

**Austria's**  
**SECOND BIENNIAL REPORT**

in Compliance with the Obligations under the  
United Nations Framework Convention on Climate Change,  
according to Decisions 2/CP.17 and 19/CP.18  
of the Conference of the Parties

The Second Biennial Report of Austria under the Framework Convention on Climate Change was compiled by the Federal Ministry of Agriculture, Forestry, Environment and Water Management, Unit I/4.

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# 1 Information on greenhouse gas emissions and trends

The following information on Austria's greenhouse gas emissions and emission trends is based on the inventory submission from November 2015<sup>1</sup>. The greenhouse gas inventory was compiled in compliance with the UNFCCC reporting guidelines according to Decision 24/CP.19, the Common Reporting Format (CRF) and the IPCC 2006 Guidelines.

## 1.1 Emissions and trends

Austria's total emissions of the greenhouse gases CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFCs, PFCs, SF<sub>6</sub> and NF<sub>3</sub> (excluding Land Use, Land-Use Change and Forestry) were 78.6 Mt CO<sub>2</sub> equivalent in 1990 and at a comparable level of 79.6 Mt in 2013. However, there has been by far no linear trend in the years between. Emissions had started to increase considerably in the mid-1990ies. The most relevant reason for the increase was the rising share of transport fuel sold in Austria but consumed abroad. A reversal of the emissions trend has been achieved after 2005, although the level of exported transport fuel remained high. Figure 1.1 presents the trend 1990–2013, emissions by sector and gas for the years 1990 and 2013 are shown in Table 1.1.

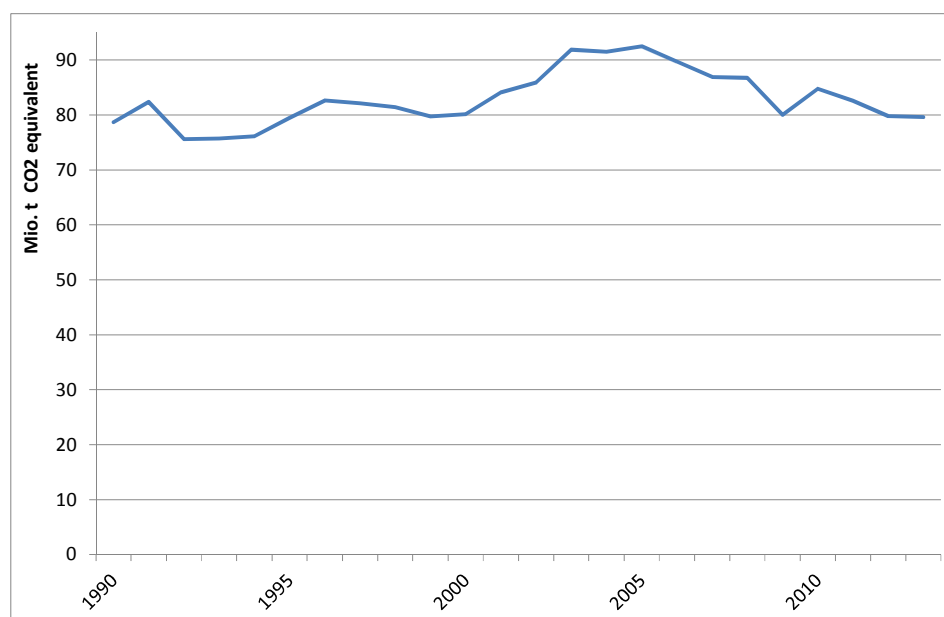


Figure 1.1: Austria's GHG emission trend 1990–2013 (without LULUCF)

Austria's GHG emissions per capita in 2013 were slightly above EU average and below OECD average: CO<sub>2</sub> emissions 8.0 t/capita, total GHG emissions 9.4 t/capita CO<sub>2</sub> equ. GHG

<sup>1</sup> AUSTRIA'S NATIONAL INVENTORY REPORT 2015 – Submission under the United Nations Framework Convention on Climate Change.  
[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)

emissions per GDP (at current prices) were 247 kg CO<sub>2</sub> equ. per million € in 2013, which is clearly at the lower end of the range of EU and OECD countries.

Total emissions are clearly dominated by CO<sub>2</sub> with a share of 85 % in 2013; the share of CH<sub>4</sub> has been decreasing since 1990 and has reached 8 %. The share of N<sub>2</sub>O has been decreasing by one percentage point to 4 % and that of fluorinated gases has been slightly increasing to about 3 % (cf. Fig. 1.2).

The increase of CO<sub>2</sub> emissions results from the trend in the sector fuel combustion, namely the increasing energy consumption in the transport sector. Decreasing CH<sub>4</sub> emissions are a result of the trend in the sectors waste and agriculture, the decrease of N<sub>2</sub>O emissions is mainly due to decreasing emissions from industrial processes.

Emissions of F-gases exhibit a slight increase, but the share of gases has changed significantly: PFCs have almost vanished after the termination of aluminium production in Austria, whereas the replacement of ozone depleting HCFCs by HFCs has caused HFCs to become the most important F-gases. SF<sub>6</sub> had gained an important share in the second half of the 1990ies, but has been reduced since then by a ban for certain uses and by technical progress. Emissions of NF<sub>3</sub> have been comparable low all the time.

