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Report of the technical review of the second biennial report of Belgium

According to decision 2/CP.17, developed country Parties are requested to submit their second biennial reports by 1 January 2016, that is, two years after the due date for submission of a full national communication. This report presents the results of the technical review of the second 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".





FCCC/TRR.2/BEL

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I. Introduction and summary

A. Introduction

1. This report covers the centralized technical review of the second biennial report (BR2)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). In accordance with the same decision, a draft version of this report was communicated to the Government of Belgium, which provided comments that were considered and incorporated, as appropriate, with revisions into this final version of the report.

2. The review took place from 7 to 12 March 2016 in Bonn, Germany, and was conducted by the following team of nominated experts from the UNFCCC roster of experts: Mr. Liviu Gheorghe (Romania), Ms. Pia Paola Huber (Austria), Ms. Tugba Icmeli (Turkey), Mr. Peter Aarup Iversen (Denmark), Ms. Karin Kindbom (Sweden), Mr. Hans Halvorson Kolshus (Norway), Ms. Julia Meisel (United States of America), Mr. Eric Kamoga Mugurusi (United Republic of Tanzania), Ms. Lilian Portillo (Paraguay), Mr. Janis Rekis (Latvia), Mr. Orlando Ernesto Rey (Cuba) and Mr. Tion Ching Tan (Malaysia). Ms. Icmeli and Mr. Tan were the lead reviewers. The review was coordinated by Ms. Barbara Muik and Mr. Nalin Srivastava (UNFCCC secretariat).

B. Summary

3. The expert review team (ERT) conducted a technical review of the information reported in the BR2 of Belgium in accordance with the "UNFCCC biennial reporting guidelines for developed country Parties" (hereinafter referred to as the UNFCCC reporting guidelines on BRs). During the review, Belgium provided the following additional relevant information: changes in domestic arrangements established for the self-assessment of compliance; factors and activities for the energy and transport sectors for 1990–2012; overview of sector coverage for projections; reporting of market-based mechanisms; delivery of new and additional financial resources; assistance provided to Parties not included in Annex I to the Convention (non-Annex I Parties) in dealing with any economic and social consequences of response measures; technology transfer from public or private sectors; and capacity-building support through its bilateral cooperation programmes.

1. Timeliness

4. The BR2 was submitted on 17 December 2015, before the deadline of 1 January 2016 mandated by decision 2/CP.17. The common tabular format (CTF) tables were submitted on 17 December 2015.

¹ The biennial report submission comprises the text of the report and the common tabular format (CTF) tables. Both the text and the CTF tables are subject to the technical review.

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

5. Issues and gaps related to the reported information identified by the ERT are presented in table 1 below. The information reported by Belgium in its BR2 is mostly in adherence with the UNFCCC reporting guidelines on BRs as per decision 2/CP.17

Table 1

Summary of completeness and transparency issues related to mandatory reported information in the second biennial report of Belgium

Section of the biennial report	Completeness	Transparency	Paragraphs with recommendations
Greenhouse gas emissions and trends	Complete	Transparent	
Assumptions, conditions and methodologies related to the attainment of the quantified economy-wide emission reduction target	Complete	Mostly transparent	12
Progress in achievement of targets	Complete	Mostly transparent	35, 41–45
Provision of support to developing country Parties	Complete	Mostly transparent	73, 75, 89

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in chapter III.

II. Technical review of the reported information

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

6. Belgium has provided a summary of information on greenhouse gas (GHG) emission trends for the period 1990–2013 in its BR2 and CTF tables 1(a)–(d). The BR2 provides summary information on the national inventory arrangements, which are explained in more detail in the national inventory report included in Belgium's 2015 annual inventory submission (in section 1.2). The national inventory arrangements were established in accordance with the reporting requirements related to national inventory arrangements contained in the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories" that are required by paragraph 3 of the UNFCCC reporting guidelines on BRs. Belgium reported that there are no changes in the national inventory arrangements since its first biennial report (BR1). The information reported in the BR2 on emission trends is consistent with that reported in the 2015 annual GHG inventory submission of Belgium.

7. In response to an observation made in the technical review report of the BR1, Belgium has provided information in its BR2 on how the total GHG emissions and the carbon dioxide (CO_2) emissions for 2013 are split between emissions from sources covered by the European Union Emissions Trading System (EU ETS) and those not covered by it (non-ETS), which amount to 37.9 and 62.1 per cent of the total GHG emissions (excluding land use, land-use change and forestry (LULUCF)) respectively. The ERT notes that this information enhances the transparency of Belgium's reporting of GHG emissions and removals related to its target.

8. Total GHG emissions² excluding emissions and removals from LULUCF decreased by 18.8 per cent between 1990 and 2013, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 20.1 per cent over the same period. The decrease in the total GHG emissions can be attributed mainly to CO_2 emissions, which decreased by 15.9 per cent (excluding LULUCF) between 1990 and 2013. Over the same period, emissions of methane (CH₄) decreased by 30.6 per cent, while emissions of nitrous oxide (N₂O) decreased by 39.7 per cent. The combined fluorinated gases (F-gases), namely, perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF₆), decreased by 18.4 per cent over the same period. Emissions of nitrogen trifluoride (NF₃) increased by 85.1 per cent between the first year these emissions were reported (2008) and 2013.

9. The emission trends were driven mainly by a decrease in emissions from energy industries and industrial combustion as a result of a switch from solid fuels to gaseous fuels in electricity production and industry, together with the use of biomass fuels in some sectors. The closure of certain iron and steel works over the past few years has also led to a reduction in emissions. In agriculture, a decline in the livestock population and changes in agricultural practices have led to a decrease in emissions of CH_4 and N_2O , while an increase in biogas recovery and use have resulted in a decrease in emissions of CH_4 from the waste sector. These changes more than offset the significant increase in emissions from the transport and commercial sectors driven by a continuous increase in vehicular traffic and in the number of employees in the tertiary and institutional sectors, respectively.

10. The ERT noted that, during the period 1990–2013, Belgium's gross domestic product (GDP) per capita increased by 31.8 per cent, while GHG emissions per GDP and GHG emissions per capita decreased by 45.1 and 27.6 per cent, respectively. These values indicate that Belgium achieved a measure of decoupling of GHG emissions, primarily owing to a significant decrease in GHG emissions from stationary energy production and industrial sources, during this period of steady GDP growth. Table 2 below illustrates the emission trends by sector and some of the economic indicators relevant to GHG emissions for Belgium.

Table 2

Greenhouse gas emissions by sector and some indicators relevant to greenhouse gas emissions for Belgium for the period 1990–2013

	GHG emissions (kt CO ₂ eq)				Change (%)		Share by sector (%)		
Sector	1990	2000	2010	2012	2013	1990– 2013	2012– 2013	1990	2013
1. Energy	104 119.94	105 527.48	99 153.27	88 119.60	87 682.17	-15.8	-0.5	70.8	73.4
A1. Energy industries	30 805.51	28 672.21	26 577.59	23 451.83	21 385.52	-30.6	-8.8	20.9	17.9
A2. Manufacturing industries and construction	23 222.78	21 505.69	15 768.02	14 377.57	13 873.57	-40.3	-3.5	15.8	11.6
A3. Transport	20 847.05	24 744.55	27 176.59	24 937.51	24 736.30	18.7	-0.8	14.2	20.7
A4A5. Other	28 138.54	29 883.36	28 993.87	24 801.75	27 127.29	-3.6	9.4	19.1	22.7
B. Fugitive emissions	1 106.06	721.68	637.20	550.95	559.50	-49.4	1.6	0.8	0.5

² In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of carbon dioxide equivalent excluding LULUCF, unless otherwise specified. Values in this paragraph are calculated based on the 2015 inventory submission, version 1.

