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Report of the technical review of the first biennial report of Germany

Developed country Parties are requested, in accordance with decision 2/CP.17, to submit their first biennial report to the secretariat by 1 January 2014. This report presents the results of the technical review of the first biennial report of Germany 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".

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I. Introduction and summary

A. Introduction

1. For Germany, the Convention entered into force on 21 March 1994. Under the Convention, Germany, as part of the European Union (EU), will take on a quantified economy-wide emission reduction target jointly with all EU member States to reduce its greenhouse gas (GHG) emissions by 2020. The EU and its member States have communicated an unconditional quantified economy-wide emission reduction target of a 20.0 per cent emission reduction by 2020 compared with 1990 levels.[1]

2. Under the EU climate and energy package, this target will be met by the EU and its member States through a 21.0 per cent reduction compared with 2005 levels in GHG emissions from installations under the European Union Emissions Trading System (EU ETS) and a 10.0 per cent reduction compared with 2005 levels in GHG emissions in the non-ETS sectors. According to the EU effort-sharing decision (ESD), Germany is to reduce its GHG emissions from the non-ETS sectors by 14.0 per cent by 2020 compared with the 2005 level.

3. In addition, Germany has set an ambitious domestic economy-wide emission reduction target of 40.0 per cent by 2020 compared with 1990.

4. This report covers the in-country technical review of the first biennial report (BR1)[2] of Germany, coordinated 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" (decision 23/CP.19).

5. The review took place from 6 to 11 March 2014 in Berlin, Germany, and was conducted by the following team of nominated experts from the UNFCCC roster of experts: Mr. Pierre Brender (France), Mr. Leonidas Osvaldo Girardin (Argentina), Ms. Stephanie Ockenden (United Kingdom of Great Britain and Northern Ireland), Mr. Brian Mantlana (South Africa) and Mr. Simon Wear (New Zealand). Mr. Mantlana and Mr. Wear were the lead reviewers. The review was coordinated by Ms. Barbara Muik (secretariat).

6. During the review, the expert review team (ERT) reviewed each section of the BR1.

7. In accordance with decision 23/CP.19, a draft version of this report was communicated to the Government of Germany, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.

B. Summary

8. The ERT conducted a technical review of the information reported in the BR1 of Germany according to the "UNFCCC biennial reporting guidelines for developed country Parties" (hereinafter referred to as the UNFCCC reporting guidelines on BRs).

[1] FCCC/SB/2011/INF.1/Rev.1 and FCCC/AWGLCA/2012/MISC.1 and Add.1 and 2.

[2] The biennial report submission comprises the text of the report and the common tabular format (CTF) tables. Both the text and the CTF tables have been subject to the technical review.

9. During the review, Germany provided further relevant information, namely on progress made in meeting the target, the total effect of its policies and measures (PaMs) and the provision of support to developing countries.

1. Completeness and transparency of reporting

10. Gaps and issues related to the reported information identified by the ERT are presented in table 1 below.

2. Timeliness

11. The BR1 was submitted on 20 December 2013 before the deadline of 1 January 2014 mandated by decision 2/CP.17. Germany resubmitted its BR1 on 23 October 2014. The common tabular format (CTF) tables were submitted on 20 December 2013. Germany resubmitted tables on 12 September 2014 and revised tables on 23 October 2014 together with its BR1, correcting errors and providing missing information identified during the review week. Specifically, information provided in tables 2 (description of target), 4 and 4(b) (reporting on progress), 5 (key assumptions used in the projections analysis) and 6 (GHG projections under a 'with measures' scenario) was corrected, and tables 8 (provision of technology development and transfer support) and 9 (provision of capacity-building support) were provided.

3. Adherence to the reporting guidelines

12. The information reported by Germany in its BR1 is mostly in adherence to the UNFCCC reporting guidelines on BRs as per decision 2/CP.17 (see table 1).

Table 1
Summary of completeness and transparency issues of reported information in the first biennial report of Germany[a]

Sections of the biennial report	*Completeness*	*Transparency*	*Reference to paragraphs*
Greenhouse gas emissions and trends	Complete	Transparent	
Assumptions, conditions and methodologies related to the attainment of the quantified economy-wide emission reduction target	Complete	Transparent	
Progress in achievement of targets	Mostly complete	Mostly transparent	25, 32
Projections	Complete	Transparent	
Provision of support to developing country Parties	Partially complete	Transparent	43, 49, 51, 52

[a] A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in chapter III below.

