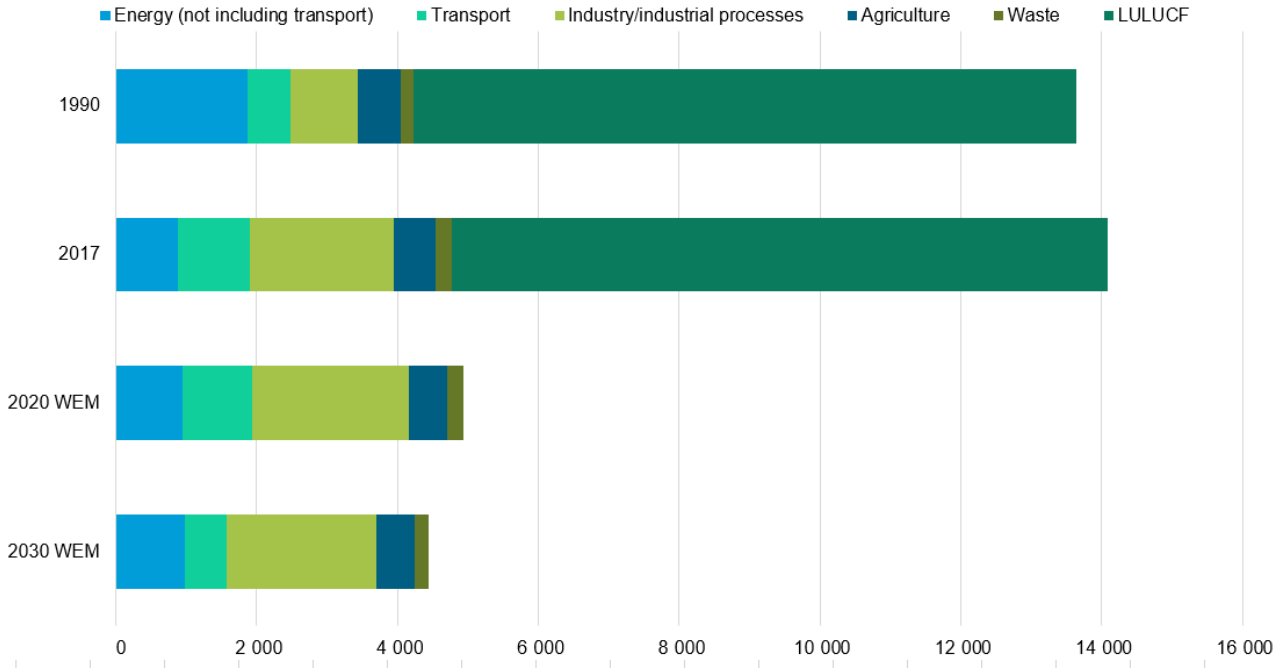
Sources: Iceland's BR4 and BR4 CTF tables 1 and 6, as well as corrected information provided by the Party during the review.

63. Iceland's total GHG emissions excluding LULUCF in 2020 and 2030 are projected under the WEM scenario to increase by 36.5 and 23.1 per cent, respectively, above the 1990 level.

64. Iceland reported an emission reduction target for non-ETS sectors of 20 per cent below the 2005 level by 2020, and its cumulative allocated non-ETS emissions of 15,327,217 t CO_2 eq for 2013–2020 under its bilateral effort-sharing agreement with the EU (see paras. 16–17 above). Its cumulative non-ETS emissions in 2013–2017 were estimated at 14,257 kt CO_2 eq. After accounting for the contribution of LULUCF (using Kyoto Protocol second commitment period accounting methods), net cumulative emissions in 2013–2017 were estimated at 12,004 kt CO_2 eq. This indicates that Iceland has 3,323 kt CO_2 eq remaining in its non-ETS emission budget for 2018–2020. Non-ETS emissions under the WEM scenario are projected at 2,965 kt CO_2 eq for 2020 (excluding LULUCF), which indicates that Iceland is unlikely to meet its 2020 target for non-ETS sectors without using units from market-based mechanisms.

65. Iceland presented the WEM scenario by sector for 2020 and 2030, as summarized in figure 2 and table 10.

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



Source: Iceland's BR4 CTF table 6.

