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## Report on the technical review of the fourth biennial report of Hungary

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 Hungary, 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 June 2020 remotely.

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## Abbreviations and acronyms

AEA	annual emission allocation
Annex II Party	Party included in Annex II to the Convention
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BR	biennial report
CCHOP	Competitive Central Hungary Operational Programme
CH <sub>4</sub>	methane
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> eq	carbon dioxide equivalent
CTF	common tabular format
EDIOP	Economic Development and Innovation Operative Programme of Hungary
EEEO	Hungarian Environment and Energy Efficiency Operational Programme
ERT	expert review team
ESD	European Union effort-sharing decision
EU	European Union
EU ETS	European Union Emissions Trading System
F-gas	fluorinated gas
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
HUF	Hungarian forint
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
NA	not applicable
NC	national communication
NCCS-II	Second National Climate Change Strategy
NE	not estimated
NECP	National Energy and Climate Plan
NEEAP	National Energy Efficiency Action Plan
NF <sub>3</sub>	nitrogen trifluoride
NIR	national inventory report
NO	not occurring
NREAP	National Renewable Energy Action Plan
NWMP	National Waste Management Plan
NWMPSP	National Waste Management Public Services Plan
N <sub>2</sub> O	nitrous oxide
PaMs	policies and measures
PFC	perfluorocarbon
SF <sub>6</sub>	sulfur hexafluoride
UNFCCC reporting guidelines on BRs	“UNFCCC biennial reporting guidelines for developed country Parties”
UNFCCC reporting guidelines on NCs	“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications”
WAM	‘with additional measures’
WEM	‘with measures’
WOM	‘without measures’

## **I. Introduction and summary**

### **A. Introduction**

1. This is a report on the centralized technical review of the BR4<sup>1</sup> of Hungary. 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 Hungary, which provided comments that were considered and incorporated with revisions into this final version of the report.

3. The review was conducted together with the review of three other Parties included in Annex I to the Convention from 22 to 26 June 2020 remotely<sup>2</sup> by the following team of nominated experts from the UNFCCC roster of experts: Elijah Chibwe (Zambia), Eric De Brabanter (Luxembourg), Baasansuren Jamsranjav (Mongolia), Juan José Rincón Cristóbal (Spain), Babacar Sarr (Senegal) and Verica Taseska Gjorgievska (North Macedonia). Ms. Jamsranjav and Mr. De Brabanter were the lead reviewers. The review was coordinated by Veronica Colerio and Nalin Srivastava (secretariat).

### **B. Summary**

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

#### **1. Timeliness**

5. The BR4 was submitted on 20 December 2019, before the deadline of 1 January 2020 mandated by decision 2/CP.17. The CTF tables were also submitted on 20 December 2019. The CTF tables were resubmitted on 21 July 2020 to address some of the issues raised during the review. The resubmission included a revised CTF table 3 based on the revised list of PaMs set out in Hungary’s NECP and addressed some issues related to the consistency of the information on PaMs reported in CTF table 3 and the textual part of the BR4. Unless otherwise specified, the information and values from the latest submission are used in this report.

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

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

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<sup>1</sup> The BR submission comprises the text of the report and the CTF tables, which are both subject to the technical review.

<sup>2</sup> Owing to the circumstances related to the coronavirus disease 2019, the technical review of the BR submitted by Hungary had to be conducted remotely.

Table 1

**Summary of completeness and transparency of mandatory information reported by Hungary in its fourth biennial report**

<i>Section of BR</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of recommendation(s)</i>
GHG emissions and removals	Complete	Mostly transparent	Issue 1 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 1–3 and 6 in table 6 Issues 3 and 5 in table 11
Provision of support to developing country Parties <sup>a</sup>	NA	NA	NA

*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.

<sup>a</sup> Hungary is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paras. 3–5, of the Convention.

## 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

7. Total GHG emissions<sup>3</sup> excluding emissions and removals from LULUCF decreased by 32.7 per cent between 1990 and 2018, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 35.9 per cent over the same period. The changes in total emissions were driven mainly by factors such as the 1989–1990 regime change, which caused a radical decline in the output of the Party’s national economy; the Party becoming an EU member State in May 2004; and the global financial crisis in 2008, which resulted in quite a significant drop in GHG emissions. Following a modest increase in 2010, emissions decreased further in the following years. In contrast, the decline in Hungary’s economic output ended in the first quarter of 2010, and the Party’s gross domestic product returned to the same level as before the financial crisis in 2014 and even exceeded it in 2015. Between 2016 and 2017, the growth rate of emissions was 4 per cent, with contributions from all sectors. Between 2017 and 2018, the upward trend in emissions seen in the previous years halted, and a slight decrease of 0.9 per cent was observed.

8. Table 2 illustrates the emission trends by sector and by gas for Hungary. Note that information in paragraph 7 above and table 2 is based on Hungary’s 2020 annual submission, version 1.0, which has not yet been subject to review. All emission data in subsequent chapters are based on Hungary’s BR4 CTF tables unless otherwise noted. The emissions reported in the 2020 annual submission differ very slightly for all sectors from the data reported in CTF table 1.

<sup>3</sup> In this report, the term “total GHG emissions” refers to the aggregated national GHG emissions expressed in terms of CO<sub>2</sub> eq excluding LULUCF, unless otherwise specified.

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

	GHG emissions (kt CO <sub>2</sub> eq)					Change (%)		Share (%)	
	1990	2000	2010	2017	2018	1990–2018	2017–2018	1990	2018
<i>Sector</i>									
1. Energy	68 483.44	54 652.91	48 580.65	45 856.93	45 518.85	–33.5	–0.7	72.9	72.0
A1. Energy industries	20 916.74	23 875.68	17 971.65	13 848.53	13 088.41	–37.4	–5.5	22.3	20.7
A2. Manufacturing industries and construction	13 622.83	4 651.78	3 386.92	4 989.36	5 336.99	–60.8	7.0	14.5	8.4
A3. Transport	8 865.04	9 078.36	11 666.55	13 158.74	13 930.49	57.1	5.9	9.4	22.0
A4. and A5. Other	22 183.99	15 651.38	14 618.41	13 040.38	12 354.29	–44.3	–5.3	23.6	19.5
B. Fugitive emissions from fuels	2 894.85	1 395.71	937.12	819.92	808.66	–72.1	–1.4	3.1	1.3
C. CO <sub>2</sub> transport and storage	NO	NO	NO	NO	NO	–	–	–	–
2. IPPU	11 809.21	8 298.33	6 454.36	7 332.46	7 111.69	–39.8	–3.0	12.6	11.2
3. Agriculture	9 978.41	6 132.92	5 672.76	7 110.19	7 145.64	–28.4	0.5	10.6	11.3
4. LULUCF	–2 617.08	–674.48	–4 321.93	–5 174.05	–4 659.94	78.1	–9.9	NA	NA
5. Waste	3 679.82	4 150.40	4 148.98	3 481.77	3 443.39	–6.4	–1.1	3.9	5.4
6. Other	NO	NO	NO	NO	NO	–	–	–	–
<i>Gas<sup>a</sup></i>									
CO <sub>2</sub>	73 464.85	58 608.27	52 123.68	49 684.85	49 628.49	–32.4	–0.1	78.2	78.5
CH <sub>4</sub>	11 721.80	8 566.31	7 713.51	7 374.46	7 272.00	–38.0	–1.4	12.5	11.5
N <sub>2</sub> O	8 376.09	5 405.13	3 727.61	4 801.38	4 858.70	–42.0	1.2	8.9	7.7
HFCs	NO	283.99	1 198.23	1 801.16	1 358.02	–	–24.6	–	2.1
PFCs	375.72	283.11	1.68	1.12	0.79	–99.8	–29.8	0.4	0.0
SF <sub>6</sub>	12.42	87.74	92.05	118.38	101.56	718.0	–14.2	0.0	0.2
NF <sub>3</sub>	NO	NO	NO	NO	NO	–	–	–	–
<b>Total GHG emissions excluding LULUCF</b>	<b>93 950.88</b>	<b>73 234.56</b>	<b>64 856.75</b>	<b>63 781.35</b>	<b>63 219.56</b>	<b>–32.7</b>	<b>–0.9</b>	<b>100.0</b>	<b>100.0</b>
<b>Total GHG emissions including LULUCF</b>	<b>91 333.81</b>	<b>72 560.08</b>	<b>60 534.82</b>	<b>58 607.31</b>	<b>58 559.63</b>	<b>–35.9</b>	<b>–0.1</b>	<b>–</b>	<b>–</b>

Source: GHG emission data: Hungary's 2020 annual submission, version 1.0.

<sup>a</sup> Emissions by gas without LULUCF. The Party did not report indirect CO<sub>2</sub> emissions.