II. Technical review of the reported information

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

13. Germany has provided a summary of information on GHG emission trends for the period 1990–2011 in its BR1 and CTF table 1. This information is consistent with the 2013 national GHG inventory submission. During the review, the ERT took note of the 2014

inventory submission. The relevant information therein is reflected in this report and presented in the following paragraphs.

14. Total GHG emissions[3] excluding emissions and removals from land use, land-use change and forestry (LULUCF) decreased by 24.8 per cent between 1990 and 2012. Emission decreases were driven by the collapse of the East German economy in the early 1990s and the global financial crisis, which led to a fall in emissions in 2009. However, the steady decrease of emissions, which is also reflected in a significant decrease by 45.7 per cent of emissions per gross domestic product (GDP) over the period 1990–2012 shows a decoupling of GHG emissions and GDP, which has been induced mainly by mitigation measures such as reduction of waste disposal, the increased share of renewable energy within the energy mix and efforts to increase energy efficiency. These factors outweighed the impact on emissions from economic growth. Further information on the review of emission and emission trends is provided in chapter II.A of the report of the technical review of the sixth national communication (IDR/NC6). During the review, Germany provided additional information, including preliminary data on the inventory for the year 2013 (a year during which emissions rose 1.2 per cent compared with 2012) in a transparent manner.

15. While the BR1 contains a reference to the national inventory report where national inventory arrangements are described in accordance with the reporting requirements, it does not contain an explicit indication of whether these inventory arrangements have changed since the last national communication. During the review, Germany elaborated on the minor changes that occurred. The ERT encourages Germany to provide a summary of the national inventory arrangements and any changes thereto in its next BR.

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

16. In its BR1 and CTF table 2, Germany reported a description of its target, including associated conditions and assumptions. Germany describes its domestic target of a 40.0 per cent reduction below 1990 levels by 2020.

17. Under the Convention, Germany participates in the EU quantified economy-wide emission reduction target to achieve a 20.0 per cent reduction in emissions by 2020 compared with the 1990 (base year) level. The target for the EU and its member States is formalized in the EU's 2020 climate and energy package. This includes the EU ETS and the ESD. This legislative package regulates emissions of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6) using global warming potential (GWP) values from the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) to aggregate EU GHG emissions up to 2020. Germany also has a long-term target to reduce its GHG emissions by 80.0–95.0 per cent by 2050.

18. In its BR1 and CTF table 2, Germany reported a description of its domestic quantified economy-wide target, which is more ambitious than the target submitted jointly with the EU and its 28 member States under the Convention at the time of the submission. Associated conditions and assumptions were also detailed: a domestic target of a 40.0 per cent reduction relative to 1990 for emissions without LULUCF and the use of market-based

[3] In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of carbon dioxide equivalent excluding land use, land-use change and forestry, unless otherwise specified.

mechanisms, expressed using the GWP of the AR4, covering all gases (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and nitrogen trifluoride (NF_3)).

19. The BR1 does not include information required by the UNFCCC reporting guidelines on BRs on Germany's target submitted under the Convention,[4] but on a domestic target which is significantly more ambitious, as indicated during the review. To increase transparency, the ERT encourages Germany to present information on the relationship between its domestic economy-wide emission reduction target and its joint target with other member States of the EU submitted under the Convention not only in CTF table 2(f), but also within the BR itself.

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

20. In its BR1 and CTF tables 3 and 4, Germany reported information on its mitigation actions implemented and planned since its fifth national communication (NC5) to achieve its target. Germany also reported on the use of units from market-based mechanisms and LULUCF to achieve its target. According to the text of the BR1, Germany does not intend to make use of units from market-based mechanisms and LULUCF to achieve its quantified economy-wide emission reduction target.

21. The ERT reviewed the reported information and provided its assessment of progress made towards achieving the target. Across the EU, it is expected that the market mechanism of the EU ETS will guarantee that emissions from sectors under this scheme (mainly large point sources such as power plants and industrial facilities) will achieve the 2020 target of 21.0 per cent below the 2005 level. Under the ESD, Germany has to reduce its emissions not covered under the EU ETS by 14.0 per cent by 2020 compared with the 2005 level. According to information provided during the review, in absolute terms, this means that Germany has to reduce emissions under the ESD from 508,800 kt of carbon dioxide equivalent (CO_2 eq) (2005) to 437,600 kt CO_2 eq in 2020 (based on the split between emissions covered by the ETS and the non-ETS sectors between 2008 and 2012 and the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*).[5] In 2012, emissions from sectors not covered under the EU ETS were at about 476,700 kt CO_2 eq, or 6.0 per cent below the 2005 level.