		GHG	emissions (kt C	CO ₂ eq)		Char	ıge (%)	S sec	hare by tor (%)
Sector	1990	2000	2010	2012	2013	1990– 2013	2012– 2013	1990	2013
from fuels									
C. CO ₂ transport and storage	NO	NO	NO	NO	NO	NA	NA	NA	NA
2. IPPU	26 239.68	28 192.54	21 034.48	18 589.48	19 626.08	-25.2	5.6	17.8	16.4
3. Agriculture	12 325.88	11 595.18	10 480.37	10 138.70	10 116.20	-17.9	-0.2	8.4	8.5
4. LULUCF	-2 335.12	-1 769.59	-3 818.38	-3 841.39	-3 757.06	60.9	-2.2	NA	NA
5. Waste	4 432.22	4 033.52	2 669.86	2 372.34	1 999.68	-54.9	-15.7	3.0	1.7
6. Other	NO	NO	NO	NO	NO	NA	NA	NA	NA
Total GHG emissions without LULUCF	147 117.73	149 348.72	133 337.99	119 220.12	119 424.13	-18.8	0.2	100.0	100.0
Total GHG emissions with LULUCF	144 782.61	147 579.13	129 519.61	115 378.74	115 667.08	-20.1	0.2	NA	NA
Indicators									
GDP per capita (thousands 2011 USD using PPP)	25.49	30.96	33.74	33.67	33.61	31.8	-0.2	NA	NA
GHG emissions without LULUCF per capita $(t \text{ CO}_2 \text{ eq})$	14.76	14.57	12.21	10.71	10.68	-27.6	-0.3	NA	NA
GHG emissions without LULUCF per GDP unit (kg CO ₂ eq per 2011 USD using PPP)	0.58	0.47	0.36	0.32	0.32	-45.1	-0.1	NA	NA

Sources: (1) GHG emission data: Belgium's 2015 annual inventory submission, version 1; (2) GDP per capita data: World Bank. *Note*: The ratios per capita and per GDP unit as well as the changes in emissions and the shares by sector are calculated relative to total GHG emissions without LULUCF using the exact (not rounded) values, and may therefore differ from the ratio calculated with the rounded numbers provided in the table.

Abbreviations: GDP = gross domestic product, GHG = greenhouse gas, IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry, NA = not applicable, NO = not occurring, PPP = purchasing power parity.

B. Assumptions, conditions and methodologies related to the attainment of the quantified economy-wide emission reduction target

11. In its BR2 and CTF tables 2(a)–(f), Belgium reported a description of its target, including associated conditions and assumptions. CTF tables 2(a)–(f) contain the required information in relation to the description of the Party's emission reduction target (see paras. 13–16 below). As explained in section 4.2 of the BR2, Belgium could not quantify its use of market-based mechanisms at the time of reporting pending a final decision on their use. Further information on the target and the assumptions, conditions and methodologies related to the target is provided in section 3 of the BR2. In response to an encouragement made in the technical review report of the BR1, Belgium has included in its BR2 a description of how the joint European Union (EU) target translates into Belgium's national target for emissions not covered by the EU ETS. The ERT commends Belgium for this effort, as this greatly increases the transparency of the reporting on the national target.

12. The BR2 and CTF tables 2(a)–(f) do not provide transparent information on the inclusion of NF₃ in its target. Although the BR2 explains that NF₃ is not included in the

joint EU target under the Convention, it is shown to be included in the target in CTF tables 2(b) and 2(c). During the review, Belgium explained that NF₃ was incorrectly included in tables 2(b) and 2(c) as a result of technical issues. The ERT recommends that Belgium increase the transparency of the reporting on the target by ensuring that the information on the inclusion of NF₃ in the target is reported consistently in CTF tables 2(b) and 2(c) and the biennial report (BR) in the next BR submission.

13. 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. The EU offered to move to a 30 per cent reduction on the condition that other developed countries commit to a comparable target and developing countries contribute according to their responsibilities and respective capabilities under a new global climate change agreement.

14. The target for the EU and its member States is formalized in the EU 2020 climate and energy package. This legislative package regulates emissions of CO_2 , CH_4 , N_2O , HFCs, PFCs and SF₆ using global warming potential (GWP) values from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) to aggregate the GHG emissions of the EU up to 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 as well as new market mechanisms for compliance purposes, subject to a number of restrictions in terms of origin and type of project and up to an established limit. Companies can make use of such units to fulfil their requirements under the EU ETS.

15. The EU 2020 climate and energy package includes the EU ETS and the effortsharing decision (ESD) (see chapter II.C.1 below). Further information on this package is provided in section 3 of the BR2. The EU ETS covers mainly point emissions sources in the energy, industry and aviation sectors. For the period 2013–2020, an EU-wide cap has been put in place with the goal of reducing emissions by 21 per cent below the 2005 level by 2020. Emissions from sectors covered by the ESD are regulated by targets specific to each member State, which leads to an aggregate reduction at the EU level of 10 per cent below the 2005 level by 2020.

16. Under the ESD, Belgium has a target to reduce its total emissions to 15 per cent below the 2005 level by 2020 from sectors covered by the ESD (non-ETS sectors). National emission targets for non-ETS sectors for 2020 have been translated into binding quantified annual emission allocations (AEAs) for the period 2013–2020. Belgium's AEAs change following a linear path from 78,379.83 kt of carbon dioxide equivalent (CO₂ eq) in 2013 to 67,677.30 kt CO₂ eq in 2020.³

C. Progress made towards the achievement of the quantified economywide emission reduction target

17. This chapter provides information on the review of the reporting by Belgium on the progress made in reducing emissions in relation to the target, mitigation actions taken to achieve its target, and the use of units from market-based mechanisms and LULUCF.

³ European Commission decision 2013/162/EU of 26 March 2013 "on determining member States" annual emission allocations for the period from 2013 to 2020 pursuant to Decision No. 406/2009/EC of the European Parliament and of the Council" and European Commission implementing decision 2013/634/EU of 31 October 2013 "on the adjustments to member States" annual emission allocations for the period from 2013 to 2020 pursuant to Decision No. 406/2009/EC of the European Parliament and of the Council".

1. Mitigation actions and their effects

18. In its BR2 and CTF table 3, Belgium reported on its progress in the achievement of its target and the mitigation actions including the policies and measures (PaMs) implemented and planned since its sixth national communication (NC6) and BR1 to achieve its target. The BR2 includes information on mitigation actions organized by sector and by gas. Further information on the mitigation actions related to Belgium's target is provided in section 4 of the BR2 and in this report (see paras. 28–33 below).

19. In its BR2, Belgium provided information on changes in its domestic institutional arrangements, including institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress made towards its target, since the publication of its NC6 and BR1. In September 2015, Belgium adopted a document on its national system and quality assurance and quality control (QA/QC) programme⁴ that elaborates the institutional, legal and procedural arrangements established for reporting on PaMs and projections and the sharing of responsibilities between the federal government and the three regions (Walloon, Flanders and Brussels-Capital).

20. In its BR2 and CTF table 3, Belgium has not reported on the effects of individual mitigation actions for all mitigation actions. While the effects of some mitigation actions are included in the aggregate effects of clusters of actions organized by broad areas (e.g. "EP-A01: Green certificates and CHP certificates systems"), the effects of a few other mitigation actions (e.g. "EC-A04: Appointment of accredited energy experts") have been reported as "NE" (not estimated). The BR2 provides the explanation that in some cases, although effects of individual mitigation actions cannot be estimated, the aggregate effects of clusters of actions aiming at a common objective can be estimated, which also avoids double counting of their effects. The BR2 further explains that the effects of some mitigation actions have been reported as "NE" because they do not yield emission reductions.

21. Belgium provided, to the extent possible, information on the assessment of the economic and social consequences of its response measures. Belgium's BR2 describes its actions in preventing adverse social and economic consequences of its response measures including those aimed at: reducing GHG emissions through energy saving and the promotion of renewable energy sources (RES); reducing environmental pollution related to the use of fossil fuels; implementing PaMs addressing all GHGs and sectors in order to ensure a balanced distribution of effort and limiting the potential impact of single measures focused on a particular sector or gas; taking actions to address energy market imperfections, including the abolition of fossil fuel subsidies; creating market conditions that are more accessible to products from developing countries; and addressing the social and environmental impacts of biofuels through the European Commission (EC) sustainability criteria.⁵ Belgium also applies sustainability criteria when selecting clean development mechanism projects in order to check their environmental and social sustainability.

22. The ERT, however, noted that the information on response measures provided by Belgium in its BR2 is not transparent as it does not address Belgium's assessment of the adverse effects of response measures. The ERT, therefore, encourages Belgium to provide transparent information on the assessment of the adverse effects of response measures, including the results of the assessment, in its next BR submission.

⁴ Belgium's national system for PaMs, projections and the QA/QC programme as required under regulation (EU) 525/2013, available at http://cdr.eionet.europa.eu/be/eu/mmr/art04-13-14_lcds_pams_projections/envvfldug/>.

⁵ See <<u>https://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/sustainability-criteria></u>.

23. Belgium reported, to the extent possible, on the domestic arrangements established for the process of self-assessment of compliance with emission reductions required by science, and on the progress made in the establishment of national rules for taking action against non-compliance with emission reduction targets. Belgium's commitments for 2020 under the EU ESD are subject to internal burden sharing among the three Belgian regions and the federal government.

24. Belgium explained during the review that a political agreement on the burdensharing decision was recently concluded. This agreement will be translated by the National Climate Commission into a (legally binding) cooperation agreement between the regions and the federal authority. It will contain not only the commitments of the political agreement, but will also describe implementation modalities and responsibilities. In addition, each regional authority has already put in place the legal frameworks for their own actions including the Flemish Climate Policy Plan 2013–2020,⁶ the Walloon Climate Decree, the Brussels-Capital Region Action Plan for a Low Carbon Brussels by 2025 and the Brussels Air, Climate and Energy Code. There are some other specific arrangements that apply to the whole country, including a mechanism for increasing awareness of climate responsibility among the regions for the building sector and a 'substitution right' to ensure compliance with international obligations and to remedy the contradiction between Belgian domestic law and international and European laws.

