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## Report of the technical review of the second biennial report of Switzerland

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 Switzerland, 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. This report covers the centralized technical review of the second biennial report (BR2)<sup>1</sup> of Switzerland. 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 Switzerland, 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 Switzerland 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, Switzerland provided the following additional relevant information: its use of units from market-based mechanisms to achieve the emission reduction target; the status of the implementation and availability of mitigation impact assessments of some of the policies and measures (PaMs) reported in the BR2; its domestic arrangements for the process of self-assessment of compliance with emission reduction targets; the availability of key variables to develop greenhouse gas (GHG) projections; and the methodology used to track financial support, including underlying assumptions and indicators.

#### **1. Timeliness**

4. The BR2 was submitted on 21 December 2015, before the deadline of 1 January 2016 mandated by decision 2/CP.17. The common tabular format (CTF) tables were submitted on 21 December 2015.

#### **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 Switzerland in its BR2 is mostly in adherence with the UNFCCC reporting guidelines on BRs as per decision 2/CP.17.

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<sup>1</sup> 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.

Table 1

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

<i>Chapter of the biennial report</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Paragraphs with recommendations</i>
Greenhouse gas emissions and trends	Complete	Transparent	
Assumptions, conditions and methodologies related to the attainment of the quantified economy-wide emission reduction target	Complete	Mostly transparent	13
Progress in achievement of targets	Mostly complete	Partially transparent	21, 22, 34, 35, 40
Provision of support to developing country Parties	Partially complete	Partially transparent	63, 64, 65, 66, 80, 83

*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. Switzerland 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 makes reference to the national inventory arrangements, including the changes to these arrangements, which are explained in more detail in the national inventory report (NIR) included in Switzerland’s 2015 annual inventory submission (in chapter 1). 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” (hereinafter referred to as the UNFCCC Annex I inventory reporting guidelines) that are required by paragraph 3 of the UNFCCC reporting guidelines on BRs.

7. Further, Switzerland provided information on changes in the national inventory arrangements since its first biennial report (BR1). The National Inventory System Supervisory Board (NISSB) has been formally divided into two separate boards with separate mandates and responsibilities: the NISSB oversees all aspects related to reporting obligations under the Convention, including the reporting of the national registry in the NIR, while the Emission Registry Supervisory Board deals with management issues related to the national registry. In addition, there has been a minor change related to the external organizations that are responsible for specific tasks in the preparation of the annual inventory submission.

8. In its BR2, Switzerland stated that the 2015 annual inventory submission did not include the common reporting format (CRF) tables because of delays with the upgrade of the CRF Reporter software. Taking this into consideration, the ERT used the information on the GHG emissions and removals for the period 1990–2013 provided in the Party’s 2015 NIR in order to check the consistency of the emission trends, as required by the UNFCCC reporting guidelines on BRs. The ERT concluded that the information reported in the CTF tables on emission trends is consistent with that reported in the 2015 NIR of Switzerland.

9. In 2013, total GHG emissions<sup>2</sup> excluding emissions and removals from land use, land-use change and forestry (LULUCF) amounted to 52,560.93 kt of carbon dioxide equivalent (CO<sub>2</sub> eq) and decreased by 1.4 per cent between 1990 and 2013, whereas total GHG emissions including net emissions or removals from LULUCF amounted to 51,514.61 kt CO<sub>2</sub> eq and increased by 2.3 per cent over the same period. Over the period 1990–2013, the total GHG emissions (excluding LULUCF) showed significant inter-annual fluctuations, largely depending on changes in meteorological conditions, which had driven the consumption of fuels for heating purposes. Carbon dioxide (CO<sub>2</sub>) emissions decreased by 1.9 per cent between 1990 and 2013, while emissions of methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) decreased by 16.6 and 15.4 per cent, respectively. Both CH<sub>4</sub> and N<sub>2</sub>O emissions significantly decreased between 1990 and 2005 and have remained relatively stable since then. Emissions of the fluorinated gases (F-gases) such as perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs) increased by 1,248.8 per cent, whereas emissions of sulphur hexafluoride (SF<sub>6</sub>) increased by 84.3 per cent over the period 1990–2013. Emissions of nitrogen trifluoride (NF<sub>3</sub>) were reported for the period 2008–2013, during which emissions of NF<sub>3</sub> were characterized by strong inter-annual variability, but with a marginal impact on total emissions during the period 2008–2013 (never representing more than 0.02 per cent of the total emissions).

10. The emission trends, as explained in the BR2, were driven by a combination of economy-wide and sector-specific drivers, of which the following contributed to an emissions decrease: higher energy efficiency standards for buildings and combustion equipment; a decrease in livestock population and the use of fertilizers, and a decrease in the amounts of biodegradable and combustible waste disposed at landfill sites. Their effect was partially offset by drivers that contributed to an emission increase, such as: an increase of combustion activities in refineries, waste incineration and new district heating plants; a growth of passenger and freight transport; an increase in the use of F-gases, and an increase of biological treatment of solid waste. In addition, according to the BR2, approximately 95 per cent of electricity generation in Switzerland is based on hydropower and nuclear power, which implies that this category makes a minor contribution as a driver of emission trends.

11. The ERT noted that during the period 1990–2013, Switzerland's gross domestic product (GDP) per capita increased by 17.8 per cent, while GHG emissions per GDP and GHG emissions per capita decreased by 30.5 and 18.1 per cent, respectively. Both indicators decreased mainly as a result of an increase in energy efficiency and structural changes in the production of many energy-intensive goods, which could be considered as an important step towards decoupling of GHG emissions from economic development and population growth. Table 2 below illustrates the emission trends by sector and some of the economic indicators relevant to GHG emissions for Switzerland.

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<sup>2</sup> 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 CTF tables in the second biennial report, version 1.0 (because Switzerland's 2015 annual GHG inventory submission did not include the CRF tables owing to delays with the upgrade of the CRF Reporter software).

Table 2  
**Greenhouse gas emissions by sector and some indicators relevant to greenhouse gas emissions for Switzerland for the period 1990–2013**

Sector	GHG emissions (kt CO <sub>2</sub> eq)					Change (%)		Share by sector (%)	
	1990	2000	2010	2012	2013	1990–2013	2012–2013	1990	2013
	1. Energy	41 707.00	42 060.58	43 192.27	40 524.76	41 451.74	–0.6	2.3	78.2
A1. Energy industries	2 559.13	3 217.38	3 872.90	3 653.25	3 678.02	43.7	0.7	4.8	7.0
A2. Manufacturing industries and construction	6 259.97	5 775.11	5 717.30	5 268.10	5 376.79	–14.1	2.1	11.7	10.2
A3. Transport	14 612.31	15 898.73	16 341.54	16 352.33	16 245.36	11.2	–0.7	27.4	30.9
A4.–A5. Other	17 872.89	16 796.17	16 974.51	15 000.28	15 885.20	–11.1	5.9	33.5	30.2
B. Fugitive emissions from fuels	404.37	372.09	282.45	250.74	265.90	–34.2	6.0	0.8	0.5
C. CO <sub>2</sub> transport and storage	NO	NO	NO	NO	NO	NA	NA	NA	NA
2. IPPU	3 521.51	3 098.01	4 016.66	4 055.61	4 092.55	16.2	0.9	6.6	7.8
3. Agriculture	6 712.87	6 028.61	6 107.75	6,015.23	5 949.50	–11.4	–1.1	12.6	11.3
4. LULUCF	–2 958.23	–447.00	–2 014.76	–1 740.89	–1 046.32	–64.6	–39.9	NA	NA
5. Waste	1 354.71	1 046.16	980.61	1 012.82	1 052.95	–22.3	4.0	2.5	2.0
6. Other	12.22	14.14	14.19	14.19	14.19	16.1	0.0	0.0	0.0
Indirect CO <sub>2</sub>	12.25	10.15	11.06	11.90	11.93	–2.6	0.3	NA	NA
<b>Total GHG emissions without LULUCF</b>	<b>53 308.31</b>	<b>52 247.49</b>	<b>54 311.48</b>	<b>51 622.61</b>	<b>52 560.93</b>	<b>–1.4</b>	<b>1.8</b>	<b>100.0</b>	<b>100.0</b>
<b>Total GHG emissions with LULUCF</b>	<b>50 350.07</b>	<b>51 800.50</b>	<b>52 296.72</b>	<b>49 881.72</b>	<b>51 514.61</b>	<b>2.3</b>	<b>3.3</b>	<b>NA</b>	<b>NA</b>
<b>Total GHG emissions without LULUCF, including indirect CO<sub>2</sub></b>	<b>53 320.56</b>	<b>52 257.64</b>	<b>54 322.54</b>	<b>51 634.51</b>	<b>52 572.86</b>	<b>–1.4</b>	<b>1.8</b>	<b>NA</b>	<b>NA</b>
<b>Total GHG emissions with LULUCF, including indirect CO<sub>2</sub></b>	<b>50 362.32</b>	<b>51 810.65</b>	<b>52 307.78</b>	<b>49 893.62</b>	<b>51 526.54</b>	<b>2.3</b>	<b>3.3</b>	<b>NA</b>	<b>NA</b>
<i>Indicators</i>									
GDP per capita (thousands 2011 USD using PPP)	46.60	49.08	54.18	54.58	54.91	17.8	0.6	NA	NA
GHG emissions without LULUCF per capita (t CO <sub>2</sub> eq)	7.94	7.27	6.94	6.46	6.50	–18.1	0.7	NA	NA
GHG emissions without LULUCF per GDP unit (kg CO <sub>2</sub> eq per 2011 USD using PPP)	0.17	0.15	0.13	0.12	0.12	–30.5	0.0	NA	NA

