United Nations

FCCC/TRR.2/DNK

Framework Convention on Climate Change

Distr.: General
14 July 2016

English only

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

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 Denmark, conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse ntories, biennial reports and national communications by Parties included in Annex I to the Convention".

GE.16-12117(E)

1612117

Contents

I. Introduction and summary

A. Introduction

1. This report covers the centralized technical review of the second biennial report (BR2)[1] of Denmark. 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 Denmark, which provided comments that were considered and incorporated, as appropriate, 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. Roberto Acosta Moreno (Cuba), Mr. Oluseyi Adefisan (Nigeria), Mr. Quosay Awad Ahmed Babiker (Sudan), Mr. Pierre Brender (France), Ms. Hanna Brolinson (Sweden), Mr. Zeljko Juric (Croatia), Mr. Seungdo Kim (Republic of Korea), Mr. Audace Ndayizeye (Burundi), Mr. Rostislav Neveceral (Czech Republic), Ms. Nadiia Pustovoitova (Ukraine) and Mr. Can Wang (China). Mr. Acosta Moreno and Ms. Brolinson were the lead reviewers. The review was coordinated by Ms. Inkar Kadyrzhanova and Mr. Davor Vesligaj (UNFCCC secretariat).

B. Summary

3. The expert review team (ERT) conducted a technical review of the information reported in the BR2 of Denmark 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, Denmark provided the following additional relevant information: the report entitled "Danmarks energi-og klimafremskrivning 2015" and the corresponding report in English "Projections of Greenhouse Gases (GHGs) for 2016–2025".

1. Timeliness

4. The BR2 was submitted on 12 January 2016, after the deadline of 1 January 2016 mandated by decision 2/CP.17. The common tabular format (CTF) tables were also submitted on 12 January 2016 and then resubmitted on 29 February and 15 March 2016 to correct an error in the reporting of financial support in CTF tables 7, 7(a) and 7(b). Denmark informed the secretariat about its difficulties with submitting its BR2 and CTF tables on 30 December 2015. The ERT noted with concern the delay in the submission of the BR2 and CTF tables, and recommends that Denmark improve the timeliness of its reporting by submitting its next biennial report (BR) on time.

[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 Denmark 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 Denmark

Chapter 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	Transparent	
Progress in achievement of targets	Mostly complete	Mostly transparent	26, 47, 48
Provision of support to developing country Parties	Partially complete	Partially transparent	65, 74, 90, 101

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. Denmark has provided a summary of information on GHG emission trends for the period 1990–2013 in its BR2 and CTF tables 1(a)–(d). The BR2 explained that, because Greenland and the Faroe Islands are not part of the European Union (EU) territory, the inventory data for Denmark alone have been reported as well as data for the Kingdom of Denmark as a whole.[2]

7. The BR2 makes reference to the national inventory arrangements, which are explained in chapter 4 of Denmark's sixth national communication (NC6) and chapter 1.1 of the Party's national inventory report (NIR) of the 2015 annual inventory submission. 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. Further, Denmark provided information that there were no changes in the national inventory arrangements since its first biennial report (BR1).

8. The information reported in the BR2 on emission trends is consistent with that reported in the 2015 annual inventory submission of Denmark. The same information (version 1.0 of Denmark's 2015 annual inventory submission) has been used as the basis

[2] The Kingdom of Denmark comprises Denmark, Greenland and the Faroe Islands.

for discussion in chapter II.A of this review report as it was the most recent data available at the time of review.

9. Total GHG emissions[3] excluding emissions and removals from land use, land-use change and forestry (LULUCF) of Denmark, Greenland and the Faroe Islands decreased by 20.7 per cent between 1990 and 2013, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 24.6 per cent over the same period. The decrease in the total GHG emissions can be attributed mainly to carbon dioxide (CO_2) emissions, which decreased by 21.7 per cent (excluding LULUCF) between 1990 and 2013. Over the same period, emissions of methane (CH_4) decreased by 11.7 per cent, while emissions of nitrous oxide (N_2O) decreased by 34.5 per cent. The combined fluorinated gases, such as perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF_6), increased by 201.1 per cent over the same period.

10. In its BR2, Denmark reported that the most significant emission reductions (in absolute terms) between 1990 and 2013 were observed in: the energy sector (11,340.01 kt of carbon dioxide equivalent (CO_2 eq) or 21.1 per cent reduction), mainly attributed to changes in the fuel mix from coal to natural gas and renewable energy, and a general decrease in gross energy consumption owing to energy efficiency gains; the agriculture sector (2,356.65 kt CO_2 eq or 18.8 per cent reduction), mainly because of the improved utilization of nitrogen in manure; and the waste sector (746.24 kt CO_2 eq or 36.2 per cent reduction), mainly because of the ban on landfilling combustible waste. The transport sector is the only major emitting sector that has shown an increasing trend (1,216.58 kt CO_2 eq or 11.1 per cent increase) since 1990, a trend that in recent years has started to stabilize and even decrease slightly (238.82 kt CO_2 eq or 1.9 per cent, reduction between 2012 and 2013).

11. Compared with the total GHG emissions of Denmark alone, the total emissions of Greenland and the Faroe Islands have been almost constant since 1990, each accounting for 1.5 and 1.1 per cent respectively, of the total emissions of the Kingdom of Denmark.

12. The ERT noted that, during the period 1990–2013, Denmark's gross domestic product (GDP) per capita increased by 27.7 per cent, while GHG emissions per GDP and GHG emissions per capita decreased by 43.2 and 27.4 per cent, respectively. The ERT further noted that Denmark demonstrates decoupling of emissions and economic growth; while the economy has been growing (despite the lack of growth for some years after 2009 following the economic downturn), the national emissions show a long-term decreasing trend. The main reason for the decoupling of emissions from economic growth is the effect of the measures introduced with the aim to phase out fossil fuels used for energy purposes. More information on the main drivers for the decrease in emissions is given in paragraph 10 above. Table 2 below illustrates the emission trends by sector and some of the economic indicators relevant to GHG emissions for Denmark, Greenland and the Faroe Islands.

[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. Values in this paragraph are calculated based on the 2015 inventory submission, version 1.0.