25. The key overarching 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. This 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 (see table 3 below).

26. In operation since 2005, the EU ETS is a cap-and-trade system that covers all significant energy-intensive installations (mainly large point emissions sources such as power plants and industrial facilities), which produce 40–45 per cent of the GHG emissions of the EU. It is expected that the EU ETS will guarantee that the 2020 target (a 21 per cent emission reduction below the 2005 level) will be achieved for sectors under the scheme. The third phase of the EU ETS started in 2013 and the system now includes aircraft operations (since 2012) as well as N₂O emissions from chemical industries, PFC emissions from aluminium production and CO₂ emissions from industrial processes (since 2013).

27. The ESD became operational in 2013 and covers sectors outside the EU ETS, including transport (excluding domestic and international aviation, and international maritime transport), residential and commercial buildings, agriculture, waste and other sectors, together accounting for 55–60 per cent of the GHG emissions of the EU. The ESD aims to decrease GHG emissions in the EU by 10 per cent below the 2005 level by 2020 and includes binding annual targets for each member State for 2013–2020, which are underpinned by the national policies and actions of the member States (see para. 16 above).

28. At the national level, Belgium has introduced PaMs to achieve its targets under the ESD and domestic emission reduction targets. As an EU member State, Belgium has implemented the EU directives and decisions on climate and energy efficiency by transposing them into national PaMs, including those relating to energy production and transformation, industry, energy conservation and sustainable transport. The key policy document, the National Climate Plan, contains a wide range of mitigation actions envisaged at the federal and regional levels across all sectors (including energy production, energy

⁶ Available at <http://www.lne.be/en/about/publications/flemish-climate-policy-plan-2013-2020summary.pdf>.

conservation in buildings, industry, transport, agriculture and forestry, and waste) and cross-cutting ones such as awareness-raising. The National Climate Commission is responsible for the regular monitoring and evaluation of the impact of mitigation actions in Belgium.

29. The key implemented mitigation actions reported in the BR2 are: green and combined heat and power (CHP) certificates; action plan for RES and CHP; financial support for electricity generation from RES; financial support for energy efficiency and RES in the residential sector; promotion of energy-efficient electrical appliances; long-term energy efficiency agreements in the industrial sector; promotion of biofuels; promotion of intermodality of transport; improvement of transport efficiency; and N₂O emission reduction agreements with nitric acid producers. The mitigation effects of green and CHP certificates and the promotion of energy-efficient electrical appliances are the most significant. Mitigation actions relating to emissions from industrial processes and product use, such as N₂O emissions from the production of nitric acid and caprolactam, have also delivered significant mitigation benefits.

30. The taxation of road transport and energy performance and certification of buildings in the residential, services and communities sectors are the planned mitigation actions listed in CTF table 3. The ERT notes that most of Belgium's mitigations are already under implementation and the planned actions do not have significant mitigation impact.

31. Table 3 below provides a concise summary of the key mitigation actions and estimates of the mitigation effects reported by Belgium to achieve its target. The BR2 and CTF table 3 provide mitigation impacts for clusters of actions organized by broad areas owing to their cross-cutting nature or lack of information on mitigation impacts of individual actions.

Sector affected	List of key mitigation actions	Estimate of mitigation impact by 2020 (kt CO ₂ eq)
Policy framework and	EU ETS	NE
cross-sectoral measures	Awareness-raising activities on climate change	NE
Energy, including:		
Transport	Promotion of biofuels	1 431
	Promoting the intermodality of means of transport	582
	Improvement in transport efficiency	118
Renewable energy	Green and CHP certificates	4 526
	Action plan for RES and CHP	2 539
	Financial support for electricity generation from RES	2 420
Energy efficiency	Promotion of energy-efficient appliances	4 216
	Financial support to rational use of energy and RES in the residential sector	3 525
	Long-term agreements for energy efficiency in industry	2 627

Table 3

Summary of information on mitigation actions and their impacts reported by Belgium

Sector affected	List of key mitigation actions	Estimate of mitigation impact by 2020 (kt CO2 eq)
IPPU	Reduction of N ₂ O emissions in industry	3 362
	F-gas emission reduction targets	NE
Agriculture	Reduction of fertilizer and manure used on cropland and improved livestock management	NE
	Promotion of energy crops and biomethanization	NE
LULUCF	Afforestation and reforestation	NE
Waste	Reduced landfilling and waste incineration	NE
	Enhanced CH ₄ collection and use, improved landfill management	NE

Note: The estimates of mitigation impact are estimates of emissions of carbon dioxide or carbon dioxide equivalent avoided in a given year as a result of the implementation of mitigation actions.

Abbreviations: CHP = combined heat and power, EU ETS = European Union Emissions Trading System, F-gas = fluorinated gas, IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry, NE = not estimated, RES = renewable energy sources.

32. Owing to the high share of energy-related emissions in the national total, the majority of the mitigation actions listed in Belgium's BR2 target energy conservation and the promotion of RES in energy production. The green and CHP certificates system, the most significant PaM on the energy production side, aims to increase the share of RES and high-efficiency CHP in the grid by mandating a certain percentage of electricity supplied to consumers to be sourced from green energy producers. The action plan for RES and CHP is a suite of measures for the promotion of RES, including wind farms, micro-CHP, green heat generation, and the use of residual heat and heat networks. The promotion of energy-efficient appliances is the most important PaM addressing energy conservation through the setting of performance standards, product labelling and offering premiums for the purchase of efficient appliances. Provision of financial support for rational use of energy and RES combines regional subsidies and federal tax deduction for investments generating energy savings in the residential sector. There are various other measures aimed at energy conservation and energy efficiency in the commercial, residential and industrial sectors.

33. Although Belgium has implemented various mitigation actions addressing the transport sector since 2004 (including the promotion of the use of biofuels, transport modal shift and the improvement in fuel efficiency in road and freight transport), these actions are not projected to yield significant mitigation impacts by 2020. Thus, the greatest challenge for Belgium in meeting its target lies in reducing its emissions from the transport sector, which have risen significantly since 1990. With the necessary domestic institutional arrangements in place at the federal and regional levels, the ERT expects that Belgium will monitor annually its progress in the implementation of the mitigation PaMs and initiate any additional measures necessary for the achievement of its target, including those for road transport emissions.

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

34. Belgium reported in its BR2 and CTF table 4 its use of units from market-based mechanisms under the Convention and the contribution of LULUCF to achieving its target. This information was provided for 2010–2013. Further relevant information on emissions and removals and the use of units is provided in section 4.2 of the BR2.

35. In CTF table 4 on reporting on progress, the numerical value of the contribution from the LULUCF sector is reported for 2010–2012, but it is not provided for the base year and is reported as "NA" (not applicable) for 2013. The BR2 provides the explanation that, although the LULUCF sector is not included in the Convention target, its contribution is reported in CTF table 4 for 2010–2012 for transparency purposes. The ERT, however, notes that the information on the contribution of LULUCF reported by Belgium in CTF table 4 is not fully transparent because it is not consistent with the assumptions related to the EU target, which does not include the contribution from LULUCF. The ERT recommends that, in its next BR submission, Belgium report the information related to the contribution of LULUCF in CTF table 4 as "NA" for all relevant years in accordance with the assumptions related to the EU target, in order to increase the transparency of its reporting.

36. For 2013, Belgium reported in CTF table 4 annual total GHG emissions excluding LULUCF of 119,424.13 kt CO_2 eq, or 18.8 per cent below the 1990 level. In 2013, emissions from the non-ETS sectors relating to the target under the ESD were 74,163 kt CO_2 eq.

37. According to the information reported in CTF table 4, Belgium used units from market-based mechanisms in 2013 towards the achievement of its 2020 target amounting to 43,364.64 kt CO_2 eq. In its BR2 and CTF table 4(b), Belgium reported that it cannot quantify the use of market-based mechanisms under the ESD at present because any potential use of units for the first year will be made after the compliance assessment for the first year (2013) under the ESD in 2016. Belgium further explained that it would not be able to disaggregate the data used to report the units from market-based mechanisms, as required in CTF table 4(b), until 2016 because, following the latest European registry regulation in 2013, EU ETS operators are required to convert the international marketbased mechanism credits (certified emission reductions and emission reduction units) into EU emission allowances before they can be used for compliance purposes, and, therefore, from 2013 onwards, it is no longer possible to differentiate the unit types used for compliance. Belgium also clarified that among the values on the use of units from marketbased mechanisms reported in CTF table 4, only the one for 2013 applies to the 2020 target. Table 4 below illustrates Belgium's total GHG emissions, the contribution of LULUCF and the use of units from market-based mechanisms to achieve its target.

