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

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 Belgium, 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 26 to 30 October 2020 remotely.

Contents

Abbreviations and acronyms

AEA	annual emission allocation
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BIO	Belgian Investment Company for Developing Countries
BR	biennial report
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CTF	common tabular format
DGD	Belgium's Directorate General for Development Cooperation and Humanitarian Aid
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
GWP	global warming potential
HFC	hydrofluorocarbon
IE	included elsewhere
IPPU	industrial processes and product use
LDC	least developed country
LULUCF	land use, land-use change and forestry
NA	not applicable
NC	national communication
NCC	National Climate Commission of Belgium
NE	not estimated
NECP	National Energy and Climate Plan
NF_3	nitrogen trifluoride
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
N_2O	nitrous oxide
PaMs	policies and measures
PFC	perfluorocarbon
SF_6	sulfur hexafluoride
SIDS	small island developing State(s)
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[1] of Belgium. 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 Belgium, which did not provide any comments.

3. The review was conducted together with the review of one other Party included in Annex I to the Convention from 26 to 30 October 2020 remotely[2] by the following team of nominated experts from the UNFCCC roster of experts: Viviane Dorine Akouande (Cameroon), Isabelle Cabanne (France), Ricardo Delgado (Colombia), Prince Nanlee Johnson (Liberia), Aiymgul Kerimray (Kazakhstan), Thelma Krug (Brazil), Spyridoula Ntemiri (Greece), Maia Tskhvaradze (Georgia) and Marian Van Pelt (United States of America). Ms. Krug and Ms. Van Pelt were the lead reviewers. The review was coordinated by Anna Sikharulidze and Davor Vesligaj (secretariat).

B. Summary

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

1. Timeliness

5. The BR4 was submitted on 31 March 2020, after the deadline of 1 January 2020 mandated by decision 2/CP.17. The BR4 CTF tables were also submitted on 31 March 2020.

6. Belgium informed the secretariat on 6 September 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 Belgium make its next submission on time.

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

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

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

Section of BR	*Completeness*	*Transparency*	*Reference to description of recommendation(s)*
GHG emissions and removals	Complete	Transparent	–
Quantified economy-wide emission reduction target and	Complete	Transparent	–

[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 Belgium had to be conducted remotely.

Section of BR	*Completeness*	*Transparency*	*Reference to description of recommendation(s)*
related assumptions, conditions and methodologies			
Progress in achievement of targets	Mostly complete	Mostly transparent	Issue 1 in table 4 Issue 4 in table 9
Provision of support to developing country Parties	Mostly complete	Transparent	Issues 1 and 5 in table 12

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

8. Total GHG emissions[3] excluding emissions and removals from LULUCF decreased by 19.1 per cent between 1990 and 2018, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 18.0 per cent over the same period. Emissions peaked in 1996 and decreased thereafter. The changes in total emissions were driven mainly by factors such as the switch from solid fuels to gaseous fuels in the electricity generation and industrial sectors: the reduction in the emissions of these two sectors outweighed the growth in the emissions of the transport and commercial sectors. The development of biomass fuels is another significant reason for the reduction in emissions.

9. Table 2 illustrates the emission trends by sector and by gas for Belgium. Note that information in this paragraph and table 2 is based on Belgium's 2020 annual submission, version 1.0, which has not yet been subject to review. All emission data in subsequent chapters are based on Belgium's BR4 CTF tables unless otherwise noted. The emissions reported in the 2019 annual submission are the same as those reported in CTF table 1 but differ from the estimates reported in the 2020 submission as the latter have been recalculated since. The recalculation resulted in a revision of the estimates of total emissions for 1990 from 146,586.61 to 146,410.76 kt CO_2 eq, and for 2017 from 114,539.90 to 118,005.10 kt CO_2 eq.

Table 2
Greenhouse gas emissions by sector and by gas for Belgium 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	103 793.07	106 183.68	99 540.94	85 142.03	85 559.90	–17.6	0.5	70.9	72.2
A1. Energy industries	30 059.89	28 670.55	26 547.03	20 056.27	20 025.70	–33.4	–0.2	20.5	16.9
A2. Manufacturing industries and construction	23 220.16	21 507.07	15 554.36	13 513.00	13 810.89	–40.5	2.2	15.9	11.7
A3. Transport	20 931.20	25 007.51	26 688.40	26 067.34	26 251.18	25.4	0.7	14.3	22.2
A4. and A5. Other	28 344.40	30 142.57	29 989.86	24 850.79	24 812.22	–12.5	–0.2	19.4	20.9
B. Fugitive emissions from fuels	1 237.43	855.98	761.30	654.63	659.90	–46.7	0.8	0.8	0.6

[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.

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2017*	*2018*	*1990–2018*	*2017–2018*	*1990*	*2018*
C. CO_2 transport and storage	NO	NO	NO	NO	NO	–	–	–	–
2. IPPU	26 039.67	28 224.51	22 057.62	21 263.93	21 554.76	–17.2	1.4	17.8	18.2
3. Agriculture	12 242.95	11 346.97	10 215.88	10 104.92	9 960.88	–18.6	–1.4	8.4	8.4
4. LULUCF	–3 237.68	–1 754.72	–701.85	–1 022.23	–1 014.62	–68.7	–0.7	NA	NA
5. Waste	4 335.07	3 949.47	2 501.42	1 494.22	1 380.20	–68.2	–7.6	3.0	1.2
6. Other[a]	NO	NO	NO	NO	NO	–	–	–	–
Gas[b]									
CO_2	120 309.34	126 735.30	114 561.03	99 456.28	100 207.84	–16.7	0.8	82.2	84.6
CH_4	12 215.19	11 027.45	8 794.36	7 932.12	7 848.74	–35.7	–1.1	8.3	6.6
N_2O	10 072.88	10 211.42	7 587.12	5 978.51	5 702.29	–43.4	–4.6	6.9	4.8
HFCs	NA, NO	1 139.96	3 162.31	4 356.88	4 469.84	–	2.6	–	3.8
PFCs	2 191.05	446.11	104.77	179.17	131.32	–94.0	–26.7	1.5	0.1
SF_6	1 622.30	144.40	104.95	101.52	95.08	–94.1	–6.3	1.1	0.1
NF_3	NA, NO	NA, NO	1.32	0.63	0.65	–	3.0	–	0.0
Total GHG emissions excluding LULUCF	**146 410.76**	**149 704.63**	**134 315.86**	**118 005.10**	**118 455.74**	**–19.1**	**0.4**	**100.0**	**100.0**
Total GHG emissions including LULUCF	**143 173.07**	**147 949.91**	**133 614.01**	**116 982.87**	**117 441.12**	**–18.0**	**0.4**	**NA**	**NA**

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

10. In brief, Belgium's national inventory arrangements were established by a set of decisions of its Interministerial Conference for the Environment. Regional GHG inventories are developed by the three regions of Belgium (Walloon Region, Flemish Region and Brussels-Capital Region); and the Belgian Interregional Environment Agency is responsible for compiling the three sets of regional estimates of GHG emissions and removals into one national inventory. NCC is the entity responsible for approving the Belgian national inventory report. Changes in arrangements since the BR3 include the aggregation of two departments in the Flemish Region into one department for environment, and the improvement of procedures and reporting in relation to the aggregated regional energy balances used as activity data for the energy sector at the national level.

2. Assessment of adherence to the reporting guidelines

11. The ERT assessed the information reported in the BR4 of Belgium 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.

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

1. Technical assessment of the reported information

12. For Belgium the Convention entered into force on 15 April 1996. Under the Convention Belgium 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.

13. 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, and member States can use such units for their national ESD targets, within specific limitations.

14. The EU 2020 climate and energy package includes the EU ETS and the ESD (see paras. 28–29 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. 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. The ESR, successor to the ESD, was adopted in 2018 with a target of reducing covered emissions by 30 per cent below the 2005 level by 2030.

15. 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 NECPs.

16. Belgium has a national target of reducing its emissions to 15 per cent below the 2005 level by 2020 for ESD sectors. This target has been translated into binding quantified AEAs for 2013–2020. Belgium's AEAs change following a linear path from 78,379.83 kt CO_2 eq in 2013 to 68,247.61 kt CO_2 eq in 2020.[4] Under the ESR, Belgium has a national target of reducing emissions from the covered sectors to 35 per cent below the 2005 level by 2030.

17. In addition to its ESD and ESR targets, Belgium has reported an expected reduction in emissions for the sectors not covered by the EU ETS of about 85–87 per cent by 2050 compared with the 2005 level, as set out in its long-term strategy, which was finalized in February 2020 in accordance with article 15 of EU regulation 2018/1999 on the governance of the Energy Union and climate action.

18. A cooperation agreement on the internal burden-sharing of Belgium's climate and energy objectives among its three regions and the federal State for 2013–2020 was concluded in October 2016. Belgium's 2030 commitments will also be subject to such internal burden-sharing but this has not yet been officially agreed.

2. Assessment of adherence to the reporting guidelines

19. The ERT assessed the information reported in the BR4 of Belgium 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.

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

20. Belgium 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.

[4] According to the EU transaction log.

Belgium 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.