Table 10
Summary of greenhouse gas emission projections for Iceland presented by sector

	GHG emissions and removals (kt CO_2 eq)			*Change (%)*	
Sector	*1990*	*2020 WEM*	*2030 WEM*	*1990–2020 WEM*	*1990–2030 WEM*
Energy (not including transport)	1 866.69	943.55	978.20	–49.5	–47.6
Transport	619.90	992.03	603.01	60.0	–2.7
Industry/industrial processes	958.01	2 225.75	2 122.14	132.3	121.5
Agriculture	607.43	551.83	542.94	–9.2	–10.6
LULUCF	9 407.11	–	–	–	–
Waste	180.89	218.07	199.86	20.6	10.5
Other	–	–	–	–	–
Total GHG emissions excluding LULUCF	**3 613.02**	**4 931.23**	**4 446.81**	**36.5**	**23.1**

Source: Iceland's BR4 CTF table 6.

66. According to the projections reported for 2020 under the WEM scenario, the most significant absolute emission reductions are expected to occur in the energy sector (not including transport), amounting to a projected reduction of 49.5 per cent between 1990 and 2020. The pattern of projected emissions reported for 2030 under the same scenario for the energy sector (not including transport) remains generally the same, amounting to a projected reduction of 47.6 per cent between 1990 and 2030. Emissions from industry and industrial processes are expected to increase substantially between 1990 and 2020 and between 1990 and 2030, amounting to projected increases of 132.3 and 121.5 per cent, respectively. This substantial increase is due mainly to the increase in emissions in 2005–2008 due to the expansion of existing aluminium smelters and the addition of new smelting facilities. Emissions from industry and industrial processes are projected to remain relatively stable up to 2030 as the aluminium industry in Iceland has nearly reached maximum production capacity.

67. Iceland presented the WEM scenario by gas for 2020 and 2030, as summarized in table 11.

Table 11
Summary of greenhouse gas emission projections for Iceland presented by gas

	GHG emissions and removals (kt CO_2 eq)			*Change (%)*	
Gas	*1990*	*2020 WEM*	*2030 WEM*	*1990–2020 WEM*	*1990–2030 WEM*
CO_2[a]	2 237.43	3 813.94	3 429.83	70.5	53.3
CH_4	546.72	552.17	526.28	1.0	–3.7
N_2O	332.44	243.65	240.68	–26.7	–27.6
HFCs	0.69	228.25	154.71	32 979.7	22 321.7
PFCs	494.64	91.11	93.20	–81.6	–81.2
SF_6	1.10	2.11	2.11	91.8	91.8
NF_3	0.00	–	–	–	–
Total GHG emissions without LULUCF	**3 613.02**	**4 931.23**	**4 446.81**	**36.5**	**23.1**

Source: Iceland's BR4 CTF table 6.
[a] Iceland did not include indirect CO_2 emissions in its projections.

68. For 2020, the most significant absolute reductions are projected for PFC and N_2O emissions: 81.6 and 26.7 per cent between 1990 and 2020, respectively. HFC emissions are projected to increase dramatically between 1990 and 2020 by 32,979.7 per cent.

69. For 2030, the most significant absolute reductions are projected for PFC and N_2O emissions: 81.2 and 27.6 per cent, respectively. Projected emission reductions by 2020 and 2030 for the two gases are generally consistent. HFC emissions are projected to increase dramatically between 1990 and 2030 by 22,321.7 per cent.

70. Iceland described in detail the drivers behind the observed emission reductions and increases (see paras. 66, 68 and 69 above). The aluminium industry has seen a significant reduction in PFC emissions since 2008, which Iceland described as tending to occur mostly during the initial years of facility operation and in the event of increased voltage in the production line (anode effect). Iceland indicated the fishing industry as the largest contributor to F-gas emissions. HFC emissions result primarily from cooling and freezing systems on board fishing vessels. Iceland anticipates a reduction in HFC emissions between 2020 and 2030 owing to its adoption in 2018 of EU directive 517/2004, which established an F-gas quota and phase-out system.

(d) Assessment of adherence to the reporting guidelines

71. The ERT assessed the information reported in the BR4 of Iceland and identified issues relating to completeness, transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 12.

Table 12
Findings on greenhouse gas emission projections reported in the fourth biennial report of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 28 Issue type: completeness	Iceland did not include a 'with additional measures' or 'without measures' scenario in its BR4. The ERT noted that a 'with additional measures' scenario is especially relevant, as the majority of the PaMs reported in Iceland's BR4 and CTF table 3 have an implementation status of "planned" and are therefore not included in the WEM scenario.
	Assessment: encouragement	During the review, Iceland explained that the approach to preparing the projections was revised for the BR4, including new institutional arrangements. The Party indicated that as a result it focused its efforts for the BR4 on the WEM scenario. It indicated that the projections will be expanded and improved where possible for future submissions.