9. In brief, Hungary's national inventory arrangements were established in accordance with Government decree 278/2014 (XI. 14). The BR4 states that there have been no changes since the BR3. The Ministry of Agriculture is the single national entity responsible for maintaining the registration systems, while the National Emissions Inventory Unit of the Hungarian Meteorological Service compiles the inventory for all sectors except LULUCF, for which the inventory is compiled by the Forestry Department of the National Land Center together with the Forest Research Institute (for the forest land category) and the National Food Chain Safety Office (for non-forest categories). During the review Hungary clarified that, since July 2018, the Minister of Agriculture and the Minister for Innovation and Technology have been responsible for approving the final national GHG inventory, while the

Hungarian Meteorological Service has been in charge of submitting the reports to the UNFCCC.

**2. Assessment of adherence to the reporting guidelines**

10. The ERT assessed the information reported in the BR4 of Hungary and identified an issue relating to transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The finding is described in table 3.

Table 3

**Findings on greenhouse gas emissions and removals from the review of the fourth biennial report of Hungary**

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 3  Issue type: transparency  Assessment: recommendation	<p>The Party reported in chapter 3 (mitigation actions and their effects) of its BR4 that the Hungarian Meteorological Service’s National Emissions Inventory Unit is responsible for inventory compilation, and that this has not changed since the BR3. However, the BR4 does not address the roles and responsibilities of the various agencies and entities involved in the inventory development process or the institutional, legal and procedural arrangements for the preparation of the inventory in accordance with the reporting requirements related to national inventory arrangements contained in the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories”.</p> <p>During the review, Hungary explained that more information can be found in its 2020 NIR (sections 1.2–1.3). A summary of this information is provided in paragraph 9 above.</p> <p>The ERT recommends that Hungary provide in its next BR summary information on its national inventory arrangements in accordance with the reporting requirements contained in the UNFCCC reporting guidelines on BRs, including the roles and responsibilities of the agencies and entities involved in the inventory development process and the institutional, legal and procedural arrangements that are in place for the preparation of the inventory, and to report this information in the BR chapter related to GHG emissions and trends and not in the chapter related to mitigation actions and their effects.</p>

*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**

11. For Hungary the Convention entered into force on 25 May 1994. Under the Convention Hungary 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.

12. 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<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub> 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, and member States can use such units for their national ESD targets, within specific limitations.

13. The EU 2020 climate and energy package includes the EU ETS and the ESD (see paras. 22–24 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. Emissions from ESD sectors are regulated through member State specific targets that add up to a reduction at the EU level of 10 per cent below the 2005 level by 2020.

14. 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 increased ambition in 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 NECPs.

15. Hungary has a national target of limiting its emission growth to 10 per cent above the 2005 level by 2020 for sectors under the ESD. This target has been translated into binding quantified AEAs for 2013–2020. Hungary’s AEAs change following a path from 50,398.98 kt CO<sub>2</sub> eq in 2013 to 52,830.57 kt CO<sub>2</sub> eq in 2020.<sup>4</sup>

**2. Assessment of adherence to the reporting guidelines**

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

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 Hungary**

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation
1	Reporting requirement specified in paragraph 5  Issue type: transparency  Assessment: recommendation	The Party did not transparently report on the use of international market-based mechanisms to achieve its emission reduction target in its BR4 or in CTF table 2(e)I. In chapter 2 of the BR4, the Party outlined the permissible uses of market-based mechanisms for member States under the ESD, but did not specify Hungary’s use of international market-based mechanisms. The ERT noted that the BR4 and CTF table 2(f) state that, in 2018–2019, no assigned amount units, certified emission reduction units, emission reduction units or removal units were bought or sold by Hungary.  During the review, Hungary explained that information on the use of market-based mechanisms can be found in chapter 3 of the BR4, which is summarized in paragraph 47 below.  The ERT recommends that Hungary ensure that the information on the contribution of market-based mechanisms towards its target is consistent throughout the BR and between the textual part of the BR and CTF table 2(e)I.

*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**

17. Hungary provided information on its package of PaMs implemented, adopted and planned, organized by sector, in order to fulfil its commitments under the Convention. During the review, Hungary provided information on its policy context, including any changes since its previous submission, and on legal and institutional arrangements in place for

<sup>4</sup> European Commission decision 2017/1471 amended decision 2013/162/EU to revise member States’ AEAs for 2017–2020.



implementing its commitments and monitoring and evaluating the effectiveness of its PaMs. The Ministry for Innovation and Technology is responsible for compiling and reporting on PaMs and for preparing the projections, with the exception of those for the LULUCF sector, which fall under the responsibility of the Forestry Department of the National Land Center together with the Ministry of Agriculture (for the forest land category) and the National Food Chain Safety Office together with the Ministry of Agriculture (for non-forest categories). For the LULUCF sector, the Ministry for Innovation and Technology completes the BR and CTF tables using information provided by the institutions mentioned above.

18. Hungary provided information on a set of PaMs that are mostly new compared with those previously reported in its BR3 and NC7. During the review, Hungary 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 Ministry for Innovation and Technology, with the support of the Forestry Department of the National Land Center together with the Forest Research Institute (for the forest land category) and the National Food Chain Safety Office (for non-forest categories), is in charge of these measurement, reporting and verification tasks for the LULUCF sector. The ERT noted that the Party could enhance the transparency of its reporting by specifying in its next submission which PaMs are no longer in place.

19. In its reporting on its PaMs, Hungary did not provide the estimated emission reduction impacts for any of its PaMs either in the BR4 or in CTF table 3. The Party did not supply an explanation for this in its BR4 or during the review.

20. In its BR4, Hungary did not report on its self-assessment of compliance with its emission reduction targets and national rules for taking action against non-compliance. However, during the review, the Party informed the ERT that, together with the other EU member States, Hungary will collectively contribute to the EU emission reduction target. In case of non-compliance with its targets, the provisions set out in EU decision 406/2009/EC would be applied to Hungary.

21. During the review, the Party also shared with the ERT information on an ongoing project, running from November 2019 to November 2020 and financed by the EU Structural Reform Support Programme, run by Hungary's Ministry for Innovation and Technology and the Swedish Environmental Protection Agency. The aim of this project is to strengthen the implementation of Hungary's NCCS-II by reinforcing capacities related to, for example, monitoring and evaluating the effects of climate and energy PaMs. A methodology report will contain recommendations for setting up a system that, when implemented, would allow the Party to better monitor its progress towards its climate change goals and assess whether it is on track to achieve them. The ERT noted that the Party could enhance the transparency of its reporting by including information on the outcomes of the project in its next submission.

22. The key overarching related cross-sectoral policy in the EU is the 2020 climate and energy package, adopted in 2009, which includes the revised EU ETS and the ESD. The package is supplemented by renewable energy and energy efficiency legislation and legislative proposals on the 2020 targets for CO<sub>2</sub> emissions from cars and vans, the carbon capture and storage directive, and the general programmes for environmental conservation, namely the 7<sup>th</sup> Environment Action Programme and the clean air policy package. The 2030 climate and energy framework, adopted in 2014, includes more ambitious targets that will be updated as part of the European Green Deal.

23. The achievement of the Energy Union objectives and targets is ensured through a combination of Energy Union initiatives and national policies set out in integrated NECPs. The NECPs are periodically updated to reflect changes to EU policy, such as the implementation of the European Green Deal. The related key actions in Hungary's NECP are listed in the revised CTF table 3.

24. 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 target (a 21 per cent emission reduction below the 2005 level) 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<sub>2</sub>O emissions from chemical industry, PFC emissions from aluminium production and CO<sub>2</sub> 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. For 2030, an emission reduction target of 43 per cent below the 2005 level has been set for the EU ETS.

25. The ESD became operational in 2013 and covers transport (excluding domestic and international aviation, and international maritime transport), residential and commercial buildings, agriculture and waste, together accounting for 55–60 per cent of the GHG emissions of the EU. The aim of the ESD is to decrease GHG emissions in the EU by 10 per cent below the 2005 level by 2020, and it includes binding annual targets for each member State for 2013–2020. The EU effort-sharing regulation, successor to the ESD, was adopted in 2018. It 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, and keeps many of the flexibilities of the ESD.

26. Hungary did not highlight EU-wide PaMs in its BR4, even though they are expected to have a significant impact on future GHG emissions and will contribute to the achievement of the Party's economy-wide emission reduction target. For example, the ERT noted that Hungary did not report the EU ETS as one of its PaMs, despite the EU ETS having a considerable impact on the energy, industry and IPPU sectors. During the review, the Party explained that it did not report on the EU ETS since it is an EU-wide measure determined by EU legislation and not a stand-alone Hungarian measure. The ERT considers that the Party could improve the completeness of its reporting by including in its submission information on EU-wide mitigation actions or an explanation as to why these actions were not included among its reported PaMs.