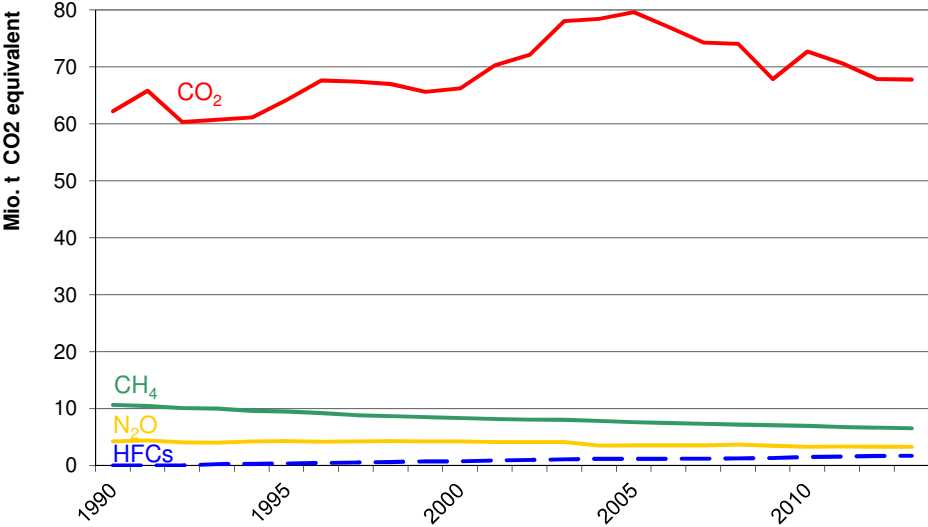
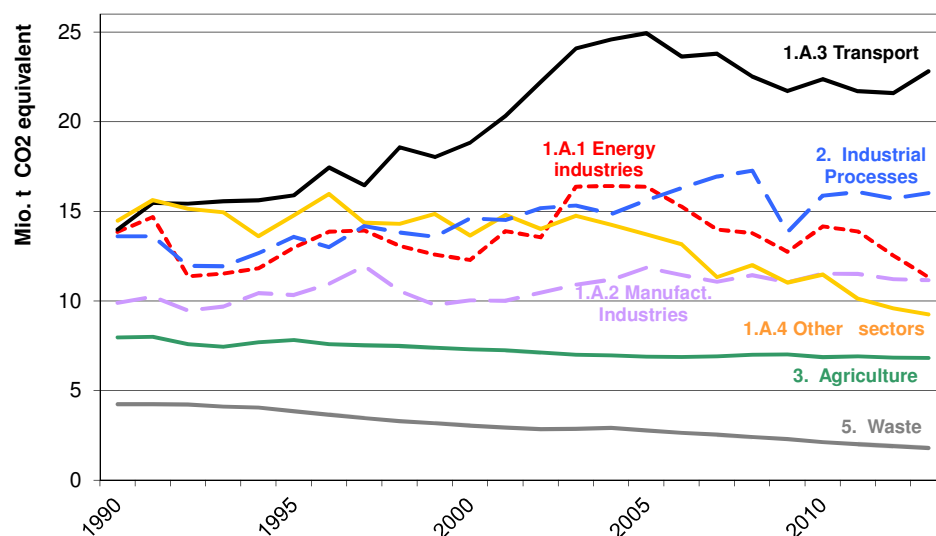


Figure 1.2: Austria’s GHG emission trend 1990–2013 by gas (without LULUCF)

About two third of Austria’s GHG emissions result from fuel combustion. Of all CRF (sub)sectors, transport (1.A.3, 29 %) has the highest share in total emissions in 2013, followed by industrial processes (2., 20 %), energy industries (1.A.1, 14 %) and manufacturing industries and construction (1.A.2, 14 %), “other sectors” (1.A.4, 12 %) and agriculture (4., 9 %). The increase of emissions from the mid 1990ies to 2005 was mainly driven by the transport sector; in comparison to the transport sector emission growth in

industrial processes and product use and manufacturing industries and construction was low. Emissions from waste and “other sectors” decreased significantly (cf. Fig. 1.3).



**Figure 1.3: Austria's GHG emission trend 1990–2013 by sector**

Sectoral trends 1990–2013 and driving forces:

- Despite increasing electricity and district heating demand, emissions from energy industries decreased moderately (-18%) due to a shift from solid and liquid fossil fuels to gas, more electricity imports, increasing biomass use and increasing contribution of hydro and wind power as well as increasing efficiency of production.
- Production increase in manufacturing industries and construction was the main driving force for the increase of emissions: Value added increased by more than half from 1990 to 2013. Emission increase was considerably lower (+13%) due to a fuel switch to gas and biomass as well as the use of electricity instead of combustion processes.
- Transport emissions growth (+63%) is caused by increasing inland road transport demand especially for freight transport, but also for passenger transport. In addition, the rising fuel export in the vehicle tank, i. e. the amount of fuel sold in Austria but used elsewhere, has increased considerably. The use of biofuels since 2005 and more efficient vehicles in freight transport have attenuated emission growth.
- Emissions from “other sectors” decreased substantially (-36%) despite population growth and increasing number of dwellings. The reasons are manifold: First of all, energy efficiency of building stock has improved, but fuel shift from coal and oil to gas and biomass as well as increased use of district heating and heat pumps have contributed to the trend too.
- Emissions from industrial processes and product use increased moderately (+18%). Excluding F-gases, the sector is dominated by production of iron and steel with a current share of three quarters. Although production of steel almost doubled from 1990 to 2013, emission growth from processes was slowed down especially by

efficiency measures in the steel industry and by N<sub>2</sub>O abatement measures in the chemical industry.

- The emission decrease in the sector agriculture (-14%) is mainly due to decreasing livestock numbers and lower amounts of fertilizers applied on agricultural soils.
- Emissions from waste decreased substantially (-60%) due to increasing waste separation, reuse and recycling activities, obligatory pre-treatment of deposited waste with high carbon content and improved recovery of landfill gas.

Table 1.1 shows emissions according to sectors and gases for the years 1990 and 2013. Detailed numbers by gases and sectors for the whole time series can be found in CTF Table 1.

**Table 1.1: Austrian GHG emissions 1990 and 2013, in Tg CO<sub>2</sub> equivalent**

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990					2013				
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	F-Gas.	Total	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	F-Gas.	Total
<b>Total without LULUCF</b>	<b>62 217</b>	<b>10 614</b>	<b>4 197</b>	<b>1 656</b>	<b>78 683</b>	<b>67 768</b>	<b>6 530</b>	<b>3 264</b>	<b>2 037</b>	<b>79 599</b>
<b>Total with LULUCF</b>	<b>49 160</b>	<b>10 614</b>	<b>4 212</b>	<b>1 656</b>	<b>65 642</b>	<b>62 770</b>	<b>6 530</b>	<b>3 283</b>	<b>2 037</b>	<b>74 621</b>
<b>1 Energy</b>	51 293	1 140	473		52 906	53 917	560	618		55 095
A Fuel Combustion	51 191	540	473		52 204	53 666	280	618		54 563
1 Energy Industries	13 792	6	44		13 842	11 205	13	102		11 320
2 Manufacturing Ind	9 803	8	70		9 881	11 002	14	131		11 147
3 Transport	13 777	65	133		13 974	22 603	11	194		22 809
4 Other Sectors	13 785	461	225		14 471	8 807	242	189		9 238
5 Other	35	0	1		36	48	0	1		49
B Fugitive Emiss from Fuels	102	600	NO,NA		702	251	281	NO,NA		532
<b>2 Ind Processes, Prod Use</b>	10 802	35	1 100	1 656	13 593	13 741	49	186	2 037	16 013
<b>3 Agriculture</b>	94	5 359	2 505		7 959	108	4 501	2 199		6 807
<b>4 Land Use, LUC and Forestry</b>	-13 057	0	15		-13 042	-4 998	0	20		-4 978
<b>5 Waste</b>	27	4 080	119		4 226	2	1 421	262		1 684
<b>6 Other</b>										

Memo Items:										
<b>International Bunkers</b>	935	0	15		951	2 046	1	26		2 073
Aviation	886	0	9		896	1 975	1	20		1 996
Marine	49	0	5		55	70	0	6		77
<b>Multilateral Operations</b>	NO	NO	NO		NO	NO	NO	NO		NO
<b>CO<sub>2</sub> Emissions from Biomass</b>	9 928				9 928	24 413				24 413

## 1.2 Inventory arrangements

The *Umweltbundesamt* is identified as the single national entity with overall responsibility for the national inventory by law. The responsibilities for the inventory planning, preparation and management are specified and are all allocated within the *Umweltbundesamt*.