21. Belgium's set of PaMs is similar to that previously reported, with the addition of a package of strengthened and new PaMs from its NECP, adopted in December 2019. Belgium also 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, which included a 2019 update of its PaMs and projection systems and quality assurance and quality control procedures with regard to the EU monitoring mechanism regulation.

22. Since Belgium is a federal State of three regions where governmental decision-making is shared, climate change PaMs are developed and implemented by the federal State and each of these three regions, with NCC set up to harmonize them and establish synergies. The tasks of NCC include approving the official national reports submitted to the UNFCCC, evaluating the federal and interregional coordination and cooperation and assessing the execution and level of impact (ecological, social and economic) of the PaMs implemented on the basis of the National Climate Plan. As part of the preparation of the NECP, a steering group was set up to oversee the process and ensure coordination among the climate and energy administrations of each region and of the federal State.

23. In its reporting on its PaMs, Belgium did not provide the estimated emission reduction impacts for many of its PaMs and some were also missing an implementation year. In the textual part of the BR, Belgium indicated that many of the NECP measures were new or extended policies that had not yet been thoroughly evaluated and for which there are no reliable indicators for estimating their impacts. As a result, their estimated effect and starting year could not yet be reported. The ERT noted that the transparency of reporting could be further improved by reporting, for example, "NE" for the missing estimated impacts of PaMs in CTF table 3 and including a footnote to CTF table 3 explaining both the missing estimates and the lack of information on the year of implementation. During the review Belgium provided an amended version of CTF table 3 with additional information for some of the PaMs and "NE" reported for others. The Party gave examples of methodological difficulties in reporting PaMs, and indicated that, since some are packages of measures with different starting dates, it is not possible to indicate one starting date for them.

24. The Party cited a study on the impact assessment for PaMs, in which the effects of federal PaMs were estimated and the methodology explained. The effects of PaMs implemented in the Walloon Region were estimated by a consultant using several sectoral modelling tools, and the effects of PaMs in the Flemish and Brussels-Capital Regions were derived from the modelling tools used for the GHG emission projections in these regions.

25. Belgium reported on its self-assessment of compliance with the 2020 emission target. The Party's progress in the establishment of national rules for taking action against non-compliance includes agreeing on implementation modalities and responsibilities under the burden-sharing agreement between the federal State and three regions (see para. 18 above). A national mechanism for the building sector defines the trajectories for reducing GHG emissions from the residential and tertiary building sector, with a financial bonus if the regions exceed their emission reduction objective. Finally, a "substitution right for international obligations under UNFCCC and its Protocols" has been established in Belgian law, which means that, in principle, if a federal entity does not meet its obligations, the federal State can, under strict conditions, substitute its own action for the action of the federal entity.

26. 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_2 emissions from cars and vans, the carbon capture and storage directive, and the general programmes for environmental conservation, namely the 7th 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.

27. 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. Belgium's NECP specifies its aim to reduce ESR emissions (i.e. excluding emissions from sectors covered by the EU ETS and the LULUCF sector) by 35 per cent by 2030 compared with the 2005 level, and a 'no debit' objective for the LULUCF sector (i.e. sectoral LULUCF emissions must not exceed removals from the LULUCF sector).

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.

29. 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 ESD includes binding annual targets for each member State for 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, and keeps many of the flexibilities of the ESD.

30. Belgium highlighted the EU-wide mitigation actions and 2030 targets that are under development in the areas of GHG emission reduction, renewable energy and energy efficiency in the context of the 2030 climate and energy framework. The mitigation actions that will have a significant impact on emissions include the NECP and further actions aimed at achieving the targets under the EU ETS and the ESR in 2021–2030.

31. Belgium introduced national-level policies to achieve its targets under the ESD. The key policies reported focus on developing renewable energy sources and improving energy efficiency in buildings. The mitigation effect of the implementation of the EU ecodesign directive with the promotion of energy-efficient electrical appliances is the most significant. Other measures that have delivered significant emission reductions are providing financial support for rational use of energy and renewable energy systems in the residential sector, promoting offshore wind energy and biofuels, and the F-gas action plan.

32. Belgium highlighted the domestic mitigation actions that are under development, notably those set out in its NECP. They include incentivizing green mobility and transport (vehicle efficiency and modal shift), encouraging renovation and improving energy efficiency in buildings, increasing use of renewable energy, financing projects with green bonds and developing energy agreements for agriculture and industry.

33. The impacts of individual mitigation actions were reported for 2020 only in CTF table 3. The most significant effects were reported for the energy sector, which aligns with Belgium's profile of emissions, with the energy sector being responsible for the majority of its emissions. Table 3 provides a summary of the reported information on the PaMs of Belgium.

Table 3
Summary of information on policies and measures reported by Belgium

Sector	*Key PaMs*	*Estimate of mitigation impact in 2020 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	NECP	NE
Energy		

Sector	*Key PaMs*	*Estimate of mitigation impact in 2020 (kt CO_2 eq)*
Energy efficiency	Financial support for rational use of energy and renewable energy systems in the residential sector	3 587
	EU ecodesign directive: promotion of energy-efficient electrical appliances	6 479
	Fiscal support for energy-efficient investments in industry within the framework of energy policy agreements	623
Energy supply and renewables	Promotion of offshore wind energy	2 600
	Green certificates	NE
Transport	Promotion of biofuels	1 945
	Various measures to promote clean vehicles	317
	Measures to promote modal shift to public transport and cycling for individuals, and rail and waterways for goods	NE
IPPU	F-gas action plan	1 647
	EU ETS	NE
	Reduction of N_2O in caprolactam production	100
Agriculture	"Covenant enteric emissions" partnership (optimizing feed rations and feed efficiency)	153
	Flemish interpretation of the Common Agriculture Policy for 2021–2027 for energy and climate objectives	158
Waste	Ban on landfilling organic waste	NE
	Optimization of incineration plants	NE
	Reduction of waste generation	NE

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

(b) Policies and measures in the energy sector

34. **Energy efficiency.** Per its NECP Belgium is aiming to reduce its primary energy consumption by 15 per cent compared with 'business as usual' by 2030 and decrease final energy consumption by 12 per cent compared with 'business as usual' by 2030. Energy efficiency PaMs targeting individual sectors are discussed below.

35. **Energy supply and renewables.** The Party's aims include achieving a 17.5 per cent share of renewable energy in gross final energy consumption by 2030. Belgium intends to close down its nuclear power plants by 2025, which will lead to a considerable rise in emissions from the electricity supply sector in the future due to an increased use of gas-fired power plants. Developing renewables, notably offshore wind energy, will help to counterbalance this. Various measures and plans in the regions are aimed at developing solar energy. The green certificates markets provide an incentive to develop renewables: suppliers must buy a certain amount of green electricity in order to obtain green certificates; if they fail to reach their assigned amount, they must pay a fee. Green certificates apply to electricity and combined heat and power generation.

36. **Residential and commercial sectors.** Measures supporting efficiency improvements and renewable energy use in buildings include fiscal measures implemented at the regional level: subsidies for insulation, renewable energy installation and special loans or subsidies for low-income households. Reduced value-added tax and third-party financing tools complement these. In line with the implementation of the EU energy efficiency directive, strengthened regulations for building and refurbishment will also be put in place. All federal public buildings should comply with climate-neutrality targets by 2040, with half of them achieving compliance by 2030. The EU ecodesign directive is another major policy in this sector that has led to a significant reduction in emissions.

37. **Transport sector.** Fiscal measures in this sector are aimed at greening the car fleet (particularly company cars) and include taxes on new high-emission vehicles and subsidies for low-emission vehicles. Transport measures also include investments in rail and waterborne infrastructure to facilitate modal shift for both passengers and goods and various measures to incentivize cycling and car-sharing. A kilometre-based levy, in place since 2016

for freight vehicles over 3.5 t, also incentivizes using rail or inland waterways for transportation of goods. Increasing the share of biofuels in transport fuel consumption is also playing an important role in reducing emissions.

38. **Industrial sector.** The EU ETS plays a major role in the industrial sector. Another tool is the sectoral agreements drawn up between the Governments of the Flemish Region and the Walloon Region and their industries to improve energy efficiency and reduce GHG emissions. These agreements notably contain requirements paving the way for opportunities to use renewable energy and combined heat and power sources. The Walloon Region has developed 'CO_2 mapping' of the activity of industrial sites or commodity chains. Efficiency investments may benefit from fiscal support.

(c) Policies and measures in other sectors

39. **Industrial processes.** The EU ETS plays a major role in reducing GHGs in industrial processes. An F-gas action plan with the regions, implemented in line with EU legislation on F-gases, aims to reduce F-gas emissions, including through the inspection and maintenance of refrigeration systems to limit F-gas leakages. Abatement technologies will be installed with a view to reducing N_2O in caprolactam production.

40. **Agriculture.** Initiatives in the agriculture sector focus on reducing GHG emissions by improving agricultural practices (processing, storage and spreading of manure, waste recovery, combating soil degradation, etc.) and energy efficiency in horticulture (mainly in the Flemish Region). Policies include action plans and funding policies at the regional level, such as a manure action plan, funding to develop effluent management tools, a biomethanization strategy and the "Covenant enteric emissions" partnership (optimizing feed rations and feed efficiency).