27. Hungary's main policy framework relating to energy and climate change is NCCS-II, which includes the National Decarbonization Roadmap (with an emission reduction of 52–85 per cent by 2050 compared with the 1990 level) and the Partnership for the Climate Awareness-Raising Plan. Hungary's recently adopted first Climate Change Action Plan and its long-term strategy, NECP and National Energy Strategy 2030 will be the cornerstones of the Party's climate mitigation policy in the years to come.

28. Hungary introduced national-level policies to achieve its targets under the ESD and domestic emission reduction targets. The key policies reported are the National Energy Strategy 2030; the third NEEAP, which contains the National Building Energy Performance Strategy and the Energy and Climate Awareness-Raising Action Plan; the NREAP; and several energy-related programmes, such as the EEEOP, the Territorial and Settlement Development Operational Programme and the CCHOP. In addition to energy consumption or supply measures, other key policies include the National Transport Infrastructure Development Strategy, the Rural Development Programme, the National Forest Strategy 2016–2030, Hungarian waste law (act CLXXXV) and the NWMP.

29. Hungary provided a list of domestic mitigation actions relating to energy efficiency, renewable energy supply and use, and transport that are under development. However, the Party did not report on the mitigation impacts of mitigation actions. As a consequence, the ERT is not in a position to identify implemented or adopted mitigation actions with the most significant mitigation impacts or planned mitigation actions that provide a foundation for significant additional action. Table 5 provides a summary of the reported information on the PaMs of Hungary.

Table 5  
**Summary of information on policies and measures reported by Hungary**

<i>Sector</i>	<i>Key PaMs</i>	<i>Estimate of mitigation impact in 2020 (kt CO<sub>2</sub> eq)</i>	<i>Estimate of mitigation impact in 2030 (kt CO<sub>2</sub> eq)</i>
Policy framework and cross-sectoral measures	NCCS-II	NE	NE
	EEEOP	NE	NE
	Territorial and Settlement Development Operational Programme	NE	NE
	CCHOP	NE	NE
Energy	National Energy Strategy 2030	NE	NE
	EDIOP	NE	NE
	Energy and Climate Awareness-Raising Action Plan	NE	NE
	Warmth of Home Programme	NE	NE
	Maintaining nuclear capacity	NE	NE
	Transport	National Transport Infrastructure Development Strategy	NE
National framework plan for the development of infrastructure for alternative fuels		NE	NE
Applying usage-based road toll to heavy-duty vehicles		NE	NE
Renewable energy		NREAP	NE
	Operational grant for renewable electricity production	NE	NE
Energy efficiency	National Building Energy Performance Strategy	NE	NE
	New requirements on energy performance of buildings	NE	NE
IPPU	EU regulation on F-gases	NE	NE
Agriculture	Rural Development Programme	NE	NE
	Control of manure storage	NE	NE
	Limiting nitrogen surplus during fertilizer and manure application	NE	NE
	Protection against soil erosion	NE	NE
LULUCF	National Forest Strategy 2016–2030	NE	NE
Waste	Waste law (act CLXXXV)	NE	NE
	NWMP	NE	NE
	NWMPSP	NE	NE
	Sewage sludge treatment and recovery strategy	NE	NE

*Note:* The estimates of mitigation impact are estimates of emissions of CO<sub>2</sub> eq avoided in a given year as a result of the implementation of mitigation actions.

**(b) Policies and measures in the energy sector**

30. **Energy efficiency.** Hungary's energy strategy, which was adopted in 2011 (National Energy Strategy 2030), is the framework for the Party's energy policy. This strategy covers energy efficiency, renewable energy sources, the long-term use of nuclear energy, regional cooperation and energy policy governance. Several PaMs are directly linked to this strategy, notably those dealing with energy efficiency in buildings (both private and public). The key measures are provided in the third NEEAP of Hungary, submitted to the European Commission in 2015, which sets an indicative national target for final energy consumption of 693 PJ (1,009 PJ for primary energy consumption) in accordance with the EU energy efficiency target of a 20 per cent reduction in energy use by 2020.

31. The NEEAP includes the 2015 National Building Energy Performance Strategy as the main tool for achieving energy savings for buildings and the 2015 Energy and Climate Awareness-Raising Action Plan, which aims to foster awareness in the fields of energy and

climate change mitigation. Priority axis five of the EEEOP is also one of the Party's main policies in the area of energy efficiency. Energy efficiency PaMs targeting individual sectors are discussed below.

32. **Energy supply and renewables.** The main tools used by the Party to promote the production and use of low-carbon and renewable energy sources are the NREAP, which was submitted to the European Commission in 2010 and includes a target of a 14.7 per cent share of renewable energy in gross final energy consumption by 2020, and the use of nuclear energy as the basis for long-term low-carbon electricity generation. Two new nuclear reactor blocks are expected to be in operation in the Paks nuclear power plant by 2030, replacing the four existing reactor blocks, which will be decommissioned by 2032, 2034, 2036 and 2037, respectively. Renewable electricity production is also strengthened by a support scheme that was launched in 2017 with an allocation of HUF 45 billion over 10 years, in addition to EEEOP priority axis five. Overarching policies promoting the use of renewable energy are also in place, such as the Energy and Climate Awareness-Raising Action Plan. PaMs that are related to renewable energy use and target individual sectors are discussed below.

33. **Residential and commercial sectors.** A large number of Hungary's PaMs aim to improve energy efficiency or promote the use of renewable energy in buildings. The 2015 National Building Energy Performance Strategy is one of the main tools for achieving energy savings for buildings. Revised in 2017 within the framework of the fourth NEEAP, the strategy provides guidance and targets for modernizing the country's building stock with a view to achieving a significant reduction in energy demand. In accordance with EU legislation, the strategy contains both a list of government buildings to be refurbished and a national plan to encourage the construction of nearly zero-energy buildings.

34. Another important policy is the Warmth of Home Programme, which is partially financed by revenues from the auctioning of EU ETS allowances. This programme provides support for replacing outdated household appliances and heating systems, in addition to doors and windows, with a view to increasing energy efficiency and savings, thereby reducing household energy costs. Originally launched in 2008, this programme was relaunched in 2017 with an allocation of HUF 31 billion and has already resulted in the modernization of some 164,000 houses and apartments and a yearly estimated emission reduction of 79,000 t CO<sub>2</sub>.

35. Other PaMs targeting the residential sector are linked to programmes such as the EDIOP (priority axis eight) and the CCHOP (priority axis five). Interest-free loans are another tool used to increase the energy efficiency of residential buildings. Regarding public buildings, priority axes three and six of the Territorial and Settlement Development Operational Programme support energy efficiency gains and the use of renewable energy, while public institutions are required to develop energy saving plans and annually report on their implementation under the Energy Saving Programme for Public Buildings, a regulatory instrument introduced in 2017.

36. **Transport sector.** Hungary has two main overarching policies in the transport sector. The first, the National Transport Infrastructure Development Strategy, was implemented in 2014 and sets targets in addition to proposing measures to achieve them. The strategy aims to mitigate the environmental impacts of transport through a modal shift to public transport, energy efficiency improvements, demand management and the use of renewable energy sources. The second overarching policy, a general policy in place since 2016, is the national framework plan for the development of infrastructure for alternative fuels, which identifies national targets for deploying infrastructure for alternative fuels, including compressed natural gas and liquid natural gas, biofuels, electricity and hydrogen. This plan also summarizes the legal, fiscal and financial incentives allocated to this deployment and to related research and development initiatives.

37. In addition to the two instruments outlined in paragraph 36 above, several measures address electric or hybrid mobility and non-motorized mobility and education around eco-driving. The Territorial and Settlement Development Operational Programme (priority axes 3 and 6) and the CCHOP (priority axis five) both focus on sustainable mobility as a field of action. Finally, a road toll was introduced in 2013 for heavy-duty vehicles.

38. **Industrial sector.** Only a few of the PaMs reported by the Party focus on the industrial sector. For example, the CCHOP (priority axis five) and the EDIOP (priority axes four and eight) are both aimed at energy efficiency gains and the use of renewable energy by enterprises. EDIOP priority axis four mostly targets small and medium-sized enterprises. According to EU law, as of 2015, businesses that are not small or medium-sized enterprises, as defined by the Hungarian Energy and Public Utility Regulatory Authority, must perform an energy audit every four years or operate an energy management system that complies with International Organization for Standardization standard 50001.

(c) **Policies and measures in other sectors**

39. **Industrial processes.** The Party did not report any IPPU-related PaMs, including measures targeting F-gas emissions. During the review, Hungary explained that the EU regulation on F-gases (regulation 517/2014) applies to Hungary as an EU member State.