Sources: GHG emission data: CTF tables in Switzerland's second biennial report, version 1.0 (because Switzerland's 2015 annual GHG inventory submission did not include the CRF tables owing to delays with the upgrade of the CRF Reporter software); (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:* CRF = common reporting format, CTF = common tabular format, 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**

12. In its BR2 and CTF tables 2(a)–(f), Switzerland 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. Further information on the target and the assumptions, conditions and methodologies related to the target is provided in chapter 2 of the BR2.

13. In CTF table 2(b), Switzerland indicated that the LULUCF sector is not covered in the quantified economy-wide emission reduction target, while in CTF table 2(d), it is indicated that the contribution of LULUCF is calculated using an activity-based approach. In addition, Switzerland reported in the BR2 (chapters 2.2.1 and 2.2.3) and in the custom footnote to table 2(f) that the LULUCF sector is included and accounted for using the activity-based approach. In order to enhance the transparency of reporting, the ERT recommends that Switzerland in its next biennial report (BR) provide consistent information in CTF tables 2(b) and 2(d) and the BR on the inclusion of LULUCF in the description of its quantified economy-wide emission reduction target.

14. For Switzerland, the Convention entered into force on 21 March 1994. Under the Convention, Switzerland made a commitment to reduce its GHG emissions by 20.0 per cent by 2020 below the 1990 level. This target includes all GHGs included in the UNFCCC Annex I inventory reporting guidelines, namely CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub> and NF<sub>3</sub>. It also includes all Intergovernmental Panel on Climate Change (IPCC) sources and sectors included in the annual GHG inventory. The global warming potential (GWP) values used are those from the IPCC Fourth Assessment Report (AR4). In absolute terms, this means that under the Convention, Switzerland has to reduce emissions from 53,308.31 kt CO<sub>2</sub> eq in the base year<sup>3</sup> to 42,646.65 kt CO<sub>2</sub> eq by 2020.

15. Switzerland's quantified economy-wide emission reduction target is stipulated by the revised Federal Act on the Reduction of CO<sub>2</sub> Emissions, which entered into force in 2013. This target is consistent with Switzerland's quantified emission limitation or reduction commitment of 84.2 per cent of base year emissions for the years 2013–2020, as defined in the Doha Amendment to the Kyoto Protocol. Both of these emission reduction targets are unconditional under the Convention and the Kyoto Protocol, respectively, and the Party aims to achieve these targets, in principle, through the use of domestic PaMs.

16. In its BR2, Switzerland reported that it intends to use units generated from the market-based mechanisms under the Kyoto Protocol and from the new market-based mechanisms under the Convention, as well as units carried over from the first commitment period of the Kyoto Protocol (optional), with some qualitative restrictions applied, to compensate part of its emissions over the period 2013–2020; however, the possible scale of such a contribution was not estimated and consequently it was reported as "NE" (not estimated) in CTF table 2(e).

<sup>3</sup> Switzerland chose 1990 as the base year for its 2020 target.

17. In addition, Switzerland reported that units generated from the market-based mechanisms will be used in the following cases: if mandatory targets in the emissions trading scheme and the transport sector are not achieved; if there are differences in accounting approaches to achieve the national and international targets; if there is a decision by the Swiss Federal Council to increase the emission reduction target in order to comply with international agreements.

## **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 Switzerland 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, Switzerland reported on its progress in the achievement of its target and the mitigation actions implemented since its sixth national communication (NC6) and BR1 to achieve its target. The BR2 includes comprehensive information on its package of mitigation actions organized by sector and by gas. Further information on the mitigation actions related to the Party's target is provided in chapter 3 of the BR2 and in this report (see paras. 26–31 below).

20. In its BR2, Switzerland reported that there were no significant changes in its institutional arrangements since the publication of its NC6 and BR1, and it provided information on 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 legal and institutional framework for the implementation of the Convention and the Kyoto Protocol are stipulated by the revised Federal Act on the Reduction of CO<sub>2</sub> Emissions. The implementation of the aforementioned act is further detailed in the Ordinance on the Reduction of CO<sub>2</sub> Emissions, where institutional responsibilities for the implementation, enforcement and administrative procedures are assigned. The implementation of the market-based mechanisms under the Kyoto Protocol is the responsibility of SwissFlex, which is the designated national authority.

21. The ERT noted that the BR2 and CTF table 3 did not provide information on mitigation actions that Switzerland plans to implement, with the exception of the inclusion of the aviation sector in the European Union Emissions Trading System (EU ETS) (prior linkage between the Swiss emissions trading scheme and the EU ETS is a prerequisite for this measure to become effective); however, the Party stated in its BR2 that, in case of non-compliance with sector-specific interim targets, additional measures will be put in place in accordance with the national rules for taking action against non-compliance. During the review, in response to a question raised by the ERT, the Party provided additional information stating that it plans to further strengthen already implemented measures in order to deliver additional GHG emission reductions. The ERT recommends that Switzerland include information on mitigation actions it plans to implement, in its next BR, in order to improve transparency.

22. The BR2 and CTF table 3 do not include estimations of the impacts for some of the mitigation actions in the energy, agriculture and LULUCF sectors. During the review, in response to a question raised by the ERT, Switzerland provided additional information that, owing to the complexity, inter-linkages and type (e.g. informational) of individual mitigation actions, particularly in the agriculture sector and the LULUCF sector, it is



difficult to estimate their impacts. To enhance the transparency of the reporting, the ERT recommends that Switzerland, in its next BR, estimate the impacts of mitigation actions that were not estimated in CTF table 3, or explain in more detail the reasons why those impacts could not be estimated.

23. The Party's BR2 refers to chapter 14 of Switzerland's 2015 NIR, which provides detailed information on the assessment of the economic and social consequences of its response measures. Switzerland implements mitigation actions with the aim to minimize potential adverse impacts not only domestically but also internationally, including in developing countries. Switzerland's international trade is mainly oriented on the European Union (EU), and it is assumed that its climate change policies do not have any significant adverse economic, social and environmental impacts on developing countries. This assumption was further reinforced by the results of two studies commissioned in 2009 and 2010.<sup>4</sup> In general, the Party's PaMs are compatible with those set by the EU in order to avoid trade distortion and non-tariff barriers to trade and to set similar incentives. Major changes in domestic legislation are accompanied by impact assessments and public consultations, with the aim to provide advice on international economic, social and environmental aspects of proposed PaMs.