41. **LULUCF.** Belgium reported on the 'no debit' objective (see para. 27 above) for the LULUCF sector. Planned PaMs include increasing carbon storage in different types of land and planting 10,000 ha additional forests by 2030.

42. **Waste management.** Recycling is a priority, with the development of specific channels for waste recovery and treatment. Policies are also aimed at improving waste management through stricter regulation. These policies include banning landfills, mandatory treatment of landfill gases and optimizing waste incineration.

(d) Response measures

43. Belgium's assessment of the economic and social consequences of its response measures covers the consequences of removing fossil fuel subsidies and promoting biofuels in Belgium, which include a positive impact on the health of its population in the long term. The Party stated in its BR4 that many of the NECP measures are new and/or extended policies that require in-depth evaluation of their economic and social consequences. The Party's initiatives aimed at minimizing adverse impacts include strict sustainability criteria for biofuels, in particular not supporting the cultivation of biofuels on land with high biodiversity value (primary forest and wooded land, protected areas or highly biodiverse grasslands) or land converted from wetlands, peatland or continuously forested areas.

(e) Assessment of adherence to the reporting guidelines

44. The ERT assessed the information reported in the BR4 of Belgium and identified an issue relating to transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 4.

Table 4
Findings on mitigation actions and their effects from the review of the fourth biennial report of Belgium

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in CTF table 3	Belgium estimated the impacts of some of its PaMs in groups and for some PaMs the estimated effect was reported as "IE" in CTF table 3, but no explanation was provided as to where their effect had been included. Furthermore, the Party stated in

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
	Issue type: transparency Assessment: recommendation	its BR4 that the WEM scenario includes all implemented and adopted PaMs until the end of 2018; however, not all implemented or adopted PaMs are marked as included in the WEM scenario in CTF table 3. During the review Belgium clarified all cases where "IE" had been reported and indicated where the effects of those PaMs had been included. The Party stated that the reporting on such PaMs would be improved in the next BR. Belgium also clarified that projections were prepared at a more aggregated level for groups of measures and that measures were not accounted on an individual basis. It also explained that as a result, a number of individual measures were not marked as included in the WEM scenario in CTF table 3. The ERT recommends that Belgium improve the transparency of reporting by clarifying in the footnotes to CTF table 3 where the effects of the PaMs are included for all PaMs whose effect is reported as "IE". The ERT also notes that transparency could be improved by ensuring that information presented in CTF table 3 on the PaMs included in the WEM scenario is consistent with that in the BR4.

Note: Item listed under reporting requirement refers 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

45. Belgium may 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, arising from projects in the LDCs or SIDS, subject to certain conditions being met. 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, the reporting of contributions of LULUCF activities is not applicable for Belgium. Table 5 illustrates Belgium's ESD emissions and use of units from market-based mechanisms for achieving its ESD target.

Table 5
Summary of information on the use of units from market-based mechanisms by Belgium for achieving its target

Year	ESD emissions (kt CO_2 eq)	AEA (kt CO_2 eq)	Use of units from market-based mechanisms (kt CO_2 eq)[a]	Annual AEA surplus/deficit (kt CO_2 eq)	Cumulative AEA surplus/deficit (kt CO_2 eq)
2013	74 264.63	78 379.83	NA	4 115.19	4 115.19
2014	70 054.91	76 850.89	NA	6 795.98	10 911.18
2015	72 719.52	75 321.96	NA	2 602.44	13 513.62
2016	74 063.15	73 793.03	NA	–270.12	13 243.50
2017	70 824.56	72 487.35	NA	1 662.79	14 906.29
2018	74 253.86	71 074.10	NA	–3 179.76	11 726.53

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

Note: For a given year, a positive number (surplus) indicates that annual or cumulative ESD emissions were lower than the corresponding AEA or cumulative AEAs, while a negative number (deficit) indicates annual or cumulative ESD emissions were higher than the AEA or cumulative AEAs.

[a] "NA" indicates that the Party stated in its BR4 that under the ESD compliance assessment for 2013–2017, it did not use any market-based mechanisms for annual ESD compliance. However, Belgium reported that it may use market-based mechanisms for 1 per cent of its ESD emissions for future years, from projects in the LDCs or SIDS, subject to certain conditions being met.

46. In assessing the progress towards achieving the 2020 joint EU target, the ERT noted that Belgium's emission reduction target for the ESD is 15 per cent below the 2005 level (see para. 16 above). In 2018 Belgium's ESD emissions were 4.5 per cent (3,179.76 kt CO_2 eq)

above the AEA. Belgium has a cumulative surplus of 11,726.53 kt CO_2 eq with respect to its AEAs between 2013 and 2018.

47. The ERT noted that Belgium is making progress towards its ESD target by implementing mitigation actions that are delivering significant emission reductions.

(b) Assessment of adherence to the reporting guidelines

48. The ERT assessed the information reported in the BR4 of Belgium 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

49. Belgium reported updated projections for 2020 and 2030 relative to actual inventory data for 2016 under the WEM scenario. The WEM scenario reported by Belgium includes PaMs implemented and adopted until the end of 2018.

50. In addition to the WEM scenario, Belgium reported the WAM scenario. The WAM scenario includes planned PaMs. Belgium provided a definition of its scenarios, explaining that its WEM scenario includes policies such as promoting offshore wind energy, promoting biofuels in transport, renovating buildings and improving energy efficiency in industry, while its WAM scenario includes planned PaMs in the context of its NECP. The definitions indicate that the scenarios were prepared in accordance with the UNFCCC reporting guidelines on BRs.

51. 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) as well as NF_3 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. Belgium reported on factors and activities affecting emissions for each sector.

52. The Party reported in its BR4 that it used its GHG inventory for 2016 as the starting point for the projections because they were prepared in 2018, when the 2016 inventory was the latest available. Furthermore, Belgium presented projections in CTF tables 6(a) and 6(c) relative to actual inventory data from its 2019 annual submission; however, they include emission estimates for 2016 in the column for 2017 with an explanatory footnote.

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

53. The methodology used for preparing the projections is identical to that used for the preparation of the emission projections for the NC7. Belgium provided information on the changes in assumptions since the submission of its NC7, but it did not provide information on changes in methodologies, models and approaches used for the projection scenarios. During the review Belgium indicated that there have been no significant changes in the modelling tools and methodologies used since the NC7 and BR3.

54. To prepare its projections, Belgium relied on key underlying assumptions relating to population, number of households, household size, number of heating degree days, livestock head counts and regional activity levels by sector. The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections. For the electricity sector, the results of projection models at the regional level are integrated into the Flemish energy and GHG simulation model in order to determine at the national level the balance between electricity demand, imports and production. Belgium provided a description of five models in the annex to the BR4: the Flemish energy and GHG simulation model, the energy/emission projection model, the energy and atmospheric projection model for the Brussels-Capital Region, the transport emission projection model for the Brussels-Capital Region and the off-road emission model.

(c) Results of projections

55. The projected emission levels under different scenarios and information on the quantified economy-wide emission reduction target are presented in table 6 and figure 1.

Table 6
Summary of greenhouse gas emission projections for Belgium

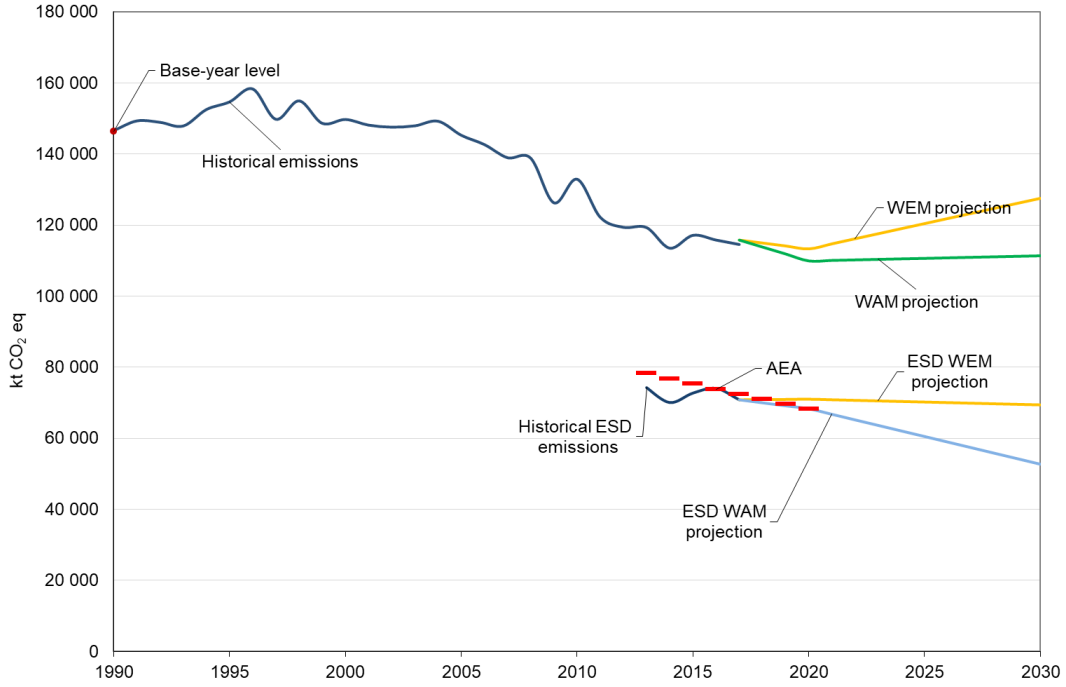
	Total GHG emissions		*Emissions under the ESD*	
	GHG emissions (kt CO_2 eq/year)	*Change in relation to 1990 level (%)*	*ESD emissions (kt CO_2 eq/year)*	*Difference from 2020 AEA (%)*
2020 AEA under the ESD[a]	NA	NA	68 247.61	NA
Inventory data 1990	146 586.61	–	NA	NA
Inventory data 2017	114 539.90	–21.9	70 824.56	3.8
WEM projections for 2020	113 306.00	–22.7	71 010.00	4.0
WAM projections for 2020	109 919.00	–25.0	68 349.00	0.1
WEM projections for 2030	127 546.00	–13.0	69 426.00	1.7
WAM projections for 2030	111 358.00	–24.0	52 662.00	–22.8

Sources: Belgium's BR4 and BR4 CTF table 6, and EU transaction log (AEAs). ESD emissions and projections data were provided by Belgium during the review.