Table 4

Summary of information on the use of units from market-based mechanisms and land use, land-use change and forestry as part of the reporting on the progress made by Belgium towards the achievement of its target

Year	Emissions excluding LULUCF (kt CO2 eq)	Contribution from LULUCF (kt CO ₂ eq) ^a	Emissions including contribution from LULUCF (kt CO ₂ eq)	Use of units from market-based mechanisms (kt CO ₂ eq) ^b
1990	147 117.73	NA	NA	-
2010	133 337.99	NA	NA	50 099.79
2011	122 948.75	NA	NA	46 168.34
2012	119 220.12	NA	NA	43 001.35
2013	119 424.13	NA	NA	43 364.64

Sources: Belgium's second biennial report and common tabular format tables 1, 4, 4(a)I, 4(a)II and 4(b).

Abbreviations: LULUCF = land use, land-use change and forestry, NA = not applicable.

^{*a*} Belgium, in common tabular format table 4, reported a contribution from the LULUCF sector. The expert review team did not include these values in the above table as the Party is a European Union (EU) member State, which is bound by the EU-wide unconditional commitment to reduce greenhouse gas emissions by 20 per cent below the 1990 level by 2020, which does not include emissions/removals from LULUCF.

^b Belgium's second biennial report (section 4.2) notes that market-based mechanisms are used by operators in the EU Emissions Trading System as well as by governments towards the achievement of the member States' effort-sharing decision (ESD) targets. The use of market-based mechanisms under the ESD cannot be quantified at present by Belgium because any potential use of units for the first year will be made after the compliance assessment for the first year (2013) under the ESD in 2016.

38. To assess the progress towards the achievement of the 2020 target, the ERT noted that Belgium's emission reduction target from sectors not covered by the EU ETS under the EU ESD is 15 per cent below the 2005 level (see para. 16 above). As discussed in chapter II.B above, in 2013, Belgium's emissions from the sectors not covered by the EU ETS are 5.4 per cent (4,216.83 kt CO_2 eq) below its AEA under the ESD. While noting that Belgium's BR2 contains partial information on its use of market-based mechanisms, the ERT concluded that Belgium is making progress towards its emission reduction target by implementing mitigation actions.

3. Projections

39. Belgium reported in its BR2 and CTF table 6(a) updated projections for 2020 and 2030 relative to actual inventory data for 2012 under the 'with measures' (WEM) scenario. Projections are based on inventory data for 2012 because data for 2013 were not available when the projections were developed. Projections reported for the LULUCF sector are the same as those reported in the BR1 because they had not been updated. Projections are presented on a sectoral basis, using the same sectoral categories as used in the section on mitigation actions, and on a gas-by-gas basis for the following GHGs: CO₂, CH₄, N₂O, PFCs, HFCs and SF₆ (treating PFCs and HFCs collectively in each case) as well as NF₃. Projections are also provided in an aggregated format for each sector as well as for a Party total, using GWP values from the IPCC AR4. As confirmed by Belgium during the review, emission projections related to fuel sold to ships and aircraft engaged in international transport were reported separately and were not included in the totals. Belgium reported on factors and activities influencing emissions for each sector. Further information on the projections is provided in section 5 of the BR2.

40. In its BR2, Belgium has reported information on factors and activities for each sector only for the period 2012–2035 (including 2020 and 2030) and not for the entire period from 1990 as required by the UNFCCC reporting guidelines on BRs. In addition, the information reported by Belgium on factors and activities for the transport sector is not transparent because it does not include information on the main factors and activities (e.g. projected transport activity, the share of biofuel in the transport sector and the future fleet composition) used for the projections for different years.

41. During the review, in response to questions raised by the ERT, Belgium provided additional information on factors and activities for the power sector for 1990–2012 and for the transport sector, which enhanced the transparency of the information in Belgium's BR2. The ERT reiterates the recommendation made in the technical review report of the NC6 that Belgium provide transparent information on factors and activities for each sector for the period 1990–2030, in line with the information provided during the review, to improve the transparency of its reporting in the next BR submission.

42. The information provided in Belgium's BR2 on projections is not transparent with regard to the coverage of the sectors used for projections. The ERT noted that, because the sectors used for projections do not exactly correspond to the sectors used for the GHG inventory, it is important to provide transparent information on their coverage in order to facilitate understanding of the projections. During the review, Belgium provided transparent information on the sectoral coverage used for projections, which also clarified

the relationship between the sectors used for projections and the relevant PaMs, in particular the industrial processes and product use and agriculture sectors. The ERT reiterates the recommendation made in the in-depth review report of the NC6 that, in line with the information provided during the review, Belgium provide transparent information on the coverage of each sector to enhance the transparency of its reporting in the next BR submission.

43. Belgium's BR2 presents the inventory data for 2012 together with projections. However, the inventory data for 2012 reported with projections in the BR2 are not consistent with those reported in the GHG inventory submissions of 2014 or 2015. During the review, in response to questions raised by the ERT, Belgium provided the explanation that the 2012 emission data represent actual inventory data for 2012 from the 2014 submission that were recalculated using the 2006 *IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines) (e.g. the inclusion of new emission factors and the reallocation of some sources between sectors) and the GWP values from the IPCC AR4. To enhance the transparency of the reporting, the ERT recommends that Belgium, in its next BR submission, present emission projections in relation to actual inventory data in the BR.

44. In Belgium's BR2 (section 5.1.4), emission projections related to fuel sold to ships and aircraft engaged in international transport are reported separately. Belgium's national emission projections are the sum of regional projections developed using bottom-up approaches. The national emission projections are validated using a top-down macroeconomic approach, but the emission projections related to international bunker fuels are only estimated using the top-down approach (see paras. 52–54 below). The ERT notes that, as confirmed by Belgium during the review, although the emission projections related to international bunker fuels are not included in the bottom-up projections (section 5.1.2.12), the BR2 does not provide transparent information with regard to the exclusion of international bunker fuels in the bottom-up projections. The ERT recommends that Belgium enhance the transparency of its reporting by providing transparent information on the exclusion of emission projections related to international bunker fuels more up projections related to international bunker fuels from the bottomup projections in its next BR submission.

45. The values of assumed final energy consumption in the industry sector and the commercial (tertiary) sector reported in CTF table 5 are identical for 2015, 2020, 2025 and 2030. During the review, in response to questions raised by the ERT, Belgium explained that this was due to an editorial error, and provided the correct values of these parameters. The ERT recommends that Belgium enhance the transparency of its reporting by presenting correct information in CTF table 5 in its next BR submission.

46. In its BR2, Belgium provided information that there have been no changes since the submission of its NC6/BR1, in the assumptions, methodologies, models and approaches used in the preparation of the projection scenarios including the key variables and assumptions reported in CTF table 5 (see paras. 55–57 below). Belgium's BR2 (section 5.1.3) provides projections for 2015, 2020, 2025, 2030 and 2035 in a tabular format by sector and gas. The BR2 contains brief explanations on the modelling approaches and the types of models used, while providing references for more detailed information (section 5.1). The BR2 also provides a discussion on the analysis of the sensitivity of projections to underlying assumptions (section 5.1.5).

47. Belgium's BR2 does not report projections for the 'with additional measures' (WAM) or 'without measures' (WOM) scenarios. The BR2 explains that projections in the WAM scenario have not been presented because of a lack of clarity on potential planned measures, as they are currently under development. The BR2 does not include: projections of the indirect GHGs carbon monoxide, nitrogen oxides and non-methane volatile organic compounds and sulphur oxides; a summary of the strengths and weaknesses of the models;

and information on how the models account for any overlap or synergies that may exist between different PaMs.

48. The ERT encourages Belgium to report projections for the WOM and WAM scenarios in the next submission, with the assumption that there will be sufficient clarity on the additionally planned measures to enable the Party to do so. The ERT reiterates the encouragement provided in the in-depth review report of the NC6 that Belgium provide in the next BR submission: projections of the indirect GHGs carbon monoxide, nitrogen oxides and non-methane volatile organic compounds and sulphur oxides; a summary of the strengths and weaknesses of the models; and information on how the models account for any overlap or synergies that may exist between different PaMs.

49. The BR2 does not present the projections for the WEM scenario in the form of a diagram. The BR2 also lacks transparent information on the modelling approach with regard to: the specific models used in each region; how they have been combined to produce the national-level projection estimates; and a description of the F-gas model and the model used for off-road vehicles (OFFREM). During the review, in response to a question raised by the ERT, Belgium provided additional information on: the F-gas model and the OFFREM model with a reference to Belgium's NC6 for more detailed information; the model structure and updated assumptions, including the use of a different climate assumption in BR2 (1,864 degree days versus 1,819 degree days in the BR1 submission); and a comparison with the results of the projections reported in the BR1 that were calculated using the GWP values from the IPCC Second Assessment Report.