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
		The ERT reiterates the encouragement from the previous review report for Iceland to improve the completeness of its reporting by providing 'with additional measures' and 'without measures' projections in its next BR and the corresponding CTF tables.
2	Reporting requirement specified in paragraph 30 Issue type: completeness Assessment: encouragement	Iceland did not report sensitivity analyses for its projections. During the review, Iceland indicated that sensitivity analyses (for road transport and agriculture projections) were provided in the 2019 report on policies, measures and projections. The ERT reiterates the encouragement from the previous review report for Iceland to improve the completeness of its reporting by providing a sensitivity analysis for the projections in its next BR.
3	Reporting requirement specified in paragraph 34 Issue type: transparency Assessment: recommendation	Some LULUCF projections were included in CTF table 6(a), even though the Party indicated in its BR4 that LULUCF was not included in its projections. PaMs in the LULUCF sector were reported in the BR4, but projections were not provided for the sector. The ERT noted that the Party provided projections for LULUCF in its BR3. During the review, the Party indicated that data on LULUCF were included in CTF table 6(a) in error. The ERT recommends that the Party increase the transparency of its reporting by consistently reporting projections for the LULUCF sector in its next BR and the relevant CTF tables.
4	Reporting requirement specified in paragraph 35 Issue type: completeness Assessment: encouragement	Iceland did not report in its BR4 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 the approach to preparing the projections was revised for the BR4, including new institutional arrangements. The Party indicated that as a result it focused for the BR4 on preparing WEM projections for the main GHGs (CO_2, CH_4, N_2O, SF_6, HFCs and PFCs). Iceland indicated that the projections will be expanded and improved where possible for future submissions. The ERT reiterates the encouragement from the previous review report for Iceland to improve the completeness of its reporting by including projections for indirect GHGs such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur oxides in its next BR.
5	Reporting requirement specified in paragraph 36 Issue type: completeness Assessment: recommendation	Iceland did not report emission projections related to international transport separately and did not include them in the totals. During the review, Iceland indicated that emission projections for international transport were calculated as part of the development of the 2019 report on policies, measures and projections but not included in that report or the BR4. Iceland indicated its intention to provide these projections in its next BR. The ERT reiterates the recommendation from the previous review report for Iceland to improve the completeness of its reporting by providing emission projections related to fuel sold to ships and aircraft engaged in international transport, to the extent possible, separately and not included in the totals, or explain why it is unable to provide such projections, in its next BR.
6	Reporting requirement specified in paragraph 45 Issue type: completeness Assessment: encouragement	Iceland indicated that the approach to preparing the projections was revised for its BR4, including new institutional arrangements. However, it did not provide a summary in its BR4 of any changes in the assumptions and methods used for, and the results of, the projections since the previous BR. During the review, Iceland indicated that it is in communication with the University of Iceland research team with a view to compiling this information (see para. 59 above). The ERT encourages Iceland to improve the completeness of its reporting by providing in its next BR information on the main changes since its previous BRs in the assumptions and methods used for, and the results of, the projections.

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
7	Reporting requirement specified in paragraph 47 Issue type: completeness Assessment: encouragement	Iceland did not include historical data for key underlying assumptions in CTF table 5 or provide an adequate explanation in the custom footnote to CTF table 5 or in the textual part of the BR4 for the lack of these historical data for key assumptions. During the review, Iceland provided the historical data for key assumptions that were not included in CTF table 5. The ERT encourages Iceland to improve the completeness of its reporting by providing historical data for key underlying assumptions in CTF table 5 in its next BR.

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

D. 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

72. In its BR4 Iceland reported information on its provision of financial, technological and capacity-building support to non-Annex I Parties.

73. Iceland has provided support that it considers to be "new and additional". Its definition of "new and additional" is financial resources for climate-related activities that are additional to the international development aid goal of 0.7 per cent of GNI per year. Iceland assessed the increasing official development assistance volumes in nominal terms in Icelandic krónur from 2016 to 2018 in order to identify "new and additional" financial resources for climate-related activities, but not as a percentage of GNI. Iceland's process for determining resources to be "new and additional" is through the allocation of a separate budget line in the State budget for environmental and climate actions in international development cooperation.

74. Iceland reported the support that it has provided to non-Annex I Parties, distinguishing between support for mitigation and adaptation activities and recognizing the capacity-building elements of such support. Iceland uses the Development Assistance Committee of the Organisation for Economic Co-operation and Development statistical reporting methods (creditor reporting system) and Rio markers for tracking finance for adaptation, mitigation, desertification and biodiversity. The Party has been using the same methodologies since 2012. It reports finance as 100 per cent climate-relevant if the objective of the programme or project has been 'marked' as a significant (with a Rio marker score of 1) or a principal objective (with a score of 2).