Note: The projections are for GHG emissions excluding LULUCF and excluding indirect CO_2.

[a] 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. Belgium's target under the ESD is 15 per cent below the 2005 level by 2020.

Figure 1
Greenhouse gas emission projections reported by Belgium



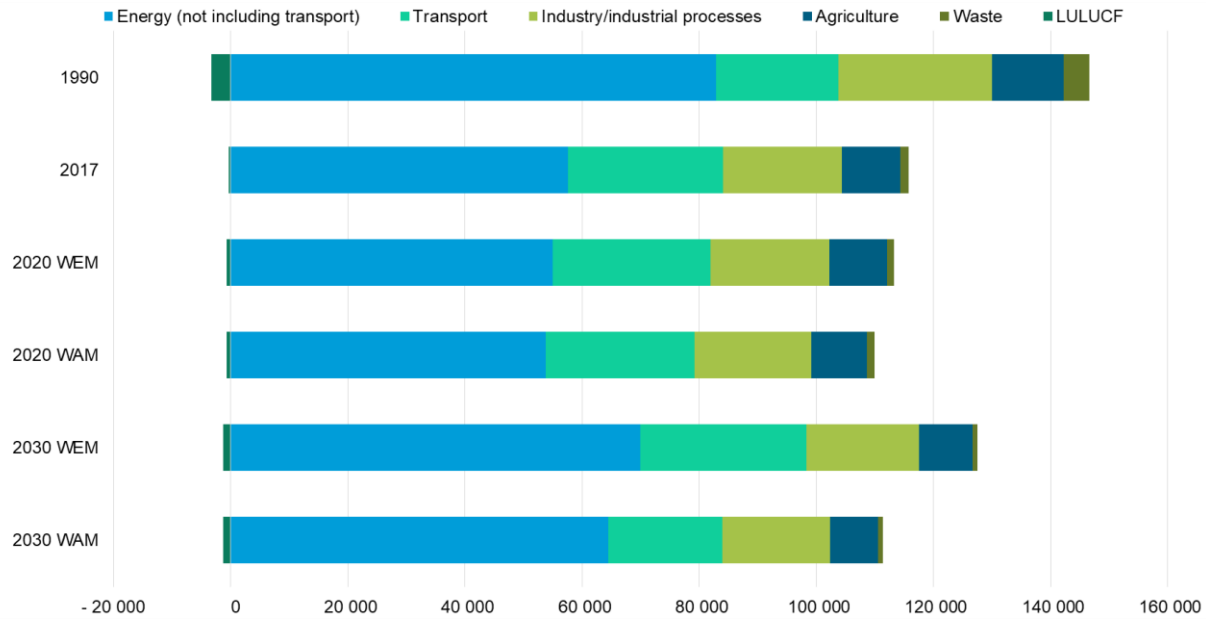
Sources: EU transaction log (AEAs) and Belgium's BR4 and BR4 CTF tables 1 and 6. ESD emissions and projections data were provided by Belgium during the review.

56. Belgium's total GHG emissions excluding LULUCF in 2020 and 2030 are projected under the WEM scenario to decrease by 22.7 and 13.0 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 25.0 and 24.0 per cent, respectively. Between 2020 and 2030, GHG emissions excluding LULUCF are projected to increase under the WEM scenario, from 113,306.00 kt CO_2 eq in 2020 to 127,546.00 kt CO_2 eq in 2030. This trend can be explained by the projected increase in emissions from the energy sector (not including transport) and from the transport sector (see para. 60 below).

57. Belgium's target under the ESD is to reduce ESD emissions by 15 per cent below the 2005 level by 2020 (see para. 16 above). Belgium's AEAs, which correspond to its national emission target for ESD sectors, change linearly from 78,379.83 kt CO_2 eq in 2013 to 68,247.61 kt CO_2 eq for 2020. The projected level of emissions under the WEM and WAM scenarios is 4.0 and 0.1 per cent, respectively, above the AEAs for 2020. The ERT noted that the Party's cumulative surplus of AEAs is 11,726.53 kt CO_2 eq, which suggests that Belgium expects to meet its target under the WEM and WAM scenarios.

58. Belgium presented the WEM and WAM scenarios by sector for 2020 and 2030, as summarized in figure 2 and table 7.

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



Source: Belgium's BR4 CTF table 6.

Table 7
Summary of greenhouse gas emission projections for Belgium presented by sector

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2020		*2030*		*1990–2020*		*1990–2030*	
Sector	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
Energy (not including transport)	82 849.00	54 985.00	53 823.00	69 962.00	64 471.00	–33.6	–35.0	–15.6	–22.2
Transport	20 893.00	26 940.00	25 365.00	28 347.00	19 503.00	28.9	21.4	35.7	–6.7
Industry/ industrial processes	26 292.00	20 319.00	19 980.00	19 157.00	18 300.00	–22.7	–24.0	–27.1	–30.4
Agriculture	12 217.00	9 807.00	9 495.00	9 239.00	8 243.00	–19.7	–22.3	–24.4	–32.5
LULUCF	–3 313.00	–662.00	–662.00	–1 219.00	–1 219.00	–80.0	–80.0	–63.2	–63.2
Waste	4 335.00	1 255.00	1 255.00	840.00	840.00	–71.0	–71.0	–80.6	–80.6
Other	–	–	–	–	–	–	–	–	–
Total GHG emissions excluding LULUCF	**146 587.00**	**113 306.00**	**109 919.00**	**127 546.00**	**111 358.00**	**–22.7**	**–25.0**	**–13.0**	**–24.0**

Source: Belgium's BR4 CTF table 6.

59. According to the projections reported for 2020 under the WEM scenario, the most significant absolute emission reductions are expected to occur in the energy (not including transport) and industry/industrial processes sectors, amounting to projected reductions of 33.6 and 22.7 per cent between 1990 and 2020, respectively. The pattern of projected

emissions reported for 2030 under the same scenario remains the same for all sectors except for the energy sector, where emissions are projected to increase compared with the 2020 level, owing to the phase-out of nuclear power and increase in natural gas consumption for electricity production. Emissions from the transport sector are expected to increase by 28.9 per cent between 1990 and 2020 and by 35.7 per cent between 1990 and 2030 owing to a rise in road transport activity (in combination with an increase in engine capacity since 1995) that cannot be compensated for by efficiency improvements, greening of the vehicle fleet and increased use of biofuels.

60. If additional measures are considered (i.e. under the WAM scenario), the patterns of emission reductions by 2020 presented by sector remain the same. The most significant absolute emission reductions are expected to occur in the energy (not including transport) and industry/industrial processes sectors, amounting to projected reductions of 35.0 and 24.0 per cent between 1990 and 2020, respectively. The pattern of projected emissions by sector reported for 2030 for the WAM scenario differs slightly from that reported for the WEM scenario owing to the declining trend in emissions from the transport and other sectors between 2020 and 2030 under the WAM scenario as a result of planned measures.

61. Belgium presented the WEM and WAM scenarios by gas for 2020 and 2030, as summarized in table 8.

Table 8
Summary of greenhouse gas emission projections for Belgium presented by gas

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2020		*2030*		*1990–2020*		*1990–2030*	
Gas	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
CO_2[a]	120 482.00	97 174.00	94 437.00	113 769.00	99 488.00	–19.3	–21.6	–5.6	–17.4
CH_4	12 198.00	7 527.00	7 310.00	6 605.00	5 847.00	–38.3	–40.1	–45.9	–52.1
N_2O	10 094.00	5 749.00	5 553.00	5 685.00	5 019.00	–43.0	–45.0	–43.7	–50.3
HFCs	–	2 435.00	2 345.00	1 137.00	831.00	–	–	–	–
PFCs	2 191.00	335.00	188.00	335.00	158.00	–84.7	–91.4	–84.7	–92.8
SF_6	1 622.00	85.00	85.00	14.00	14.00	–94.8	–94.8	–99.1	–99.1
NF_3	–	1.00	1.00	1.00	1.00	–	–	–	–
Total GHG emissions without LULUCF	**146 587.00**	**113 306.00**	**109 919.00**	**127 546.00**	**111 358.00**	**–22.7**	**–25.0**	**–13.0**	**–24.0**

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

62. For 2020, the most significant absolute reductions are projected for CO_2 and CH_4 emissions: 23,308.0 kt CO_2 eq (19.3 per cent) and 4,671.0 kt CO_2 eq (38.3 per cent) between 1990 and 2020, respectively, under the WEM scenario.