50. In order to enhance the transparency of reporting, the ERT reiterates the encouragement in the in-depth review report of the NC6 that Belgium present the information on projections for 1990–2030 using diagrams. The ERT further encourages Belgium to enhance the transparency of its reporting on the modelling approach used for projections by including in the next BR submission: information on the specific models used in each region and how they have been combined to generate the national-level projections, as well as summary information on the F-gas model and the OFFREM model, providing appropriate references for more detailed information.

Overview of projection scenarios

51. The single WEM scenario reported by Belgium includes all PaMs that have been implemented and adopted up to 2014, including those at the regional and federal levels. The definition of the WEM scenario indicates that the scenario has been prepared according to the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications".

Methodology and changes since the previous submission

52. The methodology used in the BR2 is identical to that used for the preparation of the emission projections for the NC6/BR1. The national-level projections reported by Belgium in its BR2 are the sum of three bottom-up projections developed by the three regions (Flanders, Wallonia and Brussels-Capital), representing their respective climate strategies. All the models used are bottom-up simulation models that predict energy consumption and GHG emissions based on the activity variables expressed, as far as possible, in physical units.

53. Regional projections were prepared using the Flemish energy and GHG simulation model for Flanders and the energy/emissions projection model⁷ for Brussels-Capital and Wallonia. In order to avoid inconsistencies between the regions, the same general assumptions with regard to important parameters, such as climate assumptions and demographic evolution, are used in these regional models, although there are some minor differences with regard to the level of detail, the activity variables and the parameters used. Although projections for electricity production are modelled at the national level using the Flemish energy and GHG simulation model, all the three regions use the OFFREM model⁸ to calculate emissions from off-road vehicles and machinery for all sectors. The F-gas emission projections were calculated using a specialized model.

54. The regional bottom-up estimates are validated by modelling GHG emission projections at the national level using HERMES, a top-down macrosectoral econometric model used by the Belgian Federal Planning Bureau for its national short-term and long-term forecasts. In the macroeconomic model, relationships between GHG emissions, energy consumption, activity levels and energy prices are assessed at the sectoral level using the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* and adjusted using the new GWP values for CH₄ and N₂O.

55. As reported in its BR2 and CTF table 5, Belgium used the following key underlying assumptions for the projections: trends in population; number of households; electricity production and demand; trends in the number of livestock in agriculture; and the final energy consumption in different sectors. The projections were prepared using updated assumptions reflecting the most recent developments at the time of their preparation.

56. In its BR2, Belgium provided information that there have been no changes since the submission of its NC6/BR1 in the assumptions, methodologies, models and approaches including the key variables used in the preparation of the projection scenarios. However, a comparison of projection results reported in the BR1 and BR2 submissions provided by Belgium during the review showed a minor difference of less than 2 per cent in the total emissions (excluding LULUCF) for 2015 and 2020 stemming from the application of: updated inventory data; the 2006 IPCC Guidelines; the GWP values from the IPCC AR4; and a different climate assumption (see para. 49 above).

57. The BR2 presents the analyses of sensitivity of projections to two assumptions: future climate (number of degree days) and the phasing out of nuclear power. Climate influences energy consumption in buildings. Two climate scenarios corresponding to a colder (1,538 degree days) and a warmer (1,946 degree days) climate are presented for the residential and tertiary sector. In the warmer climate, Belgium's CO₂ emissions in 2020 are projected to be lower than the projection for the residential and tertiary sector under the WEM scenario (calculated using a climate scenario of 1,864 degree days) by 1,941 kt , representing 2.9 per cent of Belgium's AEA for that year, while CO₂ emissions are projected to be 475 kt higher in the case of the colder climate, amounting to 0.7 per cent of Belgium's AEA. Regarding the two nuclear power phase-out scenarios, one corresponds to the phasing out of two production units according to an adapted scheme proposed in 2014, while the other relates to phase out according to a law on progressive phase out passed in 2013, which is included in the WEM scenario. If nuclear phase out is performed according to the 2014 proposal, total CO_2 emissions will be about 1,500 kt lower in 2020 than in the WEM scenario.

⁷ More information is available at <http://www.belspo.be/belspo/organisation/publ/rappCG2131_en.stm>.

⁸ See <http://www.lne.be/themas/milieu-en-mobiliteit/downloads/studie-en-onderzoek/eindrapportoffrem.pdf>.

Results of projections

58. Belgium's total GHG emissions excluding LULUCF in 2020 and 2030 are projected to be 117,894.29 and 124,773.49 kt CO_2 eq, respectively, under the WEM scenario, which represents a decrease of 19.9 and 15.2 per cent respectively, below the 1990 level. The 2020 projections suggest that Belgium will continue contributing to the achievement of the EU target under the Convention (see para. 15 above).

59. Belgium's target for the emissions from sectors covered by the ESD (non-ETS sectors) is to reduce its total emissions by 15 per cent below the 2005 level by 2020 (see para. 16 above). For Belgium, the AEAs, which correspond to its national emission target for non-ETS sectors, change linearly from 78,379.83 kt CO_2 eq in 2013 to 67,677.30 kt CO_2 eq in 2020. According to the projections under the WEM scenario, emissions from non-ETS sectors are estimated to reach 71,646 kt CO_2 eq or 5.9 per cent above its AEA in 2020. Belgium's BR2, however, notes that while Belgium's emissions from the non-ETS sectors are projected to be below its AEAs in 2013–2017, they will exceed them in 2018–2020 and Belgium may use the surplus AEAs from previous years, projected to be around 5 million AEAs for 2013–2020, to cover any shortfall of AEAs in 2020 using the flexibility allowed under the ESD to the EU member States. Based on the reported information, the ERT concluded that Belgium expects to meet its target under the ESD.

60. According to the projections reported by sector, the most significant GHG emission reductions under the WEM scenario from 1990 to 2020 will occur in the energy sector (18,505.19 kt CO_2 eq or 17.8 per cent), followed by the industrial processes and product use sector (6,304.44 kt CO_2 eq or 24.0 per cent) and the waste sector (2,540.26 kt CO_2 eq or 57.4 per cent). Conversely, GHG emissions from the transport subsector are projected to increase by 4,771.24 kt CO_2 eq (22.9 per cent) below the 1990 level by 2020. According to the WEM projections for 2030, GHG emissions from the energy sector will increase between 2020 and 2030, corresponding to a reduction by 9,812.51 kt CO_2 eq, or 9.4 per cent, below the 1990 level. Emissions from the transport subsector will increase further between 2020 and 2030 corresponding to an increase of 6,243.02 kt CO_2 eq, or 30.0 per cent, above the 1990 level, while other sectors will continue to decrease or remain stable.

61. According to the projections reported by gas, reductions in CO₂ emissions are expected to contribute the most to Belgium's overall emission reductions. Under the WEM scenario, reductions in CO₂ emissions make up 70.1 per cent of the aggregate GHG emission reductions below the 1990 level by 2020 (20,492.35 kt CO₂ eq), followed by CH₄ with 14.9 per cent (4,344.15 kt CO₂ eq) and N₂O with 11.9 per cent (3,476.88 kt CO₂ eq). According to the projections for 2030, reductions in CO₂ emissions are expected to continue to contribute the most to the overall emission reductions, albeit to a lesser extent than in 2020. CO₂ emissions make up 52.7 per cent of the emission reductions (11,780.45 kt CO₂ eq) below the 1990 level, followed by CH₄ with 21.2 per cent (4,743.48 kt CO₂ eq) and N₂O with 15.8 per cent (3,540.05 kt CO₂ eq) by 2030.

62. The projected emission levels under the WEM scenario are presented in the figure below.





Sources: (1) Data for the years 1990–2013: Belgium's 2015 annual inventory submission, version 1; total GHG emissions excluding land use, land-use change and forestry; (2) Data for the years 2013–2030: Belgium's second biennial report; total GHG emissions excluding land use, land-use change and forestry.

Abbreviations: ESD = effort-sharing decision, GHG = greenhouse gas.

Assessment of aggregate effects of policies and measures

63. The ERT acknowledged information provided by Belgium in its BR2 on the estimated and expected effects of PaMs for 2020. Belgium reported an estimated and expected aggregate mitigation effect of PaMs of 35,834 kt CO_2 eq in 2020 (table 4.5). The information in the BR2 was prepared based on the aggregation of the effects of individual PaMs reported in CTF table 3.

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

64. In its BR2, Belgium reported information on the provision of financial, technological and capacity-building support required under the Convention. The BR2 includes information on the national approach to tracking the provision of support, indicators, delivery mechanisms used and allocation channels tracked. Belgium reported a description of the methodology used to report financial support, including underlying assumptions.