22. Germany reports in its NC6 that current PaMs are projected to reduce total GHG emissions by 32.9 per cent on 1990 levels by 2020. According to information provided during the review and contained in the projection report submitted in 2013 by Germany to the European Commission (in German), emissions from the non-ETS sector are projected to decrease to 437,850 kt CO_2 eq in 2020 compared to the target of 437,600 kt CO_2 eq (based on the split between emissions covered by the ETS and the non-ETS sectors between 2008 and 2012 and the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*).

23. Concerning the domestic target of a 40.0 per cent emission reduction, Germany noted that the projected emission reduction of 32.9 per cent is insufficient to achieve this target, with a shortfall of approximately 90,000 kt CO_2 eq in 2020. However, Germany is preparing the "Climate Action Programme 2020" to close that gap with additional measures.

[4] As communicated to the secretariat and contained in document FCCC/SB/2011/INF.1/Rev.1 and the update to that document (FCCC/SBSTA/2014/INF.6).

[5] Source: European Environment Agency. 2013. *Trends and projections in Europe 2013*. Tracking progress towards Europe's climate and energy targets until 2020. Available at <http://www.eea.europa.eu/publications/trends-and-projections-2013/full-report-ghg-trends-and-1>.

24. The ERT noted that Germany is making good progress towards the EU-wide emission reduction target and, by raising the ambition of existing measures across all sectors, is aiming at meeting its domestic target to reduce emissions by 40.0 per cent by 2020.

1. Mitigation actions and their effects

25. In its BR1 and CTF table 3, Germany has provided information on its package of mitigation actions introduced to achieve its target. The BR1 provides information on mitigation actions organized by sector, and mostly subdivided by gas. The ERT recommends that Germany report, to the extent possible, its mitigation actions individually as indicated in CTF table 3, subdivided by gas. A detailed review of the reported information is provided in chapter II.B of the IDR/NC6. The ERT noted that chapter 3 of the BR1 references Germany's NC6.

26. According to Germany, the key national cross-sectoral measures are the EU-wide cap on emissions covered by the EU ETS, and a range of measures related to energy efficiency, the energy supply and renewables adopted under the Energy Concept. The Energy Concept was adopted by the German Government in 2010 and establishes climate and energy targets for Germany up to 2050.

27. According to the information reported in the NC6 and BR1, the PaMs with the greatest effect are related to energy efficient appliances and consumer products, including the Energy Consumption Labelling Act and Ordinance, which transposes EU directives on labelling and product standards, the minimum efficiency standards (from the EU ecodesign directive) covering household appliances, and the introduction of smart meters to measure electricity consumption. These measures are estimated to lead to significant electricity demand reductions and savings of 28,000 kt CO_2 eq in 2020. The Renewable Energy Sources Act also contributes a significant proportion of the expected emissions reductions from PaMs in the energy sector.

28. Germany has also a commendable range of PaMs in the waste sector that are designed to reduce solid waste disposal on land and use biogas from waste and waste incineration for energy production. The main legislation governing waste management is the Closed Cycle Management Act (2012).

29. Germany plans to make its climate policy more ambitious. During the review, Germany provided additional information on these future policy developments, noting that a Climate Action Programme 2020 is under preparation and will outline additional measures (to be submitted to the cabinet in November 2014) and increase the ambition of existing measures. Germany will also publish a Climate Policy Plan 2050 by 2016. These measures are expected to increase the ambition of Germany's energy policies to improve energy efficiency as well as energy performance and the share of renewable energy.