63. For 2030, the most significant absolute reductions are projected for CO_2 and CH_4 emissions: 6,713.0 kt CO_2 eq (5.6 per cent) and 5,593.0 kt CO_2 eq (45.9 per cent) between 1990 and 2030, respectively. The most notable change under the WEM scenario is the trend of increasing CO_2 emissions between 2020 and 2030 due to increased emissions from the energy industries and transport sectors.

64. If additional measures are considered (i.e. under the WAM scenario), the patterns of emission reductions by 2020 presented by gas remain the same. The most significant absolute reductions are projected for CO_2 and CH_4 emissions: 26,045.0 kt CO_2 eq (21.6 per cent) and 4,888.0 kt CO_2 eq (40.1 per cent) between 1990 and 2020, respectively. For 2030, the patterns of emission reductions by gas slightly change, with the trend of increasing CO_2 emissions between 2020 and 2030 being less significant due to the counterbalancing effect of emission reductions resulting from planned PaMs in the transport and other sectors.

65. Belgium reported the main differences in sectoral assumptions compared with those reported in the BR3: lower assumed electricity import levels and increased assumed activity levels in the manufacturing industries and construction sector, based on a more recent

economic forecast. These changes in assumptions resulted in higher levels of projected emissions reported in the BR4. During the review Belgium indicated that gross domestic product, tax levels and international fuel prices are not used as parameters in the regional simulation models; rather they use activity levels determined by each region on the basis of regional economic forecasts.

(d) Assessment of adherence to the reporting guidelines

66. The ERT assessed the information reported in the BR4 of Belgium and identified issues relating to completeness, transparency and thus adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 9.

Table 9
Findings on greenhouse gas emission projections reported in the fourth biennial report of Belgium

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement[a] specified in paragraph 28 Issue type: completeness Assessment: encouragement	The Party did not report a WOM scenario in its BR4. During the review Belgium clarified that a WOM scenario was not reported because of difficulties in constructing such a scenario given its long history of climate policy. The Party indicated that it has no plans to develop a WOM scenario in the near future. The ERT reiterates the encouragement from the previous review report for Belgium to improve the completeness of its reporting by including in its next BR a WOM scenario or providing the reason for not reporting such a scenario as explained during the review.
2	Reporting requirement[a] specified in paragraph 30 Issue type: completeness Assessment: encouragement	The Party did not report a sensitivity analysis for its projections in its BR4, which is similar to the Party's reporting in its BR3. During the review Belgium explained that no sensitivity analyses were performed for the projections, but it plans to include sensitivity analyses in its next submission. The ERT reiterates the encouragement from the previous review report for the Party to improve the completeness of its reporting by including in its next BR sensitivity analyses for any of the projections it reports.
3	Reporting requirement[a] specified in paragraph 35 Issue type: completeness Assessment: encouragement	As in its BR3, the Party did not report in its BR4 projections of indirect GHGs, such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur oxides. During the review Belgium indicated that projections of the indirect GHGs are available from some projection models, but a consistent set of projections is lacking. The ERT reiterates the encouragement from the previous review report for Belgium to improve the completeness of its reporting by including projections of the indirect GHGs or explaining why they are not reported.
4	Reporting requirement[a] specified in paragraph 36 Issue type: completeness Assessment: recommendation	As in its BR3, the Party did not report projections related to fuel sold to ships and aircraft engaged in international transport in its BR4. During the review Belgium explained that projections related to international transport are available and will be reported in its next submission. The ERT reiterates the recommendation from the previous review report for Belgium to improve the completeness of its reporting by separately providing in its next BR emission projections related to fuel sold to ships and aircraft engaged in international transport, to the extent possible, and not including them in the totals.
5	Reporting requirement[a] specified in paragraph 43 Issue type: completeness Assessment: encouragement	The Party provided a brief description of five models used for projections, but not of the models used for projecting F-gases and estimating LULUCF projections. Moreover, there was no clear indication of which GHGs were estimated using the Flemish energy and GHG simulation model and the modelling tools used in the Walloon Region. The Party did not report on the strengths and weaknesses of the models used or on how they account for any overlap or synergies that may exist between PaMs. During the review Belgium provided a brief description of the models used for projecting F-gases and estimating LULUCF projections; a description of the gases covered by the Flemish energy and GHG simulation model and the modelling tools used in the Walloon Region; and summary information on the strengths and weaknesses of the models.

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
		The ERT encourages Belgium to improve the completeness of its reporting by including in its next BR a brief description of the models used for projections; information on the gases for which the models were used; a summary of the strengths and weaknesses of the models or approaches used for the various sectors; and information on how the models or approaches used account for any overlap or synergies between PaMs.
6	Reporting requirement[a] specified in paragraph 44 Issue type: completeness Assessment: encouragement	The Party did not report references for more detailed information regarding the models described in its BR4. During the review Belgium provided a reference to a short description of the FASTRACE traffic emission model; a detailed description of the energy and atmospheric emission projection model for the Brussels-Capital Region; and a reference to the model for stationary sources used by the Walloon Region. The ERT encourages Belgium to improve the completeness of its reporting by including in its next BR references to documents containing more detailed information on each model or approach used for its projection scenarios.
7	Reporting requirement[a] specified in paragraph 45 Issue type: transparency Assessment: encouragement	The Party reported the main differences in the sectoral assumptions used between its BR3 and BR4. In addition, in figures 5.1–5.2 a comparison of WEM and WAM projections of total GHG emissions between the BR3 and BR4 was provided. However, Belgium did not report on the main changes, if any, to the methods employed for the BR4 compared with those used for previous NCs and BRs. During the review Belgium explained that there had been no significant changes in the modelling tools and methodologies used since the NC7 and BR3. The ERT encourages Belgium to improve the transparency of its reporting by stating in its next BR whether there have been significant changes in the modelling tools and methodologies used since previous submissions and, if so, outlining the main differences in the projection methods employed.
8	Reporting requirement[a] specified in paragraph 46 Issue type: completeness Assessment: encouragement	The Party did not report the sensitivity of the projections to underlying assumptions in its BR4. During the review Belgium indicated that no sensitivity analyses were performed for the projections reported in the BR4. The ERT reiterates the encouragement from the previous review report for Belgium to improve the completeness of its reporting by providing in future BRs a qualitative, and where possible quantitative, discussion of the sensitivity of the projections to the underlying assumptions.
9	Reporting requirement[b] specified in paragraph 12 Issue type: completeness Assessment: encouragement	The Party did not report in its BR4 on the changes since its NC7 to the models or methodologies used for the preparation of projections. During the review Belgium explained that there had been no significant changes in the modelling tools and methodologies used since the NC7 and BR3. The ERT encourages Belgium to improve the completeness of its reporting by reporting in its next BR on the changes to models or methodologies used for projections since the most recent NC and providing supporting documentation.

Note: 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.

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

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

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

67. In its BR4 Belgium reported information on its provision of financial, technological and capacity-building support to non-Annex I Parties. Belgium continues to provide climate

financing to developing countries in line with its climate finance programmes executed through DGD and regional governments.

68. Belgium has provided support that it considers to be "new and additional". Belgium noted that the increasing involvement of its regional governments in international finance, as well as the complexity of the climate finance architecture, make it difficult to give a clear-cut description of "new and additional" financial resources as there is such a wide variety of sources. The BR4 states that a dynamic and flexible concept of "new and additional" is required, particularly given the lack of an internationally agreed definition. Nonetheless, Belgium has presented its definition of "new and additional" as financial support that comprises provision in line with Article 4, paragraph 3, of the Convention; contributions that would not have existed without the financial commitments stemming from the Copenhagen Accord; budget lines on top of the annual budget for bilateral development cooperation; only the climate-specific or climate-relevant part of projects and programmes; only climate-related projects in developing countries additional to those in the previous reporting period; and contributions from the revenue obtained from auctioning GHG emission allowances. During the review Belgium clarified that none of the disbursements reported in the BR4 were reported in the BR3, and thus they are all considered "new".

69. Belgium 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. It explained how it tracks finance for adaptation and mitigation using the Rio markers.

70. Belgium's national approach to tracking the provision of support, including information on indicators, delivery mechanisms used and allocation channels tracked, is based on use of the Rio markers. DGD and regions take the Rio markers into consideration in determining the share of project budgets that can be considered as climate finance. Belgium provided examples of how such percentages are applied by DGD and the Flemish Region, taking care to avoid double counting. For example, if a project is scored 2 for climate adaptation and for biodiversity, DGD will consider 50 per cent of the budget as climate finance. For projects that score 1 for one or more Rio markers, the shares are determined on the basis of their subsector code to avoid double counting. During the review Belgium clarified that no changes to its approach to tracking the provision of support have occurred since the NC7.