75. Iceland's methodology and underlying assumptions used for collecting and reporting information on financial support are based on the coalition agreement between the current governing political parties in Iceland, which states that official development assistance shall reach 0.35 per cent of GNI in 2022–2024. This commitment is reflected in Iceland's policy for international development cooperation. The Prime Minister announced at the Climate Ambition Summit in December 2020 that Iceland will increase its climate finance commitments in development cooperation by increasing funding of climate-related programmes and projects by up to 50 per cent.

76. Multilateral partners are selected on the basis of Iceland's areas of core competency: ocean affairs and the blue bioeconomy; gender equality; climate change, environment and energy; and human rights. Iceland indicated that the needs of non-Annex I Parties in relation to climate change adaptation and mitigation, and cross-cutting issues are multidimensional and complicated, and therefore it works with bilateral and multilateral partners to define areas where Icelandic support can provide added value and Icelandic expertise levels are high, such as in relation to geothermal and hydropower, the blue economy and bioeconomy, and land restoration and sustainable land management.

(b) Financial resources

77. Iceland reported information on its provision of financial support to non-Annex I Parties as required under the Convention, including on financial support provided, committed and pledged, allocation channels and annual contributions.

78. Iceland seeks to ensure that the resources it provides to non-Annex I Parties effectively address their adaptation and mitigation needs. Iceland reported that it supports projects related to climate change adaptation, mitigation and cross-cutting issues, taking into account the diversity of the needs of non-Annex I Parties. To that end, Iceland works with bilateral and multilateral partners to ensure that the needs of the non-Annex I Parties are met.

79. The Party described how the resources it provides assist non-Annex I Parties in mitigating GHG emissions and adapting to the adverse effects of climate change and any economic and social consequences of response measures, and contribute to technology development and transfer and capacity-building related to mitigation and adaptation. Most of the supported projects are aimed at increasing the capacity and knowledge of non-Annex I Parties, such as through research and training on land restoration for experts from developing countries. Another project, the Women Delegates Fund administered by WEDO, helps to increase the participation of women in international climate change negotiations. In Uganda, the delegation was prepared for its participation in a session of the Conference of the Parties to promote gender-responsive climate change mitigation and adaptation.

80. With regard to the most recent financial contributions aimed at enhancing the implementation of the Convention by developing countries, Iceland allocated its climate finance on the basis of its Policy for International Development Cooperation for 2019–2023.[7] The Policy places emphasis on recipients using the contributions effectively and on obtaining demonstrable results. The main areas of focus are human rights, gender equality and sustainable development. Table 13 summarizes the information reported by Iceland on its provision of financial support.

Table 13
Summary of information on provision of financial support by Iceland in 2017–2018
(Millions of United States dollars)

Allocation channel of public financial support	*Disbursement*	
	2017	*2018*
Official development assistance	9.253	9.098
Climate-specific contributions through multilateral channels, including:	2.552	2.563
Global Environment Facility	–	–
Least Developed Countries Fund	0.094	0.105
Special Climate Change Fund	–	–
Adaptation Fund	–	–
Green Climate Fund	0.187	0.200
Trust Fund for Supplementary Activities	0.147	–
Other multinational climate change funds	–	–
Financial institutions, including regional development banks	2.048	1.620
United Nations bodies	0.076	0.638
Climate-specific contributions through bilateral, regional and other channels	–	–

Sources: BR4 CTF tables and Query Wizard for International Development Statistics, available at http://stats.oecd.org/qwids/.

[7] Available at https://www.stjornarradid.is/verkefni/utanrikismal/throunarsamvinna/ (in Icelandic).

81. Iceland's climate-specific public financial support[8] totalled USD 36.5 million in 2017–2018, representing an increase of 157.6 per cent since the BR1 (2011–2012).[9] It has increased its contributions by 64.2 per cent since the BR3 (2015–2016), as reported in its local currency. With regard to future financial pledges aimed at enhancing the implementation of the Convention by developing countries, Iceland committed to providing 0.28 per cent of its GNI in 2019, 0.30 per cent in 2021 and up to 0.35 per cent in 2022–2024.