65. Belgium provided detailed information on support and clarified how this support is new and additional. Further information on Belgium's provision of support to developing country Parties is provided in section 6 of the BR2.

66. Belgium distinguished, to the extent possible, between support provided to non-Annex I Parties for mitigation and adaptation activities, noting the capacity-building elements of such activities. Belgium made reference to its NC6 and BR1 where more detailed information was reported and pointed out the changes made since the previous submission. 67. In its BR2, Belgium explained its approach to determining how much of its support is new and additional. According to the definition used at federal level, climate finance falling under the ongoing separate budget line for multilateral climate finance, which was created after the fifteenth session of the Conference of Parties (COP 15), is considered as new and additional. During the review, Belgium explained that this is based on the assumption that this budget line would not have existed without the financial commitments stemming from COP 15: the provision of USD 30 billion worth of public finance in 2010–2012 and the commitment to mobilize USD 100 billion annually by 2020 through a wide variety of public and private sources.

68. Belgium explained in its BR2 that it uses Rio Markers to report to the Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD) on the official development assistance (ODA) provided to support the goals of the Rio Conventions (the Convention on Biological Diversity, the United Nations Convention to Combat Desertification and the UNFCCC). While Belgium's Directorate General for Development Cooperation and Humanitarian Aid, which delivers the bulk of the aid, uses the Rio Markers, the regions also follow various other approaches to identify climaterelated support. Flanders uses the Rio Markers and the Brussels-Capital Region has a special budget line devoted to climate finance, while the Walloon Region does not use a specific methodology to identify climate-related support. During the review, Belgium further clarified that it reports on core/general and climate-specific contributions in a mutually exclusive way. This means that core/general contributions are reported against the categories 'Multilateral financial institutions, including regional development banks' and 'Specialised United Nations bodies', while the climate-specific contributions are reported against the category 'Multilateral climate change funds'.

69. Belgium's BR2 details the steps taken through its involvement in the OECD ENVIRONET-WP-STAT Task Team on Rio Markers⁹ towards improving the quality and robustness of the Rio Markers and their implementation, including refinements of definitions and instructions. During the review, in response to a question raised by the ERT, Belgium provided additional information on an ongoing study to gain greater clarity on its mobilized private climate finance flows, the final outcomes of which will be presented in its third BR. The OECD-led Research Collaborative on Tracking Private Climate Finance is also expected to lead to improvement in the tracking of mobilized private finance.

1. Finance

70. In its BR2 and CTF tables 7, 7(a) and 7(b), Belgium reported information on the provision of financial support required under the Convention, including on financial support provided, allocation channels and annual contributions (see paras. 80–82 below). The summary information was reported for 2013 and 2014.

71. Belgium described how its resources address the adaptation and mitigation needs of non-Annex I Parties. It also described how those resources assist non-Annex I Parties to mitigate and adapt to the adverse effects of climate change, and contribute to capacity-building and technology transfer related to mitigation and adaptation (see chapters II.D.2 and II.D. 3 below). In providing direct bilateral ODA, Belgium has focused predominantly on adaptation and cross-cutting activities including: basic health care; education and training; agriculture and food security; and basic infrastructure. Most of the support is in the form of grants directed mainly towards the highly vulnerable countries in Africa and the least developed countries (LDCs). Belgium has also sought to enhance the effectiveness of its multilateral assistance by channelling most of its climate-related finance through core

⁹ See <http://www.oecd.org/dac/environment-development/rio-markers-joint-tt-may-2015.htm>.

contributions to multilateral climate funds (e.g. the Green Climate Fund, the Adaptation Fund and the Global Environment Facility) or specialized agencies of the United Nations and by limiting earmarked contributions to multilateral organizations.

72. In its BR2, and CTF tables 7, 7(a) and 7(b), Belgium did not include transparent information indicating what new and additional support it has provided to non-Annex I Parties. The BR2 contains an explanation on how the new budget line created following COP 15 was used for identifying new and additional multilateral climate finance. However, the ERT notes that while this information clarifies how Belgium has determined that such resources are new and additional, the BR2 does not contain a transparent indication of what new and additional financial resources have been provided pursuant to Article 4, paragraph 3, of the Convention.

73. During the review, Belgium provided additional information on its provision of new and additional support to non-Annex I Parties, explaining that in 2013 and 2014, Belgium contributed a total of EUR 30 million and 40 million, respectively, to multilateral funds from this new budget line. The ERT recommends that Belgium enhance the transparency of its reporting by clearly indicating what new and additional financial resources it has provided pursuant to Article 4, paragraph 3, of the Convention in the next BR submission.

74. The information provided by Belgium in its BR2 and CTF tables 7, 7(a) and 7(b) is not fully transparent regarding the assistance provided to non-Annex I Parties in dealing with any economic and social consequences of response measures. During the review, in response to questions raised by the ERT, Belgium clarified that the main objective of its development cooperation is to support sustainable human development by combating poverty and creating economic opportunities for local populations in all its partner countries. Belgium strives to integrate considerations such as climate change and the economic and social consequences of response measures into all its financial support to developing countries towards sustainable social and economic development. Belgium is also a member of the International Renewable Energy Agency, which has made notable efforts towards a renewable-energy-based global economy.

75. The ERT recommends that Belgium enhance the transparency of its reporting by providing in its next BR submission, transparent information, where appropriate, on the financial support it has provided, committed and/or pledged for the purpose of assisting non-Annex I Parties to adapt to the adverse effects of any economic and social consequences of response measures.

76. Belgium provided information on the types of instrument used in the provision of its assistance (see para. 85 below). It also reported a limited amount of information on PaMs that promote private investment in mitigation and adaptation activities in developing country Parties (see para. 86 below).

77. The BR2 does not include the information required by the UNFCCC reporting guidelines on BR on the private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties. The BR2 also does not include transparent information on Belgium's PaMs that promote the scaling up of private investment in mitigation and adaptation activities in developing country Parties as the information provided does not specifically address the information requested by the UNFCCC reporting guidelines on BRs.

78. During the review, Belgium explained that it has reported, to the extent possible, on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties while noting the methodological challenges involved. Belgium further informed the ERT that, owing to its efforts in this regard

(including a recent study¹⁰ to identify the main actors within Belgium and active participation in relevant initiatives such as the OECD Research Collaborative), it hopes to improve its reporting on this element in future submissions up to 2020.

79. The ERT reiterates the encouragement in the review report of the BR1 that Belgium, to the extent possible, report on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties in the next submission. The ERT further encourages Belgium to enhance the transparency of its reporting on PaMs that promote the scaling up of private investment in mitigation and adaptation activities in the next BR submission.

80. With regard to the most recent financial contributions aimed at enhancing the implementation of the Convention by developing countries, in 2013–2014, Belgium continued its support for adaptation and mitigation activities in developing countries by mainstreaming climate objectives through its ODA. Belgium pledged to contribute at least EUR 51.6 million to the Green Climate Fund and disbursed EUR 40.6 million. Although the development cooperation budget of the federal government provides the majority of the ODA funds, regions also provide bilateral support in areas under their jurisdiction. Belgium reported that, in line with the Federal Government Coalition Agreement of 2003, its direct bilateral ODA focuses on poverty alleviation and sustainable development in the highly vulnerable countries of Africa and the LDCs while striving to better integrate climate change into all the actions. Out of the 18 countries to which Belgium provides bilateral support, 13 are located in Africa and 9 belong to the LDCs group.

81. Belgium reported on its climate-specific public financial support provided in 2013 and 2014, totalling USD 104.92 million in 2013 and USD 128.19 million in 2014. Belgium does not use the category 'pledged support', because all its support is either committed or disbursed. During the review, in response to a question raised by the ERT, Belgium explained that the methodology used to categorize the funds for assisting non-Annex I Parties to mitigate and adapt as 'committed' and/or 'pledged' is based on OECD practice, with 'provided support' denoting effective disbursement of funds. During the reporting period, 2013–2014, Belgium placed a particular focus on countries in Africa, Asia and Latin America including Algeria, Benin, Bolivia (Plurinational State of), Burkina Faso, Burundi, Cuba, Democratic Republic of the Congo, Ecuador, Ethiopia, Haiti, Madagascar, Mali, Morocco, Mozambique, Nicaragua, Niger, Rwanda, Senegal, Uganda and Viet Nam.

82. The BR2 includes detailed information on the financial support provided through multilateral channels, and bilateral and regional channels in 2013 and 2014. More specifically, Belgium contributed through multilateral channels on climate-specific finance, as reported in its BR2 and in CTF table 7(a), USD 46.41 and 75.04 million for 2013 and 2014, respectively. These contributions were made to specialized multilateral climate change funds including the Least Developed Countries Fund, the Special Climate Change Fund, the Adaptation Fund, the Green Climate Fund and the UNFCCC Trust Fund for Supplementary Activities. The BR2 and CTF table 7(b) also include detailed information on the total financial support provided through bilateral, regional and other channels (USD 58.51 and 53.15 million in 2013 and 2014, respectively). Table 5 includes some of the information reported by Belgium on its provision of financial support.