30. Table 2 provides a concise summary of the key mitigation actions implemented by Germany to achieve its target.

Table 2
Summary of information on mitigation actions reported by Germany

Sectors affected	*List of key policies and measures*	*Estimate of mitigation impact in 2015(kt CO_2 eq)*	*Estimate of mitigation impact in 2020 (kt CO_2 eq)*
Policy framework and cross-sectoral measures			
	Energy Concept 2010 and 2011 amendments	NE	NE
	European Union Emissions Trading System (EU ETS)	5 000 (energy) 760 (industry, trade, commerce and services sectors)	3 000 (energy) 1 520 (industry, trade, commerce and services sectors)
	Special Energy and Climate Fund	NE	NE
Energy	Various measures to promote electricity savings (incl. Energy Consumption Labelling Act, minimum efficiency requirements and energy advice scheme)	16 000	28 000
Energy supply	Payment for avoiding use of the grid as well as the expansion of the grid (amendments to the Energy Industry Act and Grid Expansion Acceleration Act)	NE	NE
	Combined Heat and Power Act and the promotion of micro combined heat and power	1 000	4 000
Renewable energy	Renewable Energy Sources Act	7 000 (energy) 50 (buildings)	14 000 (energy) 280 (buildings)
	Biofuel blending	2 800	5 100
Energy efficiency	Energy Saving Ordinance	1 070	1 550
Residential and commercial sectors	KfW Development Bank programmes for energy-efficient construction and refurbishment	2 390	3 840
	Market Incentive Programme	420	700
	Special Fund - Energy Efficiency for SMEs	680	1 120
Transport	European Union (EU) regulation on CO_2 emission standards for cars and light commercial vehicles	1 100	2 600
	Increased efficiency in aviation	1 600	3 300
Industrial sectors	N_2O point sources in the EU ETS, regulation of and voluntary agreements for fluorinated gases (F-gases) and replacement of F-gases	NE	NE
Agriculture	EU Nitrates directive and Common Agricultural Policy reforms	NE	NE
Forestry	Forestry law and funding for afforestation and forestry research	NE	NE
Waste management	Waste minimization (Closed Cycle Management Act), energy recovery from waste, recovery of biowaste and pre-treatment of all waste before landfill	NE	NE

Note: Key PaMs outlined above reflect PaMs reported in Germany's NC6 that are most significant in terms of estimated impact on greenhouse gas emissions in 2020 and those outlined by Germany as being key measures (the list is not exhaustive).

Abbreviations: NE = not estimated or reported, PaMs = policies and measures.

31. Germany adhered to the UNFCCC reporting guidelines on BRs, but relied significantly on cross-referencing detailed information on PaMs provided in its NC6 and reported only using the tabular reporting format. The ERT encourages Germany to provide more descriptive information in the BR to accompany these tables.

32. In its BR1, Germany did not provide information on changes in its domestic institutional arrangements, including institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress towards its target. The ERT recommends that Germany provide information on changes in its domestic institutional arrangements, including institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress made towards its target in its next BR.

33. With regard to the Energy Concept, the first annual monitoring report was published in December 2012, and Germany has committed to publish a more extensive report every three years, starting at the end of 2014. During the review, Germany elaborated on some of the monitoring arrangements for non-energy PaMs, such as in the waste and agriculture sector, through the use of national statistics gathered by the German Statistics Office. The ERT encourages Germany to expand the reported information on the systematic monitoring and evaluation of PaMs, including ex-post evaluation.

34. Germany did not provide detailed information on the assessment of the economic and social consequences of response measures. However, the ERT noted that information reported under this element overlaps with information provided on supplementary information under the Kyoto Protocol, namely on the minimization of adverse impacts, which has been provided by Germany in its NC6 (see chapters II.B.5 and III.B of the IDR/NC6). The ERT encourages Germany to provide, to the extent possible, detailed information on the assessment of the economic and social consequences of response measures in its next BR.

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

35. Germany reported in its BR1 and CTF table 4 on its plans to use market-based mechanisms under the Convention and on the contribution from LULUCF. Germany reported in its BR1 that the contribution from LULUCF and units from market based mechanisms are not relevant for Germany to achieve its target.

36. Table 3 illustrates how Germany plans to use units from market-based mechanisms and LULUCF to achieve its target.

Table 3
Summary 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 towards achievement of the target by Germany

Year	*Emissions excluding LULUCF (kt CO_2 eq)*	*LULUCF emissions/removals (kt CO_2 eq)*	*Emissions including LULUCF[a] (kt CO_2 eq)*	*Use of units from the market-based mechanisms (kt CO_2 eq)*
1990	1 248 048.77	NA	NA	NA
2010	946 388.27	NA	NA	NA
2011	928 694.60	NA	NA	NA
2012	939 083.31	NA	NA	NA

Source: Germany's 2014 GHG inventory submission, version 1.1.
Abbreviations: LULUCF = land use, land-use change and forestry, NA = not applicable.
[a] The unconditional commitment of the European Union (EU) to reduce greenhouse gas emissions by 20 per cent by 2020 compared with 1990 does not include emissions/removals from land use, land-use change and forestry.

3. Projections

37. Germany has provided in its BR1 and CTF tables 5 and 6 mostly comprehensive information on its updated projections for 2020 and 2030. A detailed review of the reported information is provided in chapter II.C of the IDR/NC6.