The national greenhouse gas inventory is prepared by the inspection body for GHG inventories within the *Umweltbundesamt*, an inspection body accredited according to the International Standard ISO 17020 General Criteria for the operation of various types of bodies performing inspections. The Quality Management System (QMS) also includes the necessary procedures to ensure quality improvement of the emission inventory. These comprise documentation and attribution of responsibilities of any discrepancy found and of the findings by UNFCCC review experts in particular.

The inventory preparation, including identification of key categories, uncertainty estimates and QC procedures, is performed according to the 2000 Intergovernmental Panel on Climate Change (IPCC) Good Practice Guidance and Uncertainty Management of Greenhouse Gas Inventories. The inventory management as part of the QMS includes a control system for data and calculations, for records and their archiving as well as documentation on QA/QC activities. This ensures the necessary documentation and archiving for future reconstruction of the inventory and for the timely response to requests during the review process.

Part of the legal and institutional arrangements in place as basis for the national system concerns the data availability for the annual compilation of the GHG inventory. The main data source for the Austrian inventory preparation is the Austrian statistical office (Statistics Austria). The compilation of several statistics is regulated by European and Austrian statistical legislation and partly complemented by contracts at national level. Other data sources include reporting obligations under national and European regulations and reports of companies and associations.

The inventory preparation at *Umweltbundesamt* is supported by a quality management system that embeds an inventory improvement plan. This centralized improvement management guarantees the cost-effective allocation of resources to programmes specific for inventory improvement. Improvement programmes are formulated in a continuous process in all inventory sectors and cover the quality of country-specific emission factors, activity data and models.

More detailed information on inventory data and inventory arrangements can be found in Section 1.2 of the Austrian National Inventory Report 2015<sup>1</sup>.

There were no significant changes of the inventory system since the last National Communication.



## 2 Quantified economy-wide emission reduction target

Austria is a Member State of the European Union. In 2010, the EU submitted a pledge to reduce its GHG emissions by 2020 by 20 % compared to 1990 levels (FCCC/SB/2011/INF.1/Rev.1 of 7 June 2011). In addition the EU provided additional information relating to its quantified economy-wide emission reduction target in a submission as part of the process of clarifying the developed country Parties' targets in 2012 (FCCC/AWGLCA/2012/MISC.1). Summary information on the target can be found in Table 2.1. Detailed information on the EU target is given in CTF Table 2.

**Table 2.1: Joint quantified economy-wide emission reduction target of the EU and its Member States**

Parameter	Target
Base Year	1990
Target Year	2020
Emission Reduction target	-20% in 2020 compared to 1990
Gases covered	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs, SF <sub>6</sub>
Global Warming Potentials	AR4
Sectors Covered	Energy, Transport, Industrial processes, Agriculture, Waste (international aviation to the extent it is included in the EU ETS)
Land Use, Land-Use Change, and Forests (LULUCF)	Excluded
Use of international credits (JI and CDM)	Possible subject to quantitative and qualitative limits.

As this target under the convention has only been submitted by EU-28 and not by each of its Member States (MS), there are no specified convention targets for single MS. Due to this, Austria as part of the EU-28, takes on a quantified economy-wide emission reduction target jointly with all Member States.

With the 2020 climate and energy package the EU has set internal rules which underpin the implementation of the target under the Convention. The 2020 climate and energy package introduced a clear approach to achieving the 20 % reduction of total GHG emissions from 1990 levels, which is equivalent to a 14 % reduction compared to 2005 levels. This 14 % reduction objective is divided between two sub-targets, equivalent to a split of the reduction effort between ETS and non-ETS sectors of two thirds vs one third (EU, 2009<sup>2</sup>).

Under the revised EU ETS Directive<sup>3</sup>, one single EU ETS cap covers the EU Member States and the three participating non-EU Member States (Norway, Iceland and Liechtenstein), i.e. there are no further differentiated caps by country. For allowances allocated to the EU ETS

<sup>2</sup> Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community (OJ L 140, 05.06.2009, p. 63) (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0063:0087:en:PDF>)

<sup>3</sup> Directive 2009/29/EC of the European Parliament and of the Council amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community

sectors, annual caps have been set for the period from 2013 to 2020; these decrease by 1.74 % annually, starting from the average level of allowances issued by Member States for the second trading period (2008–2012). The annual caps imply interim targets for emission reductions in sectors covered by the EU ETS for each year until 2020. For further information on the EU ETS and for information on the use of flexible mechanisms in the EU ETS see EU-BR chapter 4.2.2.

Non-ETS emissions are addressed under the Effort Sharing Decision (ESD)<sup>4</sup>. The ESD covers emissions from all sources outside the EU ETS, except for emissions from international maritime, domestic and international aviation (which were included in the EU ETS from 1 January 2012) and emissions and removals from land use, land-use change and forestry (LULUCF). It thus includes a diverse range of small-scale emitters in a wide range of sectors: transport (cars, trucks), buildings (in particular heating), services, small industrial installations, fugitive emissions from the energy sector, emissions of fluorinated gases from appliances and other sources, agriculture and waste. Such sources currently account for about 60 % of total GHG emissions in the EU.

While the EU ETS target is to be achieved by the EU as a whole, the ESD target was divided into national targets to be achieved individually by each Member State. In the Effort Sharing Decision national emission targets for 2020 are set, expressed as percentage changes from 2005 levels. These changes have been transferred into binding quantified annual reduction targets for the period from 2013 to 2020 (EC 2013)<sup>5+6</sup>, expressed in Annual Emission Allocations (AEAs). The quantified annual reduction targets 2013-2020 for Austria are tightened from 52.6 million AEAs in 2013, decreasing to 48.8 Million AEAs in 2020. In the year 2013 verified emission of stationary installations covered under the EU-ETS in Austria summed up to 29.9 Mt CO<sub>2</sub> equivalent. With total GHG emissions of 79.6 Mt CO<sub>2</sub> equivalent (without LULUCF) the share of ETS emissions is 38 %.