24. Switzerland 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. Switzerland stated that the Federal Council periodically: evaluates the effectiveness of the PaMs as stipulated by the revised Federal Act on the Reduction of CO<sub>2</sub> Emissions; considers the necessity of additional measures to be implemented; and reports on the results to the Federal Assembly. The first evaluations of the individual policies will be published by the Federal Office for the Environment (FOEN) in 2016.

25. The process of self-assessment of compliance with emission reduction commitments in Switzerland covers the key policy instruments, including: the emissions trading scheme; the CO<sub>2</sub> levy on thermal fuels; partial compensation of CO<sub>2</sub> emissions from fuel sold in the transport sector; and interim sectoral targets in the buildings, transport and industry sectors. All of the aforementioned policy instruments have established rules and mechanisms against non-compliance based on the polluter pays principle or on the implementation of additional measures stipulated by the competent authorities.

26. The key overarching cross-sectoral policy reported in the BR2 is the revised Federal Act on the Reduction of CO<sub>2</sub> Emissions, which entered into force in 2013. This act prescribes the overall national emission reduction target for 2020, and the instruments, measures and general rules of implementation of climate policy, and also contains provisions related to the enforcement and evaluation of mitigation actions. The implementation of the aforementioned act is further detailed in the Ordinance on the Reduction of CO<sub>2</sub> Emissions, where specific institutional responsibilities for the implementation, enforcement and administrative procedures are assigned for each of the core instruments and measures as stipulated by the act. The mitigation effects of the CO<sub>2</sub> levy on heating and process fuels and of the National Building Refurbishment Programme B are the most significant. Other policies that are intended to deliver emission reductions are: the National Building Refurbishment Programme A; the building codes of the Swiss

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<sup>4</sup> Ecoplan. 2009. *Volkswirtschaftliche Auswirkungen der Schweizer Post-Kyoto-Politik, im Auftrag des BAFU*; BAFU. 2010. *Synthesebericht zur Volkswirtschaftlichen Beurteilung der Schweizer Klimapolitik nach 2012*.

cantons; CO<sub>2</sub> emission regulations for new passenger cars; partial compensation of CO<sub>2</sub> emissions from transport fuel use; and provisions relating to substances containing F-gases.

27. The CO<sub>2</sub> levy on heating and process fuels supports more efficient use of fossil fuels and investments in low-carbon technologies, and encourages switching to low-carbon or carbon-free energy sources. If the intermediary targets set out in the Ordinance on the Reduction of CO<sub>2</sub> Emissions are not achieved, the rate of the levy will be gradually increased

28. The National Building Refurbishment Programme consists of two parts: Part A which aims at improving the energy performance of existing buildings, and Part B, which promotes the use of renewable energy, energy recuperation and the optimization of building technology. The programme is managed by the federal government and the Swiss cantons, and is financed by one third of the revenues from the CO<sub>2</sub> levy and through additional funds from the cantons.

29. Within the building codes of the cantons, there is an agreement between the cantons under the guidance of the Conference of Cantonal Energy Directors on model ordinances, which have been periodically updated. In 2018, the cantons will integrate the model ordinances into cantonal legislation. The requirements set by the ordinances in the period to 2020 include, for example: that new buildings have to be autonomous regarding their own heat demand and that the use of electricity for heat and hot water will be prohibited; that existing buildings have to be refurbished; and that the use of renewable energy sources will be further promoted.

30. The CO<sub>2</sub> emission regulations for new passenger cars required car importers to reduce emissions to an average of 130 g CO<sub>2</sub>/km by the end of 2015. After 2015, a further emission reduction and the extension of limits to other vehicle categories in the transport sector are planned (95 g CO<sub>2</sub>/km for new passenger cars and 147 g CO<sub>2</sub>/km for light commercial vehicles by the end of 2020). The partial compensation of CO<sub>2</sub> emissions from fuels used in transport requires fuel producers and importers to provide compensation for an increasing share (2 per cent in 2014, 10 per cent in 2020) of CO<sub>2</sub> emissions resulting from vehicle fuel combustion by financing domestic emission mitigation projects (so-called ‘domestic compensation’).

31. The provisions relating to substances stable in the atmosphere limit the use of F-gases where there is no preferable alternative and require possible emission reductions. Within this measure, voluntary agreements with industry are conducted where feasible.

32. Table 3 below provides a concise summary of the key mitigation actions and estimates of their mitigation effects reported by Switzerland to achieve its target.

Table 3

**Summary of information on mitigation actions and their impacts reported by Switzerland**

<i>Sector affected</i>	<i>List of key mitigation actions</i>	<i>Estimate of mitigation impact by 2020 (kt CO<sub>2</sub> eq)</i>
Policy framework and cross-sectoral measures	CO <sub>2</sub> levy on heating and process fuels	2 000
	Emissions trading scheme	800
Energy, including:		

<i>Sector affected</i>	<i>List of key mitigation actions</i>	<i>Estimate of mitigation impact by 2020 (kt CO<sub>2</sub> eq)</i>
Transport	CO <sub>2</sub> emission regulations for new passenger cars	1 700
	Partial compensation of CO <sub>2</sub> emissions from transport fuel use	1 500
Renewable energy	National Building Refurbishment Programme B	2 070
Energy efficiency	National Building Refurbishment Programme A	900
	Building codes of the cantons	1 750
IPPU	Provisions relating to substances stable in the atmosphere	1 050
Agriculture	Agricultural policy 2014–2017	NE
	Climate strategy for agriculture	NE
LULUCF	Measures within the Forest Policy 2020	1 200
Waste	Ban on landfilling of combustible waste	200

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

*Abbreviations:* IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry, NE = not estimated.

## 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

33. Switzerland reported in its BR2 and CTF tables 4, 4(a)I, 4(a)II and 4(b) its use of units from market-based mechanisms under the Convention and the contribution of LULUCF to achieving its target. This information was provided for the base year (1990) and each reported year, such as 2010–2013. Further relevant information on emissions and removals and the use of units is provided in chapter 2 of the BR2.

34. The ERT noted that information reported by Switzerland in CTF table 4 on the contribution from LULUCF is not consistent with the information reported in CTF tables 4(a)I and 4(a)II on mitigation actions relevant to the counting of emissions and removals from the LULUCF sector. The information provided in CTF table 4 on the contribution from LULUCF includes removals as reported in CTF table 1, following the land-based approach under the Convention. However, CTF table 4(a)I includes notation key “NA” (not applicable) for all fields in the table. Consistent with the information provided in the custom footnote to CTF table 4(a)I, CTF table 4(a)II includes values for 2013 using the activity-based approach, which was selected by Switzerland to calculate the contribution of LULUCF towards its target. To enhance the transparency of the reporting, the ERT recommends that Switzerland, in its next BR, provide the correct values in CTF tables 4 and 4(a)II for the contribution from LULUCF based on the activity-based approach.

35. The BR2 and CTF table 4(b) do not include the information on quantity of units from market-based mechanisms under the Convention or other market-based mechanisms as required by the UNFCCC reporting guidelines on BRs. In response to a question raised by the ERT during the review, Switzerland stated that it will account for contributions from

the market-based mechanisms at the end of the commitment period and therefore no annual quantity of units was provided. In this regard, the ERT reiterates the recommendation made in the report of the technical review of its BR1 that Switzerland, in its next BR, reports the amount of units from market-based mechanisms on the Swiss state accounts in the national registry at the end of every year as a provisional estimate, to increase the transparency of its reporting.

36. For 2013, Switzerland reported in CTF table 4 annual total GHG emissions excluding LULUCF of 52,560.93 kt CO<sub>2</sub> eq, or 1.4 per cent below the 1990 level. Switzerland reported in CTF table 4(a)II that in 2013 its contribution from LULUCF towards the achievement of its 2020 target amounted to removals of 2,301.34 kt CO<sub>2</sub> eq. Table 4 below illustrates Switzerland’s total GHG emissions, the contribution of LULUCF and the use of units from market-based mechanisms to achieve its target.