Table 2
Greenhouse gas emissions by sector and some indicators relevant to greenhouse gas emissions for Denmark, Greenland and the Faroe Islands 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	53 696.67	54 868.45	50 565.72	40 589.65	42 356.66	–21.1	4.4	76.0	75.6
A1. Energy industries	26 527.96	26 297.83	24 406.11	17 039.07	19 238.49	–27.5	12.9	37.6	34.4
A2. Manufacturing industries and construction	5 606.42	6 223.20	4 671.58	4 371.50	4 284.41	–23.6	–2.0	7.9	7.7
A3. Transport	10 953.17	12 489.57	13 360.27	12 409.57	12 169.75	11.1	–1.9	15.5	21.7
A4.–A5. Other	10 093.12	8 769.62	7 560.73	6 402.76	6 277.14	–37.8	–2.0	14.3	11.2
B. Fugitive emissions from fuels	516.00	1 088.23	567.03	366.75	386.86	–25.0	5.5	0.7	0.7
C. CO_2 transport and storage	NO	NO	NO	NO	NO	NA	NA	NA	NA
2. IPPU	2 341.78	3 637.48	2 055.34	2 144.53	2 162.99	–7.6	0.9	3.3	3.9
3. Agriculture	12 525.96	10 934.45	10 118.99	10 071.81	10 169.31	–18.8	1.0	17.7	18.2
4. LULUCF	6 772.18	4 765.68	3 047.18	2 272.15	2 391.50	–64.7	5.3	NA	NA
5. Waste	2 058.60	1 743.19	1 303.76	1 270.84	1 312.36	–36.2	3.3	2.9	2.3
6. Other	NO	NO	NO	NO	NO	NA	NA	NA	NA
Indirect CO_2	1 246.75	906.06	572.07	488.68	465.10	–62.7	–4.8	NA	NA
Total GHG emissions without LULUCF	**70 623.01**	**71 183.57**	**64 043.82**	**54 076.83**	**56 001.33**	**–20.7**	**3.6**	**100.0**	**100.0**
Total GHG emissions with LULUCF	**77 395.18**	**75 949.25**	**67 091.00**	**56 348.97**	**58 392.83**	**–24.6**	**3.6**	**NA**	**NA**
Total GHG emissions without LULUCF, including indirect CO_2	**78 641.93**	**76 855.32**	**67 663.07**	**56 837.65**	**58 857.92**	**–25.2**	**3.6**	**NA**	**NA**
Total GHG emissions with LULUCF, including indirect CO_2	**71 869.76**	**72 089.63**	**64 615.89**	**54 565.51**	**56 466.42**	**–21.4**	**3.5**	**NA**	**NA**
Indicators									
GDP per capita (thousands 2011 USD using PPP)	33.26	41.69	43.00	42.87	42.48	27.7	–0.9		
GHG emissions without LULUCF per capita (t CO_2 eq)	13.74	13.33	11.54	9.67	9.97	–27.4	3.1		
GHG emissions without	0.41	0.32	0.27	0.23	0.23	–43.2	4.1		

Sector	GHG emissions (kt CO_2 eq)					Change (%)		Share by sector (%)	
	1990	2000	2010	2012	2013	1990–2013	2012–2013	1990	2013
LULUCF per GDP unit (kg CO_2 eq per 2011 USD using PPP)									

Sources: GHG emission data: Denmark's 2015 annual inventory submission, version 1.0; (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

13. In its BR2 and CTF tables 2(a)–(f), Denmark 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. Denmark has committed to achieving the joint EU target, and it reported on the EU target and its assumptions, conditions and methodologies. In line with the EU target, the LULUCF sector is not included in the EU target. Further information on the target and the assumptions, conditions and methodologies related to the target is provided in chapter III of the BR2. During the review, Denmark informed the ERT that it experienced difficulties in reporting information in the footnotes to CTF tables 2(a), 2(b), 2(c) and 2e(I), because the CTF reporter software does not show the relevant footnotes correctly. These footnotes explain in detail the assumptions and conditions relating to the target.

14. For the Kingdom of Denmark, the Convention entered into force on 21 March 1994. Under the Convention, Denmark (excluding Greenland and the Faroe Islands) 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. The ERT noted that as Greenland and the Faroe Islands are not included in the EU territory, the commitments of Denmark as a member State of the EU do not apply to Greenland and the Faroe Islands.

15. 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 SF_6 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 Emissions Trading System (EU ETS).

16. The EU 2020 climate and energy package includes the EU ETS and the effort-sharing decision (ESD) (see chapter II.C.1 below). The EU ETS covers mainly point

emissions sources in the energy, industry and aviation sectors. Denmark reported that the EU ETS covers CO_2 emissions from all flights arriving at, and departing from, airports in all EU member States, Norway, Iceland, Liechtenstein and closely related territories. However, since 2012, flights to and from aerodromes in other countries have not been included in the EU ETS. 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.

17. Under the ESD, Denmark has a target to reduce its emissions to 20 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.[4] Denmark's AEAs change following a linear path from 36,829.16 kt CO_2 eq in 2013 to 30,501.22 kt CO_2 eq in 2020. Furthermore, in its BR2, Denmark reiterated its commitments to the EU target under the first (2008–2012) and second (2013–2020) commitment periods of the Kyoto Protocol.

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

18. This chapter provides information on the review of the reporting by Denmark 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.

1. Mitigation actions and their effects

19. In its BR2 and CTF table 3, Denmark reported on its progress in the achievement of its target and the mitigation actions implemented and planned since its NC6 and BR1 to achieve its target. Denmark reported that textual information on its mitigation actions, including information on policies and measures (PaMs) implemented or planned to achieve its target, is included in chapter 4 of its NC6. In its NC6, Denmark provided information on PaMs presented by sector and by gas, and a description of the main PaMs. Further information on the mitigation actions related to the Party's target is provided in chapter 4 of the NC6 and chapter IV of the BR2.

20. Since the NC6, Denmark has implemented 11 new PaMs that are included in the overview of Denmark's portfolio of mitigation actions provided in CTF table 3, which is consistent with the relevant information reported in the NC6 and the BR2.

21. Denmark provided a comprehensive list of mitigation actions with an evaluation of their effects in CTF table 3; however, the evaluation was done mostly for the year 2010. The ERT noted that most of the estimates for mitigation impacts of individual PaMs are based on Denmark's 2005 Effort Analysis, which provides the estimated and expected total effect for the period 2008–2012 for PaMs that were implemented in the period 1990–2001.

[4] European Commission decision of 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".

22. For the majority of adopted and implemented mitigation actions presented in CTF table 3, the information required by the UNFCCC reporting guidelines on BRs regarding the effects of individual PaMs for 2020 is given using the notation key "NE" (not estimated). According to the additional information provided by Denmark during the review, the estimation of effects of PaMs is very difficult – both based on forecasts and on actual results. The ERT noted that it is hard to assess Denmark's progress towards the achievement of the quantified economy-wide emission reduction target and the contribution of PaMs to achievement of the target based on the reported information on the effects of its mitigation actions. Denmark's progress towards the achievement of the target can be assessed on the basis of the reported information on historical GHG emissions (see para. 45 below) and projected GHG emissions (see para. 57 below).

23. For example, the annexes to the NC6 report the results of the two most comprehensive ex post analyses (annexes B and C) and the latest list of potential additional PaMs (annex E3). In these analyses, the list of potential additional PaMs contains the estimates for 2020, but such estimates are not prepared for implemented PaMs. From this list, only the PaM on the subsidy for conversion of arable land on organic soils to nature has been implemented, and its estimated effect is reported in CTF table 3. In a few other cases, the ex ante estimates were made when the PaM was adopted. However, the ERT noted that often the PaM has changed or the assumed parameters used for the estimation have changed over time. Even when the effects of individual PaMs are estimated, they might be very uncertain. Due to the uncertainties related to the estimated effects of individual PaMs, the progress made towards achieving the target is assessed taking into account historical and projected GHG emission trends (see paras. 45 and 57 below).

24. However, the ERT noted that grouping of PaMs could decrease this uncertainty, including minimizing the risk of double counting the effect of "co-working" PaMs. For example, the increase of renewable energy in Denmark is a result of many different PaMs implemented over many years (e.g. subsidies, taxes, the EU ETS and carbon pricing). The same applies for PaMs promoting energy efficiency. Therefore, the Party made additional estimations of the mitigation effects of the group of all renewable energy PaMs and the group of all energy efficiency PaMs in the BR2.