38. Considering that the projections were based on inventory data from Germany's 2012 inventory submission, the presentation would have been more transparent if the inventory data reported in table 6 had been presented accordingly, and if a footnote had been provided to explain the difference with data reported in table 1. There were errors in CTF table 6 and CTF table 5 also contained inconsistencies with the values provided in the NC6, which correspond to reporting errors. These errors were corrected in the resubmission on 23 October 2014, except for the units used in CTF table 6. In its BR1, Germany did not provide information on the changes in the methodologies used for the preparation of projections since the NC5. The BR1 refers to the projection report submitted in 2013 by Germany to the European Commission (in German), which is more complete, though it does not directly provide information on the differences with the data provided in the NC5. The ERT encourages Germany to report on the changes in the model or methodologies used for the preparation of projections in its next BR.

39. The ERT noted information reported by Germany on projected emission trends by 2020 and 2030. According to the reported information, the projected emission trends are to reach 32.8 per cent below the base year by 2020, while the domestic target is 40 per cent below the base year and the joint target of the EU is notably based on a reduction of 14 per cent of the Germany's emissions not covered by the EU ETS relative to 2005.

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

1. Provision of financial support to developing country Parties

40. In its BR1 and CTF table 7, Germany reported information on the provision of financial, technological and capacity-building support required under the Convention. Germany included information regarding its financial support provided, committed and pledged, as well as allocation channels and annual contributions, and provided additional

information during the review. Nevertheless, in the BR1, this information is provided more in tabular than in textual format.

41. Germany plays a considerable role in assisting developing countries and countries with economies in transition. Germany remains the third largest contributor to the Global Environment Facility (GEF) and the largest donor to the Least Developed Countries Fund (LDCF) and Special Climate Change Fund (SCCF). Germany is carrying out many activities related to financial support, technology transfer and capacity-building. Nevertheless, these efforts are not fully reflected in the BR1. The ERT noted that the following information required by the UNFCCC reporting guidelines on BRs was not included in the BR1: a description of its national approach for tracking the provision of financial, technological and capacity-building support to Parties not included in Annex I to the Convention (non-Annex I Parties); a description of the methodology used in reporting information on financial support; information on how resources address the adaptation and mitigation needs of non-Annex I Parties and on measures taken to transfer technology and support endogenous capacity in in textual and tabular formats (CTF tables 8 and 9).

42. During the review, Germany provided information on all relevant items and provided examples regarding its technology transfer and capacity-building activities in CTF tables 8 and 9 in its resubmission on 23 October 2014.

43. The ERT recommends that Germany include more information in its reports regarding the national approach for tracking the provision of financial support and the methodologies used in reporting information on financial support, and how resources address the needs of non-Annex I Parties. The ERT encourages Germany to report information on private financial flows and the promotion of scaling up private financial flows.

44. In its BR1, Germany provided detail on what "new and additional" financial resources it has provided and clarified how these resources are "new and additional". Germany provided information on "new and additional" financial resources it has provided pursuant to Article 4, paragraph 3, of the Convention. Germany defined "new and additional" with regard to its fast-start pledge as follows: "The funds represent an increase over climate-related funds in 2009 and come from an innovative source of finance such as revenue from emission trading." In this submission of the BR, Germany included a definition of "new and additional" financial resources that was not included in NC5.

45. Germany provided some information on how its resources meet the needs of non-Annex I Parties in its examples of projects on adaptation to climate change, the reduction of GHGs and REDD-plus[6] included in the NC6. Germany also provided detailed information during the review; however, this information is not included in the BR1.

46. Germany has reported information on the assistance it has provided to developing country Parties that are particularly vulnerable to the adverse effects of climate change to help them to meet the costs of adaptation to those adverse effects. Much of the bilateral support has been part of its official development assistance (ODA) support to developing countries. The majority of Germany's contribution to bilateral and multilateral funding contributes to mitigation efforts. Yet the share of adaptation relevant funding has increased during the reporting period. However, this information is provided more in tabular than in textual format. Table 4 includes some of the information reported by Germany on its provision of climate-specific financial support.

[6] Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

Table 4
Summary of information on provision of financial support in 2011–2012
(Millions of euros)

	Years of disbursement[a]	
Allocation channel of public financial support	*2011*	*2012*
German international climate finance[b]	1 560.00	1 663.00
Climate-specific contributions through multilateral channels, including:		
Contributions to the Global Environment Facility	52.5	71. 6
Contributions to the Least Developed Countries Fund	50.0	20.0
Contributions to the Special Climate Change Fund	26.0	11.0
Contributions through United Nations bodies	0.8	0.8
Multilateral financial institutions	152.0	162.0
Other multilateral climate change funds	13.4	13.4
Climate-specific contributions through bilateral, regional and other channels	1 274.0	1 396.0
Fast-start finance	495.0	433.0

[a] Figures are commitments for all bilateral projects except Energy and Climate Fund (EKF), disbursements for EKF and multilateral projects.