The monitoring process is harmonized for all European MS, especially laid down in the Monitoring Mechanism Regulation<sup>7</sup>. The use of flexible mechanisms is possible under the EU ETS and the ESD. For the use of CER and ERU under the ETS, please refer to the European BR2.

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<sup>4</sup> Decision No 406/2009/EC

<sup>5</sup> Commission decision 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 (2013/162/EU)

<sup>6</sup> Commission Implementing Decision 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 (2013/634/EU)

<sup>7</sup> Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change and repealing Decision No 280/2004/EC

The ESD allows Member States to make use of flexibility provisions for meeting their annual targets, with certain limitations. There is an annual limit of 3% (of 2005 emissions) for the use of project-based Kyoto credits for each MS. For Austria the amount of credits possible to use is 2.77 million CERs and ERUs. If these are not used in any specific year, the unused part for that year can be transferred to other Member States or be banked for own use until 2020. As Austria (together with Belgium, Cyprus, Denmark, Finland, Ireland, Italy, Luxembourg, Portugal, Slovenia, Spain and Sweden) fulfils additional criteria as laid down in ESD<sup>8</sup> Article 5(5), an additional use of credits is possible from projects in Least Developed Countries (LDCs) and Small Island Developing States (SIDS) up to an additional 1 % of Austria's verified emissions in 2005. For Austria the additional amount of credits possible to use is 0.92 million CERs and ERUs. These credits are not bankable and transferable.

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<sup>8</sup> Decision No 406/2009/EC

## **3 Progress in achievement of quantified economy-wide emission reduction targets and relevant information**

### ***3.1 Mitigation actions and their effects***

Austria as a member of the European Union takes on the quantified economy-wide emission reduction target jointly with all Member States. Austrian policies and measures for the mitigation of greenhouse gas emissions, especially measures to achieve Austria's target under the Effort Sharing Decision, contribute to the achievement of the joint EU target, together with the policies and measures of the other Member States of the EU. Common and coordinated policies and measures of the Union are applicable to all Member States and are described in the Biennial Report of the European Union.

#### **3.1.1 Domestic arrangements**

Institutional, legal, administrative and procedural arrangements with respect to Austria's target under the EU Effort Sharing Decision (ESD) are based on the Austrian Climate Change Act, BGBl. I Nr. 106/2011. The 2013 revision of the Climate Change Act, BGBl. I Nr. 94/2013, has incorporated Austria's ESD target and laid down sectoral targets for 2020. The latest revision, BGBl. I Nr. 128/2015, adapts targets and sectors to the new inventory guidelines and GWPs.

Two committees have been established according to the Climate Change Act: The National Climate Change Committee consists of high level representatives of the federal ministries involved, of the *Länder* (i.e. federal provinces) and the "Social Partners". The National Climate Change Advisory Board consists of representatives from science, energy and industry interest groups, environmental NGOs and the political parties represented in the first chamber of the Austrian Parliament ().

In early 2012, after entry-into-force of the Climate Change Act, discussions on a mitigation programme were launched in the National Climate Change Committee and in sector specific working groups, aiming to bring forward policies and *Nationalrat* measures that can ensure compliance under the EU Effort Sharing Decision. The first part of that new programme has been adopted by the federal government and the *Länder* in 2013, covering measures to be implemented in the course of 2013 and 2014. The programme for the years 2015–2018 has been adopted in 2015; due to the date of the adoption it could not be taken into account in the "with measures" scenario shown in Chapter 5, but only in the "with additional measures" scenario.

The programmes according to the Climate Change Act consist of different policies and instruments for their implementation. The legislative arrangements are different for each of these elements. Areas of responsibility are spread among federal ministries as well as between the Federation, *Länder* and municipalities. That is why there is no uniform legal basis for national measures to mitigate climate change. The legal basis for the individual instruments ranges from, e. g., the Environmental Support Act and the Green Electricity Law at Federation level to the Technical Construction Regulations for buildings on *Länder* level. Administrative procedures for implementation and monitoring are as well different for the diversity of measures. Enforcement rules are laid down in the respective legal acts as appropriate. Monitoring and enforcement provisions in the EU ETS are of course quite different from those in non-ETS sectors, such as housing or transport. It should be taken into account that many policy instruments are seen as multifunctional and have been introduced for other reasons too, besides climate change mitigation, e.g. for diversification of energy supply, mitigation of air pollution or reduction of noise from transport, or even for social policy reasons (e.g. housing support schemes).

The Federal Minister for Agriculture and Forestry, Environment and Water Management reports annually to the Climate Change Committee and to the Parliament on progress with respect to the targets of the Climate Change Act. If targets are not met, the Climate Change Act triggers negotiations on additional measures to meet the targets.

Progress towards the economy-wide emission reduction target of the European Union can only be evaluated at Union level. To this end, the EU Monitoring Mechanism Regulation (Regulation (EU) No 525/2013) requires Member States to report to the European Commission annually on greenhouse gas emissions and related data and biennially on projections and policies and measures. Evaluation is done by the European Commission.

### **3.1.2 Policies and Measures**

Policies which lead to a mitigation of GHG emissions date back to the early 1990ies, as Austria's early National Communications under the UNFCCC have illustrated. Chapter 1 of the current report shows that emissions from residential heating have decreased substantially due to increased efficiency of buildings and fuel shift; emissions in the waste sector have decreased because of recycling and landfill policies. Measures in the industry and transport sector have significantly slowed down the emission increase that would have resulted from production growth and higher transport demand.

Policies with respect to the 2020 target of the Effort Sharing Decision are shown in the text and in Table 3.1 below for the individual sectors. The policies represent the main policy objectives and are implemented by one or more instruments, depending on the policy field.

A detailed description of the policies and the individual instruments to implement these policies can be found in Chapter 4 of the latest report on Austria's GHG emission projections<sup>9</sup>. Principal information on awareness raising measures, which may be mentioned below, can be found in Sections 9.2 and 9.3 of Austria's Sixth National Communication. If not mentioned otherwise, the policies are implemented or adopted.

### **Cross-cutting Policies and Measures**

1) The *EU Emission Trading Scheme* is the most important policy for installations with high energy demand and CO<sub>2</sub> emissions in energy industries, manufacturing industries and industrial processes, as well as N<sub>2</sub>O emissions from chemical industry. Its objective is to limit emissions by means of trading allowances, which have initially been allocated for free or auctioned. More than 200 Austrian installations are covered by the EU ETS.