25. During the review, Denmark provided additional information, elaborating on the expected mitigation impacts of renewable energy and energy efficiency PaMs by 2020 and on the estimation methodology used. CO_2 savings from the increase in use of renewable energy in electricity production are expected to contribute the most to the total emission reductions from renewable energy PaMs (a saving of 15,500.00 kt CO_2 in 2020 and 17,700.00 kt CO_2 in 2025). The mitigation impacts of PaMs aimed at the promotion of renewable energy use were estimated using the methodology outlined in the EU renewable energy directive.

26. The ERT noted the detailed information provided by Denmark during the review, explaining its difficulties with estimating the mitigation effects of individual PaMs in 2020. The ERT recommends that Denmark improve the transparency of its reporting by providing this information and a comprehensive and up-to-date assessment of the effects of implemented and planned individual PaMs for 2020 in its next BR submission.

27. In its BR2, Denmark 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. The only change in Denmark's domestic institutional arrangements in relation to climate change between the BR1 and the BR2 is a change in the name of the responsible minister or ministry from the Minister/Ministry for Climate, Energy and Buildings to the Minister/Ministry for Energy, Utilities and Climate.

28. In its BR2, Denmark provided limited information on the assessment of the economic and social consequences of its response measures for developing countries. Denmark reported that an analysis of the socioeconomic consequences of response measures is performed in cases where new measures are planned to be implemented. The Government's proposals for new response measures to be put before Parliament are, in most cases, accompanied by an assessment of the consequences in relation to socioeconomic cost and, when effects on the environment are expected, also by an assessment of the consequences in relation to Denmark's GHG emissions. Denmark also reported that further information is provided in chapter 15 of Denmark's NIR of the 2011 annual inventory submission. The ERT noted that this information has not been updated since that submission. The ERT encourages Denmark to increase the transparency of its reporting on the assessment of the economic and social consequences of response measures on developing countries, to the extent possible, and to include more detailed and updated information on this in its next BR submission.

29. Denmark 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. Denmark has in place a national system for reporting on PaMs and projections of GHG emissions, and considers that its domestic arrangements for the process of self-assessment of compliance with emission reductions are sufficient. Denmark reported that it has established national rules for taking action against Danish entities in case of non-compliance with the emission reduction targets under the EU ETS. These rules are contained in the Danish Act on CO_2 quotas.

30. 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).

31. In operation since 2005, the EU ETS is a cap-and-trade system that covers all significant energy-intensive installations (mainly large point emissions sources such as power plants and industrial facilities), which produce 40–45 per cent of the GHG emissions of the EU. It is expected that the EU ETS will guarantee that the 2020 target (a 21 per cent emission reduction below the 2005 level) will be achieved for sectors under the scheme. The third phase of the EU ETS started in 2013 and the system now includes aircraft operations (since 2012) as well as N_2O emissions from chemical industries, PFC emissions from aluminium production and CO_2 emissions from industrial processes (since 2013).

32. 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).

33. Denmark's climate change policy portfolio has evolved over the years, shifting from relying primarily on carbon and energy taxes to utilizing the EU ETS in accordance with the EU legislative requirements. Along with the carbon and energy taxes, and a combination of support for research, regulatory and information measures, the EU ETS is central to the policy portfolio; it covered approximately 39.0 per cent of Denmark's total GHG emissions in 2013.

34. During the review, Denmark informed the ERT that the most significant mitigation actions helping Denmark to achieve its 2020 target under the ESD through further reductions in the period 2013–2020 are: PaMs supporting energy efficiency improvements and the use of renewable energy sources in the non-ETS sectors (manufacturing industry and services in the business sector and in households), and the continuation of PaMs that are in place to reduce emissions from landfills and emissions of industrial gases.

35. The key policies that help Denmark to achieve its 2020 target under the ESD include: efficiency gains in the electricity grid, gas, oil and district heating companies; energy efficiency in government institutions; the use of renewable energy in industry; mandatory energy audits for large enterprises; energy labelling of small and large buildings, and electric appliances; the replacement of individual oil-based furnaces; the Better Homes scheme; the renovation of buildings; a ban on landfilling combustible waste; and the regulation of use of HFCs, PFCs and SF_6. These PaMs remain a prime tool for GHG mitigation along with the EU ETS. Detailed information on Denmark's key mitigation actions with the highest mitigation impact is provided in the NC6.

36. Denmark's main national policy framework relating to energy and climate is the Energy Agreement, which was adopted by the Danish Parliament in 2012. In 2014, the Danish Parliament passed the Climate Change Act, which establishes an overall strategic framework for national climate policy aiming to support Denmark's transition to a low-emission society by 2050. Further to adoption of this Act, the Climate Council (an independent academic organization) was established to advise the government on the transition to a low-emission society (i.e. a resource-effective society with energy supply based on renewable energy and significantly lower GHG emissions from other sectors, also taking into consideration economic growth and development). In addition, the Climate Change Act calls for the preparation of an annual Climate Policy Report for the Danish Parliament and outlines a process for the setting of national climate targets. A new Government Platform, passed in 2015, states that the Government's climate and energy policy is based on "green realism", which represents coherence between the energy policy goals and the available resources.

37. During the review, Denmark informed the ERT that since 2015, the domestic emission reduction target of 40 per cent by 2020 described in the NC6/BR1 is no longer in place. Since the change of government in June 2015, the focus has been on Denmark's target under the ESD and the contribution to the joint EU target for 2020 under the Convention.

38. As explained during the review, Denmark's target under the ESD as well as the joint EU target under the Convention will be achieved with already implemented or adopted PaMs, so no additional PaMs are planned for the achievement of these targets. Table 3 below provides a concise summary of the key mitigation actions and estimates of their mitigation effects reported by Denmark to achieve its target.

Table 3
Summary of information on mitigation actions and their impacts reported by Denmark

Sector affected	*List of key mitigation actions*	*Estimate of mitigation impact in 2020 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	European Union Emissions Trading System	NE
Energy, including:		
Energy supply	Mineral oil tax act	NE

	CO_2 tax on energy products	NE
Renewable energy	Renewables for the industry	1 000
	All renewable energy mitigation actions since 1990	22 300
Energy efficiency	Energy-saving activities by the electricity grid, gas, oil and district heating companies	NE
	Mandatory energy audit for large enterprises	NE
	All energy efficiency mitigation actions since 1990	24 000
Residential and commercial sectors	Energy labelling of small and large buildings (including public sector and business)	NE
IPPU	Regulation of use of HFCs, PFCs and SF_6 (phasing out most of the uses)	NE
Waste	Ban on landfilling combustible waste	NE

Note: The estimates of mitigation impact are estimates of emissions of carbon dioxide or carbon dioxide equivalent avoided in 2020 as a result of the implementation of mitigation actions.
Abbreviations: IPPU = industrial processes and product use, NE = not estimated.

39. The ERT took note of Denmark's cooperation and responsiveness during the review of the BR2 and appreciated the information provided by Denmark on its most significant mitigation actions helping it to achieve its 2020 target under the ESD.