40. **Agriculture.** Priority axis five of Hungary's Rural Development Programme supports projects leading to energy efficiency gains in the agriculture sector and carbon sequestration by afforestation in 2014–2020. In addition, a limited number of PaMs control manure storage and application and limit nitrogen surplus during fertilizer application. Other agriculture-related PaMs reported by the Party involve soil protection and restoration and could therefore be combined with LULUCF measures such as a soil erosion measure that bans the use of certain cultivating cultures with high erosion risk on steep slopes.

41. **LULUCF.** The National Forest Strategy 2016–2030, which is the main policy instrument for both the LULUCF and the agriculture sector, could lead to reduced GHG emissions and increased storage of CO<sub>2</sub>. The strategy involves three key measures, namely the afforestation of agricultural land, the establishment of fast-growing tree plantations on agricultural land and the establishment of agroforestry systems on agricultural land.

42. **Waste management.** In addition to priority axes two and three of the EEEOP, which promote wastewater treatment capacity-building and investments in collection and treatment facilities for separated waste, Hungary relies on a waste law (act CLXXXV) that implements the EU waste framework directive and entered into force on 1 January 2013. Among other measures and instruments, this legislation introduces a landfill tax and a requirement for separate door-to-door collection of household paper, plastic and metal waste.

43. Two plans complement Hungary's waste law: the NWMP and the NWMPSP. The NWMP outlines the Party's main waste management objectives for 2014–2020 and defines general and specific actions for each waste flow. The NWMP includes the National Prevention Programme, which applies to municipal, packaging, electrical and electronic equipment and hazardous waste flows and covers a range of sectors, namely agriculture, construction and infrastructure, manufacturing, retail, transport, households and public services. The NWMPSP sets requirements for waste management public services for 2016–2020 and aims to decrease the amount of landfilled waste (a 45 per cent share of municipal solid waste landfilled is considered to be a realistic target), increase waste recovery, promote and support energy recovery from waste and sewage sludge treatment, and encourage composting of biodegradable waste and sewage sludge.

44. The above-mentioned PaMs targeting the waste sector are complemented by an environmental product fee levied on batteries, lubricants, tyres, electrical and electronic equipment, packaging, advertisements and office papers, and some plastic and chemical products. In exchange for the revenues generated by this fee, the central State budget funds the Party's pursuit of EU targets related to waste recycling up to a certain amount. Finally, a sewage sludge treatment and recovery strategy is in place for 2018–2023.

(d) **Response measures**

45. Hungary reported on its assessment of the economic and social consequences of its response measures. The Party explained that, as an EU member State, its national climate policy is largely determined by EU legislation. Therefore, the information on response measures provided by the EU in its reports is relevant to Hungary. The Party further explained that its approach is guided by the principle of supporting ambitious national emission reduction targets with a climate policy that avoids adverse impacts on developing countries,

such as carbon leakage. The Party’s main initiative aimed at minimizing adverse impacts is the integration of climate policy into development policy, which is guaranteed via NCCS-II. This climate change strategy will also safeguard emission mitigation projects, cooperation that fosters technological transfer and enhanced funding options for climate change related projects.

(e) **Assessment of adherence to the reporting guidelines**

46. The ERT assessed the information reported in the BR4 of Hungary 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 Hungary**

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 6  Issue type: transparency  Assessment: recommendation	While reviewing the BR4 and CTF table 3, the ERT noted that: <ul style="list-style-type: none"> <li>(a) There are inconsistencies and discrepancies in the reporting of adopted and implemented PaMs between the BR4 and CTF table 3, including:                             <ul style="list-style-type: none"> <li>i. Differences in sectoral classification. For example, several PaMs reported as multisectoral instruments in the textual part of the BR4 were reported under the energy and LULUCF sectors in CTF table 3. For example, the Energy and Climate Awareness-Raising Action Plan, the NEEAP and the EEEOP (BR4 pp.10–11) were reported under the energy sector, while the Rural Development Programme was reported under the LULUCF sector (BR4 pp.11–12). Another example is the measure related to greening aid, which is reported under forestry/LULUCF in CTF table 3 but under the agriculture sector in the textual part of the BR4;</li> <li>ii. PaMs reported in the BR4 but not in CTF table 3, for example the NECP (BR4 p.10) or funding for modernizing residential buildings (BR4 p.14);</li> <li>iii. PaMs reported in CTF table 3 but not in the BR4, for example market gate closure times to real-time trading for renewable energy producers, the smart grid model project and a collection of planned PaMs;</li> <li>iv. A measure with a “completed” status, although only adopted, implemented or planned statuses are supposed to be used. This concerns the support for European Electromobility Week and Car-Free Day events reported in CTF table 3;</li> <li>v. Different labelling in the BR4 and CTF table 3, which hinders reporting transparency. For example, the National Energy Efficiency Advisory Network in the BR4 (p.13) is referred to as the National Network of Energy Engineers in CTF table 3, while the rural development measures for developing husbandry farms (p.18) are referred to as mink development measures for the modernization of livestock farms in CTF table 3;</li> </ul> </li> <li>(b) PaMs are organized by sector but not by gas in the BR4, contrary to a recommendation from the previous review report;</li> <li>(c) It is not clear whether the BR4 only reports the PaMs that have been amended or introduced since the last submission;</li> <li>(d) In the resubmission of CTF table 3, some of the cells describing the GHGs affected were left blank. This is the case, for example, for preparing for and adapting to the effects of climate change on human health; strengthening the adaptation of water management, water conservation and drinking water supply; improving the resilience of critical infrastructures; interventions to manage and prepare for climate change incidents; and industry modelling, risk analysis, methodology and vulnerability research. The ERT further noted that these PaMs seem to be related to adaptation and not so clearly to mitigation.</li> </ul> During the review, Hungary: <ul style="list-style-type: none"> <li>(a) Explained that although further sector-specific information is included in the relevant section of the BR4, the measures in CTF table 3 are not consistent with those described in the textual part of the BR4. The Party intends to submit a revised and complete CTF table 3 in line with the final NECP. The ERT noted that even after the resubmission some of the inconsistencies described above remain;</li> <li>(b) Explained that it may address the issue regarding the organization of PaMs by gas when resubmitting CTF table 3. The ERT noted that even after the resubmission this issue had not been solved;</li> </ul>

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
		<p>(c) Explained that most PaMs reported in the BR4 are new additions compared with those previously reported in its BR3 and NC7;</p> <p>(d) Did not provide clarification on this, as the issue was raised only after the resubmission of CTF table 3 was received.</p> <p>The ERT recommends that the Party:</p> <p>(a) Ensure consistency between the textual part of the BR4 and CTF table 3;</p> <p>(b) Report the PaMs organized by sector (energy, IPPU, agriculture, LULUCF, waste and other sectors) and by gas (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub>), as recommended in the previous review report;</p> <p>(c) Report which PaMs are new or have been amended since the previous submission or, if it only reports on PaMs that have been either amended or introduced since the last submission, include clear references to the descriptions of continued PaMs in the previous submission;</p> <p>(d) Report the gases affected for all PaMs reported in CTF table 3, noting however that CTF table 3 is limited to mitigation actions and PaMs related to adaptation should not be reported there.</p>
2	<p>Reporting requirement specified in paragraph 6</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The BR4 did not contain information on any PaMs affecting the IPPU sector, most notably in relation to F-gas emissions. However, the ERT noted that the Party provided this information during the review of its BR3 (issue 2, table 5, of the previous review report).</p> <p>During the review, Hungary explained that as an EU member State, it must comply with the EU regulation on F-gases (regulation 517/2014).</p> <p>The ERT reiterates the recommendation from the previous review report for the Party to report information on PaMs affecting the IPPU sector.</p>
3	<p>Reporting requirement specified in paragraph 7</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>In its BR4, Hungary did not provide information on changes in its domestic institutional arrangements, including institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress towards its economy-wide emission reduction target. In section 3.2 of its BR4, the Party described changes to the structure of the Hungarian Government from May 2018 onward. However, Hungary did not clearly indicate whether these changes have had any effect on the domestic institutional arrangements described above.</p> <p>During the review, Hungary explained that the Ministry for Innovation and Technology is now responsible for compiling and reporting on PaMs and for preparing the projections, with the exception of the LULUCF sector. The Forestry Department of the National Land Center, together with the Forest Research Institute (for the forest land category) and the National Food Chain Safety Office (for non-forest categories), is responsible for this sector, with the Ministry for Innovation and Technology compiling the BR and CTF tables using the information provided by these two institutions.</p> <p>The ERT recommends that Hungary report in its next BR information on any changes in its domestic institutional arrangements, including institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress towards its economy-wide emission reduction target or clearly state that no changes have occurred.</p>
4	<p>Reporting requirement specified in paragraph 8</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>In its BR4, Hungary did not transparently provide, to the extent possible, detailed information on the assessment of the economic and social consequences of response measures. The BR4 states that as Hungary is an EU member State, its national climate policy is largely determined by EU legislation, meaning that the relevant information provided by the EU in its reports on the assessment of the economic and social consequences of response measures is pertinent to the Party (p.24). However, Hungary did not provide a summary of the relevant information presented in the reports mentioned or clear references to the documents or sections within those documents (e.g. details of the EU report and section and page numbers, as appropriate). Furthermore, in its BR4, the Party referred to an impact assessment sheet as part of NCCS-II (p.25) but did not provide any further information.</p> <p>During the review, Hungary explained that the BR4 refers to information provided in the reports of the EU, such as the BRs or NIRs of the EU. Furthermore, the Party explained that it also reported information that is relevant for addressing cross-border impacts in chapters</p>