82. During the reporting period, Iceland placed a particular focus on adaptation, to which it allocated USD 17.8 million (49 per cent) of its climate-specific public financial support. Iceland reported in CTF table 7(b) its bilateral support allocated to Parties included in Annex I to the Convention (Ethiopia, Liberia, Malawi, Mozambique, Sierra Leone and Uganda) in 2017–2018. Mitigation support largely focused on geothermal energy, while adaptation support largely focused on WASH programmes and fisheries in Africa and the least developed countries. For instance, Iceland is the lead agency in the Geothermal Exploration Project, initiated jointly by Iceland and the World Bank and co-financed by the Geothermal Compact partnership. The aim of the Project is to mitigate and distribute the risk associated with geothermal exploration, thus contributing to building knowledge and capacity in relation to geothermal development in East African countries (Djibouti, Ethiopia, Malawi and Rwanda) as well as in El Salvador, Fiji and Kazakhstan.

83. 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 table 14. 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, timing of approval of individual bilateral projects or changes in exchange rates.

Table 14
Summary of information on channels of financial support used in 2017–2018 by Iceland
(Millions of United States dollars)

Allocation channel of public financial support	*Amount disbursed in 2017–2018*	*Comparison with amount in 2015–2016*		*Share of total (2017–2018) (%)*
		Difference	*Change (%)*	
Detailed information by type of channel				
Multilateral channels				
Mitigation	–	–	–	–
Adaptation	0.3	–0.0	–10.7	0.7
Cross-cutting	4.9	4.1	515.2	13.4
Other	–	–	–	–
Total multilateral	**5.2**	**4.1**	**377.6**	**14.1**
Bilateral channels				
Mitigation	7.3	1.3	22.7	20.0
Adaptation	17.6	5.7	48.0	48.6
Cross-cutting	6.4	3.1	95.4	17.6
Other	–	–	–	–
Total bilateral	**31.3**	**10.1**	**48.3**	**85.9**
Total multilateral and bilateral	**36.5**	**14.2**	**64.2**	**100.0**

Source: Iceland's BR4 CTF tables 7, 7(a) and 7(b). As reported by Iceland in its BR4 in United States dollars without adjustment for inflation.

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

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

84. Iceland contributed through multilateral channels USD 5.2 million in 2017–2018. The contributions were made to specialized multilateral climate change funds, such as the Least Developed Countries Fund, the Green Climate Fund and the Trust Fund for Supplementary Activities. In 2017–2018, the amount of support for mitigation through bilateral channels increased by USD 1.3 million, while total adaptation support increased by USD 5.7 million, compared with the amounts provided in 2015–2016.

85. The Party reported detailed information on the total financial support provided through bilateral channels in 2017–2018 (USD 31.3 million). The bulk of the support (85.9 per cent) was provided through bilateral channels.

86. The BR4 provides information on the types of support provided. In terms of the focus of public financial support, as reported in CTF table 7, in 2017–2018 the average shares of the total public financial support allocated to mitigation, adaptation and cross-cutting projects (such as the UNU Fisheries Training Programme) were 20 per cent, 49 per cent and 31 per cent, respectively.

87. The ERT noted that in 2017–2018 the majority of financial contributions through multilateral channels were allocated to cross-cutting projects, as reported in CTF table 7(a). In 2017–2018, the majority of financial contributions through bilateral and regional channels were allocated to adaptation, as reported in CTF table 7(b).

88. CTF tables 7(a) and 7(b) include information on the types of financial instrument used for providing assistance to developing countries, such as grants. The ERT noted that the grants provided in 2017–2018 accounted for most of the total public financial support.

89. Iceland explained how it uses public funds to mobilize private sector financial support for developing countries to increase mitigation and adaptation efforts. In particular, it noted that the Regional Cooperation and Partnerships Department was established in 2018 within the Ministry for Foreign Affairs. The department is overseeing a three-year experimental project called the Sustainable Development Goal Fund, which is aimed at increasing business community partnerships in development cooperation. The Party also reported that 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 the Party will take decisive steps towards improvements in this area, including within the framework of its draft development cooperation strategy.

(c) Technology development and transfer

90. Iceland's contribution to the development and transfer of (hard and soft) technology to developing countries to enhance mitigation and adaptation efforts includes activities undertaken by the public and private sectors. Support provided for deploying and enhancing the endogenous capacities and technologies of non-Annex I Parties includes research and training for practising professionals from developing countries in the field of geothermal energy in Djibouti, El Salvador, Ethiopia, Malawi and Rwanda; and research and training on land restoration for experts and professionals from developing countries in the area of fisheries in Mozambique and Uganda.