71. Belgium's methodology and underlying assumptions used for collecting and reporting information on financial support, including key concepts, are provided in the BR4. The federal part of Belgian climate finance is primarily allocated through the budget for development cooperation, on the basis of the goals and priorities for international cooperation described in the national Law on Development Cooperation (2013). Belgium has a policy, in place since 2009, to deliver non-earmarked contributions to multilateral institutions in order to allow for stable, secure and predictable funding and to increase the transparency and efficiency of the provision of financial support to multilateral organizations. Therefore, no funding to multilateral financial institutions is reported as climate-specific. Belgium aims to report only funds that have been disbursed, on the basis of invoiced payments or a payment request by a multilateral partner organization or non-governmental partner.

72. Belgium's Law on Development Cooperation sets the goals and priorities for Belgian international cooperation and stipulates that development cooperation strive towards sustainable and inclusive economic development and poverty alleviation. The law gives priority to protecting the environment and natural resources, including fighting climate change, desertification and global deforestation. In 2016, framework arrangements were signed between the Belgian Government and its 15 multilateral partner organizations to underline the commitment to working towards implementing the 2030 Agenda for Sustainable Development.

(b) Financial resources

73. Belgium 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.

74. Belgium allocates its resources to address the adaptation and mitigation needs of non-Annex I Parties by focusing predominantly on adaptation and cross-cutting activities, including provision of bilateral and multilateral support in the form of grants. The contributions to bilateral projects are mainly directed towards African partner countries and the LDCs. Belgium also prioritizes contributions to climate-specific multilateral funds or specialized United Nations agencies. Regarding the most recent financial contributions aimed at enhancing the implementation of the Convention by developing countries, Belgium allocated its climate finance primarily to bilateral channels. It also placed priority on contributions to the Least Developed Countries Fund and the Adaptation Fund.

75. Belgium allocates climate finance through burden-sharing among the federal Government and the Governments of the Flemish, Walloon and Brussels-Capital Regions (see para. 18 above). Belgium's commitment to contribute EUR 50 million annually over 2016–2019 includes a contribution of EUR 25 million from the federal Government, EUR 14.5 million from the Flemish Region, EUR 8.25 million from the Walloon Region and the remaining EUR 2.25 million from the Brussels-Capital Region.

76. The ERT noted that, while Belgium stated in the BR4 that it provided support to the Green Climate Fund, no contributions were reported in CTF table 7(a) for 2017 or 2018. In response to a question from the ERT, Belgium noted that that its federal Government had contributed EUR 70 million to the Green Climate Fund during its initial phase (2014–2019), and that this contribution was disbursed in 2014, 2016 and 2019, and therefore not reported in the BR4. In addition, contributions from regional entities have also been provided to the Green Climate Fund, but not during 2017–2018 and therefore not reported in the BR4. Table 10 summarizes the information reported by Belgium on its provision of financial support.

Table 10
Summary of information on provision of financial support by Belgium in 2017–2018
(Millions of United States dollars)

	Year of disbursement	
Allocation channel of public financial support	*2017*	*2018*
Official development assistance	2 637.65	2 317.27
Climate-specific contributions through multilateral channels, including:	26.82	19.69
Least Developed Countries Fund	20.57	12.87
Adaptation Fund	4.34	5.27
Trust Fund for Supplementary Activities	0.09	0.10
Other multilateral climate change funds	0	0.03
United Nations bodies	1.81	1.43
Climate-specific contributions through bilateral, regional and other channels	91.47	75.57

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

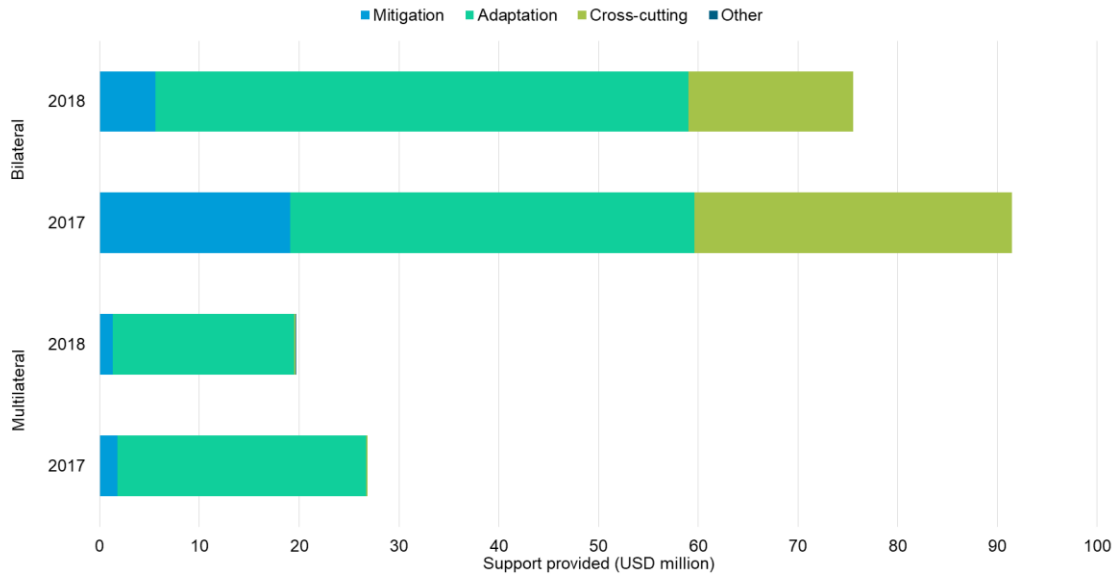
77. Belgium's climate-specific public financial support[5] provided through multilateral and bilateral, regional and other channels totalled USD 213.55 million in 2017–2018. It has increased its contributions by 25.4 per cent since the BR3 (2015–2016), as reported in euros. With regard to future financial pledges aimed at enhancing implementation of the Convention by developing countries, Belgium has committed to providing USD 56.4 million (EUR 50 million) annually over 2016–2019, in accordance with the commitment made in December 2015 at the twenty-first session of the Conference of the Parties.

78. During the reporting period, Belgium demonstrated its focus on Africa and the LDCs, with 53 per cent of bilateral climate finance, equal to USD 88.5 million, provided to support countries in Africa, and another 26 per cent, equal to USD 43.4 million, to countries in Asia. Information on financial support from the public sector provided through multilateral and bilateral channels and the allocation of that support by target area is presented in figure 3 and

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

table 11. Note that variances in contribution amounts that are not reflective of trends can occur from year to year 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.

Figure 3
Provision of financial support by Belgium in 2017–2018



Source: Belgium's BR4 CTF tables 7, 7(a) and 7(b).

Table 11
Summary of information on channels of financial support used in 2017–2018 by Belgium
(Millions of United States dollars)

	Year of disbursement				*Share (%)*	
Allocation channel of public financial support	*2017*	*2018*	*Difference*	*Change (%)*	*2017*	*2018*
Detailed information by type of channel						
Multilateral channels						
Mitigation	1.80	1.35	–0.45	–25.1	6.7	6.8
Adaptation	24.92	18.14	–6.78	–27.2	92.9	92.1
Cross-cutting	0.11	0.18	0.07	66.5	0.4	0.9
Other	–	0.03	–	–	–	0.1
Total multilateral	**26.82**	**19.69**	**–7.13**	**–26.6**	**100.0**	**100.0**
Bilateral channels						
Mitigation	19.11	5.62	–13.49	–70.6	20.9	7.4
Adaptation	40.51	53.41	12.90	31.9	44.3	70.7
Cross-cutting	31.85	16.53	–15.32	–48.1	34.8	21.9
Other	–	–	–	–	–	–
Total bilateral	**91.47**	**75.57**	**–15.90**	**–17.4**	**100.0**	**100.0**
Total multilateral and bilateral	**118.29**	**95.26**	**–23.03**	**–19.5**	**100.0**	**100.0**

Source: Belgium's BR4 CTF tables 7, 7(a) and 7(b).

79. Belgium contributed through multilateral channels USD 26.82 million and USD 19.69 million for 2017 and 2018, respectively. The contributions were made to specialized multilateral climate change funds, such as the Least Developed Countries Fund, the Adaptation Fund, the Trust Fund for Supplementary Activities and the Trust Fund for Participation in the UNFCCC Process. Belgium also contributed to several specialized United Nations bodies, primarily the International Renewable Energy Agency. In the current

reporting period, Belgium reduced its contributions through multilateral channels by 31 per cent relative to the prior reporting period, although overall climate-specific financial support provided increased in the same period.

80. The Party reported detailed information on the total financial support provided through bilateral channels (USD 91.47 million and USD 75.57 million) in 2017 and 2018, respectively. The majority (56 per cent) of Belgium's bilateral support is focused on adaptation, a significant portion (29 per cent) on cross-cutting activities (i.e. including both mitigation and adaptation components) and a smaller amount (15 per cent) on mitigation activities. Belgium's bilateral climate finance is disbursed within agreed partnership programmes with partner countries. In 2015, Belgium renewed its list of partner countries and focused support on 14 countries (Benin, Burkina Faso, Burundi, Democratic Republic of the Congo, Guinea, Mali, Morocco, Mozambique, Niger, Rwanda, Senegal, State of Palestine, Uganda and United Republic of Tanzania), selected on the basis of degree of poverty, aspects of good governance and Belgium's potential for providing meaningful support. The Government of the Flemish Region has cooperation agreements with three countries, which focus on climate policy measures in line with mutually agreed sectoral focus areas.