2) The *Domestic Environmental Support Scheme* in general provides financial support for projects which improve environmental performance beyond mandatory standards in energy, manufacturing as well as service industry. Projects may be related to all greenhouse gases. Focus areas in the climate change context comprise projects to improve energy efficiency, promote the use of renewable energy sources, decrease waste and promote sustainable transport. In 2013 and 2014 support of about 135 million EUR has been granted.

3) The *Austrian Climate and Energy Fund (KLI.EN)* has been established in order to support the reduction of GHGs in Austria in the short, medium and long term. It focuses on research in and development of renewable energy systems, development and testing of new transport and mobility systems and market penetration of GHG mitigation measures. In 2013 and 2014 support of about 160 million EUR has been granted.

### **Energy industries and manufacturing industries**

The policies relevant for energy and manufacturing industries focus on the reduction of CO<sub>2</sub> emissions from fossil fuels.

4) To *increase the share of renewable energy in power supply and district heating* is the main policy to reduce climate impacts of the energy system. Beyond the traditional use of large-scale hydro power for electricity generation, quantitative targets for the increase of the share of wind power, photovoltaics, small hydro plants and biomass/biogas in electricity generation have been laid down in the Green Electricity Act and shall be achieved by fixed feed-in tariffs. Investment support for biomass-based district heating systems is granted

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<sup>9</sup> GHG Projections and Assessment of Policies and Measures in Austria; Reporting under Regulation (EU) 525/2013, 15 March 2015;  
[http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail/?pub\\_id=2126](http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail/?pub_id=2126)

under the Domestic Environmental Support Scheme and serves to increase the share of biomass in heat supply.

5) The *increase of energy efficiency in energy and manufacturing industries* is essential to limit growing demand for fuels and their environmental impacts. Based on EU legislation, Austria has prepared its National Energy Efficiency Action Plan in 2011 with quantitative targets for final energy consumption in 2020. In addition, financial support for cogeneration of power and heat is granted in order to improve the efficient use of primary energy for electricity production.

6) A *further enhancement of renewable energy in energy supply* has to be seen as planned measure. The current law provides for support for green electricity only up to 2020. Further increases in the utilization of renewable energy require the expected continuation of the support after 2020. (WAM only)

7) A *further enhancement of energy efficiency in energy and manufacturing industries* is expected to be achieved by implementation of the Austrian Energy Efficiency Act, which is based on the EU Directive on energy efficiency. The Energy Efficiency Act has been adopted at a late stage of the scenario calculations and was therefore considered as “planned” in the scenarios. In the meantime the act has been adopted and implementation is ongoing. The act foresees requirements for energy suppliers and companies as well as the preparation of national energy efficiency action plans. (WAM only)

## **Transport**

The policies relevant for the transport sector focus on the reduction of CO<sub>2</sub> emissions from fossil fuels.

8) One important and well established policy in the transport sector is to *increase the share of clean energy sources in road transport*. The EU Directive on the promotion of renewable energy sources requires Member States to replace at least 10% of the fuels used in transport by renewables (biofuels and electricity from renewable energy sources) by 2020. The Austrian Fuel Ordinance stipulates minimum targets for the share of biofuels (fatty-acid methyl ester and ethanol) in diesel and gasoline sold in Austria. The national Implementation Plan for electric mobility, a joint initiative of three federal ministries, aims at a (moderate) electrification of road transport; funding instruments are used to increase the share of electric vehicles and plug-in hybrid vehicles from less than 0.1% in 2013 to about 1 % of the fleet in 2020.

9) The *increase in the fuel efficiency of road transport* is an essential policy to limit the energy demand for transport which was clearly rising in the past. Although technical progress has in principle lead to improvements of the efficiency of motors and vehicles,

consumer behaviour (i.e. desire for larger cars and higher engine power) has counteracted that trend. Fuel efficiency of the fleet is affected by vehicle type and use. Several instruments, including taxes and tolls along with awareness raising and training, have been implemented to improve the fuel efficiency of the fleet. Mineral oil tax and fuel consumption based car registration tax are expected to promote the sales of cars with lower fuel consumption. Awareness raising and training programmes for fuel-efficient driving improve performance of drivers. Other instruments like speed limits, which have been established due to other environmental concerns, contribute to reduced fuel consumption.

10) One of the most important policies is the promotion of a *modal shift to environmentally friendly transport modes*. Although Austria belongs to the EU Member States with the highest share of rail transport in the modal split, a further shift to environmentally friendly transport modes with a lower energy demand is essential for decreasing GHG emissions. Besides from considerable investments in railway infrastructure in the last decade, the programme “klimaaktiv mobil” for mobility management and awareness raising is an essential tool to promote environmentally friendly transport modes like public transport, cycling and walking. The cornerstones of “klimaaktiv mobil” are the funding programme for businesses, communities and associations, target group-oriented counselling programmes, awareness-raising initiatives, partnerships, and training and certification initiatives. With respect to freight transport, investment support for corporate feeder lines aims at shifting transport activities from road to rail.

11) A *further enhancement of clean energy sources for transport* is part of the national programme under the Climate Change Act. A planned intensified implementation of the instruments, ranging from increased promotion of electric fleets for municipalities and enterprises to faster improvement of infrastructure for electric vehicles, is expected to raise the share of electric and plug-in hybrid vehicles to about 3 % of the fleet in 2020. (WAM only)

12) A *further enhancement of fuel efficiency in road transport* is expected to be reached by the implementation of the Energy Efficiency Act in the transport sector, for which implementing regulations are under preparation. Another planned instrument is a revision of the highway road toll for lorries with an increase of the toll in order to cover environmental costs, which should result in a faster replacement of older vehicles by modern, more fuel efficient ones. (WAM only)

13) An *intensified modal shift to environmentally friendly transport modes* is expected to be achieved by several instruments in the planning stage, a. o. by further improving public transport systems (like the introduction of a country-wide highly synchronised timetable, improved tariff systems and improvements of interfaces in intermodal passenger transport), faster implementation of transport telematics systems and accelerated measures to improve conditions for cycling and walking especially in urban areas. (WAM only)



## Buildings

The policies relevant for the buildings sector focus on the reduction of CO<sub>2</sub> emissions from fossil fuels.