¹⁰ See <http://www.climat.be/files/4314/5873/7318/private_climate_finance_report.pdf>.

Table 5

Summary of information on provision of financial support in 2013–2014 by Belgium (Millions of United States dollars)

	Years of disbursement			
Allocation channel of public financial support	2013	2014		
Official development assistance ^a	2 299.54	2 448.02		
Climate-specific contributions through multilateral channels, including:	46.41	75.04		
Global Environment Facility	_	-		
Least Developed Countries Fund	15.94	15.92		
Special Climate Change Fund	15.94	-		
Adaptation Fund	0.66	1.66		
Green Climate Fund	_	53.85		
Trust Fund for Supplementary Activities	0.09	0.11		
Adaptation for Smallholders Agriculture Programme	7.97	1.33		
International Partnership on Mitigation and MRV	_	0.03		
United Nations bodies	5.81	2.15		
Climate-specific contributions through bilateral, regional and other channels	58.51	53.15		

^a Source: Query Wizard for International Development Statistics, available at

<http://stats.oecd.org/qwids/>.

Abbreviation: MRV = monitoring, reporting and verification.

83. The BR2 provides information on the types of support provided. In terms of the focus of public financial support, as reported in CTF table 7 for 2013, the shares of total public financial support allocated for mitigation, adaptation, cross-cutting and 'others' projects corresponding to these channels were 24.1, 47.0, 13.6 and 15.2 per cent, respectively. 44.2 per cent of the total public financial support was allocated through multilateral channels and 55.8 per cent of it was through bilateral, regional and other channels. In 2014, the shares of total public financial support allocated for mitigation, adaptation and cross-cutting projects corresponding to these channels were 8.9, 34.4 and 56.7 per cent, respectively. 58.5 per cent of the total public financial support was allocated through multilateral channels and 41.4 per cent of it was through bilateral, regional and other channels.

84. The ERT noted that, in 2013, 91.3 per cent of the financial contributions made through multilateral channels was allocated to multisectoral/cross-cutting activities, 6.5 per cent to agriculture and the remaining 2.2 per cent to funding for activities relating to energy, industry, forestry and other sectors, as reported in CTF table 7(a). The corresponding figures for 2014 were 92.8 and 5.4 per cent for multisectoral/cross-cutting and agriculture sectors, respectively, while the activities relating to energy, industry, forestry and other sectors received the remaining 1.8 per cent of financial contributions made through multilateral channels. The ERT notes that in both 2013 and 2014, greater portions of the financial contributions made through multilateral channels, with relatively smaller financial contributions being made to sector-specific activities.

85. CTF tables 7(a) and 7(b) include information on the types of financial instrument used in the provision of assistance to developing countries. The ERT noted that the share of grants provided in 2013 and 2014 was 89.1 and 94.5 per cent of Belgium's assistance to

developing countries, respectively, with bilateral assistance in the form of concessional loans making up the remaining 10.9 and 5.5 per cent, respectively.

86. In its BR2 and during the review, Belgium explained that private finance is the key to scaling up levels of climate finance required to meet the 2 °C goal, because it is pivotal to delivering the investment required towards achieving the long-term transformation of developing countries into low-carbon and climate-resilient economies. Belgium invests in the private sector through the Belgian Investment Company for Developing Countries or through the programmes of the multilateral and regional development banks that contribute to social and economic growth in emerging and developing countries.

2. Technology development and transfer

87. In its BR2 and CTF table 8, Belgium provided information on measures and activities related to technology transfer, including support provided for the deployment and enhancement of the endogenous capacities and technologies of non-Annex I Parties. Belgium provided examples of support provided for the deployment and enhancement of the endogenous capacities and technologies of non-Annex I Parties (see para. 94 below).

88. In its BR2 and CTF table 8, Belgium has not provided transparent information distinguishing between the activities undertaken by the public and private sectors with regard to technology transfer. The ERT noted that, while the BR2 does not address this element, CTF table 8 mentions 'private and public' in relation to the implementation of some activities without clarifying the role of the private sector.

89. During the review, in response to questions raised by the ERT, Belgium explained that, while the projects reported in CTF table 8 are all funded by public climate finance, the reference to 'public and private' indicates an identified potential to mobilize additional financial flows from the private sector towards scaling up the technology transfer activities supported by the Belgian public sources. The Party further clarified that, in addition to these projects, other public projects could also mobilize support from the private sector. The ERT recommends that Belgium enhance the transparency of its reporting in the next BR submission by clearly distinguishing between the activities undertaken by the public and private sector in relation to the projects that are implemented jointly by public and private sectors.

90. The BR2 does not include information on success and failure stories relating to measures taken to promote facilitate and finance the transfer of, access to and deployment of climate-friendly technologies for the benefit of non-Annex I Parties and for the support of the development and enhancement of endogenous capacities and technologies of non-Annex I Parties.

91. During the review, in response to questions raised by the ERT, Belgium provided additional information on a few success stories relating to the projects undertaken by the Belgian Development Agency (BTC) on technology transfer to non-Annex I Parties. The Renewable Energy for Rural Development¹¹ project developed by BTC in Mozambique aims to increase access to hydro, solar and wind energy in off-grid applications in rural areas by investing in renewable energy systems. BTC also supports cutting-edge technologies based on solar and geothermal energy to improve the quality of life of students in the State of Palestine. BTC has also developed a web-based information platform called "Open BTC",¹² which aims to provide in-depth information on and lessons learned from its

¹¹ See <https://www.btcctb.org/en/country/21/projects-list>.

¹² See <https://www.btcctb.org/en/>.

activities on the ground. The ERT encourages Belgium to include the information on success and failure stories relating to technology transfer in the next BR submission.

92. The ERT noted that, in its BR2 and CTF table 8, Belgium reported on its technology transfer, and in particular on measures taken to support the development and enhancement of the endogenous capacities and technologies of non-Annex I Parties. For example, the SEED initiative is a global partnership focusing on sustainable development and the 'greening' of the economy in Malawi, Mozambique and Namibia. It supports innovative, locally nurtured initiatives or enterprises with social and environmental elements. The Agroforestry Food Security Programme project aims to contribute towards 'climate-smart' agriculture that addresses both adaptation and mitigation in Malawi by helping to scale up agroforestry innovations. The Flemish Partnership Water for Development¹³ (Vlaams Partnerschap Water voor Ontwikkeling) brings together Flemish actors concerned with water and local partners in African countries to: create synergies; exchange knowledge and expertise; and build local technological capacity towards the achievement of Millennium Development Goal Target 7c¹⁴ relating to safe drinking water, improved hygiene conditions and adequate sanitation in developing countries.

93. The ERT took note of the information provided in CTF table 8 on recipient countries, target areas, measures and focus sectors of technology transfer programmes. Although the focus of Belgium's technology transfer efforts has been on Africa, there are a few ongoing projects and programmes in Latin America and Caribbean countries and Viet Nam, among others. The support for technology transfer addresses both adaptation and mitigation in a variety of sectors including water and sanitation, energy and agriculture.

94. During the review, Belgium elaborated on its approach towards supporting the private sector in technology transfer to Parties that are particularly vulnerable to the adverse effects of climate change as well as the development and enhancement of endogenous capacities and technologies of non-Annex I Parties by citing an example of the support it provides to Viet Nam. Belgium contributes to the Viet Nam National Green Growth Strategy by enabling the leveraging of private support and by helping the national authorities in developing a country-owned fund that aims to attract and coordinate international, national, public and private sector finance for green investments. The Belgian support aims to cover some of the high up-front capital costs for clean energy project development.

3. Capacity-building

95. In its BR2 and CTF table 9, Belgium supplied information on how it provided capacity-building support for mitigation, adaptation and technology, and on how the reported activities respond to the existing and emerging needs identified by non-Annex I Parties. During the review, in response to questions raised by the ERT, Belgium provided additional information on its approach to the identification of how its capacity-building activities effectively respond to the existing and emerging capacity-building needs of non-Annex I Parties.

96. Belgium described individual measures and activities related to capacity-building support, in textual and tabular formats.

97. Belgium reported that it supported climate-related capacity development activities relating to adaptation and mitigation. This includes: support for increased cooperation between universities and scientific institutions; the creation of a policy support research

¹³ See <http://www.watervoorontwikkeling.be/>.