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

40. Denmark reported in its BR2 and CTF table 4 on total GHG emissions excluding LULUCF relating to its target for 1990 and the period 2010–2013. For 2013, Denmark reported in CTF table 4 annual total GHG emissions of 57,057.24 kt CO_2 eq, or 19.6 per cent below the 1990 level, including CO_2 from international aviation and excluding LULUCF, for Denmark only.[5]

41. Denmark reported in its BR2 that, in 2013, the share of emissions covered by the EU ETS is 39.0 per cent of its total GHG emissions excluding LULUCF and including indirect CO_2 emissions. During the review, Denmark informed the ERT about the national trends of emissions covered by the EU ETS in 2013–2014. Denmark's verified emissions under the EU ETS were 22,162.35 kt CO_2 eq in 2013 and 18,961 kt CO_2 eq in 2014, and including emissions from stationary sources (i.e. without aviation) they were 21,601.95 kt CO_2 eq in 2013 and 18,388.75 kt CO_2 eq in 2014. The number of installations and aviation entities under the EU ETS in Denmark in 2013 was 372 (including 361 stationary installations and 11 aviation entities) and in 2014 there was 360 (including 350 stationary installations and 10 aviation entities).

42. Denmark reported that emissions from the LULUCF sector are not included in the target under the Convention, and therefore are not included in CTF tables 4, 4(a)I and 4(a)II, where Denmark used the notation key "NA" (not applicable). For the use of units from the flexible mechanisms under the EU ETS, Denmark referred, in its BR2, to the BR2

[5] GHG emissions for Denmark only exclude emissions from Greenland and the Faroe Islands because these parts of the Kingdom of Denmark are not included in the EU territory.

submission by the EU. On the use of units from the market-based mechanisms under the ESD, Denmark reported in its BR2 that this could not be assessed at the time of submitting the BR2 because the ESD emissions for 2013 had not been estimated. Therefore, Denmark used the notation key "NA" in CTF table 4(b).

43. Table 4 below illustrates the total GHG emissions for Denmark only (i.e. excluding Greenland and the Faroe Islands), including international aviation, the contribution of LULUCF and the use of units from market-based mechanisms to achieve the target.

44. To assess the progress towards the achievement of the 2020 target, the ERT noted that Denmark's emission reduction target from sectors under the ESD is 20 per cent below the 2005 level (see para. 17 above). During the review, Denmark provided additional information that was not originally reported in its BR2 on historical and projected emissions for the split of emissions between the EU ETS and the ESD.

45. According to this information and as discussed in chapter II.B above, in 2013, Denmark's emissions from the sectors not covered by the EU ETS amounted to 32,841.66 kt CO_2 eq, which is below Denmark's amount of AEAs under the ESD for 2013 (36,829.16 kt CO_2 eq). The ERT noted that Denmark is making progress towards its emission reduction target under the ESD by implementing mitigation actions. In addition, the ERT noted that Denmark will not account for the contribution from LULUCF and does not foresee a need to use units from the market-based mechanisms under the Convention 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 Denmark (excluding Greenland and Faroe Islands) towards the achievement of its target

Year	*Emissions excluding LULUCF (kt CO_2 eq)*[a]	*Contribution from LULUCF (kt CO_2 eq)*[b]	*Emissions including contribution from LULUCF (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*[c]
1990	71 006.48	NA	NA	NA
2010	64 845.23	NA	NA	NA
2011	59 872.27	NA	NA	NA
2012	55 095.28	NA	NA	NA
2013	57 057.24	NA	NA	NA

Note: In this table, the carbon dioxide emissions from international aviation according to the greenhouse gas inventory are included as a proxy for carbon dioxide emissions from international aviation activities reported by aviation entities registered in the Danish quota register.

Sources: Denmark'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] Emissions are for Denmark only, because Greenland and the Faroe Islands are not part of the European Union (EU) territory, and therefore the EU target is not applicable to these parts of the Kingdom of Denmark.

[b] The EU unconditional commitment to reduce greenhouse gas emissions by 20 per cent below the 1990 level by 2020 does not include emissions/removals from LULUCF.

[c] Denmark reported that it did not use units from the market-based mechanisms towards achievement of its target.

3. Projections

46. Denmark reported in its BR2 and CTF table 6(a) updated projections for 2020 and 2030 relative to actual inventory data for 2013 under the 'with measures' (WEM) scenario for Denmark only (i.e. excluding Greenland and the Faroe Islands). Projections are presented on a sectoral basis, using the same sectoral categories as used in the chapter on mitigation actions, and on a gas-by-gas basis for the following GHGs: CO_2, CH_4, N_2O, PFCs, HFCs and SF_6 (treating PFCs and HFCs collectively in each case). The report "Projection of Greenhouse Gases 2016–2025", provided during the review, includes diagrams illustrating the WEM projections and the inventory data for total GHG emissions, presented by gas and by sector. Projections are also provided in an aggregated format for each sector as well as for a Party total, using GWP values from the AR4.

47. In the BR2, emission projections related to fuel sold to ships and aircraft engaged in international transport were not reported. During the review, Denmark provided historical and projected emissions from international bunkers ("Memo items" in the GHG inventory), separated from the total. The ERT recommends that Denmark report, in its next BR submission, emission projections related to fuel sold to ships and aircraft engaged in international transport, to the extent possible, separately from the total projected emissions, consistent with inventory data, and not included in the totals.

48. The report "Projection of Greenhouse Gases for 2016–2025" includes information on activity data for future years. During the review, Denmark provided further references as to where information on activity data for the historical years can be found (i.e. the 2015 NIR). The ERT noted the usefulness of this information, and recommends that Denmark present relevant information on the factors and activities affecting emission trends for the historical and future years together, in its next BR submission, to enhance the transparency of its reporting.

49. The emission projection under the 'without measures' (WOM) was reported using the notation key "NE" in CTF table 6(b). The ERT reiterated the encouragement made in the previous review report that Denmark include an updated WOM scenario in its next BR submission. The emission projection under the 'with additional measures' scenario was reported using the notation key "NA" in CTF table 6(c). Denmark explained in the textual part of the BR2 that no additional measures are needed to achieve Denmark's contribution to the joint EU target for 2020 under the Convention and therefore such a scenario is not applicable.

50. Denmark makes a reference to the report on assumptions, projection parameters and sensitivity analyses entitled "Danmarks energi-og klimafremskrivning 2015" and the corresponding report in English, which Denmark provided during the review, "Projection of Greenhouse Gases 2016–2025". Further information on the models and methodologies used for the production of projections is provided in chapter 5 and annex 6 of Denmark's NC6.

51. Regarding sensitivity analyses, in its BR2, Denmark made a reference to the NC6 and the underlying projection reports. Information on the sensitivity analyses for the updated WEM scenario is reported in the Danish projection report mentioned in paragraph 50 above. The ERT encourages Denmark to include the sensitivity analyses, where possible, in English in its next BR submission to enhance the transparency of its reporting.

Overview of projection scenarios

52. The WEM scenario reported by Denmark includes all the implemented and adopted PaMs, which are presented in the PaMs chapter of the BR2 and in CTF table 3. The definition 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

53. The methodology used in the BR2 is identical to that used for the preparation of the emission projections for the NC6/BR1. Denmark reported in the BR2 that there have not been any significant changes of models and methodologies since the NC6/BR1.

54. To prepare its projections, Denmark relied on the following key underlying assumptions: energy prices, economic development indicators and number of dwellings. These variables and assumptions are reported in CTF table 5. These assumptions have been updated on the basis of the most recent economic development data known at the time of the reporting on projections.

Results of projections

55. Denmark's total GHG emissions excluding LULUCF in 2020 and 2030 are projected to be 43,623.12 and 44,080.79 kt CO_2 eq, respectively, under the WEM scenario, which represents a decrease of 37.0 and 36.4 per cent, respectively, below the 1990 level. The 2020 projections suggest that Denmark will continue contributing to the achievement of the EU target under the Convention (see para. 14 above).