91. Iceland did not describe success and failure stories in relation to technology transfer, or measures taken to promote, facilitate and finance the transfer and deployment of climate-friendly technologies. During the review, Iceland indicated that it has faced challenges in measuring the success of projects in different countries. The Party presented examples of successful drilling projects, namely Geothermal Exploration Project drilling sites in Djibouti, Ethiopia, Kenya and the United Republic of Tanzania; and successful WASH projects in Malawi (the share of the population with access to potable water increased from 65 per cent in 2012 to 75 per cent in 2019) and Uganda (the share of the population with access to potable water increased from 58 per cent in 2015 to 77 per cent in 2019).

(d) Capacity-building

92. Iceland has provided 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 format in the BR4. The information was also reported in CTF table 9, where the Party reported capacity-building support provided within the framework of the UNU Land Restoration Training Programme, the UNU Fisheries Training Programme, the UNU Gender Equality Studies and Training Programme, the UNU Geothermal Training Programme, 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 usually conduct their research with the involvement of a national official or research institution. Through the UNU Land Restoration Training Programme, Iceland provides research and training on land restoration for experts from developing countries, while the aim of the Women Delegates Fund is to increase women's participation in international negotiations on climate issues by funding their participation on behalf of their countries.

93. Iceland has supported climate-related capacity development activities relating to adaptation, mitigation, the WEDO Women Delegates Fund, and gender and climate change. Since the BR3, the focus of support has remained the same.

2. Assessment of adherence to the reporting guidelines

94. The ERT assessed the information reported in the BR4 of Iceland and identified issues relating to completeness, transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 15.

Table 15
Findings on provision of support to developing country Parties from the review of the fourth biennial report of Iceland

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 15 Issue type: completeness Assessment: recommendation	Iceland did not report the underlying assumptions used to produce information on financial support in its BR4. During the review, Iceland restated the information provided in section 6.2 of the BR4, which is similar to that provided in its NC7 and BR3 (section 7.2) and does not cover underlying assumptions. The ERT recommends that Iceland improve the completeness of its reporting by including in its next BR the underlying assumptions used to produce information on financial support in a rigorous, robust and transparent manner.
2	Reporting requirement specified in paragraph 16 Issue type: completeness Assessment: recommendation	Iceland did not report in its BR4 information on how it seeks to ensure that the resources it provides effectively address the needs of non-Annex I Parties with regard to climate change adaptation and mitigation. During the review, Iceland indicated that the needs of non-Annex I Parties are multidimensional and complicated, and that it works together with bilateral and multilateral partners to define areas where Icelandic support can provide added value and Icelandic expertise levels are high (see para. 76 above). The ERT reiterates the recommendation from the previous review for Iceland to improve the completeness of its reporting by including in its next BR, to the extent possible, information on how it seeks to ensure that the resources it provides effectively address the needs of non-Annex I Parties in relation to climate change adaptation and mitigation. For example, the Party could describe the mechanism(s) used in its work with bilateral and multilateral partners. It could also report on the difficulties that it faces in providing information on how it ensures that the support provided meets the various needs of non-Annex I Parties.
3	Reporting requirement specified in paragraph 21 Issue type: completeness Assessment: encouragement	The Party did not report success and failure stories related to support provided for technology development and transfer in its BR4. During the review, Iceland indicated that it has faced challenges in measuring the success of projects in different countries, although it did provide some relevant examples (see para. 91 above).

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
		The ERT encourages Iceland to improve the completeness of its reporting by providing success and failure stories related to any project(s) in CTF table 8 or in textual format in the BR.
4	Reporting requirement specified in paragraph 23 Issue type: completeness Assessment: recommendation	Iceland did not report how it has provided capacity-building support that responds to the existing and emerging needs identified by non-Annex I Parties. During the review, Iceland indicated that fellows beginning the four UNU training programmes (the Geothermal Training Programme, the Fisheries Training Programme, the Gender Equality Studies and Training Programme, and the Land Restoration Training Programme) are, as a rule, selected in cooperation with local research institutions and/or government agencies. The ERT recommends that Iceland provide information, to the extent possible, on how capacity-building support provided 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. For example, the Party could provide information on the mechanisms or tools for assessing capacity-building needs or references to any capacity-building needs assessment reports.

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

III. Conclusions and recommendations

95. The ERT conducted a technical review of the information reported in the BR4 and BR4 CTF tables of Iceland in accordance with the UNFCCC reporting guidelines on BRs. The ERT concludes that the reported information mostly adheres to the UNFCCC reporting guidelines on BRs and provides 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.