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
5	Reporting requirement specified in paragraph 24 Issue type: completeness Assessment: encouragement	<p>5–6 of its BR4, which cover assistance to developing country Parties that are particularly vulnerable to climate change and activities related to transfer of technology. Regarding the impact assessment sheets, Hungary clarified that when a new policy is introduced that requires a government proposal or bill (a type of legal act), the entity (a ministry) will submit the proposal along with an impact assessment sheet. The sheet is filled in by the proposing entity and includes the name of the proposal, budgetary impacts, administrative impacts or burdens, other effects and a data protection impact assessment (if justified).</p> <p>The ERT encourages Hungary to provide, to the extent possible, detailed information on the assessment of the economic and social consequences of response measures in its next BR, including a summary of the relevant information from any reports referenced and clear references to any documents mentioned, including section numbers as appropriate (e.g. details of the EU report and section and page numbers, as appropriate).</p> <p>The Party did not report in its BR4 information on its domestic arrangements established for the self-assessment process for evaluating compliance of emission reductions with emission reduction commitments or with the level of emission reduction required by science. Moreover, the BR4 did not include information on the Party’s progress in establishing national rules for taking local action against domestic non-compliance with emission reduction targets.</p> <p>During the review, Hungary shared information on an ongoing project which, once finalized, will result in recommendations for implementing a system that would enable the Party to better monitor its progress towards its climate change goals and assess whether it is on track to achieve them.</p> <p>The ERT encourages Hungary to include in its next BR, to the extent possible, information on its domestic arrangements established for the self-assessment process for evaluating compliance of emission reductions with emission reduction commitments or with the level of emission reduction required by science, and information on its progress in establishing national rules for taking local action against domestic non-compliance with emission reduction targets.</p>
6	Reporting requirement specified in CTF table 3 Issue type: transparency Assessment: recommendation	<p>Hungary did not report the mitigation impacts of any of its individual mitigation actions, reporting their effects as “NE” without providing an explanation.</p> <p>During the review, Hungary explained that estimates of impacts are not available for individual PaMs, but only for groups of PaMs under the energy sector only. Moreover, during the review of its BR3, the Party explained that mitigation impacts were not estimated for most of its PaMs because there is no unified monitoring system in Hungary. It also explained that a unified monitoring system was likely to be developed in the future.</p> <p>The ERT reiterates the recommendation from the previous review report for Hungary to include in its next BR the missing estimates of the impacts of its mitigation actions in CTF table 3 or provide adequate explanation or justification for using the notation key “NE” in the textual part of the BR by explaining why such estimation may not be possible owing to its national circumstances.</p>

*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**

47. Hungary reported that it does not intend to use units from market-based mechanisms under the Kyoto Protocol and other market-based mechanisms under the Convention to meet its commitment under the ESD. It reported in CTF tables 4 and 4(b) that it did not use any units from market-based mechanisms in 2016 or 2017. Given that the contribution of LULUCF activities is not included in the joint EU target under the Convention, reporting of contributions of LULUCF activities is not applicable to Hungary. The ERT noted that the transparency of reporting could be improved by using “NA” in the relevant cells in CTF



tables 4 and 4(b). Table 7 illustrates Hungary’s ESD emissions and the use of units from market-based mechanisms to achieve its ESD target.

Table 7

**Summary of information on the use of units from market-based mechanisms by Hungary to achieve its target**

<i>Year</i>	<i>ESD emissions (kt CO<sub>2</sub> eq)</i>	<i>AEA (kt CO<sub>2</sub> eq)</i>	<i>Use of units from market- based mechanisms (kt CO<sub>2</sub> eq)<sup>a</sup></i>	<i>Annual AEA surplus/deficit (kt CO<sub>2</sub> eq)<sup>b</sup></i>	<i>Cumulative AEA surplus/deficit (kt CO<sub>2</sub> eq)</i>
2013	38 436.98	50 398.98	NA	11 962.00	11 962.00
2014	38 423.03	51 516.64	NA	13 093.61	25 055.61
2015	41 437.56	52 634.30	NA	11 196.74	36 252.35
2016	42 059.94	53 751.96	NA	11 692.02	47 944.37
2017	43 141.88	50 064.25	NA	6 922.37	54 866.74

*Sources:* Hungary’s BR4 and CTF table 4(b), information provided by the Party during the review and EU transaction log (AEAs).

<sup>a</sup> The use of “NA” indicates that the Party stated in its BR that it does not intend to use market-based mechanisms to achieve its target.

<sup>b</sup> A positive number (surplus) indicates that ESD emissions were lower than the AEA, while a negative number (deficit) indicates that ESD emissions were greater than the AEA.

48. In assessing the progress towards achieving the 2020 joint EU target, the ERT noted that Hungary’s emission reduction target for the ESD is 10 per cent above the base-year level (see para. 15 above). In 2017, Hungary’s emissions covered by the ESD were 13.8 per cent (6,922.37 kt CO<sub>2</sub> eq) below the AEA under the ESD. Taking the use of market-based mechanisms into account, Hungary has a cumulative surplus of 54,866.74 kt CO<sub>2</sub> eq with respect to its AEAs between 2013 and 2017.

49. Although ESD emissions increased in 2013–2017, the ERT noted that Hungary is making progress towards its ESD target by implementing mitigation actions that are delivering emission reductions and thereby limiting the increase in ESD emissions.

**(b) Assessment of adherence to the reporting guidelines**

50. The ERT assessed the information reported in the BR4 of Hungary and recognized that the reporting is complete, transparent and thus adhering to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

**3. Projections overview, methodology and results**

**(a) Technical assessment of the reported information**

51. Hungary reported updated projections for 2020 and 2030 relative to actual inventory data for 2017 under the WEM scenario. The WEM scenario reported by Hungary includes implemented and adopted PaMs until 2018.

52. In addition to the WEM scenario, Hungary reported the WAM and WOM scenarios. The WAM scenario includes planned PaMs, while the WOM scenario excludes all PaMs implemented, adopted or planned. Hungary provided a definition of its scenarios, explaining that its WEM scenario includes policies such as the construction of new nuclear power plant units, increasing renewable energy-based electricity generation capacity and measures supporting the reduction of electricity and heat demand, while its WAM scenario includes energy efficiency investments. The definitions indicate that the scenarios were prepared according to the UNFCCC reporting guidelines on BRs.

53. The projections are presented on a sectoral basis, using different sectoral categories from those used in the reporting on mitigation actions, and on a gas-by-gas basis for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, PFCs, HFCs and SF<sub>6</sub> (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. Hungary reported on factors and activities affecting emissions for each sector.

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

54. With the exception of the LULUCF sector, the methodology used for the preparation of the projections is different from that used for the preparation of the emission projections for the NC7. Hungary provided information on the changes since the submission of its NC7 in the assumptions, methodologies, models and approaches used in the projection scenarios. The Party explained that the changes in the assumptions were aimed at harmonizing a number of environmental activities at Government level, including energy, climate and air pollution policies. For example, since compliance with air quality standards is a key driver in Hungary's IPPU sector, GHG emissions and air pollutant projections were harmonized, which means that the same activity data and projection pathways were used for these projections. Hungary reported in CTF table 5 the key variables and assumptions used in the preparation of the projection scenarios.

55. To prepare its projections, Hungary relied on key underlying assumptions relating to population, constant price gross domestic product, number of households and international (wholesale) fuel import prices of crude oil, natural gas and coal for electricity.

**(c) Results of projections**

56. The projected emission levels under different scenarios and information on the quantified economy-wide emission reduction target are presented in table 8 and figure 1.