14) The *increase of energy efficiency in buildings* is one of the most effective policies to reduce the carbon footprint of the Austrian population. Tightening of mandatory construction standards grants that new buildings show improved energy performance and will come close to a “zero energy” standard in the future. Housing support funding is granted for the construction of buildings with advanced energy efficiency only, and support for the thermal renovation of buildings is provided within several programmes, e.g. the federal “renovation cheque” initiative for residential buildings and a programme within the environmental support scheme for commercial and industrial buildings. Improvements of the efficiency of new boilers result from mandatory requirements at national level and eco-design standards at Union level. Furthermore, energy performance certificates have to be provided by sellers and landlords in the course of real estate transactions or rentings.

15) The *increased share of renewable energy for space heating* is the second important policy to decrease CO<sub>2</sub> emissions from space heating. Awareness raising measures on federal (klima:aktiv programme) and on *Länder* level on the advantages of modern heating systems are expected to increase the boiler exchange rate. Financial support for biomass and solar heating systems is provided for households via funding of the *Länder* and of the Climate and Energy Funds, support for commercial and industrial applications by the domestic environment support scheme. The District Heating and Cooling Act aims at the construction of district cooling systems in order to reduce electricity demand, as well as at the expansion of district heating networks; subsidies are provided for that purpose.

16) An *increase of energy efficiency in residential electricity demand* as a further policy target is achieved by important instruments at EU level, especially the eco-design requirements for energy using products and the mandatory labelling of household appliances according to energy consumption, supported by awareness raising measures at national level with respect to energy efficient products and by advice provided by regional energy agencies.

17) The *further enhancement of energy efficiency of buildings* is a planned policy relevant for the buildings sector. Federal funding instruments for energy efficient new buildings and for the renovation of existing buildings are expected to remain until 2021 at the same level as 2015. The Federal Energy Efficiency Act, based on EU law, stipulates guidance levels for final energy consumption to be attained by 2020. Along with efficiency targets for public buildings and introduction of mandatory energy management in large enterprises, energy suppliers have to implement measures within their organisations and among their customers. As the

Energy Efficiency Act has been adopted after the cut-off date for the scenario calculations, it is included in WAM only; however, implementation is on-going.

### **Industrial processes and product use**

*EU Emission Trading Scheme* and the *Environmental Support Scheme* – both described under “cross-cutting” – are the leading policies and measures with respect to CO<sub>2</sub> and N<sub>2</sub>O mitigation in this sector. Further measures focus on the use of F-gases.

18) The *decrease of emissions from F-gases and other product use* is the policy relevant for this sector. National bans for certain uses have been enacted since 2002: The use of SF<sub>6</sub> is prohibited for most applications, the use of HFCs and PFCs banned e.g. for the production of foam materials. National regulations have been complemented by EU law at a later stage: Provisions for the maintenance of refrigeration and air conditioning systems aim at a minimisation of emissions, the use of refrigerants with GWPs higher than 150 in the air conditioning systems of new passenger cars is prohibited since 2013.

19) A *further minimisation of F-gas emissions* is expected by the implementation of the new EU Regulation on F-gases, which introduces additional use restrictions and a quota system for production and import. The new requirements will come into effect from 2020 onwards. As the Regulation has been adopted after the cut-off date for the scenario calculations, it is included in WAM only.

### **Agriculture**

The policies relevant for agriculture focus on the reduction of CH<sub>4</sub> and N<sub>2</sub>O as well as of CO<sub>2</sub> emissions.

20) The *implementation of EU agricultural policies* in Austria puts, i. a., a focus on environmental sound farming practices for Austria's largely small-structured agricultural system. The Austrian Agri-Environmental Programme has already foreseen funding for actions like reduced use of mineral fertilizers, organic farming, low-loss application of manure etc. in the period 2007–2013. The reform of the common agricultural policy at EU level in 2013 has brought about some changes regarding direct payments and the requirement to maintain land in good agricultural and ecological condition; the Austrian Agri-Environmental Programme will be maintained for the period 2014–2020 with some modifications and additions.

21) *Emission reduction through livestock and feeding management* is part of the national programme 2015–2018 under the Climate Change Act. Increasing share of grazing cattle, Increased quality of grassland and silage for the feeding of cattle as well as phase-feeding of pigs, optimised with respect to N-content, and an increase of lactation performance of dairy

cows are expected to be achieved by consulting, demonstration projects and funding support. (WAM only)

22) Promotion of *sustainable N management* is part of the national programme 2015–2018 under the Climate Change Act. More efficient use of organic and mineral fertilisers, improved storage and spreading are expected to be achieved by means of consulting and support measures. Organic farming, based on a closed nutrient cycle without the use of mineral fertilisers, should be extended by further funding. (WAM only)

## **Waste**

The policies relevant for waste management focus on the reduction of CH<sub>4</sub> and N<sub>2</sub>O emissions.

23) To *reduce emissions from waste treatment*, the deposition of untreated biodegradable waste has been banned completely (Austrian Landfill Ordinance). The carbon content of waste is reduced by incineration or mechanical-biological treatment before deposition. Due to their size, more than half of existing mechanical-biological treatment plants fall under the scope of the EU Industrial Emissions Directive; emission have to be limited according to BAT provision. Methane emissions from old landfills are reduced by the mandatory collection and use of landfill gas.

24) An *enhanced reduction of emissions from waste treatment* is part of the national programme 2015–2018 under the Climate Change Act. Improved domestic composting and reduction of food waste shall be reached by information and consulting. Technical measures to improve the efficiency of landfill gas collection should be enforced by the administration. Furthermore, emissions from waste water treatment plants may be reduced by improved modes of operation regarding nitrogen removal. (WAM only)