[b] Information provided by Germany during the review in the brochure "Together for a common cause. Germany's contribution to international climate financing" by the German Ministry for Environment, Nature Conservation and Nuclear Safety and the German Ministry for Economic Cooperation and Development.

2. Approach used to track support provided

47. Germany plays a considerable role in assisting developing countries and countries with economies in transition by providing financial aid through its well-developed multilateral and bilateral development assistance. However, this information is mainly included in tabular format in its BR1. During the review, Germany provided information regarding its official development assistance for the years 2010 to 2013.

48. Germany included information regarding the financial support provided, committed and pledged, as well as allocation channels and annual contributions in its NC6. Germany also provided additional information during the review week. Support is provided for the areas of energy production and supply, transport, forestry, agriculture, industry, waste management and disposal, and environment and biodiversity through mitigation projects, and for the areas of water and sanitation, rural development, agriculture, environment and biodiversity, and other areas such as flood protection, through adaptation activities. However, the information is provided more in tabular than in textual format in the BR1.

49. Germany reported in its NC6 some information regarding its national approach for tracking the provision of financial support by providing the indicators and methodologies/assumptions used. During the review, Germany provided the ERT with additional information regarding this tracking, including information on objectives, commitments, implementation progress and the country-customized approach regarding international climate financing. Germany has not included this information in the BR1 and the ERT recommends that Germany include this information in its next BR.

50. With regard to the most recent financial contributions (fast-start finance) to enhance the implementation of the Convention by developing countries, Germany had committed to provide EUR 1.26 billion for 2010-2012 and slightly exceeded the commitment, reaching EUR 1.289 billion of fast-start finance, with a balanced allocation between mitigation, adaptation and REDD-plus. In its NC6, Germany reports that it has implemented the

Initiative for Climate and Environment Protection that was launched in 2008 and committed EUR 6.7 billion in the form of concessional loans. In addition, Germany provided information about its International Climate Initiative (IKI) that supported 336 projects with total funds of EUR 860 million euros between its launch and March 2013. The ERT noted that this information and figures were not included in the BR1 and recommends that Germany include this information in the next BR.

51. During the review Germany provided additional information on private financial flows and the promotion of scaling up private financial flows. The information included a description of the financing instruments for climate protection and biodiversity, including on the IKI, of which mobilizing private finance and sustainable business models is one objective. As part of this objective, IKI also set up the Global Climate Partnership Fund, which offers reduced-interest credit lines to finance institutions in selected partner countries. These can then be used to offer loans for investment in renewable energy and energy efficiency. The funds provided by the IKI serve as a "risk buffer" for private capital and create incentives for additional investment. Since it was set up in 2009, this Fund has received pledges from investors totalling USD 326 million, of which USD 243 million has already been invested. The ERT noted that this information was not reported in the BR1 and recommends that Germany include this information in the next BR.

3. Technology development and transfer

52. Germany provided in its BR1 some information on technology transfer. This information included sectors, countries and information on whether the projects deal with mitigation or adaptation. However, information regarding technology transfer was included jointly with the information regarding financial support in table 7, and it is not possible to identify the technology transfer component. In the resubmission of its BR1 and CTF tables on 23 October 2014, Germany provided some information on technology transfer in table 8. Nevertheless, this information was only provided in tabular format. Germany indicated that technology transfer and capacity-building are components of virtually all the projects funded by the Ministry for the Environment, Nature Conservation, Building and Nuclear Safety and the Ministry for Economic Cooperation and Development, and that it is not possible to report them separately because they are always built into the project design from the outset. The ERT noted that more comprehensive information on technology transfer was included by Germany in its NC6. The ERT recommends that Germany include information regarding technology transfer in its next BR, also in textual format.

53. During the review, Germany provided additional information on activities to support the development and enhancement of endogenous capacities and technologies in developing countries. However, this information is not provided in textual format in the BR1. The ERT recommends that Germany, in its next BR, provide information on measures taken to support the development and enhancement of endogenous capacities and technologies of non-Annex I Parties in textual format.

4. Capacity-building

54. In its BR1 and CTF table 7, Germany reported information on the provision of financial, technological and capacity-building support required under the Convention. However, it was not clear whether the project examples involve technology transfer and/or capacity-building. Germany reported in the NC6, the BR1 and during the review that technology transfer and capacity-building activities are mostly integrated with mitigation and adaptation projects and that it considers capacity-building and technology transfer as integral parts of international cooperation. In the resubmission of its BR1 and CTF tables, Germany provides some information on capacity-building in table 9. Nevertheless, this information was only provided in tabular format.