Table 8

**Summary of greenhouse gas emission projections for Hungary**

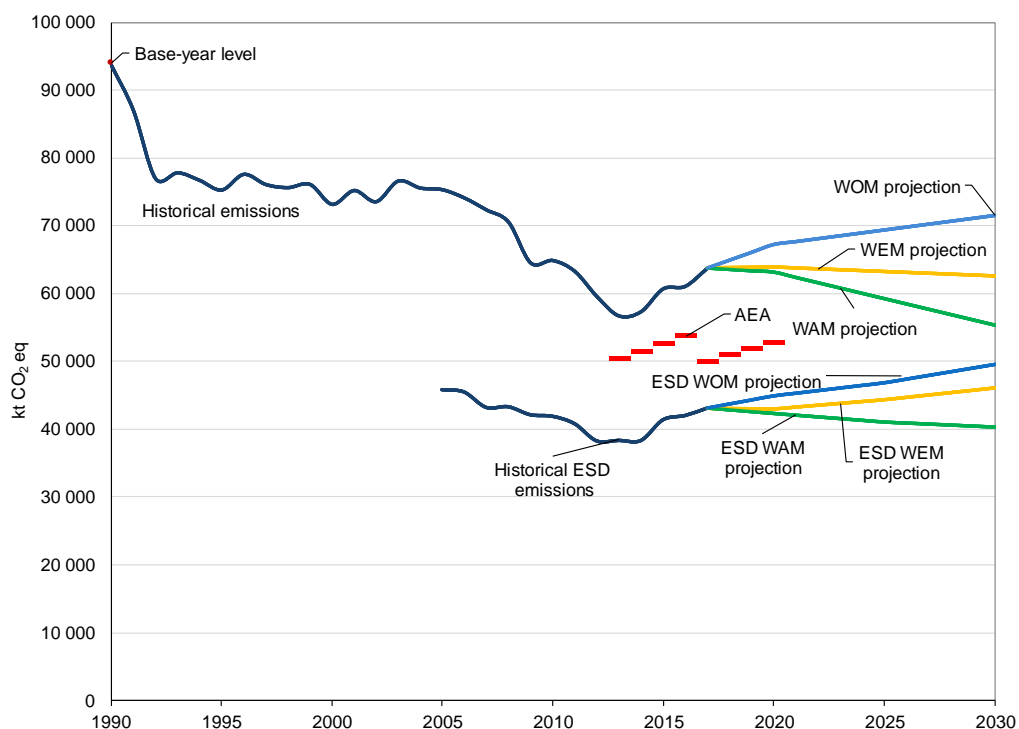
	<i>Total GHG emissions</i>		<i>Emissions under the ESD</i>	
	<i>GHG emissions (kt CO<sub>2</sub> eq per year)</i>	<i>Change in relation to 1990 level (%)</i>	<i>ESD emissions (kt CO<sub>2</sub> eq per year)</i>	<i>Comparison to 2020 AEA (%)</i>
2020 AEA under the ESD <sup>a</sup>	NA	NA	52 830.57	100.0
Inventory data 1990	93 655.93	–	NA	NA
Inventory data 2017	63 787.57	–31.9	43 141.88	–18.3
WOM projections for 2020	67 238.63	–28.2	44 916.35	–15.0
WEM projections for 2020	63 890.71	–31.8	43 060.32	–18.5
WAM projections for 2020	63 180.24	–32.5	42 358.84	–19.8
WOM projections for 2030	71 499.24	–23.7	49 502.80	NA
WEM projections for 2030	62 646.85	–33.1	46 127.98	NA
WAM projections for 2030	55 287.02	–41.0	40 383.17	NA

*Source:* Hungary's BR4 and CTF table 6.

*Note:* The projections are for GHG emissions excluding LULUCF and excluding indirect CO<sub>2</sub>.

<sup>a</sup> The quantified economy-wide emission reduction target under the Convention is a joint target of the EU and its member States. The target is to reduce emissions by 20 per cent compared with the base-year (1990) level by 2020. Hungary's target under the ESD is 10 per cent above the 2005 level by 2020.

Figure 1  
**Greenhouse gas emission projections reported by Hungary**



Sources: EU transaction log (AEAs) and Hungary’s BR4 and CTF tables 1 and 6.

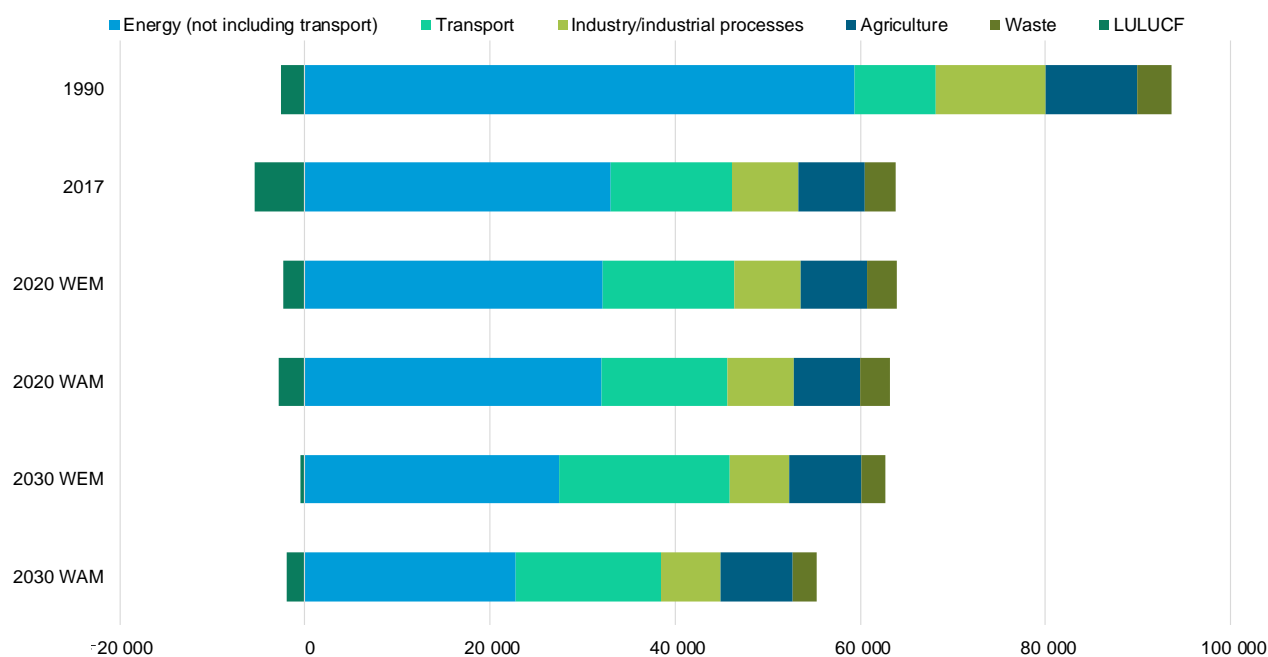
57. Hungary’s total GHG emissions excluding LULUCF in 2020 and 2030 are projected under the WEM scenario to decrease by 31.8 and 33.1 per cent, respectively, below the 1990 level. Under the WAM scenario, emissions in 2020 and 2030 are projected to be lower than those in 1990 by 32.5 and 41.0 per cent, respectively.

58. Hungary’s target under the ESD is to limit its ESD emission growth to 10 per cent above the 2005 level by 2020 (see para. 15 above). Hungary’s AEAs, which correspond to its national emission target for ESD sectors, change from 50,398.98 kt CO<sub>2</sub> eq in 2013 to 52,830.57 kt CO<sub>2</sub> eq in 2020. The projected level of emissions under the WEM and WAM scenarios is 18.5 and 19.8 per cent, respectively, below the AEAs for 2020. The ERT noted that the Party’s cumulative surplus of AEAs as of 2017 is 54,866.74 kt CO<sub>2</sub> eq, which suggests that Hungary expects to meet its target under the WEM scenario.

59. Hungary presented the WEM and WAM scenarios by sector for 2020 and 2030, as summarized in figure 2 and table 9.

Figure 2  
Greenhouse gas emission projections for Hungary presented by sector

(kt CO<sub>2</sub> eq)



Source: Hungary's BR4 CTF table 6.

Table 9  
Summary of greenhouse gas emission projections for Hungary presented by sector

Sector	GHG emissions and removals (kt CO <sub>2</sub> eq)					Change (%)			
	1990	2020		2030		1990–2020		1990–2030	
		WEM	WAM	WEM	WAM	WEM	WAM	WEM	WAM
Energy (not including transport)	59 312.84	32 213.06	32 041.03	27 520.48	22 810.08	-45.7	-46.0	-53.6	-61.5
Transport	8 869.52	14 168.19	13 629.75	18 313.24	15 663.81	59.7	53.7	106.5	76.6
Industry/ industrial processes	11 809.58	7 119.11	7 119.11	6 459.44	6 459.44	-39.7	-39.7	-45.3	-45.3
Agriculture	9 879.93	7 210.54	7 210.54	7 754.87	7 754.87	-27.0	-27.0	-21.5	-21.5
LULUCF	-2 518.76	-2 278.96	-2 792.29	-531.53	-2 014.98	-9.5	10.9	-78.9	-20.0
Waste	3 784.06	3 179.81	3 179.81	2 598.83	2 598.83	-16.0	-16.0	-31.3	-31.3
Other	-	-	-	-	-	-	-	-	-
<b>Total GHG emissions excluding LULUCF</b>	<b>93 655.93</b>	<b>63 890.71</b>	<b>63 180.24</b>	<b>62 646.85</b>	<b>55 287.02</b>	<b>-31.8</b>	<b>-32.5</b>	<b>-33.1</b>	<b>-41.0</b>

Source: Hungary's BR4 CTF table 6.