56. During the review, Denmark provided useful information on the historical and projected emissions for the split between the EU ETS and the ESD, which was used to assess the progress towards the target. Denmark's target for emissions from sectors covered by the ESD is to reduce its emissions by 20 per cent below the 2005 level by 2020. During the review, Denmark provided more detailed information on its performance and the expected trajectory for emissions from sectors covered by the ESD.

57. Denmark stated that, according to the latest GHG projection published on 16 December 2015, its GHG emissions from non-ETS sectors are expected to be below the ESD target path for the period 2013–2020 for Denmark. According to the projections under the WEM scenario, emissions from non-ETS sectors are estimated to reach 30,816.55 kt CO_2 eq by 2020, which is above its AEAs of 30,501.22 kt CO_2 eq in 2020. Although Denmark's emissions from non-ETS sectors are projected to be approximately 300 kt CO_2 eq above Denmark's amount of AEAs for 2020, the accumulated surplus of approximately 14,200 kt CO_2 eq in the period 2013–2019 will more than outweigh the deficit in 2020. Under the ESD regulations, a surplus from early years in the period 2013–2019 can be transferred to later years in the same period. Therefore, Denmark does not plan to make use of the market mechanisms under the ESD. The ERT noted that according to the WEM scenario, Denmark expects to meet its 2020 target for non-ETS sectors without additional measures (see para. 38 above).

58. According to the projections of total GHG emissions (excluding LULUCF) presented by sector, the most significant emission reductions under the WEM scenario from 1990 to 2020, in absolute terms, will occur in the energy sector (23,607.61 kt CO_2 eq or 56.7 per cent), followed by the agricultural sector (2,395.21 kt CO_2 eq or 19.2 per cent), the waste sector (943.98 kt CO_2 eq or 46.3 per cent) and the industrial processes and product use sector (468.84 kt CO_2 eq or 20.0 per cent). GHG emissions from the transport subsector are projected to increase by 1,770.75 kt CO_2 eq (16.5 per cent) above the 1990 level by 2020.

59. According to the projections for 2030, presented by sector, the pattern of sectoral shares of emissions remains the same. The most significant GHG emission reductions (excluding LULUCF) under the WEM scenario from 1990 to 2030, in absolute terms, will also occur in the energy sector (22,906.26 kt CO_2 eq or 55.0 per cent), followed by the agricultural sector (2,279.65 kt CO_2 eq or 18.3 per cent), the waste sector (1,023.54 kt

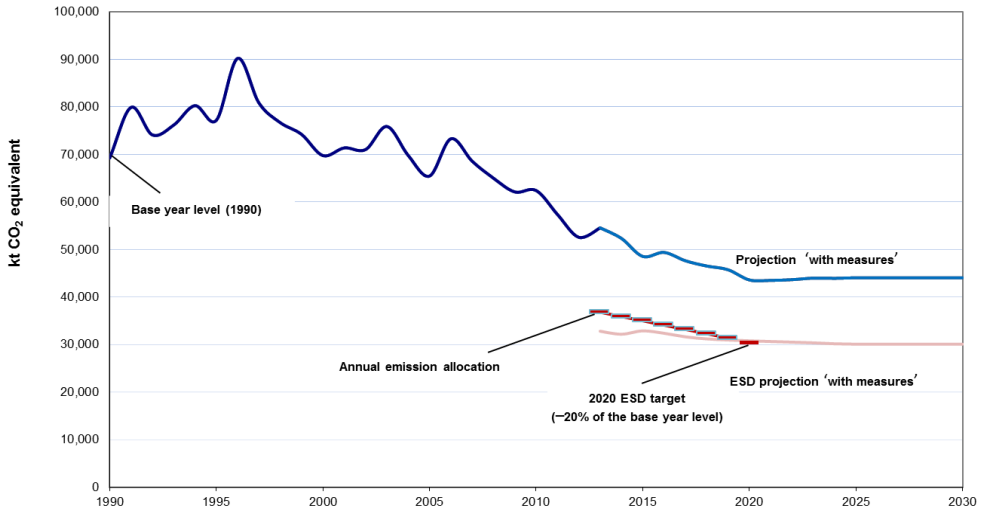
CO_2 eq or 50.1 per cent) and the industrial processes and product use sector (629.66 kt CO_2 eq or 26.9 per cent). GHG emissions from the transport subsector are projected to increase by 1,651.91 kt CO_2 eq (15.4 per cent) above the 1990 level by 2030.

60. According to the projections of total GHG emissions (excluding LULUCF) by 2020, presented by gas, reductions in CO_2 emissions are expected to contribute the most to the Party's overall emission reductions. Under the WEM scenario, reductions in CO_2 emissions, excluding LULUCF, make up approximately 86.5 per cent of the aggregate GHG emission reductions below the 1990 level by 2020 (22,181.87 kt CO_2 eq), followed by N_2O with 11.2 per cent (2,882.85 kt CO_2 eq) and CH_4 with 4.1 per cent (1,038.77 kt CO_2 eq).

61. According to the projections by 2030, presented by gas, excluding LULUCF, reductions in CO_2 emissions make up approximately 85.5 per cent of the aggregate GHG emission reductions below the 1990 level by 2030 (21,546.48 kt CO_2 eq), followed by N_2O with 11.6 per cent (2,916.70 kt CO_2 eq) and CH_4 with 3.8 per cent (948.29 kt CO_2 eq).

62. The projected emission levels under the WEM scenario for total GHG emissions and emission levels covered by the ESD related to the target are presented in the figure below.

Greenhouse gas emission projections by Denmark



Sources: (1) Data for the years 1990–2013: Denmark's 2015 annual inventory submission, version 1.0; total GHG emissions excluding land use, land-use change and forestry; (2) Data for the years 2014–2030: Denmark's second biennial report; total GHG emissions excluding land use, land-use change and forestry; (3) ESD emissions: additional information provided by Denmark during the review.

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

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

63. In its BR2, Denmark 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 financial, technology and capacity-building support (the Danida Aid Management guidelines),

including information on the delivery mechanisms used and the allocation channels for financial support. Denmark reported a description of the methodology used to report the financial support provided to the relevant projects on climate action, including underlying assumptions.

64. In its BR2, Denmark reported that it does not currently track technology transfer and capacity-building support, and explained its intention to consider including such information in its next BR submission. The reported information does not include indicators of success or failure of support provided for the item supported, and the ERT also noted that the BR2 lacks information on the implementation stage of the provision of technology transfer and capacity-building support. Denmark provided in CTF tables 8 and 9 lists of projects benefiting from technology transfer and capacity-building support, but these cannot be used for the tracking of such support.

65. During the review, Denmark acknowledged the lack of information on the national approach for the tracking of support, and confirmed that it will consider including such information in its next BR submission. In order to improve the completeness of reporting, the ERT reiterates the recommendation made in the previous review report that Denmark further develop a national approach for the tracking and reporting of technology transfer and capacity-building support and report this information, as requested by the guidelines, in its next BR submission.

66. In its BR2, Denmark has improved upon its reporting since its BR1. With regard to the status of recommendations made in the report on the technical review of the BR1, Denmark has provided adequate responses to the recommendations and encouragements made. Where it has not been able to do so, it has stated that it will further improve on its reporting in the future.