Table 4

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

<i>Year</i>	<i>Emissions excluding LULUCF (kt CO<sub>2</sub> eq)</i>	<i>Contribution from LULUCF (kt CO<sub>2</sub> eq)</i>	<i>Emissions including contribution from LULUCF (kt CO<sub>2</sub> eq)</i>	<i>Use of units from market-based mechanisms (kt CO<sub>2</sub> eq)</i>
1990	53 308.31	NA	NA	0
2010	54 311.48	-1 822.79	52 488.69	0
2011	50 243.96	-1 861.37	48 382.59	0
2012	51 622.61	-2 030.40	49 592.21	0
2013	52 560.93	-2 301.34	50 259.59	0

*Sources:* Switzerland’s second biennial report and common tabular format tables 1, 4, 4(a)I, 4(a)II and 4(b). Kyoto Protocol LULUCF tables version 2.3 from Switzerland’s 2014 annual inventory submission for calculation of contribution from LULUCF in the period 2010–2012.

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

37. To assess the progress towards the achievement of the 2020 target, the ERT noted that Switzerland’s emission reduction target under the Convention is 20.0 per cent below the 1990 level (see para. 14 above). As discussed in chapter II.B above, in 2013 Switzerland’s annual total GHG emissions excluding LULUCF were 1.4 per cent (747.38 kt CO<sub>2</sub> eq) below the base year level. In addition, the ERT noted that in 2013, the contribution from LULUCF using the activity-based approach was removals of 2 301.34 kt CO<sub>2</sub> eq, and the use of market-based mechanisms was not estimated, although Switzerland reported that it plans to use units from market-based mechanisms under the Convention to achieve its quantified economy-wide emission reduction target.

38. The ERT noted that Switzerland is making progress towards its emission reduction target by implementing mitigation actions; however, on the basis of the results of the projections (see para. 47 below), the ERT also noted that the Party may face challenges, even if all additional domestic PaMs, including further strengthening existing ones, are to be implemented by 2020. In this regard, Switzerland indicated in the BR2 that it plans to use units from market-based mechanisms in achieving its emission reduction target.

**3. Projections**

39. Switzerland 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. 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<sub>2</sub>,

CH<sub>4</sub>, N<sub>2</sub>O, PFCs, HFCs and SF<sub>6</sub> as well as NF<sub>3</sub>. Projections are also provided in an aggregated format for each sector as well as for a Party total, using GWP values from the AR4. Emission projections related to fuel sold to ships and aircraft engaged in international transport were reported separately and were not included in the totals. Switzerland reported on factors and activities influencing emissions for each sector. Further information on the projections is provided in chapter 4 of the BR2.

40. Information reported by Switzerland on the total GHG emission projections under the WEM, ‘without measures’ (WOM) and ‘with additional measures’ (WAM) scenarios is not entirely transparent, as values reported in table 24 of the BR2 differ from those reported in CTF tables 6(a), 6(b) and 6(c). The discrepancy refers to values for domestic compensation (expressed as negative values), which are the result of the implementation of partial compensation of CO<sub>2</sub> emissions from transport fuel use (see para. 30 above). The ERT noted that these values were not included in the total GHG emissions in the corresponding CTF tables, in contradiction with the first custom footnote to CTF table 6(a), which states that domestic compensation is included in the total, but not allocated to any of the sectors or gases. In the BR2 (table 24), domestic compensation is included in the totals (see also figure 14 in the BR2, which shows how domestic compensation influences total emissions). In response to a question raised by the ERT during the review, Switzerland stated that the observed difference between these values concerns only total emissions. To increase transparency, the ERT recommends that Switzerland provide consistent values for the projected total GHG emissions in the next BR and CTF tables and provide further clarification on the accounting of domestic compensation in projections.

41. In addition to the WEM scenario, Switzerland reported in the BR2 and CTF tables 6(b) and 6(c) the WAM and WOM scenarios. The projections are prepared by sector and by gas in the same way as the WEM scenario for 2020 and 2030. Switzerland provided information on the changes since the submission of its NC6/BR1 in the assumptions, methodologies, models and approaches used and on the key variables and assumptions used in the preparation of the projection scenarios using CTF table 5 (see paras. 44–46 below).

42. The same scenarios as those presented in the NC6 and the BR1 are used for the energy sector. In contrast, updated results for the waste sector and the agriculture sector, as well as for the emissions of F-gases, are presented in the Party’s BR2.

#### Overview of projection scenarios

43. The WEM scenario reported by Switzerland includes all PaMs that have been implemented and adopted up to 2013. Switzerland also reported on a WAM scenario, which includes planned PaMs, and a WOM scenario, which excludes all PaMs implemented after 2010.<sup>5</sup> Switzerland provided a definition of its scenarios, explaining that its WEM scenario includes policies that are currently implemented and adopted, while its WAM scenario includes implemented, adopted and planned measures. The definitions indicate that the scenarios have 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

44. The methodology used in the BR2 is identical to that used for the preparation of the emission projections for the NC6/BR1. It is based on the bottom-up approach and sectoral

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<sup>5</sup> For the energy sector, many measures were not completely excluded under the WOM scenario, but were continued after 2010 as before without any strengthening (see Switzerland’s NC6 and BR1 for details).

models in which the same processes and gases are considered in a way that is consistent with the national GHG inventory.

45. To prepare its projections, Switzerland relied on the following key underlying variables and assumptions for the WEM scenario in the period 2015–2030 (as reported in BR2 table 23 and CTF table 5): increase in population and GDP; increase in oil and natural gas prices; decrease in the number of heating degree days; and increase in passenger-kilometres. These assumptions have been updated on the basis of the most recent economic developments known at the time of the reporting on projections.

46. The BR2 did not include an analysis of the sensitivity of the projections to underlying assumptions. The ERT notes that including this analysis in the next BR of Switzerland would further improve transparency, particularly taking into account the considerable uncertainties relating to key variables used for the projections, as indicated in the BR2, and the gap between the projections of GHG emissions in the WEM and WAM scenarios and the emission reduction target in 2020.

#### Results of projections

47. Switzerland's total GHG emissions including domestic compensation and excluding LULUCF in 2020 and 2030 are projected to be 45,593.21 and 38,087.33 kt CO<sub>2</sub> eq, respectively, under the WEM scenario, which is a decrease of 14.5 and 28.6 per cent, respectively, below the 1990 level. Under the WAM scenario, emissions in 2020 and 2030, amounting to around 42,111.10 and 30,721.80 kt CO<sub>2</sub> eq, respectively, are projected to be lower than those in 1990 by 21.1 and 42.4 per cent, respectively.

48. The 2020 projections suggest that Switzerland may face challenges to achieve its 2020 target under the Convention with domestic mitigation actions alone (see para. 14 above).