96. Iceland's total GHG emissions excluding emissions and removals from LULUCF increased by 30.1 per cent between 1990 and 2018, whereas total GHG emissions including net emissions or removals from LULUCF increased by 6.0 per cent over the same period. Emissions peaked in 2008 and decreased thereafter. The changes in total emissions were driven mainly by factors such as emissions from the IPPU sector, particularly from aluminium production, economic growth and significant population growth.

97. Under the Convention Iceland committed to contributing to the achievement of the joint EU quantified economy-wide target of a 20 per cent reduction in emissions below the 1990 level by 2020. The target covers all sectors and CO_2, CH_4, N_2O, HFCs, PFCs and SF_6, expressed using GWP values from the AR4. Emissions and removals from the LULUCF sector are not included.

98. Iceland's non-ETS emissions are not covered by the ESD but are subject to a bilateral effort-sharing agreement between Iceland and the EU and its member States that covers all non-ETS sources, including LULUCF. Under the agreement, Iceland has cumulative allocated emissions for non-ETS sectors of 15,327.22 kt CO_2 eq for 2013–2020.

99. The EU's joint targets under the EU ETS and ESR are to reduce emissions by 2030 by 43 and 30 per cent, respectively, compared with the 2005 level. Iceland has adopted the ESR and has a target of reducing non-ETS emissions by 29 per cent below the 2005 level by 2030. Iceland is also aiming for carbon neutrality by 2040.

100. The GHG emission projections provided by Iceland in its BR4 correspond to the WEM scenario. Under this scenario, emissions (excluding LULUCF) are projected to be 36.5 per cent above the 1990 level by 2020. Iceland reported an emission reduction target of 20 per cent below the 2005 level by 2020 for non-ETS sectors and allocated cumulative emissions for non-ETS sectors of 15,327,217 t CO_2 eq for 2013–2020 under its bilateral

effort-sharing agreement with the EU (see para. 16 above). Cumulative emissions from non-ETS sectors in 2013–2017 were estimated at 14,257 kt CO_2 eq. After accounting for LULUCF (using Kyoto Protocol second commitment period accounting methods), net cumulative emissions in 2013–2017 were estimated at 12,004 kt CO_2 eq, which indicates that Iceland has 3,323 kt CO_2 eq remaining in its non-ETS emission budget for 2018–2020. Non-ETS emissions under the WEM scenario are projected to amount to 2,965 kt CO_2 eq in 2020 (excluding LULUCF), which indicates that Iceland is unlikely to meet its 2020 target for non-ETS sectors under the WEM scenario without using units from market-based mechanisms.

101. Iceland's main policy framework relating to energy and climate change is its succession of climate action plans: the 2010 Climate Action Plan, the 2015 Special Climate Action Plan, the 2018 Climate Action Plan and the most recent 2020 Climate Action Plan. The Party described the mitigation actions that it has implemented to help achieve its 2020 targets. The mitigation PaMs that are likely to be having the most significant impact (although quantified impacts were not reported) are participation in the EU ETS; the carbon tax, which was strengthened several times in 2018–2020; and a set of measures promoting cleaner transport, including market mechanisms such as exemption from value added tax for zero-emission vehicles, excise duty and semi-annual car tax based on CO_2 emissions, and supporting infrastructure development. Other PaMs include the National Renewable Energy Action Plan, supporting the electrification of industrial and maritime transport activities, and LULUCF-related measures such as reforestation and revegetation.

102. The Party highlighted the mitigation actions that it has recently implemented or plans to implement to help achieve its medium- and long-term emission reduction targets. These PaMs include further measures for increasing the use of renewable fuels by fishing vessels; actions in the agriculture sector, such as the plan for sheep farming to become carbon-neutral by 2027; and further measures for increasing carbon sequestration in farming and land use.

103. Iceland continues to provide climate financing to developing countries in line with its policy for international development cooperation, which includes the goal of increasing its contributions to 0.35 per cent of GNI in 2022. It has increased its contributions by 64.2 per cent since the BR3 and its public financial support in 2017–2018 totalled USD 36.5 million. For those years, Iceland provided more support for adaptation than for mitigation and cross-cutting issues. The biggest share of financial support went to WASH and fisheries, water and agriculture projects, followed by the UNU Geothermal Training Programme.