81. 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 for 2017, the shares of the total public financial support allocated for adaptation, cross-cutting and mitigation projects were 55.3, 27.0 and 17.7 per cent, respectively. In 2018, the shares of total public financial support allocated to adaptation, cross-cutting and mitigation projects were 63.9, 22.9 and 13.2 per cent, respectively. In 2018, Belgium provided less than 0.01 per cent (USD 25.8 million) of total public financial support to the Trust Fund for Participation in the UNFCCC Process, which is identified as "other" rather than specifically for mitigation, adaptation or cross-cutting purposes.

82. The ERT noted that in 2017 the large majority (93 per cent) of financial contributions through multilateral channels were allocated to the cross-cutting activities of the Least Developed Countries Fund and the Adaptation Fund, as reported in CTF table 7(a). The corresponding allocations for 2018 were also directed mostly (92 per cent) to cross-cutting activities through the Least Developed Countries Fund and the Adaptation Fund. In 2017 the majority of financial contributions through bilateral and regional channels were allocated to the agriculture, energy, and water and sanitation sectors, as reported in CTF table 7(b). The corresponding allocations for 2018 were directed mostly to the sectors other (environment), water and sanitation, and agriculture, forestry and other (fishing and aquaculture).

83. CTF tables 7(a) and 7(b) include information on the types of financial instrument used for providing assistance to developing countries, which include grants and concessional loans. The ERT noted that most of the public financial support provided in 2017 and 2018 was provided as grants, including all bilateral support in 2017, and all reported multilateral support in 2017 and 2018. Concessional loans were used to a limited extent (USD 3.8 million) in the bilateral finance provided in 2018. Belgium indicated that only the grant equivalent of investments distributed via BIO is reported in the tables.

84. Belgium reported that private finance is mainly mobilized for projects in the renewable energy sector, mostly by providing loans and equity via BIO. It also reported on how it uses public funds to promote private sector financial support for developing countries to increase mitigation and adaptation efforts by providing BIO with an additional capital contribution of EUR 30 million during the reporting period to be invested in climate projects. In response to a question from the ERT, Belgium noted that it mainly works with BIO to support the development of the private sector in developing countries. Federal Government support mainly focuses on investments in mitigation activities, but opportunities for private sector activities that advance adaptation are also sought by BIO. Belgium provided the ERT with additional details about energy projects within the BIO portfolio, including 17 direct energy projects in the 2018 portfolio, of which 14 are renewable energy projects; newly installed capacity of 1,716 MW, 38 per cent of which was built in the LDCs; 106 energy-related projects (almost exclusively renewable energy) financed indirectly through nine specialized funds; and two private equity funds (and their 41 investees) that focus on improving access to solar energy, reaching a cumulative total of 6.8 million clients in sub-Saharan Africa and South Asia by the end of 2018.

85. As an example of Belgium's provision of support, the Flemish Water for Development Partnership, which involves over 90 members across a variety of institutions, implements sustainable water and sanitation projects in the Global South. To date, these projects have benefited over 1 million citizens in the South in terms of access to water. Belgium reported that during the reporting period, it established the Academic Research Organisation for Policy Support, which provides policy support for development cooperation based on academic research. The KLIMOS research platform focuses on environmental sustainability and climate change, with a main goal of building capacity for the transition to a sustainable society. It is used for conducting case studies, establishing collaboration with research institutions in the South and building capacity in Belgium and its partner countries. There are four research streams: sustainable management of natural resources; sustainable energy and infrastructure; good governance for environment and sustainability; and sustainable monitoring and evaluation.

(c) Technology development and transfer

86. Belgium provided information on the steps, measures and activities related to technology transfer, access and deployment benefiting developing countries, including on activities undertaken by the public and private sectors. Belgium provided examples of support provided for the deployment and enhancement of the endogenous capacities and technologies of non-Annex I Parties. One example of such support is a solid waste management mitigation project in Guinea, which involves setting up collection points using a geographical information system, pilot projects related to wet and dry sorting at source and a pilot waste-sorting centre.

87. The ERT took note of the information provided on recipient countries and focus areas presented in CTF table 8, which demonstrated a focus on partners in Africa and, to a lesser extent, Asia. Focus sectors of the technology transfer programmes highlighted in the table include energy (specifically renewable energy), energy access and energy efficiency, as well as waste management, environmental monitoring and forest management.

88. Belgium reported on its measures and activities, including on activities implemented or planned since its NC7 and BR3, as well as some information in relation to technology transfer, and in particular on measures taken to promote, facilitate and finance the transfer and deployment of climate-friendly technologies. The ERT noted that the "Additional information" column of CTF table 8 contains reference citations but no documents or weblinks were provided for accessing further information about the success of the projects. The ERT notes that transparency could be improved by explicitly stating the relevant weblink or source in CTF table 8.

89. Successful projects include a waste management project in Algeria, which concerns supporting training, pilot programmes and other methods, in addition to financing equipment for sorting waste. The project aims at promoting a shift in approaches to waste management in Algeria with a focus on recycling and recovery. In terms of technology, the project supports digital geolocation of waste collection trucks to improve monitoring and efficiency, gas detection, landfill management and design of waste-sorting centres. Another project in Rwanda focuses on forest management and woody biomass energy, including licensing of sustainable charcoal production techniques and promotion of improved cookstoves for efficient, clean wood and charcoal consumption.

(d) Capacity-building

90. Belgium 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 and tabular format.

91. Belgium has supported climate-related capacity development relating to adaptation, mitigation and cross-cutting activities, with many projects focused on water or energy. Since the BR3, the focus of support has remained on African countries as a priority, with a continued mix of adaptation, mitigation and cross-cutting support; and the projects reported have been focused less on agriculture and more on water and energy. During the review

Belgium explained that it provides capacity-building support that responds to existing and emerging needs by working together with partner countries to negotiate portfolios on the basis of dialogue, accountability and ownership by both parties. In addition, Belgium reported that capacity-building is always an essential component of any bilateral programme or project and indicated that the information presented in CTF table 9 represents some specific examples of capacity-building related to mitigation and adaptation.

92. Examples of successful projects include the capacity-building support provided to Rwanda's energy sector and the establishment of a technical support unit in Viet Nam. Belgium provides capacity-building support to Rwanda's energy sector with a view to improving access to reliable on-grid electricity services for households and priority public institutions. The capacity-building efforts include preparing harmonized technical specifications and guidelines for the power network infrastructure; providing training to the staff of the Rwanda Energy Group and to interns in the industry; and financing support staff for the Ministry of Infrastructure and expert positions in finance, project management and planning. For Viet Nam, Belgium has supported a technical support unit for implementing projects related to integrated water management, urban development and climate change in three provinces of the country. Activities of the technical support unit include monitoring and evaluation, data collection, elaboration of climate change action plans and spatial master plans, and exchange of information between stakeholders in each province, including central and local governments and other donors.

2. Assessment of adherence to the reporting guidelines

93. The ERT assessed the information reported in the BR4 of Belgium 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 provision of support to developing country Parties from the review of the fourth biennial report of Belgium

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 16 Issue type: completeness Assessment: recommendation	The Party did not report 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 Belgium explained that it focuses mainly on the adaptation needs of the LDCs. The portfolios of bilateral programmes and projects are negotiated with partner countries to ensure that support meets their needs and reflects their priorities. Belgium explained that all programmes and projects have evaluation systems and results frameworks for assessing effectiveness. In addition, the Ministry for Foreign Affairs is undertaking an evaluation of climate finance that includes an assessment of whether the interventions are relevant to the needs of the partner countries, whether they contribute to their climate policies and the extent to which their climate priorities were involved when formulating projects. The ERT recommends that Belgium improve the completeness of its reporting by describing in its next BR, to the extent possible, how it seeks to ensure that the financial resources it provides effectively address the needs of non-Annex I Parties with regard to climate change adaptation and mitigation. For example, Belgium could provide information on the process of negotiating portfolios of bilateral programmes and projects, and on the evaluation processes, systems and results frameworks used to assess the effectiveness of the support, as provided during the review.
2	Reporting requirement specified in paragraph 19 Issue type: transparency Assessment: encouragement	The Party reported on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties. It reported that BIO is an important actor in providing funds for climate investments and stated that BIO received a capital contribution of EUR 30 million during the reporting period. However, the role of BIO within the overall climate finance architecture and in leveraging private investment was not described in the BR4; nor was the source of the capital contribution stated. During the review, in response to a question from the ERT, Belgium clarified that it works with BIO to support the development of the private sector in developing