¹⁴ See <http://www.un.org/millenniumgoals/environ.shtml>.

platform for climate change and development cooperation; and the provision of training courses on climate change adaptation in French-speaking developing countries. During the review, Belgium explained that its bilateral cooperation programmes address the existing and emerging capacity-building needs of non-Annex I Parties, because the programmes are established in consultation with partner countries and always include a strong capacity-building component.

98. The BR2 and CTF table 9 include information describing a number of capacitybuilding measures and activities including: strengthening the capacity within Viet Nam for the assessment and management of water resources as a basis for rural water supply for poverty reduction; supporting the Adaptation for Smallholder Agriculture Programme of the International Fund for Agricultural Development; and strengthening the capacity to incorporate climate change adaptation and resilience planning into National Biodiversity Strategies and Action Plans (NBSAPs) through the NBSAP Forum.

III. Conclusions

99. The ERT conducted a technical review of the information reported in the BR2 and CTF tables of Belgium in accordance with the UNFCCC reporting guidelines on BRs. The ERT concludes that the reported information is mostly in adherence with the UNFCCC reporting guidelines on BRs and provides an overview on: emissions and removals related to Belgium's quantified economy-wide emission reduction target; assumptions, conditions and methodologies related to the attainment of the target; progress made by Belgium in achieving its target; and Belgium's provision of support to developing country Parties.

100. Belgium's total GHG emissions excluding LULUCF related to its quantified economy-wide emission reduction target were estimated to be 18.8 per cent below its 1990 level, whereas total GHG emissions including LULUCF were 20.1 per cent below its 1990 level for 2013. The emission decrease was driven mainly by a switch from solid fuels to gaseous fuels in electricity production and in industry, together with increased use of biofuels in some sectors. Closure of certain iron and steel works, a decline in livestock population and increased biogas recovery in solid waste disposal have also contributed to decreasing emissions.

101. Under the Convention, Belgium is 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 the gases 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 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 as well as new market mechanisms for compliance purposes, subject to a number of restrictions in terms of origin and type of project and up to an established limit. Companies can make use of such units to fulfil their requirements under the EU ETS.

102. Under the ESD, Belgium has a target to reduce its emissions by 15 per cent above the 2005 level by 2020. Belgium's AEAs, which correspond to its national emission target for non-ETS sectors, change linearly from 78,379.83 kt CO_2 eq in 2013 to 67,677.30 kt CO_2 eq in 2020.

103. Belgium's main policy framework relating to energy and climate change is the EUwide 2020 climate and energy package adopted in 2009. This package is supplemented by renewable energy and energy efficiency legislation. At the national level, key legislation supporting Belgium's climate change goals is the National Climate Plan, comprising a wide range of PaMs grouped into broad clusters according to their domains. The mitigation actions with the most significant mitigation impact are: the green and CHP certificate system; the support for electricity production from RES; the promotion of biofuels; the promotion of energy-efficient electrical appliances; and the reduction of N_2O emissions in industry.

104. For 2013, Belgium reported in CTF table 4 total GHG emissions excluding LULUCF at 119,424.13 kt CO_2 eq. Belgium reported that it will use units from marketbased mechanisms in 2013 towards the achievement of its 2020 target amounting to 43,364.64 kt CO_2 eq while noting that its use of the units from market-based mechanisms in 2013 to achieve its target under the ESD cannot be quantified until 2016. The ERT noted that in 2013, Belgium's emissions from the sectors not covered by the EU ETS were 5.4 per cent below its AEA under the ESD, which demonstrates its progress in relation to its target under the ESD (see para. 38 above). Based on the reported information, the ERT concluded that Belgium is making progress towards its emission reduction target by implementing mitigation actions.

105. The GHG emission projections provided by Belgium in its BR2 include those for the WEM scenario. Under this scenario, emissions are projected to be 19.9 per cent below the 1990 level in 2020. For Belgium, the AEAs reflecting its national target for the non-ETS sectors change following a linear path from 78,379.83 kt CO_2 eq in 2013 to 67,677.30 kt CO_2 eq in 2020 (see para. 16 above). According to the projections under the WEM scenario, emissions from non-ETS sectors are estimated to reach 71,646 kt CO_2 eq or 5.9 per cent above its AEA in 2020. Belgium, however, explained that in order to meet its ESD target, it may carry over the projected surplus of around 5 million AEAs for 2013–2020 using the flexibility allowed under the ESD (see para. 59 above). On the basis of the reported information, the ERT concluded that Belgium expects to meet its target for non-ETS sectors.

106. Belgium continues to allocate climate financing, mainly through ODA, in order to assist developing country Parties to implement the Convention. Its climate-specific public financial support to developing country Parties in 2013 and 2014 totalled USD 104.92 and 128.19 million per year, respectively. For these years, Belgium's support provided for adaptation was higher than support provided for mitigation. The highest level of financial support was for multisectoral/cross-cutting issues, while the sector-specific support was targeted at agriculture, forestry, industry, energy and other sectors including environmental protection and water and sanitation.

107. Belgium provided information on measures and activities related to transfer, access and deployment of climate-friendly technology benefiting developing countries, and on capacity-building support for mitigation, adaptation and technology transfer. Technology transfer primarily took place through: increased cooperation between universities and scientific institutions; the creation of policy support research platforms for climate change and development; and training courses on climate change adaptation in French-speaking countries. Capacity-building is an integral component of Belgium's bilateral assistance to developing countries.

108. 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.¹⁵ The key recommendations are that Belgium improve the transparency of its reporting by:

¹⁵ The recommendations are given in full in the relevant chapters of this report.

(a) Ensuring consistency in information on the inclusion of NF_3 in its target provided in BR and CTF tables 2(b) and 2(c) (see para. 12 above);

(b) Providing information on the contribution of LULUCF in CTF table 4 in accordance with the assumptions related to its target (see para. 35 above);

(c) Providing information on factors and activities for each sector for the entire period 1990–2030 (see para. 41 above);

(d) Providing transparent information on the coverage of each sector used in the projections (see para. 42 above);

(e) Presenting emission projections in relation to actual inventory data (see para.43 above);

(f) Providing transparent information on the exclusion of emissions from international bunker fuels in the projections using the bottom-up approach (see para. 44 above);

(g) Providing correct information on assumed final energy consumption in the industry sector and the commercial (tertiary) sector in its CTF table 5 (see para. 45 above);

(h) Clearly indicating what new and additional financial resources it has provided pursuant to Article 4, paragraph 3, of the Convention (see para. 73 above);

(i) Providing transparent information on the financial support provided for assisting non-Annex I Parties to adapt to the adverse effects of any economic and social consequences of response measures (see para. 75 above);

(j) Providing information clearly distinguishing between the activities undertaken by the public and private sectors on technology transfer (see para. 89 above).

Annex

Documents and information used during the review

A. Reference documents

"UNFCCC biennial reporting guidelines for developed country Parties". Annex to decision 2/CP.17. Available at

<http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf#page=4>.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories". Annex to decision 24/CP.19. Available at http://unfccc.int/resource/docs/2013/cop19/eng/10a03.pdf#page=2>.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications". FCCC/CP/1999/7. Available at http://unfccc.int/resource/docs/cop5/07.pdf>.

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

FCCC/ARR/2015/BEL. Report on the individual review of the annual submission of Belgium submitted in 2015. Available at http://unfccc.int/resource/docs/2015/arr/bel.pdf>.

FCCC/IDR.6/BEL. Report of the technical review of the sixth national communication of Belgium. Available at http://unfccc.int/resource/docs/2015/idr/bel06.pdf>.

FCCC/TRR.1/BEL. Report of the technical review of the first biennial report of Belgium. Available at http://unfccc.int/resource/docs/2015/trr/bel01.pdf>.

2015 greenhouse gas inventory submission of Belgium. Available at http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php.

Sixth national communication of Belgium. Available at http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/7742.php>.

First biennial report of Belgium. Available at http://unfccc.int/national_reports/biennial_reports_and_iar/submitted_biennial_reports/items/9356.php>.

Common tabular format tables of the first biennial report of Belgium. Available at http://unfccc.int/national_reports/biennial_reports_and_iar/submitted_biennial_reports/items/9356.php>.

Second biennial report of Belgium. Available at <<u>http://unfccc.int/national_reports/biennial_reports_and_iar/submitted_biennial_reports/ite</u> ms/7550.php>.

Common tabular format tables of the second biennial report of Belgium. Available at http://unfccc.int/national_reports/biennial_reports_and_iar/submitted_biennial_reports/items/7550.php.

B. Additional information used during the review

Responses to questions during the review were received from Ms. Claire Collin (Climate Change Section of the Federal Public Service Health, Food Chain Safety and Environment in the Directorate General for the Environment), including additional material and the following documents¹ provided by Belgium:

2015 Accord politique sur le Burden Sharing intra-belge. Available at http://www.climat.be/files/9914/5285/8927/burden_sharing_12-2015_FR.pdf>.

¹ Reproduced as received from the Party.