60. According to the projections reported for 2020 under the WEM scenario, the most significant absolute emission reductions are expected to occur in energy (not including transport), IPPU and agriculture, amounting to projected reductions of 45.7, 39.7 and 27.0 per cent between 1990 and 2020, respectively. The pattern of projected emissions reported for 2030 under the same scenario is similar, amounting to projected reductions of 53.6, 45.3 and 21.5 per cent between 1990 and 2030, respectively.

61. If additional measures are considered (i.e. under the WAM scenario), the pattern of absolute emission reductions by 2020 presented by sector remain the same as under the WEM scenario: the most significant emission reductions are expected to occur in energy (not

including transport), IPPU and agriculture, amounting to projected reductions of 46.0, 39.7 and 27.0 per cent between 1990 and 2020, respectively. The pattern of projected emissions reported for 2030 under the same scenario is similar, amounting to projected reductions of 61.5, 45.3 and 21.5 per cent between 1990 and 2030, respectively.

62. Hungary presented the WEM and WAM scenarios by gas for 2020 and 2030, as summarized in table 10.

Table 10

**Summary of greenhouse gas emission projections for Hungary presented by gas**

Sector	GHG emissions and removals (kt CO <sub>2</sub> eq)					Change (%)			
	1990	2020		2030		1990–2020		1990–2030	
		WEM	WAM	WEM	WAM	WEM	WAM	WEM	WAM
CO <sub>2</sub> <sup>a</sup>	73 444.74	50 355.43	49 709.90	50 076.02	43 010.97	-31.4	-32.3	-31.8	-41.4
CH <sub>4</sub>	11 632.54	7 327.20	7 275.69	7 121.91	6 896.30	-37.0	-37.5	-38.8	-40.7
N <sub>2</sub> O	8 192.04	4 705.18	4 691.75	4 871.38	4 802.21	-42.6	-42.7	-40.5	-41.4
HFCs	–	1 388.04	1 388.04	462.68	462.68	–	–	–	–
PFCs	375.72	1.06	1.06	1.06	1.06	-99.7	-99.7	-99.7	-99.7
SF <sub>6</sub>	10.89	113.80	113.80	113.80	113.80	945.0	945.0	945.0	945.0
NF <sub>3</sub>	–	–	–	–	–	–	–	–	–
<b>Total GHG emissions excluding LULUCF</b>	<b>93 655.93</b>	<b>63 890.71</b>	<b>63 180.24</b>	<b>62 646.85</b>	<b>55 287.02</b>	<b>-31.8</b>	<b>-32.5</b>	<b>-33.1</b>	<b>-41.0</b>

Source: Hungary’s BR4 CTF table 6.

<sup>a</sup> Hungary did not include indirect CO<sub>2</sub> emissions in its projections.

63. For 2020, the most significant absolute reductions under the WEM scenario are projected for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions: 31.4, 37.0 and 42.6 per cent between 1990 and 2020, respectively. The pattern of projected emissions reported for 2030 under the same scenario is similar, amounting to projected reductions of 31.8, 38.8 and 40.5 per cent between 1990 and 2030, respectively. For N<sub>2</sub>O, this means that emissions are expected to increase slightly between 2020 and 2030.

64. If additional measures are considered (i.e. under the WAM scenario), the pattern of absolute emission reductions by 2020 presented by gas is very similar to that of the WEM scenario, with projected reductions of 32.3, 37.5 and 42.7 per cent for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions between 1990 and 2020, respectively. For 2030, however, the pattern of projected emissions under the same scenario is different, with significantly higher CO<sub>2</sub> emission reductions and lower N<sub>2</sub>O emission reductions observed.

**(d) Assessment of adherence to the reporting guidelines**

65. The ERT assessed the information reported in the BR4 of Hungary and identified issues relating to completeness, transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 11.

Table 11

**Findings on greenhouse gas emission projections reported in the fourth biennial report of Hungary**

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
1	Reporting requirement specified in paragraph 28 Issue type: transparency Assessment: encouragement	The ERT noted inconsistencies between the WAM and WOM values reported in CTF table 6(b–c) and those reported in figures 4.1–4.2 of the BR4. For example: (a) According to figure 4.1 (p.26 of the BR4), projected total GHG emissions excluding LULUCF for the WOM scenario stand at 67,223.7 kt CO <sub>2</sub> eq (2020) and 71,484.3 kt CO <sub>2</sub> eq (2030), but CTF table 6(b) gives these values as 67,238.63 kt CO <sub>2</sub> eq (2020) and 71,499.24 kt CO <sub>2</sub> eq (2030); (b) According to figure 4.2 (p.27 of the BR4), projected total GHG emissions including LULUCF for the WAM scenario stand at 60,430.1 kt CO <sub>2</sub> eq (2020) and

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
		<p>53,314.2 kt CO<sub>2</sub> eq (2030), whereas CTF table 6(c) gives projected total GHG emissions including LULUCF for the WAM scenario as 60,387.95 kt CO<sub>2</sub> eq (2020) and 53,272.04 kt CO<sub>2</sub> eq (2030).</p> <p>During the review, Hungary explained that the values included in the CTF tables are correct, and that the errors in the textual part of the BR4 most likely occurred when copying the information across.</p> <p>The ERT encourages Hungary to ensure that the WAM and WOM projections are reported consistently across the textual part of the BR and CTF table 6(b–c) in its next submission.</p>
2	<p>Reporting requirement specified in paragraph 30</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>The Party did not report information on sensitivity analyses for any of the projections in its BR4.</p> <p>During the review, Hungary explained that no sensitivity analysis was carried out as it is not a mandatory requirement.</p> <p>The ERT encourages the Party to include sensitivity analyses for projections in its next BR.</p>
3	<p>Reporting requirement specified in paragraph 34</p> <p>Issue type: transparency</p> <p>Assessment: recommendation</p>	<p>In its BR4, projections were not presented on a sectoral basis, to the extent possible, using the same sectoral categories used in the PaMs section, with different sectoral categories presented in chapter 3 (mitigation actions and their effects) and chapter 4 (projections). The sectoral categories in chapter 3 are multisectoral instruments (reported as cross-cutting in CTF table 3), energy (excluding transport), transport, agriculture, forestry and waste. In chapter 4, the categories are energy, IPPU, agriculture and waste.</p> <p>During the review, Hungary explained that this was probably an error, and that it will take greater care to ensure consistent reporting in its next submission. The Party added that projection data for all sectors can be found in CTF table 6.</p> <p>The ERT recommends that in its next BR the Party present sectoral projections, to the extent possible, using the same sectoral categories used in the PaMs section, or provide a duly substantiated explanation as to why this was not possible.</p>
4	<p>Reporting requirement specified in paragraph 35</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>Hungary did not report in its BR4 emission projections for indirect GHGs such as carbon monoxide, nitrogen oxides, non-CH<sub>4</sub> volatile organic compounds or sulfur oxides.</p> <p>During the review, Hungary explained that this is not a mandatory requirement, but provided the relevant data.</p> <p>The ERT reiterates the encouragement from the previous review report for Hungary to include in its next BR emission projections for indirect GHGs such as carbon monoxide, nitrogen oxides, non-CH<sub>4</sub> volatile organic compounds and sulfur oxides.</p>
5	<p>Reporting requirement specified in paragraph 36</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>Hungary did not report projections related to fuel sold to ships and aircraft engaged in international transport in its BR4.</p> <p>During the review, the Party explained that the scale of international navigation is relatively small as Hungary is a landlocked country and, since the NIR does not include estimates in this area, no projections had been prepared.</p> <p>The ERT recommends that Hungary report in its next BR, to the extent possible, emission projections related to fuel sold to ships and aircraft engaged in international transport separately and not included in the totals.</p>
6	<p>Reporting requirement specified in paragraph 38</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>Hungary did not report diagrams illustrating the information addressed in paragraphs 34–37 of the UNFCCC reporting guidelines on NCs showing unadjusted inventory data and a WEM projection for 1990–2020.</p> <p>During the review, the Party explained that it did not report diagrams as it is not a mandatory requirement.</p> <p>The ERT encourages Hungary to include, in its next submission, diagrams illustrating all the information addressed in paragraphs 34–37 of the UNFCCC reporting guidelines on NCs showing unadjusted inventory data and a WEM projection for 1990–2020.</p>