55. During the review, Germany provided additional information regarding activities to support the development and enhancement of endogenous capacities and technologies in developing countries. This information was not included in textual format in the BR1. The ERT encourages Germany to provide information on capacity-building support and technology transfer in a separate subsection so that information on these activities is easily identifiable.

III. Conclusions

56. The ERT conducted a technical review of the information reported in the BR1 and CTF tables of Germany in accordance with the UNFCCC reporting guidelines on BRs. The ERT concludes that the BR1 and CTF tables provide an overview of emissions and removals related to the quantified economy-wide emission reduction target, the target description, progress made by Germany to achieve its target, and the provision of support to developing country Parties. During the review, Germany provided additional information on its target, the progress made towards its target and the provision of support to developing countries.

57. Germany's emissions and removals related to the target were estimated for 2011 to be 23.8 per cent below its 1990 level excluding LULUCF. Emission decreases were driven by the collapse of the East German economy in the early 1990s and the global financial crisis, which led to a fall in emissions in 2009. However, the steady decrease of emissions, which is also reflected in a significant decrease of emissions per GDP by 45.7 per cent over the period 1990–2012 shows a decoupling of GHG emissions and GDP which has been induced in part by mitigation measures, such as the increase in the share of renewable energy within the energy mix and efforts to increase energy efficiency and reduce waste disposal. These factors outweighed the impact on emissions from economic growth.

58. Associated assumptions and conditions related to the target include emissions to be reduced compared to 1990 covering all gases (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3) and expressed using the GWP from the AR4. Emissions and removals from the LULUCF sector are not included in the quantified economy-wide target under the Convention, and Germany does not plan to make use of market-based mechanisms to achieve the target, although companies can make use of such a mechanism to fulfil their requirements under the EU ETS.

59. Germany is committed to achieving a joint EU quantified economy-wide target to achieve a 20.0 per cent reduction in emissions by 2020 compared with the 1990 (base year) level. The target for the EU and its member States will be achieved through the EU 2020 climate and energy package. Among the key PaMs in this package are the EU ETS and the ESD. Across the EU, it is expected that the EU ETS will guarantee that sectors falling under this scheme will achieve a 21.0 per cent emission reduction compared with 2005 by 2020. For the non-ETS sectors, the 2020 EU target has been translated to a 14.0 per cent reduction target (compared with 2005) for Germany through the ESD. In absolute terms, this means that Germany has to reduce emissions from the non-ETS sector from 508,800 kt CO_2 eq (2005) to 437,600 kt CO_2 eq in 2020 (based on the split between emissions covered by the ETS and the non-ETS sectors between 2008 and 2012 and the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*). In 2012, emissions from non-ETS sectors were at about 476,700 kt CO_2 eq, or 6.0 per cent below the 2005 level.

60. According to the reported information, the projected emissions are 32.9 per cent below 1990 in 2020 and 42.6 per cent below in 2030. Considering the implemented and adopted PaMs, Germany expects to meet its target under the ESD.

61. To achieve its ambitious domestic target of a 40.0 per cent reduction by 2020 compared with the 1990 level, Germany organized a regular evaluation of its progress. As the existing measures are sufficient to reach a reduction of only 32.9 per cent, Germany is preparing a Climate Action Programme 2020 to reach the 40.0 per cent reduction.

62. Germany reported on its PaMs adopted, implemented and planned in achieving its emission reduction commitments. The main framework for PaMs relating to energy and climate change in Germany is the Energy Concept. With regard to the Energy Concept, the first annual monitoring report was published in December 2012, and Germany has committed to publish a more extensive report every three years, starting at the end of 2014. Germany's Energy Concept sets ambitious targets to increase the use of renewables and energy efficiency all while phasing out nuclear power. Germany has shut down seven nuclear power plants and plans to cease generating nuclear power from 2022.

63. Germany's package of PaMs reflects a mix of legislative and regulatory measures, fiscal and market-based instruments, funding programmes and voluntary measures. Key legislation supporting Germany's climate change goals are the Renewable Energy Sources Act, the Energy Saving Act, the Energy Industry Act and the Grid Expansion Acceleration Act. Key PaMs in the non-energy sector include PaMs to reduce leakage of fluorinated gases, replace equipment with those that use gases with lower GWPs, reduce emissions from agriculture linked to the EU nitrates directive, and utilize European Union Common Agricultural Policy payments for land-use change, ambitious targets to reduce waste in landfills and recover biogas for energy and biomass for compost from organic waste, and funding to support afforestation and promote biodiversity.