67. Denmark resubmitted its CTF tables because of errors identified in CTF tables 7, 7(a) and 7(b) caused by the CTF reporter system importing the figures with values that were lower by a factor of 1,000. During the review, the CTF tables were resubmitted with the errors removed. To aid transparency, the ERT suggests that Denmark check for errors and correct values in CTF tables prior to submission of its next BR submission.

68. In its BR2, Denmark provided some information on what new and additional support it has provided and clarified how this support is new and additional. Denmark described how it defines financial support that is new and additional and further explained the difficulties in separating this information from existing development assistance. In its NC6 and BR2, Denmark explained that there is a lack of consensus on the definition of support that is new and additional, and referred to the broad description of this as the Danish development assistance that is not diverted away from other priorities such as poverty alleviation and education.

69. In its BR2, Denmark reported that it has a clear focus on helping its priority partners in developing countries (where part of the aim is to facilitate a long-term engagement that carries political and financial weight) and ensuring that the resources it provides effectively address the needs of Parties not included in Annex I to the Convention (non-Annex I Parties). Denmark reported that one of its policy aims is to assist developing countries to develop resilience to climate change. Denmark reported in the BR2 that its policy has been sensitive to the needs of developing countries by promoting poverty reduction and economic, social and environmentally sustainable development.

70. During the review, Denmark provided an additional explanation stating that all Danish bilateral support is formulated and designed in dialogues with the partner countries on the basis of the national programme frameworks of the recipient countries. Denmark stated that it is working closely with the governments in the countries receiving development assistance in order to ensure local ownership. Denmark identifies developing

countries as development partners rather than recipients of development assistance. It stated that it makes systematic use of evaluations to improve its aid work, stating that it sought to illustrate the connection between Danish development assistance and the results that are created. However, the BR2 does not explain how the evaluation is carried out and does not provide the results of any evaluations. The ERT suggests that Denmark include such information in its next BR submission.

1. Finance

71. In its BR2 and CTF tables 7, 7(a) and 7(b), Denmark reported information on the provision of financial support required under the Convention, including on financial support provided, committed and pledged, allocation channels and annual contributions (see para. 78 below). The summary information was reported for 2013 and 2014.

72. Denmark described how it targets its resources to address the adaptation and mitigation needs of non-Annex I Parties. It described how those resources assist non-Annex I Parties to mitigate and adapt to the adverse effects of climate change. CTF tables 7(a) and 7(b) contain information on funding for mitigation and adaptation activities. Denmark stated in its BR2 that its decisions for the provision of these funds were based on demand of developing country Parties.

73. Denmark included in its BR2 information on how it has defined its approach to finance designated to mitigation and adaptation support and the methodologies used, including the use of the Rio Markers as a methodology for determining the proportion of official development assistance (ODA) provided for adaptation and mitigation support to developing countries. The activities funded by Denmark are screened and marked, using the Rio Markers, as targeting the Convention through their "principal objective", "significant objective" or "not targeting the Convention".

74. Denmark stated in its BR2 that it recognizes the limitations of its current methodology and is exploring further improvements to its methodology for collecting and reporting information on financial support. Denmark provided a general explanation in the BR2 that its funding and support decisions are influenced by the need to eradicate poverty in developing countries, and it stated that its national policy aims to comply with the requirements of the Convention relating to support.

75. In its BR2, Denmark did not report information 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 economic and social consequences of response measures. To improve the completeness of reporting, the ERT recommends that Denmark provide information on the financial support it has provided for this purpose, where appropriate.

76. In its BR2, Denmark did not report information on its private financial flows from bilateral sources directed towards mitigation and adaptation activities in non-Annex I Parties, and did not report on PaMs that promote private investment in mitigation and adaptation activities in developing country Parties. To ensure the completeness of reporting, the ERT encourages Denmark to report, to the extent possible, on private financial sources provided towards adaptation and mitigation in non-Annex I Parties. In addition, the ERT also encourages Denmark to report, in its next BR submission, on private financial flows leveraged by bilateral climate finance.

77. In its BR2, Denmark reported some information on its new and additional financial support by referring to its NC6, where Denmark provided information on the percentage of gross national income (GNI) allocated to ODA contributions. Information on Denmark's contribution towards the ODA that could be used to define what is new and additional within the BR2 review period was not available for this technical review report.

78. During the review, Denmark provided the information on the contribution towards the ODA made in 2013 and 2014, stating that it allocated 0.85 per cent of GNI as ODA in each year.

79. The BR2 and CTF tables include detailed information on the financial support provided through multilateral channels, and bilateral and regional channels in 2013 and 2014. More specifically, Denmark contributed through multilateral channels, as reported in its BR2 and CTF table 7(a), USD 279.02 million and USD 251.40 million for 2013 and 2014, respectively. Within these amounts, Denmark allocated to climate-specific public financial support in 2013 and 2014, a total of USD 33.11 million and USD 33.75 million, respectively, as reported in CTF table 7(a). In addition to this support, the core/general contributions were made through specialized multilateral funds, such as the Global Environment Facility, the Least Developed Countries Fund and the Green Climate Fund (GCF). In addition to these allocations, substantial amounts were committed to the African Development Bank, the Asian Development Bank and the United Nations Development Programme in both 2013 and 2014. These contributions were reported as climate-specific funding.

80. Denmark also reported in the BR2 on its contribution to the GCF; specifically, that it paid Danish krone (DKK) 100 million in 2014 out of the DKK 400 million pledged by Denmark to the GCF. Denmark also contributed DKK 30 million in 2014 for setting up the Climate Technology Centre and Network in Copenhagen.

81. The BR2 and CTF table 7(b) also include detailed information on the total financial support provided though bilateral (USD 90.65 and 140.05 million) and regional (USD 91.18 and 69.92 million) channels in 2013 and 2014, respectively. Table 5 includes some of the information reported by Denmark on its provision of financial support.

Table 5
Summary of information on provision of financial support in 2013–2014 by Denmark
(Millions of United States dollars)

	Years of disbursement	
Allocation channel of public financial support	*2013*	*2014*
Official development assistance[a]	2 927	3 003
Climate-specific contributions through multilateral channels, including:	33	34
UNFCCC Trust Fund for Supplementary Activities	1	0
United Nations Development Programme	7	4
United Nations Environment Programme	5	7
European Bank for Reconstruction and Development	3	1
International Finance Corporation	0	1
World Bank	13	16
African Development Bank	4	0
Asian Development Bank	0	4
Climate-specific contributions through bilateral, regional and other channels	182	210

[a] *Source*: Query Wizard for International Development Statistics, available at <http://stats.oecd.org/qwids/>.

82. The BR2 presents 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 largest share of

total public financial support (63.2 per cent) was allocated for cross-cutting projects, while support for mitigation and adaptation amounted to 25.0 and 11.8 per cent, respectively. In 2014, the shares of total public financial support allocated for cross-cutting, mitigation and adaptation projects remained almost the same as in 2013. In terms of allocation channels, in 2013, public financial support was allocated mostly through bilateral, regional and other channels (84.6 per cent of the total support), while 15.4 per cent was allocated through multilateral channels. But the allocation changed between 2013 and 2014, whereby in 2014 the lower share of public financial support (74.4 per cent) was allocated through bilateral, regional and other channels, and the larger share (25.6 per cent) was allocated through multilateral channels compared to 2013.