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
7	Reporting requirement specified in paragraph 43  Issue type: completeness  Assessment: encouragement	The Party did not report in its BR4 information on how the model or approach used accounts for any overlap or synergies that may exist between different PaMs or on the strengths and weaknesses of the model or approach used.  During the review, Hungary explained that it did not report this information as it is not a mandatory requirement.  The ERT reiterates the encouragement from the previous review report for Hungary to report in its next BR information on the strengths and weaknesses of the models or approaches used and explain how the models or approaches used account for any overlap or synergies that may exist between different PaMs.
8	Reporting requirement specified in paragraph 46  Issue type: completeness  Assessment: encouragement	The Party did not discuss the sensitivity of projections to underlying assumptions.  During the review, Hungary explained that no sensitivity analysis was carried out as this is not a mandatory requirement.  The ERT encourages the Party to discuss in its next BR the sensitivity of projections to underlying assumptions qualitatively or, where possible, quantitatively.
9	Reporting requirement specified in paragraph 47  Issue type: transparency  Assessment: encouragement	In CTF table 5 the Party only reported historical information on population, but did not report historical information (1990–2010) on the other key underlying assumptions and values of variables.  During the review, Hungary explained that this information was not reported as it is not a mandatory requirement.  The ERT encourages Hungary to provide information on all key variables and assumptions for the historical period for the analysis of the projections, or else provide an explanation as to why the historical data could not be provided in certain cases (e.g. as a footnote to the relevant tables).

*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**

66. Hungary is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3–5, of the Convention. However, Hungary provided information in its BR4 on its provision of support to developing country Parties. The ERT commends Hungary for reporting this information and suggests that it continue to do so in future BRs.

67. Hungary reported that, as an EU member State and together with the 10 other member States that joined in 2004, it is committed to contributing to the assistance provided to developing countries in line with EU regulations in order to fulfil the commitment of developed country Parties to jointly mobilize USD 100 billion per year by 2020 from a wide variety of sources, including public and private sources, and through bilateral and multilateral channels.

68. In 2018, according to CTF table 7(b), Hungary contributed USD 3.6 million through bilateral and regional channels. Furthermore, in 2019, the Hungarian Government decided to provide HUF 600 million (or about EUR 1.8 million) of public finance annually for 2019–2021 for international climate finance. In 2019, one third of the annual budget for international climate finance (amounting to HUF 200 million, or about EUR 0.6 million), was pledged to the Green Climate Fund for its first official replenishment period.

69. Bilateral support provided to developing countries through bilateral channels focuses on sharing Hungarian know-how, expertise and available technologies. As Hungary is most active in adaptive water management, most of the projects reported in CTF table 7(b) fall under the water and sanitation sector. One example is the pilot project in Morocco, which

received support amounting to HUF 15 million (or about EUR 45,000) and involved using a water retainer soil conditioner (a Hungarian product) to increase water retention in soil and enhance reforestation efforts as part of the Great Green Wall initiative for the Sahara and the Sahel region.

### III. Conclusions and recommendations

70. The ERT conducted a technical review of the information reported in the BR4 and CTF tables of Hungary 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 Hungary towards achieving its target; and the Party's provision of support to developing country Parties.

71. Hungary's total GHG emissions excluding LULUCF covered by its quantified economy-wide emission reduction target were estimated to be 32.7 per cent below its 1990 level, whereas total GHG emissions including LULUCF were 35.9 per cent below its 1990 level, in 2018. The changes in total emissions were driven mainly by factors such as the transition to a market-based economy following the regime change (1989–1990), which brought about a radical decline in the output of the Party's national economy.

72. Under the Convention, Hungary committed to contributing to the achievement of the joint EU quantified economy-wide emission reduction target of a 20 per cent reduction in emissions below the 1990 level by 2020. The target covers all sectors and CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub>, expressed using GWP values from the AR4. Emissions and removals from the LULUCF sector are not included.

73. Under the ESD, Hungary has a target of limiting its emission growth to 10 per cent above the 2005 level by 2020. The 2013–2020 progression in Hungary's AEAs (its national emission target under the ESD) is 50,398.98–52,830.57 kt CO<sub>2</sub> eq.

74. In 2017, Hungary's ESD emissions were 13.8 per cent (6,922.37 kt CO<sub>2</sub> eq) below the AEA under the ESD.

75. The GHG emission projections provided by Hungary in its BR4 correspond to the WOM, WEM and WAM scenarios. Under these scenarios, emissions are projected to be 28.2, 31.8 and 32.5 per cent below the 1990 level by 2020, respectively. According to the projections under the WEM scenario, ESD emissions are estimated to reach 43,060.32 kt CO<sub>2</sub> eq by 2020. Under the WAM scenario, Hungary's emissions from ESD sectors in 2020 are projected to be 42,358.84 kt CO<sub>2</sub> eq. The projected level of emissions under the WEM and WAM scenarios is 18.5 and 19.8 per cent, respectively, below the AEAs for 2020. The ERT noted that the Party's cumulative surplus of AEAs in 2017 is 54,866.74 kt CO<sub>2</sub> eq, which suggests that Hungary expects to meet its target under the WEM scenario.

76. Hungary's main policy framework relating to energy and climate change is NCCS-II, which includes the National Decarbonization Roadmap (with an emission reduction of 52–85 per cent by 2050 compared with the 1990 level) and the Partnership for the Climate Awareness-Raising Plan. Hungary's recently adopted first Climate Change Action Plan and its long-term strategy, NECP and National Energy Strategy 2030 will be the cornerstones of the Party's climate mitigation policy in the years to come.

77. As the Party did not provide estimated impacts for its PaMs, the ERT was not able to identify the mitigation actions with the most significant mitigation impacts.

78. Hungary is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3–5, of the Convention. However, Hungary provided information on its provision of support to developing country Parties. In 2019, the Hungarian Government decided to provide HUF 600 million (or about EUR 1.8 million) of public finance every year for 2019–2021 for international climate finance. Bilateral support provided to developing countries through bilateral channels focuses on sharing Hungarian



know-how, expertise and available technologies. As Hungary is most active in adaptive water management, most of the projects reported are in the water and sanitation sector.

79. In the course of the review, the ERT formulated the following recommendations for Hungary 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 PaMs affecting the IPPU sector (see issue 2 in table 6);
  - (ii) Providing, to the extent possible, emission projections related to fuel sold to ships and aircraft engaged in international transport separately and not included in the totals (see issue 5 in table 11);
  - (iii) Providing information on any changes in its domestic institutional arrangements (see issue 3 in table 6);
- (b) To improve the transparency of its reporting by:
  - (i) Providing more detailed information on its national inventory arrangements (see issue 1 in table 3);
  - (ii) Providing consistent information on its use of market-based mechanisms to reach its target (see issue 1 in table 4);
  - (iii) Providing consistent and transparent information on the status of implementation and organization of its PaMs (see issue 1 in table 6);
  - (iv) Providing quantitative estimates of the impacts of its individual PaMs or adequate explanation or justification for using the notation key “NE” in CTF table 3 (see issue 6 in table 6);
  - (v) Providing sectoral projections, to the extent possible, using the same sectoral categories as in the PaMs section (see issue 3 in table 11).

## Annex

### Documents and information used during the review

#### A. Reference documents

2020 GHG inventory submission of Hungary. Available at <https://unfccc.int/ghg-inventories-annex-i-parties/2020>.

BR3 of Hungary. 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 Hungary. Available at <https://unfccc.int/BRs>.

BR4 CTF tables of Hungary. 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. Available at [https://ec.europa.eu/info/files/communication-european-green-deal\\_en](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 Hungary submitted in 2019. FCCC/ARR/2019/HUN. Available at <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/inventory-review-reports-2019>.

Report on the technical review of the third biennial report of Hungary. FCCC/TRR.3/HUN. 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/review-reports-of-seventh-national-communications-and-third-biennial-reports>.

“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 Kinga Csontos and Mónika Rábai (Ministry for Innovation and Technology of Hungary), including additional material. The following documents<sup>1</sup> were provided by Hungary:

Ministry for Innovation and Technology. 2020. *National Energy and Climate Plan. Extract. English version*. Not available online.

<sup>1</sup> Reproduced as received from the Party.

Ministry for Innovation and Technology. 2020. *Climate and Nature Protection Action Plan*.  
Available at <https://www.kormany.hu/en/ministry-for-innovation-and-technology/news/climate-and-nature-protection-action-plan-consists-of-eight-points>.

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