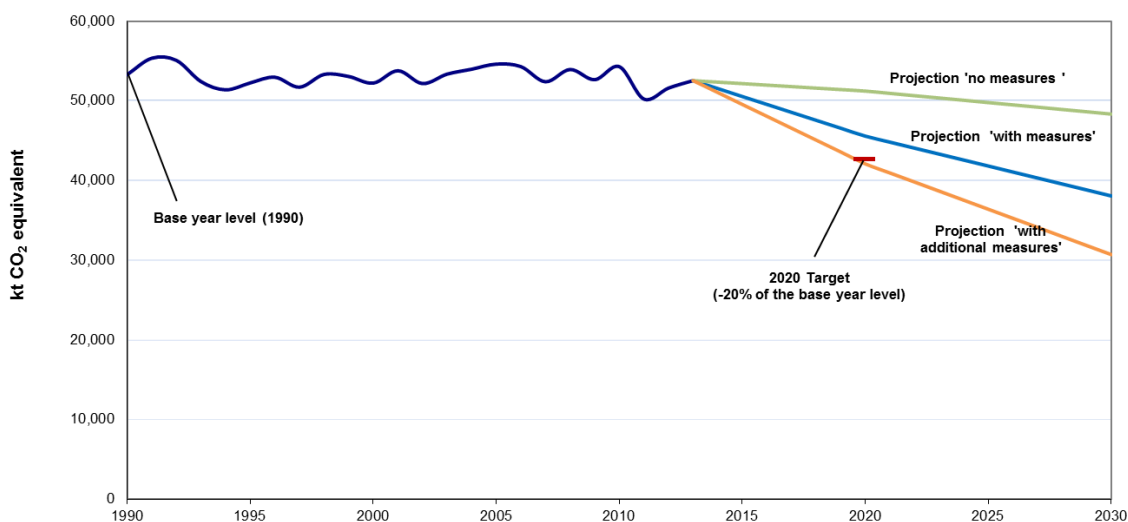
49. According to the projections reported by sector in CTF table 6(a), the most significant GHG emission reductions under the WEM scenario from 1990 to 2020 are expected to occur in the energy sector excluding transport (3,584.54 kt CO<sub>2</sub> eq or 13.2 per cent), followed by the transport sector (1,316.01 kt CO<sub>2</sub> eq or 9.0 per cent), the agriculture sector (806.88 kt CO<sub>2</sub> eq or 11.9 per cent) and the waste sector (694.98 kt CO<sub>2</sub> eq or 53.1 per cent), respectively. GHG emissions from the industrial processes and product use (IPPU) sector are projected to be 171.47 kt CO<sub>2</sub> eq (4.9 per cent) above the 1990 level by 2020, but show a decreasing trend in the period after 2015. Domestic compensation, which is not allocated to any of the sectors, is projected to contribute an additional reduction of 1,516.51 kt CO<sub>2</sub> eq in 2020 below the 1990 level. The pattern of projected emissions reported for 2030 under the same scenario remains unchanged. The most significant GHG emission reductions under the WEM scenario from 1990 to 2030 will occur in the energy sector excluding transport (6,592.88 kt CO<sub>2</sub> eq or 24.3 per cent), followed by the transport sector (4,437.16 kt CO<sub>2</sub> eq or 30.3 per cent), the agriculture sector (835.18 kt CO<sub>2</sub> eq or 12.3 per cent) and the IPPU sector (742.76 kt CO<sub>2</sub> eq or 21.1 per cent). Domestic compensation is projected to contribute an additional reduction of 1,939.37 kt CO<sub>2</sub> eq in 2030 below the 1990 level.

50. In 2020, under the WEM scenario, the most significant reductions are projected for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O: 5,496.48 kt CO<sub>2</sub> eq (12.5 per cent), 1,477.30 kt CO<sub>2</sub> eq (23.8 per cent) and 450.04 kt CO<sub>2</sub> eq (15.8 per cent) between 1990 and 2020, respectively. By 2030, under the same scenario, the most significant reduction below the 1990 level is projected for CO<sub>2</sub>, followed by CH<sub>4</sub> and N<sub>2</sub>O: 11,952.71 kt CO<sub>2</sub> eq (27.5 per cent), 1,526.12 kt CO<sub>2</sub> eq (24.6 per cent) and 451.85 kt CO<sub>2</sub> eq (15.8 per cent), respectively. Domestic compensation, which is not allocated to any of the gases, is projected to contribute an additional reduction of 1,516.51 and 1,939.37 kt CO<sub>2</sub> eq in 2020 and 2030, respectively, below the 1990 level.

51. If additional measures are considered (i.e. under the WAM scenario), the pattern of emission reductions by 2020 presented by sector slightly change in comparison to the WEM scenario owing to the larger reductions in the transport sector; however, the energy sector without transport still remains the most prominent source of reductions (4,890.80 kt CO<sub>2</sub> eq or 18.1 per cent), followed by the transport sector (3,578.04 kt CO<sub>2</sub> eq or 24.5 per cent) and the agriculture sector (854.74 kt CO<sub>2</sub> eq or 12.6 per cent).

52. The projected emission levels under the different scenarios and Switzerland's quantified economy-wide emission reduction target are presented in the figure below.

### Greenhouse gas emission projections by Switzerland



Sources: (1) Data for the years 1990–2013: the CTF tables in Switzerland's second biennial report, version 1.0 [(Switzerland's 2015 annual inventory submission did not include the CRF tables owing to delays with the upgrade of the CRF Reporter software); total GHG emissions excluding land use, land-use change and forestry]; (2) Data for the years 2014–2030: Switzerland's second biennial report; total GHG emissions including domestic compensation and excluding land use, land-use change and forestry.

Abbreviations: CRF = common reporting format, CTF = common tabular format, GHG = greenhouse gas.

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

53. In its BR2, Switzerland 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 support. During the review, in response to questions raised by the ERT, Switzerland provided additional information on the methodology used to track financial support, including the underlying assumptions and indicators used. Information provided in the BR2 demonstrates that Switzerland's financial support provided to Parties not included in Annex I to the Convention (non-Annex I Parties) has continued to grow since its NC6/BR1.

54. Regarding technology development and transfer and capacity-building support, the ERT noted that the reported information was still not sufficiently complete and transparent, because it did not follow the UNFCCC reporting guidelines on BRs. Switzerland had

reported in the BR2 on its difficulties to follow the UNFCCC reporting guidelines on BRs in this regard and provided more detailed additional information during the review (see paras. 78 and 79 below).

55. In its BR2, Switzerland reported on the new and additional support it has provided and further explained how this support is considered to be new and additional. It is stated by the Party that the Swiss Parliament decided to increase the level of official development assistance (ODA) to 0.5 per cent of the gross national income (GNI) by 2015. This decision took into consideration the need for Switzerland to fulfil its fast-start finance commitment under the Convention for the period 2010–2012. Consequently, new and additional resources of USD 150 million were made available and used by the Swiss Agency for Development and Cooperation (SDC), the State Secretariat for Economic Affairs (SECO) and FOEN to expand their respective climate change activities. Climate finance followed this trend and has steadily increased since the ratification of the Convention. Switzerland has increased its total contributions through multilateral, bilateral, regional and other channels by 69.8 per cent since its NC6/BR1 (cumulative contribution in 2013 and 2014 compared to 2011 and 2012).

56. Switzerland provided information on the differentiated support provided for adaptation and mitigation activities, on their allocation channels and annual contributions for the period 2013–2014 without overlapping with the previous reporting period (2011–2012), as requested by the UNFCCC reporting guidelines on BRs.

57. Switzerland included in its BR2 (chapter 5.7) information on how the climate-specific part of the inflows is calculated, based on the climate-specific shares published on a year-by-year basis by the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee. The Party explained that the climate-specific share of each activity is assessed based on the Rio Markers methodology and project-specific reduction factors applied. A reduction factor of 1–50 per cent is applied for activities with an indirect impact on climate change adaptation or mitigation (the ‘significant marker’) and a reduction factor of 51–100 per cent is applied for activities with a direct impact on climate change adaptation or mitigation (the ‘principal marker’). There is no double counting between adaptation and mitigation specific activities.

58. Further information on the Party’s provision of support to developing country Parties is provided in chapter 5 of the BR2 and in paragraphs 69–72 below.

59. The ERT notes the challenges that Switzerland faces in following several of the requirements of the UNFCCC reporting guidelines on BRs, particularly those related to technology transfer and capacity-building support. At the same time, the ERT recognizes that all Parties agreed to the UNFCCC reporting guidelines on BRs, in order to provide other Parties with complete, transparent and comparable information, and this may not be achievable if the guidelines are not followed. The ERT considers that every effort should be made, to the extent possible, by Switzerland to achieve the maximum adherence to the reporting requirements for the BR and the CTF tables.

## **1. Finance**

60. In its BR2 and CTF tables 7, 7(a) and 7(b), Switzerland reported information on the provision of financial support required under the Convention, including on financial support provided, allocation channels and annual contributions (see paras. 70 and 71 below and table 5 below). The summary information was reported for 2013–2014.

61. Switzerland stated in the BR2 that its support for international climate action through a variety of channels and instruments (e.g. dedicated multilateral climate funds, specific multilateral and bilateral climate programmes and projects), as well as integrating



low-carbon development climate resilience into Switzerland's development assistance, represents a cornerstone of the Party's international engagement since the early 1990s.

62. Further to that, Switzerland emphasized that through its multilateral and bilateral cooperation and its membership of the governing bodies of various multilateral institutions, the Party attaches great importance to increased coherence and effectiveness in the design and implementation of climate-relevant policies, strategies and actions. Switzerland also affirms that the establishment of strategic partnerships at all levels and the strengthening of dialogue among all stakeholders are key principles guiding its international climate change engagement.