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
		country Parties, and provides funding to BIO to invest in mitigation activities through grants, loans and equity. Belgium clarified that the source of the EUR 30 million was the federal Government, and that this sum was provided to BIO with a view to it being invested in climate projects by private companies. The ERT encourages Belgium to improve the transparency of its reporting on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties by clearly describing the role of BIO in Belgium's provision of climate finance to leverage private financial flows and by indicating that Belgium provides BIO with federal funds.
3	Reporting requirement specified in paragraph 19 Issue type: completeness Assessment: encouragement	The Party did not report PaMs that promote the scaling up of private investment in mitigation and adaptation activities in developing country Parties. During the review, in response to questions from the ERT, Belgium provided examples of the PaMs invested in by BIO, including 17 direct energy projects in the BIO 2018 portfolio, 14 of which are renewable energy projects; 106 energy-related projects (almost exclusively renewable energy) that were financed indirectly through nine specialized funds; and two private equity funds (and their 41 investees) that focus on improving access to solar energy, reaching a cumulative total of 6.8 million clients in sub-Saharan Africa and South Asia by the end of 2018. The ERT encourages Belgium to improve the completeness of its reporting by including in future reports information on the PaMs that promote the scaling up of private investment in mitigation and adaptation activities in developing country Parties.
4	Reporting requirement specified in paragraph 21 Issue type: completeness Assessment: encouragement	The Party did not report information on success and failure stories regarding measures taken to promote, facilitate and finance the transfer of, access to and the deployment of climate-friendly technologies for the benefit of non-Annex I Parties. Section 6.4 of the BR4, which focuses on capacity-building and technology transfer, provided some information on the success of the Flemish Water for Development Partnership in benefiting 1 million citizens in the Global South in terms of access to water; however, there is no description of what made projects successful or explanation of how Belgium's approach to the transfer of technology or expertise leads to success. During the review Belgium referenced the information in CTF table 8 and noted that it does not consider it mandatory to provide such information. The ERT encourages Belgium to provide in future reports information regarding success and failure stories on measures taken to promote, facilitate and finance the transfer of, access to and the deployment of climate-friendly technologies for the benefit of non-Annex I Parties, by, for example, explicitly indicating in the BR whether and why the activities specified in CTF table 8 or highlighted in section 6.4 are examples of success stories.
5	Reporting requirement specified in paragraph 23 Issue type: completeness Assessment: recommendation	The Party did not report on how it has provided capacity-building support that responds to the existing and emerging capacity-building needs identified by non-Annex I Parties in the areas of mitigation, adaptation and technology development and transfer. During the review, in line with its explanation on the provision of financial support (see issue 1 above), Belgium explained that it focuses mainly on the adaptation needs of the LDCs. The portfolios of bilateral programmes and projects are negotiated with partner countries to ensure that support meets their needs and reflects their priorities. The ERT recommends that Belgium improve the completeness of its reporting by describing, to the extent possible, how it has provided capacity-building support that responds to the existing and emerging capacity-building needs identified by non-Annex I Parties in the areas of mitigation, adaptation and technology development and transfer. For example, Belgium could provide information on the process of negotiating capacity-building projects with partner countries.

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

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

95. Belgium's total GHG emissions excluding LULUCF covered by its quantified economy-wide emission reduction target were estimated to be 19.1 per cent below its 1990 level in 2018, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 18.0 per cent over the same period. Emissions peaked in 1996 and decreased thereafter. The decrease in total emissions was driven mainly by factors such as the switch from solid fuels (coal) to gaseous fuels (natural gas) in the electricity generation and industrial sectors: the reduction in the emissions of these two sectors outweighed the growth in emissions in the transport and commercial sectors. The development of biomass fuels in some sectors such as transport, which saw increased biofuel consumption from 2009, and manufacturing, where biomass use has grown since 2000, is another significant reason for the reduction in emissions.

96. Under the Convention Belgium 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.

97. Under the ESD Belgium has a target of reducing its emissions to 15 per cent below the 2005 level by 2020. The 2013–2020 progression in Belgium's AEAs (its national emission target under the ESD) is 78,379.83–68,247.61 kt CO_2 eq.

98. 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. Under the ESR, Belgium has a target of reducing emissions from covered sectors to 35 per cent below the 2005 level by 2030. In addition, Belgium has reported an expected reduction in emissions for the sectors not covered by the EU ETS of about 85–87 per cent by 2050 compared with the 2005 level, as set out in its long-term strategy, which was finalized in February 2020 in accordance with article 15 of EU regulation 2018/1999 on the governance of the Energy Union and climate action.

99. In 2018 Belgium's ESD emissions were 4.5 per cent (3,179.76 kt CO_2 eq) above the AEA. Belgium reported that it may use market-based mechanisms under the Convention for 1 per cent of its ESD emissions, from projects in the LDCs or SIDS, subject to certain conditions being met. Belgium has a cumulative surplus of 11,726.53 kt CO_2 eq with respect to its AEAs between 2013 and 2018. The ERT noted that Belgium is making progress towards its ESD target.

100. The GHG emission projections provided by Belgium in its BR4 correspond to the WEM and WAM scenarios. Under these scenarios, emissions are projected to be 22.7 and 25.0 per cent below the 1990 level by 2020, respectively. According to the projections under the WEM scenario, ESD emissions are estimated to reach 71,010.00 kt CO_2 eq by 2020. Under the WAM scenario, Belgium's ESD emissions in 2020 are projected to be 68,349.00 kt CO_2 eq. The projected level of emissions under the WEM and WAM scenarios is 4.0 and 0.1 per cent, respectively, above the AEAs for 2020. The ERT noted that the Party's cumulative surplus of AEAs is 11,726.53 kt CO_2 eq, which suggests that Belgium expects to meet its target under the WEM and WAM scenarios.

101. The mitigation actions implemented by Belgium to help achieve its 2020 ESD target include developing renewable energy, notably offshore wind energy, establishing green certificates markets, promoting energy efficiency and renewable energy in buildings,

greening mobility and transport, and improving agricultural practices and waste management.

102. Belgium's main policy framework relating to energy and climate change until 2030 is its NECP. The mitigation actions planned for 2020–2030 to achieve the Party's 2030 and 2050 emission reduction targets include incentivizing green mobility and transport (vehicle efficiency and modal shift), encouraging renovation and improving energy efficiency in buildings, further increasing renewable energy, financing projects with green bonds and developing energy agreements for agriculture and industry.

103. Belgium continues to provide climate financing to developing countries in line with its climate finance programmes executed through DGD and regional governments, in line with Belgium's commitment made in December 2015 at the twenty-first session of the Conference of the Parties to contribute EUR 50 million on an annual basis in international finance. It has increased its contributions by 25.4 per cent since the BR3; its public financial support in 2017 and 2018 equalled USD 118.3 million and USD 95.3 million, respectively. For those years, Belgium provided more support for adaptation than for mitigation. The biggest share of financial support went to projects and programmes in the agriculture sector, followed by the environment and water sectors. One example is the Academic Research Organisation for Policy Support, which provides policy support for development cooperation, including platforms that focus on environmental sustainability and climate change.

104. Belgium continues to provide support for technology development and transfer and capacity-building. Priority for technological support was given to mitigation and adaptation projects and programmes in energy, waste management, environmental monitoring and forest management in Africa and Asia. Since the BR3, the focus has generally remained the same. Notable examples include a waste management project in Algeria, which aims at promoting a shift in approaches to waste management in Algeria with a focus on waste recycling and energy recovery, and the Flemish Water for Development Partnership, which implements sustainable water and sanitation projects in the Global South.

105. Priority for capacity-building support was given to adaptation projects and programmes, with many projects focused on water or energy, primarily in African partner countries. Since the BR3, the projects reported are focused less on agriculture and more on water and energy. An example of Belgium's capacity-building support is the support provided by the Party to Rwanda's energy sector with a view to improving access to reliable on-grid electricity services for households and priority public institutions.

106. In the course of the review, the ERT formulated the following recommendations for Belgium 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) Separately providing emission projections related to fuel sold to ships and aircraft engaged in international transport, to the extent possible, and not including them in the totals (see issue 4 in table 9);

(ii) Providing information, to the extent possible, on how it seeks to ensure that the financial resources it provides effectively address the needs of non-Annex I Parties with regard to climate change adaptation and mitigation (see issue 1 in table 12);

(iii) Providing information, to the extent possible, on how it has provided capacity-building support that responds to the existing and emerging capacity-building needs identified by non-Annex I Parties in the areas of mitigation, adaptation, and technology development and transfer (see issue 5 in table 12);

(b) To improve the transparency of its reporting by specifying where the effects of the PaMs are included for all PaMs whose effect is reported as "IE" in CTF table 3. This description could be provided in the footnotes to CTF table 3 (see issue 1 in table 4);

(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 Belgium. 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 Belgium. Available at https://unfccc.int/ghg-inventories-annex-i-parties/2020.

BR3 of Belgium. Available at https://unfccc.int/documents/198234.

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

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

BR4 CTF tables of Belgium. 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.

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"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.

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B. Additional information provided by the Party

Responses to questions during the review were received from Laurence de Clock (Federal Public Service Health, Food Chain Safety and Environment of Belgium), including additional material. The following documents[1] were provided by Belgium:

[1] References reproduced as received from the Party.

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Vito. *Fastrace-Traffic emission model*. Available at https://vito.be/en/product/fastrace-traffic-emission-model.