104. Iceland also continues to provide support for technology development and transfer and capacity-building. Priority for technological support was given to projects and programmes for mitigation in the energy sector, with a focus on geothermal exploration in Djibouti, Ethiopia, Malawi and Rwanda, as well as to WASH adaptation projects in Liberia, Mozambique, Sierra Leone and Uganda. Since the BR3, the focus has remained the same. A key programme is the Geothermal Exploration Project, the aim of which is to assist countries in East Africa in enhancing their knowledge and capacity in order to further develop geothermal energy in their respective countries. Implemented adaptation projects include a water and sanitation project in Mozambique and an integrated approach to sustainably improving livelihoods and conditions in coastal communities in Uganda.

105. Priority for capacity-building support was given to projects for training on land restoration, research and training on geothermal energy in the least developed countries, and promoting gender-responsive climate change mitigation and adaptation in Uganda.

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

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

(i) Providing information on the mitigation impacts of individual PaMs in CTF table 3 (see issue 4 in table 6);

(ii) Including the contribution of LULUCF in CTF table 4 when reporting its progress towards its target (see issue 1 in table 8);

(iii) Including in CTF tables 4 and 4(b) information on the use of units from market-based mechanisms under the Convention or from other market-based mechanisms when reporting its progress towards its target (see issue 2 in table 8);

(iv) Providing emission projections related to fuel sold to ships and aircraft engaged in international transport, to the extent possible, separately and not included in the totals (see issue 5 in table 12);

(v) Including the underlying assumptions used to produce information on financial support in a rigorous, robust and transparent manner (see issue 1 in table 15);

(vi) Including information on how it seeks to ensure that the resources it provides effectively address the needs of non-Annex I Parties (see issue 2 in table 15);

(vii) Providing information on how capacity-building support provided responds to the capacity-building needs identified by non-Annex I Parties in the areas of mitigation, adaptation, and technology development and transfer (see issue 4 in table 15);

(b) To improve the transparency of its reporting by:

(i) Providing consistent information on GHG emissions in the BR and the corresponding CTF table (see issue 2 in table 3);

(ii) Providing the correct value for its quantified economy-wide emission reduction target in CTF table 2(a) (see issue 1 in table 4);

(iii) Reporting in CTF table 3 all the PaMs reported in the textual part of the BR (see issue 1 in table 6);

(iv) Consistently reporting projections for the LULUCF sector in its next BR and the relevant CTF tables (see issue 3 in table 12);

(c) To improve the timeliness of its reporting by submitting its next BR on time (see para. 6 above).

Annex

Documents and information used during the review

A. Reference documents

2019 GHG inventory submission of Iceland. Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/national-inventory-submissions-2019.

2020 GHG inventory submission of Iceland. Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/national-inventory-submissions-2020.

BR3 of Iceland. Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-reports-annex-i-parties/biennial-report-submissions/third-biennial-reports-annex-i.

BR4 of the EU. Available at https://unfccc.int/BRs.

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

BR4 CTF tables of Iceland. Available at https://unfccc.int/BRs.

"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.

European Green Deal. European Commission document COM(2019) 640 final. Available at https://ec.europa.eu/info/files/communication-european-green-deal_en.

"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/1999/7. Available at http://unfccc.int/resource/docs/cop5/07.pdf.

"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.

Report on the individual review of the annual submission of Iceland submitted in 2017. FCCC/ARR/2017/ISL. Available at https://unfccc.int/sites/default/files/resource/docs/2018/arr/isl.pdf.

Report on the technical review of the BR3 of Iceland. FCCC/TRR.3/ISL. Available at https://unfccc.int/documents/192747.

"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 Bardadottir (Ministry for the Environment and Natural Resources of Iceland), including additional material. The following documents[10] were provided by Iceland:

[10] References reproduced as received from the Party.

Environment Agency of Iceland. 2019. *Report on policies, measures and projections*. Available at: https://ust.is/library/Skrar/Atvinnulif/Loftslagsbreytingar/PaMs%20final%20April%202019.pdf

Government of Iceland. 2019. *Iceland's Policy for International Development Cooperation 2019-2023.* (in Icelandic) Available at: https://www.stjornarradid.is/verkefni/utanrikismal/throunarsamvinna/

Government of Iceland. 2020. *Iceland's 2020 Climate Action Plan.* (summary in English) Available at: https://www.government.is/library/01-Ministries/Ministry-for-The-Environment/201004%20Umhverfisraduneytid%20Adgerdaaaetlun%20EN%20V2.pdf

Government of Iceland. 2020. *Iceland's 2020 Climate Action Plan.* (full plan in Icelandic) Available at: https://www.stjornarradid.is/library/02-Rit--skyrslur-og-skrar/Adgerdaaetlun%20i%20loftslagsmalum%20onnur%20utgafa.pdf