63. The ERT noted that the information provided in the BR2 does not explicitly describe how the Party seeks to ensure that the provided resources effectively address the needs of developing country Parties with regard to climate change adaptation and mitigation, as required by the UNFCCC reporting guidelines on BRs, although it could be concluded from the BR2 that resource effectiveness is an important element of Swiss financial support (e.g. close cooperation between agencies, using a target-oriented approach and the structure of mitigation actions portfolio as mentioned in chapter 5.3. in the BR2). During the review, in response to a question raised by the ERT, the Party provided additional information, stating that support is provided on a demand basis and that it is built upon the needs specified in the strategic documents of the recipient countries. The ERT therefore reiterates the recommendation made in the report of the technical review of the BR1, that the Party, in its next BR, provide information, to the extent possible, on the approaches used to ensure that the resources provided effectively address the needs of non-Annex I Parties regarding climate change adaptation and mitigation to increase the completeness of its reporting.

64. Some of the information provided by Switzerland has not been entirely reported in accordance with the UNFCCC reporting guidelines on BRs, which makes it difficult for the ERT to understand the support activities. For example, there is a lack of information on the specific sectors that benefited from the financial support, because all supported activities are identified as cross-cutting for all sectors in CTF tables 7(a) and 7(b). During the review, in response to a question raised by the ERT, Switzerland explained that, for the purposes of the BR, it aggregated the project-level data from its database (as reported to the OECD) on a country level. The Party assumed that such reporting would improve the readability of the data (aggregate view per country rather than at the project level). The Party further explained that various economic sectors, if not all, in most countries that received support had benefited from the support for climate change mitigation and adaptation activities. Therefore, under the column 'Sectors' in CTF table 7(b), Switzerland indicated as cross-cutting all individual programme or project activities. The ERT recommends that Switzerland, in its next BR, provide information on the specific sectors that have benefited from the financially supported activities.

65. In CTF tables 7(a) and 7(b), Switzerland reported only on funds provided, although in the BR2, it provided information on its pledge of approximately USD 100 million to the Green Climate Fund, where the first instalment was already formalized and disbursed. During the review, in response to a question raised by the ERT, Switzerland explained that it only reported on funds it has provided for consistency reasons, because they are the funds that have actually been released from Switzerland's accounts to its partners according to the national accounting system, and partner countries have shown greater interest in disbursed funds. It also explained that there is always a time lag between funds committed (signed contracts) and disbursed, and that, in general, Switzerland does not track any pledged funds, which are not legally binding, except to multilateral agencies and funds. The ERT therefore recommends that Switzerland provide in the next BR, additional information on its committed and/or pledged funds to enhance the transparency of its reporting.

66. In addition, the ERT noted that Switzerland in its BR2 did not provide information on financial support for assisting non-Annex I Parties to address any economic and social consequence of response measures, where appropriate. In response to a question raised by the ERT during the review, Switzerland explained that this information is provided in the annual inventory submissions. To enhance transparency, the ERT recommends that Switzerland provide in the next BR information on financial support for assisting non-Annex I Parties to address any economic and social consequence of response measures.

67. Switzerland reported that the BR2 does not contain information on mobilized private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties and on PaMs that promote the scaling up of private investment in mitigation and adaptation activities in developing country Parties. During the review, in response to a question raised by the ERT, Switzerland confirmed that the BR2 covers support only from public finance, but also provided additional information, elaborating on how Switzerland recognizes that the scaling up of various forms of financial support, in particular from private sources, will be essential to facilitate ambitious mitigation and adaptation action in developing countries. For example, the Swiss Investment Fund for Emerging Markets plays an important role in this regard by providing long-term finance and advisory support to the private sector in developing countries.

68. In addition, Switzerland stated that it attaches great importance to the mobilization of private climate finance through public interventions, but there are still significant gaps in data availability for these activities, and methodological constraints still exist that hamper the Party's ability to fully estimate the volume of both directly and indirectly mobilized private climate finance. The ongoing development by a number of donor countries of a common methodology to track and report mobilized private climate finance will encourage and facilitate the accounting of such financial flows. Switzerland is determined to build on this framework to improve the coverage of its data on mobilized private climate finance in the coming years. This will facilitate a more complete and transparent reporting on this important matter. The ERT therefore encourages Switzerland to report in its next BR, to the extent possible, the information on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties and on PaMs that promote the scaling up of private investment in mitigation and adaptation activities in developing country Parties.

69. In the BR2, Switzerland included findings of a report on the effectiveness of the Swiss international cooperation, commissioned jointly by the SDC and SECO in 2014. Switzerland stated that it was able to significantly increase its ODA from USD 3,100 million in 2012 (0.45 per cent of gross national income (GNI)) to USD 3,200 million in 2013 (0.45 per cent of GNI), and to USD 3,550 million in 2014 (0.49 per cent of GNI). Switzerland reported that its increased climate finance has been allocated primarily to well-performing existing projects and multilateral initiatives, but has also been used for integrating low-carbon development climate resilience into Switzerland's development assistance.

70. Switzerland reported on its climate-specific public financial support provided in 2013 and 2014, totalling USD 281.17 million in 2013 and USD 299.00 million in 2014. Switzerland did not provide information in its BR2 on future financial pledges aimed at enhancing the implementation of the Convention by developing countries. During the reporting period, Switzerland placed a particular focus on supporting bilateral and regional programmes, for which it allocated USD 201.93 million (USD 115.32 million for adaptation and USD 86.61 million for mitigation) in 2014, which constitutes an increase of USD 17.91 million compared with 2013, as reported in sections 5.4 and 5.5 of the BR2 and in CTF table 7(b).

71. The BR2 includes detailed information on the financial support provided through multilateral channels, and bilateral and regional channels in 2013 and 2014. More specifically, Switzerland contributed through multilateral channels, as reported in its BR2 and in CTF table 7(a), USD 97.15 million and 97.08 million for 2013 and 2014, respectively. These contributions were made to specialized multilateral climate change funds, such as the Global Environment Facility, the Special Climate Change Fund, the Least Developed Countries Fund, the Adaptation Fund, the Green Climate Fund and the UNFCCC Trust Fund for Supplementary Activities. With regard to multilateral financial institutions, the World Bank, the African Development Bank and the Asian Development Bank received USD 64.81 million and 74.32 million in total for 2013 and 2014, respectively.

72. The regions that received support from the Swiss bilateral and regional collaboration were: Asia/Oceania with USD 84.12 million (21.8 per cent of the total bilateral and regional assistance in the period 2013–2014); Latin America with USD 77.85 million (20.2 per cent); Africa with USD 72.14 (18.7 per cent); Europe and the Commonwealth of Independent States with USD 31.85 million (8.3 per cent); and the Middle East and North Africa with USD 8.14 (2.1 per cent). Table 5 includes some of the information reported by Switzerland on its provision of financial support.

Table 5

**Summary of information on provision of financial support in 2013–2014**

(Millions of United States dollars)

<i>Allocation channel of public financial support</i>	<i>Years of disbursement</i>	
	<i>2013</i>	<i>2014</i>
Official development assistance <sup>a</sup>	3 200.00	3 550.00
Climate-specific contributions through multilateral channels, including:		
Global Environment Facility	16.91	17.44
Least Developed Countries Fund	1.08	1.09
Special Climate Change Fund	1.35	1.37
Adaptation Fund	10.79	0
Green Climate Fund	0	0.55
Trust Fund for Supplementary Activities	0.21	0.21
Financial institutions, including regional development banks	64.81	74.32
Other	1.89	1.92
Climate-specific contributions through bilateral, regional and other channels	184.02	201.93
Other (Intergovernmental Panel on Climate Change)	0.11	0.17

<sup>a</sup> *Source:* Switzerland's second biennial report.