83. The ERT noted that, in 2013, 63.7 per cent of financial contributions made through multilateral channels was allocated to activities that are cross-cutting across mitigation, adaptation, government and civil society and industry, as reported in CTF table 7(a). The remaining funding was allocated to energy and agriculture (19.7 and 16.6 per cent, respectively). The corresponding figures for 2014 were similar, with 66.2 per cent allocated for cross-cutting activities, and 10.8 and 23.0 per cent allocated for energy and agriculture, respectively. Hence, most of the multilateral funding is being allocated to cross-cutting activities.

84. In CTF table 7(b), for 2013, Denmark reported detailed information on financial support provided through regional and bilateral channels. The funding provided to support general environmental protection issues, which received the highest allocation, was USD 119.34 million. It placed a particular focus on providing funding support to projects on water and sanitation (USD 51.00 million) and on agriculture (USD 19.78 million). Some of the main projects supported are in Benin, Indonesia, Kenya, Mozambique, Uganda and Viet Nam.

85. Also in CTF table 7(b), for 2014, the funding support provided followed a similar pattern but was more concentrated on cross-cutting activities, followed by funding under mitigation projects. The geographical spread of the projects was similar to that in 2013; however, bigger allocations were made to projects in Afghanistan, Bangladesh, Bolivia (Plurinational State of), Burkina Faso, China, Indonesia, Kenya, Mali, Nepal and Viet Nam. Some funding sources were identified as being interregional.

86. CTF tables 7(a) and 7(b) include information on the types of financial instrument used in the provision of assistance to developing countries. All funds are classified as grants. The ERT noted that no other instruments were reported as being allocated or disbursed, with the exception of the match funding made by the Danish Investment Fund for Developing Countries.

87. The BR2 reported that the Danish Investment Fund for Developing Countries, as a private co-investment fund, had contributed EUR 104 million for projects targeting climate change mitigation, which, according to its forecast, would generate a total investment of capital of EUR 1–1.2 billion. Denmark stated that its experience of using mixed funding arrangements to encourage private investment flows by underwriting initial risks is a successful model that promotes private capital flows into climate action.

88. In its BR2 Denmark reported that private financial support was provided through the state pension fund, although flows of financial allocations from the private sources are not currently tracked. Further, during the review Denmark confirmed that it does not track private finance flows into climate action investment. In its BR2, Denmark clarified that it is difficult to separate private finance flows because the majority of this funding is provided as co-investment funds with public finance, with the public funding acting as a catalyst for mobilizing private investment capital. Denmark reported in its BR2 on how it encourages the provision of private financial support to developing countries through the use of public

funds as risk capital. Denmark considers that this is pivotal because it helps to overcome or limit barriers and risks to private investment flows.

2. Technology development and transfer

89. In its BR2 and CTF table 8, Denmark provided limited information on measures and activities related to technology transfer, access and deployment benefiting developing countries.

90. In its BR2, Denmark provided an explanation that its support for technology transfer activities that include the private sector is an integral part of projects that are match funded by the public sector and so are shown as mixed public–private sponsorship. In response to a question raised by the ERT during the review, Denmark stated that it has noted the need to develop a methodology for tracking technology transfer in the next BR submission.

91. The ERT noted that Denmark, in the information provided in the BR2, does not distinguish between technology transfer activities undertaken by the public and private sectors. To enhance transparency, the ERT recommends that Denmark distinguishes, to the extent possible, between activities undertaken by the public and private sectors in respect of technology transfer in its next BR submission.

92. In the BR2, Denmark did not provide information on success and failure stories for countries benefiting from technology transfer. Noting the large number of projects in developing country Parties that are listed as being supported, the ERT requested Denmark, during the review, to make available the information on how it has been able to undertake a successful technology transfer to developing country Parties. In response to this request, Denmark described an experience with one of the developing countries that was supported.

93. The example provided was the collaboration between Denmark and China in respect of a renewable energy project that successfully promoted endogenous technology. This Renewable Energy Programme supports the development and implementation of innovative renewable energy technologies through commercial and technical cooperation among Chinese and Danish institutions and companies. The specific technologies around which the collaboration takes place are decided in a dialogue among the partners from Denmark and the recipient country partners, matching the needs of the partner country.

94. Denmark explained that the basis for all Danish support is the needs of the recipient countries as expressed in policies, strategies and plans of the countries and partners. The ERT encourages Denmark to provide the success and failure stories in relation to the support of technology transfer it has provided to its partners, in its next BR submission, in order to enhance the transparency of reporting.

95. The ERT noted that, in CTF table 8, Denmark reported on its activities in relation to technology transfer in the mitigation and cross-cutting areas, and in particular on measures taken to promote, facilitate and finance the transfer and deployment of climate-friendly technologies in energy generation and support and environmental protection in three countries, namely: China, Kenya and Mozambique.

96. During the review Denmark explained that, through bilateral programmes such as the Danida Business Finance Programme, Denmark provides support to the energy sector in developing countries and that technology transfer is integral to aiding provision and is based on requests received from developing country partners.

97. Denmark further explained that it has historically provided support to developing countries and is currently looking to take this further with a programme of implementation on technology transfer through its national initiative, called the Low Carbon Transition Unit, which looks at energy efficiency, renewable energy, mitigation analysis and international GHG emission baselines as the areas in which to provide support.

98. CTF table 7(b) provides information that Denmark is working with a number of countries with developing economies, including Mexico, South Africa and Viet Nam, focusing on specific energy-related capacity. The ERT notes Denmark's efforts in this regard.

3. Capacity-building

99. In its BR2 and CTF table 9, Denmark included limited information on how it provided capacity-building support that responds to the existing and emerging needs identified by non-Annex I Parties.

100. Denmark has provided in CTF table 9 information on the bilateral programmes and projects to demonstrate its support aimed at the capacity-building of developing country Parties in 2014. All reported programmes and projects are in the area of mitigation. CTF table 9 shows the countries and targeted areas, and the titles of programmes or projects. In addition, in the BR2, Denmark referred to the establishment of the Low Carbon Transition Unit and its contribution to the partnership between the United Nations Environment Programme and the Technical University of Denmark on sustainable energy as examples of its capacity-building efforts.

101. The BR2 and CTF table 9 do not contain information on how capacity-building support responds to the needs of developing countries and how Denmark has provided capacity-building support to developing country Parties. During the review, additional information was provided by Denmark on each project or programme supported to explain the capacity-building components. Given the difficulty of separating capacity-building support (which is often an integral part of a project being implemented) from a project or programme under implementation, as previously explained by the Party, the ERT noted Denmark's efforts to provide a list of projects that have received capacity-building support.

102. In CTF table 9, Denmark described individual programmes and projects related to capacity-building support, having expressed that it is difficult to separate the capacity-building element of an aid effort. The examples provided by Denmark during the review include the projects and the programmes implemented in 2014 in three countries (China, Kenya and Mozambique), mostly in the areas of renewable energy and natural resources management. The ERT recommends that, in its next BR submission, Denmark provide, to the extent possible, information on how its capacity-building support responds to the existing and emerging needs identified by non-Annex I Parties in the areas of mitigation, adaptation and technology development and transfer in order to enhance the transparency of its reporting.

III. Conclusions

103. The ERT conducted a technical review of the information reported in the BR2 and CTF tables of Denmark 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 the Party's quantified economy-wide emission reduction target; assumptions, conditions and methodologies related to the attainment of the target; progress made by Denmark in achieving its target; and the Party's provision of support to developing country Parties.

104. The total GHG emissions, of the Kingdom of Denmark (Denmark, Greenland and the Faroe Islands), excluding emissions and removals from LULUCF decreased by 20.7 per cent between 1990 and 2013, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 24.6 per cent over the same period.