**Table 3.1: Mitigation action in Austria**

Name of mitigation action	Included in WM	Sectors affected	GHGs affected	Objective and/or activity affected	Type of instrument	Status	Brief description	Mitig. 2020 (kt CO <sub>2</sub> equ)
EU Emission Trading Scheme (ETS)	Yes	Energy, Industry/Industrial processes	CO <sub>2</sub> , N <sub>2</sub> O	framework policy multi-sectoral policy	Economic	Implem.	The objective is to limit the CO <sub>2</sub> emissions of energy intensive stationary installations and aviation through a trading mechanism for emission certificates.	n.q.
Domestic Environmental Support Scheme	Yes	Energy, Transport	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	framework policy multi-sectoral policy	Economic	Implem.	Financial support to GHG mitigation projects (energy efficiency, renewables,waste,...)	1000
Austrian Climate and Energy Fund (KLI.EN)	Yes	Energy, Transport	CO <sub>2</sub>	framework policy multi-sectoral policy	Research	Implem.	Financial support to energy-relevant research projects, to climate friendly transport projects and to market launch of new climate friendly technologies.	n.q.
Increase the share of renewable energy in energy supply and district heating	Yes	Energy	CO <sub>2</sub>	increase in renewable energy	Regulatory	Implem.	granting fixed feed-in tariffs for various forms of electricity generation from renewable sources, e.g. biomass, wind power, small hydropower, geothermal energy and photovoltaics	5300
Increase energy efficiency and use of renewables in energy industries	Yes	Energy, Transport, Industry/Industrial processes	CO <sub>2</sub>	efficiency improvement in the energy and transformation sectors switch to less carbon-intensive fuels	Regulatory	Implem.	Includes instruments to stabilise the final energy consumption at 2005 levels by 2020 and the promotion of cogeneration of heat and power, whereby the subsidies for the latter measure are expired.	n.q.
Further enhancement of renewable energy in energy supply	No	Energy	CO <sub>2</sub>	increase in renewable energy	Regulatory	Planned	supporting green electricity also beyond 2020, especially wind power, biomass and photovoltaic installations	n.q.
Further enhancement of energy efficiency in energy industries	No	Energy, Industry/Industrial processes	CO <sub>2</sub>	efficiency improvement in the energy and transformation sector	Regulatory	Adopt.	The Energy Efficiency Act a.o. provides for: - Mandatory external energy audits - Energy suppliers are supposed to deliver yearly savings by themselves or end users amounting to 0.6 % of their yearly energy supply. - The federal republic has to fulfill a yearly renovation goal of 3 % through refurbishments or other energy savings.	n.q.

							- Energy efficiency action plans including the monitoring of binding goals and measures.	
Increase share of clean energy sources in road transport	Yes	Energy, Transport, Agriculture	CO <sub>2</sub>	low carbon fuels/electric cars	Economic Fiscal Regulatory Research	Implem.	Promotion of the use of biofuels or other renewable fuels for transport by introducing fuel tax reduction for sustainable biofuels. Promotion of clean and at least partly electrified vehicles for private, public and commercial traffic, as well as the intelligent integration of innovative mobility offers and services	2363
Increase fuel efficiency of road transport	Yes	Transport, Energy	CO <sub>2</sub>	- efficiency improvements of vehicles and driving behaviour	Economic Fiscal Information Education	Implem.	charges of heavy goods on federal roads and highways, promote efficient cars, initiatives to promote fuel saving, immission control systems and consultation of stakeholders	1546
Modal shift to environmentally friendly transport modes	Yes	Transport	CO <sub>2</sub>	- demand management/reduction - modal shift to public transport or non-motorized transport - improved behaviour	Information	Implem.	Reduction of individual motorised transport and a shift towards public transport by mobility management, awareness raising, training; improving on intermodal freight transport logistics	519
Further enhancement of clean energy sources for transport	No	Energy, Transport, Agriculture	CO <sub>2</sub>	low carbon fuels/electric cars	Regulatory Economic Fiscal Research	Adopt.	promotion of the use of biofuels or other renewable fuels for transport, which includes fuel tax reduction for sustainable bio fuels, and development and use of clean, and at least partly electrified vehicles for private, public and commercial traffic	396
Further enhancement of fuel efficiency of road transport	No	Energy, Transport	CO <sub>2</sub>	- efficiency improvements of vehicles	Fiscal Regulatory Economic	Adopt.	Increase of energy efficiency – implementation of the Energy Efficiency Act for the transport sector. Enhance road tolls taking into account external effects (e.g. noise, air pollution).	4195
Further modal shift to environmentally friendly transport modes	No	Transport, Energy, Agriculture	CO <sub>2</sub>	modal shift to public transport or non-motorized transport	Information Economic Education	Adopt.	promoting bicycle use and pedestrians vehicles and creating incentives to reduce existing barriers for using public transport (e.g. country-wide harmonisation of tariff systems), improvements for freight transport on the Danube	230
Increased energy	Yes	Energy	CO <sub>2</sub>	efficiency	Regulatory	Implem.	- construction standards for new buildings	463

efficiency of buildings				improvements of buildings	Economic Information		- thermal insulation of existing buildings - introduction of energy certificates for buildings - implementation of construction guidelines	
Increased share of renewable energy for space heating	Yes	Energy	CO <sub>2</sub>	efficiency improvements of buildings	Regulatory	Implem.	- Stepping up the replacement of heating systems - District heating and district cooling Act - Funding for wood heating systems and solar heating systems	585
Increased energy efficiency in residential electricity demand	Yes	Energy	CO <sub>2</sub>	efficiency improvement of household appliances and in service/tertiary sector	Information	Implem.	- implementation of eco-design requirements - reduction of energy consumption on private and public buildings according to Ausitran national energy efficiency action plan - introduction of energy labelling for energy consuming products	n.q.
Further enhancement of energy efficiency of buildings	No	Energy	CO <sub>2</sub>	efficiency improvements of buildings efficiency improvement in services/tertiary sector	Regulatory Economic Information Education	Adopt.	- implementation of the Energy Efficiency Directive - increased subsidies for thermal insulation of existing buildings - implementation of National Plan for non-residential buildings	413
Decrease emissions from F-gases and other product use	Yes	Industry/industrial processes	HFCs, PFCs, SF <sub>6</sub>	- reduction of emissions of fluorinated gases - installation of abatement technologies	Regulatory	Implem.	- reduction of F-gases in stationary applications - restriction or banning of F-gas use in certain products - restriction of HFC used in mobile air conditions	n.q.
Further minimisation of F-gas emissions	No	Industry/industrial processes	HFCs, PFCs, SF <sub>6</sub>	reduction of emissions of fluorinated gases	Regulatory	Adopt.	Ban of F-gases with high GWP, introduction of quota system in 2020 for placing F-gases on the market inside the EU	n.q.
Implementation of EU agricultural policies	Yes	Agriculture	CH <sub>4</sub> , N <sub>2</sub> O, CO <sub>2</sub>	- improved cropland management and reduced fertilizer/manure use - improved livestock and manure management - activities improving grazing land or	Economic	Implem.	- Implementation of the EU Common Agricultural Policy which takes into account the need for a reduction of environmental pollution from agricultural activity - national agricultural support programme considering environmental aspects	n.q.