73. The BR2 and CTF tables provide transparent information on the types of support provided. In terms of the focus of public financial support, as reported in CTF table 7 for 2013, the shares of total public financial support allocated for mitigation, adaptation and cross-cutting projects corresponding to these channels were 25.5, 43.7 and 30.7 per cent, respectively. 34.6 per cent of the total public financial support was allocated through multilateral channels and 65.4 per cent of it was through bilateral, regional and other channels. In 2014, the shares of total public financial support allocated for mitigation, adaptation and cross-cutting projects corresponding to these channels were 29.0, 38.6 and

32.5 per cent, respectively. 32.5 per cent of the total public financial support was allocated through multilateral channels and 67.5 per cent of it was through bilateral, regional and other channels.

74. The ERT noted that, as explained by the Party during the review, most of the mitigation projects are in the following sectors or fields: renewable energy and energy efficiency; buildings and construction; natural resource efficiency; and forestry and agriculture. Most adaptation projects are in the following sectors or fields: agriculture; food security; forestry; building and construction; disaster risk reduction; and water, urban and environmental infrastructure.

75. The BR2 and CTF tables 7(a) and 7(b) include information on the types of financial instrument used in the provision of assistance to developing countries. Switzerland stated that all mitigation and adaptation activities benefited by public financial support included in its BR2 are supported by grants exclusively.

## **2. Technology development and transfer**

76. The BR2 and CTF table 8 do not include information required by the UNFCCC reporting guidelines on BRs on measures and activities taken to promote, facilitate and finance the transfer of, access to and the deployment of climate-friendly technologies for the benefit of non-Annex I Parties, and for the support of the development and enhancement of endogenous capacity of non-Annex I Parties.

77. Also, Switzerland did not provide, in textual and tabular formats, information on measures and activities related to technology transfer implemented or planned since its last national communication (NC) or BR. In addition, the Party did not provide information, to the extent possible, on the recipient country, the target area of mitigation and adaptation, the sector involved and the sources of technology transfer from the public and private sectors, distinguishing between activities undertaken by them.

78. In this regard, Switzerland explained in chapter 5.8 of the BR2 that most Swiss programmes and projects that support developing countries in their endeavours to mitigate and adapt to climate change contain technology transfer and capacity-building components. Furthermore, Switzerland mentioned that, because of the integrated character of technology transfer and capacity-building, it is difficult to single out the respective components and that this approach would not do justice to the integrated approach that underpins Switzerland's climate change interventions. Therefore, the technology transfer and capacity-building components of Swiss-funded projects are not systematically identified in the BR2, as requested by the UNFCCC reporting guidelines on BRs.

79. During the review, in response to a question raised by the ERT, Switzerland provided additional information elaborating further on the difficulties in following the UNFCCC reporting guidelines on BRs related to technological and capacity-building support. In particular, the Party refrains from singling out and quantifying its capacity-building and technology transfer components, because if it were to do so, it would need to fundamentally redesign its entire national reporting system of supported projects. An important corollary would be that all project managers both at the headquarters and in the field offices would have to estimate the capacity-building and technology transfer components in the planning phase of their projects. This would not only increase the administrative burden considerably, but it would also reduce the resources available for actual project implementation, thereby diminishing the impact of the projects on the ground. For this reason, Switzerland stated that it will continue to report on its capacity-building and technology transfer activities in qualitative terms, by emphasizing the integrative character based on specific project examples.

80. In addition to the explanations mentioned in paragraphs 78 and 79 above, Switzerland, in the footnote to CTF table 8, states that most projects funded by Switzerland include technology transfer and capacity-building components. However, because they form an integral part of a project, it is not possible to account for them separately. Nevertheless, the ERT, taking into consideration its note expressed in paragraph 59 above, reiterates the recommendations made in the report of the technical review of the BR1, that Switzerland, in its next BR, report on its measures to promote, facilitate and finance the transfer of, access to and deployment of climate-friendly technologies for the benefit of non-Annex I Parties, and for the support of the development and enhancement of endogenous capacities and technologies of non-Annex I Parties, as well as on the measures and activities related to technology transfer implemented or planned since Switzerland's last NC or BR, by filling in CTF table 8 and providing the related textual information in the BR.

81. In its BR2, Switzerland did not provide information on success and failure stories related to technology development and transfer. The ERT encourages Switzerland to report on success and failure stories related to technology development and transfer referred to in paragraph 21 of the UNFCCC reporting guidelines on BRs.

### **3. Capacity-building**

82. The BR2 and CTF table 9 do not include the information required by the UNFCCC reporting guidelines on BRs on how the Party provided capacity-building support that responds to the existing and emerging capacity-building needs identified by non-Annex I Parties in the areas of mitigation, adaptation and technology development and transfer. However, Switzerland provided, for illustrative purposes, information on four project examples carried out during the reported period that showcase how the integrated approach used by Switzerland in technology transfer and capacity-building support works (see chapter 5.8 of the Party's BR2). These examples indicate the integrated character of technology transfer and capacity-building in the context of the adaptation and mitigation activities supported by Switzerland and the difficulties in singling out these activities from the rest of the projects. During the review, in response to a question raised by the ERT, Switzerland provided additional information (see para. 79 above).

83. In addition to the explanation mentioned in paragraph 79 above, Switzerland, in the footnote to CTF table 9, states that most projects funded by Switzerland include technology transfer and capacity-building components. However, because they form an integral part of a project, it is not possible to account for them separately. Nevertheless, taking into consideration its note expressed in paragraph 59 above, the ERT reiterates the recommendations made in the report of the technical review of the BR1, that Switzerland, in its next BR, provide a description, to the extent possible, on how it has provided capacity-building support for mitigation, adaptation, and technology development and transfer, by filling in CTF table 9 and providing the related textual information in the BR.

## **III. Conclusions**

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

85. Switzerland's total GHG emissions excluding LULUCF related to its quantified economy-wide emission reduction target were estimated to be 1.4 per cent below the 1990 level, whereas total GHG emissions including LULUCF were 2.3 per cent above its 1990 level for 2013. The moderate decrease in total emissions excluding LULUCF was driven by a combination of economy-wide and sector-specific drivers, of which the following contributed to an emissions decrease: higher energy efficiency standards for buildings and combustion equipment; a decrease in livestock population and the use of fertilizers, and a decrease in the amounts of biodegradable and combustible waste disposed at landfill sites. Their effect was partially offset by drivers that contributed to an emission increase, such as: an increase of combustion activities in refineries, waste incineration and new district heating plants; a growth of passenger and freight transport; an increase in the use of F-gases, and an increase of biological treatment of solid waste.

86. Under the Convention, Switzerland committed itself to achieving a quantified economy-wide emission reduction target of 20.0 per cent by 2020 below the 1990 level. This target covers the following GHGs: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub> and NF<sub>3</sub>, expressed using GWP values from the IPCC AR4 and covers all sources and sectors included in the annual GHG inventory. Emissions and removals from the LULUCF sector are included in the target and Switzerland reported that it plans to make use of market-based mechanisms to achieve its target. In absolute terms, this means that under the Convention, Switzerland has to reduce emissions from 53,308.31 kt CO<sub>2</sub> eq (in the base year, i.e. 1990) to 42,646.65 kt CO<sub>2</sub> eq by 2020.

87. Switzerland's main policy framework relating to energy and climate change is the revised Federal Act on the Reduction of CO<sub>2</sub> Emissions, which entered into force in 2013. The implementation of the aforementioned act is further detailed in the Ordinance on the Reduction of CO<sub>2</sub> Emissions. The mitigation actions with the most significant mitigation impact are: the CO<sub>2</sub> levy on heating and process fuels; the National Building Refurbishment Programme (Parts A and B); the building codes of the cantons; CO<sub>2</sub> emission regulations for new passenger cars; partial compensation of CO<sub>2</sub> emissions from transport fuel use; and provisions relating to substances stable in the atmosphere.

88. For 2013, Switzerland reported in CTF table 4 total GHG emissions excluding LULUCF at 52,560.93 kt CO<sub>2</sub> eq, or 1.4 per cent below the 1990 level. Switzerland reported on its contribution from LULUCF in 2013 using an activity-based approach, and stated that it will account for contributions from the market-based mechanisms at the end of the second commitment period to achieve its target.