64. Germany plays a considerable role in assisting developing countries and countries with economies in transition by providing financial aid through its well-developed multilateral and bilateral climate finance programmes. Much of the bilateral support has been part of its ODA support to developing countries. The majority of Germany's contribution to bilateral and multilateral funding is for mitigation efforts. Yet the share of adaptation relevant funding has increased during the reporting period. With regard to the most recent financial contributions (fast-start finance) to enhance the implementation of the Convention by developing countries, Germany had committed itself to provide EUR 1.26 billion for 2010-2012 and slightly exceeded the commitment, reaching EUR 1.289 billion of fast-start finance, with a balanced allocation between mitigation, adaptation and REDD-plus. Germany remains the third largest contributor to the GEF and the largest donor to the LDCF and SCCF. Germany is contributing substantially through activities related to financial support, technology transfer and capacity-building.

65. In the course of the review, the ERT formulated several recommendations relating to the completeness and transparency of Germany's reporting under the Convention. The key recommendations[7] are that Germany:

(a) Improve the completeness of reporting by including in the next BR the following:

(i) Information on the 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 progress towards its economy-wide emission reduction target;

(ii) Information in textual format in particular on finance, technology transfer and capacity-building;

[7] The recommendations are given in full in the relevant sections of this report.

(iii) A description of its national approach for tracking the provision of financial, technological and capacity-building support to non-Annex I Parties;

(iv) A description of the methodology and indicators for tracking support;

(v) Information on how resources address the adaptation and mitigation needs of non-Annex I Parties;

(b) Improve the transparency in the next BR by indicating progress towards the target, in particular by presenting mitigation actions individually as indicated in CTF table 3, subdivided by gas.

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 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 23/CP.19. Available at <http://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf#page=20>.

FCCC/ARR/2013/DEU. Report of the individual review of the annual submission of Germany submitted in 2013. Available at <http://unfccc.int/resource/docs/2014/arr/deu.pdf>.

FCCC/IDR.5/DEU. Report of the in-depth review of the fifth national communication of Germany. Available at <http://unfccc.int/resource/docs/2011/idr/deu05.pdf>.

Sixth national communication of Germany. Available at <http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/national_communication_eng_bf.pdf>.

First biennial report of Germany. Available at <http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/141022_br_2014_germany_english.resubmission.pdf>.

Common tabular format tables of Germany. Available at <http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/deu_2014_v3.0_formatted.pdf>.

2013 GHG inventory submission of Germany. Available at <http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/deu-2013-nir-15may.zip>.

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European Environment Agency. 2013. Trends and projections in Europe 2013. Available at <www.eea.europa.eu/publications/trends-and-projections-2013/full-report-ghg-trends-and-1>.

European Environment Agency. 2014. Trends and projections in Europe 2014. Available at <http://www.eea.europa.eu/publications/trends-and-projections-in-europe-2014/at_download/file>.

B. Additional information provided by the Party

Responses to questions during the review were received from Ms. Mareike Welke (Ministry for the Environment, Nature Conservation, Building and Nuclear Safety), including additional material on updated policies and measures, greenhouse gas projections,

the national registry and recent climate policy developments in Germany. The following documents[1] were also provided by Germany:

Bürger V, Kranzl L, Müller A and Steinbach J. 2013. *Modelling Policy Impacts with Invert/EE-Lab* (internal information to support the preparation of the second policy group meetings).

Fraunhofer Institute for Systems and Innovation Research (ISI), Institute for Resource Efficiency and Energy Strategies and TEP Energy. 2013. *FORECAST Model Description (programme version 4.0)*. Zürich.

German Federal Government, 2014, *Climate Protection on Figures: Facts, Trends and Incentives for German Climate Policy*, Berlin, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). Available at <http://www.bmub.bund.de/fileadmin/Daten_BMU/Pools/Broschueren/klimaschutz_in_zahlen_broschuere_en_bf.pdf>.

German Government. 2010. *Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply*. Berlin: German Ministry for the Environment, Nature Conservation and Nuclear Safety. Available at: <http://www.germany.info/contentblob/3043402/Daten/3903429/BMUBMWi_Energy_Concept_DD.pdf>.

Germany. 2013. *Projektionsbericht 2013 gemäß Entscheidung 280/2004/EG* (Report on projections 2013 following decision 280/2004/EC). Available at <http://cdr.eionet.europa.eu/de/eu/ghgpro/envuucoda/>.

Harthan R and Koch Dr. M. "Power Sector Modelling at Oeko-Institut", presentation made in Berlin, 12 December 2012.

[1] Reproduced as received from the Party.