105. In its BR2, Denmark reported that the most significant emission reductions between 1990 and 2013 were observed in: the energy sector (11,340.01 CO_2 eq or 21.1 per cent), mainly attributed to changes in the fuel mix from coal to natural gas and renewable energy, and a general decrease in gross energy consumption owing to energy efficiency gains; the agriculture sector (2,356.65 kt CO_2 eq or 18.8 per cent), mainly because of the improved utilization of nitrogen in manure; and the waste sector (746.24 kt CO_2 eq or 36.2 per cent), mainly because of the ban on landfilling combustible waste. The transport sector is the only major emitting sector that has shown an increasing trend (1,216.58 kt CO_2 eq or 11.1 per cent) since 1990, but this trend has started to stabilize and even decreased slightly in recent years (2012 and 2013).

106. Under the Convention, Denmark (excluding Greenland and the Faroe Islands) 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.

107. Under the ESD, Denmark has a target to reduce its emissions by 20 per cent below the 2005 level by 2020. Denmark's AEAs, which correspond to its national emission target for non-ETS sectors, change linearly from 36,829.16 kt CO_2 eq in 2013 to 30,501.22 kt CO_2 eq in 2020. During the review, Denmark provided additional information on historical and projected emissions for the split of emissions between the ETS and non-ETS sectors.

108. For 2013, Denmark reported in CTF table 4 total GHG emissions excluding LULUCF at 57,057.24 kt CO_2 eq, including CO_2 for international aviation. Denmark reported that it does not plan to use units from market-based mechanisms or account for the contribution from LULUCF to achieve its target. In 2013, Denmark's emissions from the sectors not covered by the EU ETS amounted to 32,841.66 kt CO_2 eq, which is below Denmark's AEAs under the ESD for 2013 (36,829.16 kt CO_2 eq). The ERT noted that emissions covered by the ESD are below the AEAs in 2013, which implies that Denmark is making progress towards its emission reduction target under the ESD by implementing mitigation actions.

109. Denmark's main national policy framework relating to energy and climate is the Energy Agreement adopted by the Danish Parliament in 2012. In addition, the Climate Change Act (2014) sets out an overarching strategic framework for Denmark's climate policy with a view to implementing a transition to a low-emission society on the basis of the following elements: (1) establishment of an independent Climate Council, (2) publication of an annual Climate Policy Report for the Danish Parliament and (3) development of a process for the setting of national climate targets. The mitigation actions with the most significant mitigation impact are the measures supporting energy efficiency improvements and the use of renewable energy sources. Most of the recently agreed PaMs based on the Energy Agreement will increase the share of electricity and heat produced by wind turbines and biomass-fired combined heat and power plants. The PaMs are supplemented by measures in the non-ETS sectors (transport, landfill, industrial gases, manufacturing industry, service sectors and households).

110. The GHG emission projections provided by Denmark in its BR2 include those for the WEM scenario from Denmark only (i.e. excluding Greenland and the Faroe Islands). Under this scenario, total GHG emissions are projected to be 37.0 per cent below the 1990 level in 2020. According to the projections under the WEM scenario, emissions from non-

ETS sectors are estimated to reach 30,816.55 kt CO_2 eq by 2020, which is above its AEAs of 30,501.22 kt CO_2 eq in 2020. Although Denmark's emissions from non-ETS sectors are projected to be approximately 300 kt CO_2 eq above Denmark's AEAs for 2020, the accumulated surplus of approximately 14,200 kt CO_2 eq in the period 2013–2019 will more than outweigh the deficit in 2020. On the basis of the reported information and the additional information provided during the review, the ERT concluded that under the WEM scenario, Denmark expects to meet its 2020 target for emissions covered by the ESD and that there is no need for additional measures.

111. Denmark continues to allocate climate financing in line with the climate finance programmes of the UNFCCC Trust Fund for Supplementary Activities and United Nations bodies, in order to assist developing country Parties to implement the Convention. Its public financial support in 2013 and 2014 totalled USD 279.02 and USD 251.40 million, respectively. For these years, Denmark's support allocated through the multilateral channels was mostly allocated to cross-cutting projects across mitigation, adaptation, government, civil society and industry. The highest level of financial support provided through bilateral, regional and other channels went to environmental protection projects. With regard to its technology transfer and capacity-building support, Denmark has indicated that it is considering ways of strengthening its overall tracking and reporting systems to better reflect cross-cutting issues.

112. In the course of the review, the ERT formulated the following recommendations for Denmark to improve its adherence to the UNFCCC reporting guidelines on BRs in its next BR submission:[6]

(a) Improve the completeness of its reporting by:

(i) Preparing emission projections related to fuel sold to ships and aircraft engaged in international transport, to the extent possible, separately from the total projected emissions, consistent with inventory data, and not included in the totals (see para. 47 above);

(ii) Developing a national approach for the tracking and reporting of technology transfer and capacity-building support (see para. 65 above);

(iii) Providing information on 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 economic and social consequences of response measures (see para. 74 above);

(b) Improve the transparency of its reporting by:

(i) Conducting and providing a comprehensive and up-to-date assessment of the effects of implemented and planned individual PaMs for 2020 (see para. 26 above);

(ii) Providing relevant information on the factors and activities affecting emission trends for the historical and future years together (see para. 48 above);

(iii) Distinguishing, to the extent possible, between activities undertaken by the public and private sectors in respect of technology transfer (see para. 90 above);

(iv) Providing, to the extent possible, information on how its capacity-building support responds to the existing and emerging needs identified by non-Annex I Parties in the areas of mitigation, adaptation and technology development and transfer (see para. 101 above);

[6] The recommendations are given in full in the relevant chapters of this report.

(c) Improve the timeliness of its reporting by submitting its next BR on time (see para. 4 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/2014/DNK. Report on the individual review of the annual submission of Denmark submitted in 2014. Available at <http://unfccc.int/resource/docs/2015/arr/dnk.pdf>.

FCCC/IDR.6/DNK. Report of the technical review of the sixth national communication of Denmark. Available at <http://unfccc.int/resource/docs/2014/idr/dnk06.pdf>.

FCCC/TRR.1/DNK. Report of the technical review of the first biennial report of Denmark. Available at <http://unfccc.int/resource/docs/2014/trr/dnk01.pdf>.

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

Sixth national communication of Denmark. Available at <http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/nc6andbr1-dnk-2jan2013[1].pdf>.

First biennial report of Denmark. Available at <http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/nc6andbr1-dnk-2jan2013[1].pdf>.

Common tabular format tables of the first biennial report of Denmark. Available at <http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/dnk_2014_v3.0.pdf>.

Second biennial report of Denmark. Available at <http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/dnk-br2-january2016.pdf>.

Common tabular format tables of the second biennial report of Denmark. Available at <http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/dnk_2016_v1.0_formatted.pdf>.

B. Additional information used during the review

Responses to questions during the review were received from Mr. Erik Rasmussen (Centre for Climate and Energy Economics), including additional material and the following documents[1] provided by Denmark:

Danish Energy Agency. 2015. *Danmarks Energi- og Klimafremskrivning 2015 ("Projection of Greenhouse Gases for 2016–2025").* Available at <http://www.ens.dk/en/info/news-danish-energy-agency/baseline-projection-2015-denmarks-greenhouse-gasses-reduced-40-2020>.

[1] Reproduced as received from the Party.