89. The GHG emission projections provided by Switzerland in its BR2 include those for the WOM, WEM and WAM scenarios. Under these three scenarios, emissions are projected to be 3.9, 14.5 and 21.1 per cent below the 1990 level in 2020, respectively. On the basis of the reported information, the ERT concluded that Switzerland is making progress towards its emission reduction target by implementing mitigation actions; however, it may face challenges to achieve its 2020 target, even if all additional PaMs are implemented by 2020, including further strengthening of existing PaMs (WAM scenario). In this regard, Switzerland indicated in the BR2 that it plans to use units from market-based mechanisms in achieving its emission reduction target.

90. Switzerland has increased its total contributions through multilateral, bilateral, regional and other channels by 69.8 per cent since its NC6/BR1 (cumulative contribution in 2013 and 2014 compared to 2011 and 2012). Its public financial support in 2013 and 2014 totalled USD 281.17 million and 299.00 million per year, respectively. For these years, Switzerland's support was allocated almost equally to adaptation and mitigation activities, with the former being slightly higher (ratio 60:40). The highest level of financial support went to mitigation and adaptation projects in the following sectors or fields: renewable

energy and energy efficiency; buildings and construction; natural resource efficiency; forestry and agriculture; and food security.

91. In the course of the review, the ERT formulated the following recommendations for Switzerland to improve its adherence to the UNFCCC reporting guidelines on BRs in its next BR:<sup>6</sup>

- (a) Improve the completeness of its reporting by:
  - (i) Including information on the mitigation actions it plans to implement (see para. 21 above);
  - (ii) Including information, to the extent possible, on the approaches used to ensure that the resources provided effectively address the needs of non-Annex I Parties regarding climate change adaptation and mitigation (see para. 63 above);
  - (iii) Providing information on the measures to promote, facilitate and finance the transfer of, access to and deployment of climate-friendly technologies for the benefit of non-Annex I Parties, and for the support of the development and enhancement of endogenous capacities and technologies of non-Annex I Parties (see para. 80 above);
  - (iv) Providing information on the measures and activities related to technology transfer implemented or planned since Switzerland's last NC or BR (see para. 80 above);
  - (v) Including a description, to the extent possible, on how it has provided capacity-building support for mitigation, adaptation and technology development and transfer (see para. 83 above);
- (b) Improve the transparency of its reporting by:
  - (i) Providing consistent information in CTF tables 2(b) and 2(d) and the BR on the inclusion of LULUCF in the description of its quantified economy-wide emission reduction target (see para. 13 above);
  - (ii) Estimating the impacts of the mitigation actions that were not estimated in CTF table 3, or providing a more detailed explanation of why those impacts could not be estimated as explained by the additional information provided during the review (see para. 22 above);
  - (iii) Providing the correct values in CTF tables 4 and 4(a)II for the contribution from LULUCF based on the activity-based approach (see para. 34 above);
  - (iv) Reporting on the amount of units from market-based mechanisms on the Swiss state accounts in the national registry at the end of every year, contributing to the progress towards the achievement of the target (see para. 35 above);
  - (v) Providing consistent values for the projected total GHG emissions in the next BR and CTF tables and providing further clarification on the accounting of domestic compensation in projections (see para. 40 above);
  - (vi) Providing information on the specific sectors benefited by the financially supported activities, as requested in CTF tables 7(a) and 7(b) (see para. 64 above);
  - (vii) Providing information on its committed and/or pledged funds (see para. 65 above);
  - (viii) Providing information on financial support for assisting non-Annex I Parties to address any economic and social consequence of response measures (see para. 66 above).

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<sup>6</sup> The recommendations are given in full in the relevant chapters of this report.

## 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/CHE. Report on the individual review of the annual submission of Switzerland submitted in 2014. Available at

<<http://unfccc.int/resource/docs/2015/arr/che.pdf>>.

FCCC/IDR.6/CHE. Report of the technical review of the sixth national communication of Switzerland. Available at <<http://unfccc.int/resource/docs/2014/idr/che06.pdf>>.

FCCC/TRR.1/CHE. Report of the technical review of the first biennial report of Switzerland. Available at <<http://unfccc.int/resource/docs/2014/trr/che01.pdf>>.

2015 greenhouse gas inventory submission of Switzerland. Available at

<[http://unfccc.int/national\\_reports/annex\\_i\\_ghg\\_inventories/national\\_inventories\\_submissions/items/8812.php](http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php)>.

Sixth national communication of Switzerland. Available at

<[http://unfccc.int/files/national\\_reports/annex\\_i\\_natcom/submitted\\_natcom/application/pdf/che\\_nc6\\_opt.pdf](http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/che_nc6_opt.pdf)>.

First biennial report of Switzerland. Available at

<[http://unfccc.int/files/national\\_reports/annex\\_i\\_natcom/submitted\\_natcom/application/pdf/che\\_nc6\\_opt.pdf](http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/che_nc6_opt.pdf)>.

Common tabular format tables of the first biennial report of Switzerland. Available at

<[http://unfccc.int/files/national\\_reports/biennial\\_reports\\_and\\_iar/submitted\\_biennial\\_reports/application/pdf/che\\_2014\\_v1.0.pdf](http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/che_2014_v1.0.pdf)>.

Second biennial report of Switzerland. Available at

<[http://unfccc.int/files/national\\_reports/biennial\\_reports\\_and\\_iar/submitted\\_biennial\\_reports/application/pdf/switzerland\\_br2\\_2016.pdf](http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/switzerland_br2_2016.pdf)>.



Common tabular format tables of the second biennial report of Switzerland. Available at <[http://unfccc.int/files/national\\_reports/biennial\\_reports\\_and\\_iar/submitted\\_biennial\\_reports/application/pdf/che\\_2016\\_v1\\_0\\_formatted.pdf](http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/che_2016_v1_0_formatted.pdf)>.

## **B. Additional information used during the review**

Responses to questions during the review were received from Mr. Adrian Schilt (Bundesamt für Umwelt), including additional material and the following documents<sup>1</sup> provided by Switzerland:

The SwissEnergy programme supporting the exchange of information and know-how, aiming at improving energy efficiency and the use of renewables. Available at <<http://www.energieschweiz.ch>>.

Possibilities and conditions for companies to get exempted from the CO<sub>2</sub> levy, Swiss ETS, CO<sub>2</sub> Act, CO<sub>2</sub> Ordinance. Available at <<http://www.bafu.admin.ch/klima/13877/14510/14750/index.html?lang=en>>.

Activities that allow for the exemption of the CO<sub>2</sub> levy. Available at <<https://www.admin.ch/opc/en/classified-compilation/20120090/index.html#app7>>.

The recycling of PET beverage containers with a minimum recycling rate of 75 per cent set by the Ordinance on beverage containers. Available at <<http://www.bafu.admin.ch/abfall/01472/01489/index.html?lang=en>>.

A detailed list of domestic compensation projects in various technological areas. Available at <<http://www.bafu.admin.ch/klima/13877/14510/16103/index.html?lang=en>>.

The expected and actual emission reductions from currently registered compensation projects. Available at <[http://www.bafu.admin.ch/klima/13879/13880/15742/index.html?lang=de&download=NHZLpZeg7t,lnp6I0NTU04212Z6ln1acy4Zn4Z2qZpnO2YUq2Z6gpJCHeIN3gGym162epYbg2c\\_JjKbNoKSn6A](http://www.bafu.admin.ch/klima/13879/13880/15742/index.html?lang=de&download=NHZLpZeg7t,lnp6I0NTU04212Z6ln1acy4Zn4Z2qZpnO2YUq2Z6gpJCHeIN3gGym162epYbg2c_JjKbNoKSn6A)>.

CO<sub>2</sub> emissions regulations for new passenger cars: A statistic of the actual specific emissions of sold cars. Available at <<http://www.news.admin.ch/NSBSubscriber/message/attachments/39826.pdf>>.

The ex-post evaluation of the National buildings refurbishment programme. Available at <<http://www.dasgebaeudeprogramm.ch/index.php/de/zahlen-a-fakten/jahr-2014>>.

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