				grassland management				
Emission reduction through livestock und feeding management	No	Agriculture	CH <sub>4</sub> , N <sub>2</sub> O, CO <sub>2</sub>	- improved livestock management - activities improving grazing land or grassland management	Information Economic Education	Adopt.	- increase number of lactations per cow, which results in lower number of heifers needed. - better breeding and herd management to increase yields of all livestock products - increased protein and energy content in forage products through improved crops and better management - adaption of pig feeding to growth sections, which results in lower N excretion - support of outdoor husbandry of cattle	n.q.
Sustainable N management	No	Agriculture	CH <sub>4</sub> , N <sub>2</sub> O, CO <sub>2</sub>	- improved cropland management and reduced fertilizer/manure use - improved livestock and manure management - activities improving grazing land or grassland management	Information Economic Education	Adopt.	- enforced fermentation of animal manure - customized storage for manure or establishment of manure exchanges - covering of slurry tanks - improvement of fertiliser application techniques - avoid use of mineral fertiliser (organic farming) - efficient use of N-fertiliser	n.q.
Reduce emissions from waste treatment	Yes	Waste management/waste	CH <sub>4</sub> , N <sub>2</sub> O	improved treatment technologies, improved landfill management	Regulatory	Implem.	Landfilling of untreated biodegradable waste banned. Mandatory landfill gas collection and use/flaring. Stricter requirements for waste plants due to revision of EU provisions for Best Available Techniques.	n.q.
Enhanced reduction of emissions from waste treatment	No	Waste management/waste	N <sub>2</sub> O, CH <sub>4</sub>	improved domestic composting improved landfill gas collection improved wastewater management systems		Adopt.	Information and consulting for composting in households; Administrative provisions to check and improve gas collection in landfills; Improved operation of advanced waste water treatment plants to reduce N <sub>2</sub> O-emissions.	n.q.

### **3.2 *Estimates of emission reductions***

For the quantification of the progress to 2020 targets, the development of GHG emissions is the key indicator. The Convention target of a reduction of emissions by 20% from 1990 to 2020 only refers to the emissions of the EU-28 as a whole. GHG emissions of EU-28 are calculated as the sum of MS emissions. With this, GHG emissions of Austria are part of EU-28 emissions with a percentage of 1.8% in the year 2013.

The development of GHG emissions in Austria is reported in CTF Table 4.

Emissions in the sector of LULUCF are not included under the convention target, therefore they are not included in CTF Tables 4 and 4(a).

The use of flexible mechanisms takes place on the one hand by operators in the EU ETS, on the other hand by governments for the achievement of ESD targets. For information on the use in the ETS please see the 2<sup>nd</sup> BR of the European Union.

The use of flexible mechanisms under the ESD cannot be quantified in the moment: As the compliance assessment for the first year 2013 under the ESD will only take place in 2016, any potential use of units for the first year will only take place in 2016.

Currently Austria does not plan to make use of flexibility provisions under the ESD, except from the possibility to carry forward the part of its annual emission allocation of a given year that exceeds its greenhouse gas emissions in that year to the subsequent years, as the ESD target should be reached by domestic measures.



## 4 Projections

The latest national greenhouse gas (GHG) emission projections have been developed in the years 2014/2015. They include results for a “with measures” scenario (WM) and a “with additional measures” scenario (WAM) up to 2035. The input parameters for the scenarios are mostly identical to those reported in the Sixth National Communication, i.e. a very moderate annual GDP growth of 1.5% for the period up to 2030, an 8 % population increase from 2013 to 2030 and a slightly higher increase of the number of dwellings, a moderate decrease of heating degree days (-6%), a 40% increase of oil and gas prices and a 13% increase of coal price.

The scenario “with additional measures” a. o. takes into account measures which have been recently adopted, namely the Energy Efficiency Act and the Programme of Measures for 2015 to 2018 under the Climate Change Act.

### 4.1 Scenario results

Total GHG emissions (excluding LULUCF) in the scenario “with measures” are expected to decrease from 79.6 Mt CO<sub>2</sub> equivalent in 2013 to 79.1 Mt in 2020 and to 76,0 Mt in 2030. This is a decrease of 1 % and 5 % respectively, compared to 2013. The trend is mainly driven by considerably decreasing emissions in the sectors “Other sectors” (shift to renewable energy sources for space heating, higher efficiency of heating systems, better insulation of buildings) and “energy industries” (shift to renewable energy sources for electricity generation). Emissions from industry and agriculture are expected to increase slightly due to an increase of production and livestock respectively. Transport emissions are projected to remain relatively stable in the “with measures” scenario (increasing transport activity is counterbalanced by increasing energy efficiency of the fleet and more biofuel use). Emissions of F-gases (decreasing from 2020 onwards because of use restrictions) and emissions from the waste sector (decreasing emissions from old landfills, severe restriction of the carbon content of deposited waste) have only a small share in total emissions.

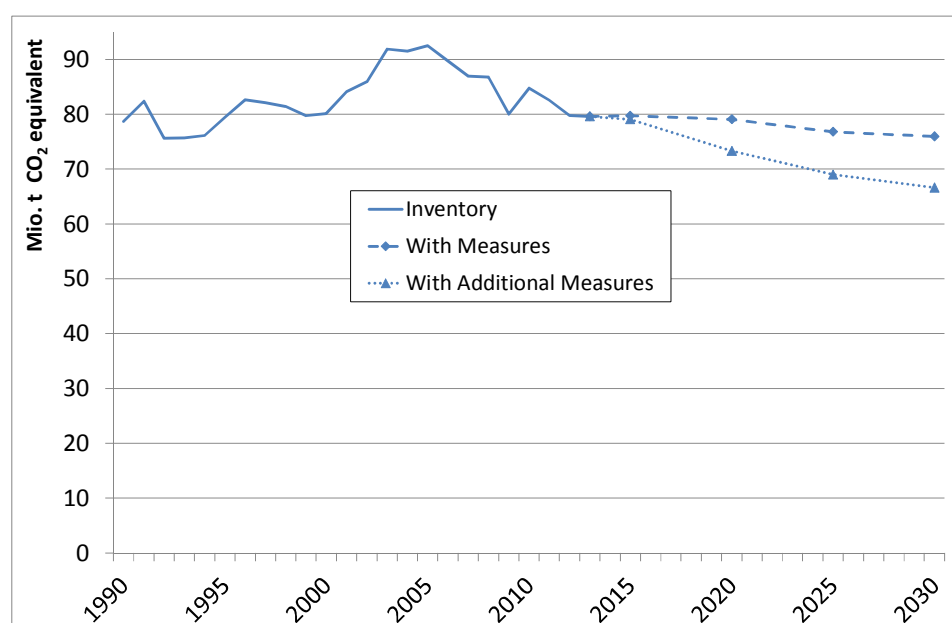
The scenario “with additional measures” shows a sharper decrease of total emissions from 79.6 Mt in 2013 to 73.3 Mt in 2020 and to 66.6 Mt in 2030; this is a decrease of 8 % and 16 % respectively, compared to 2013. The difference results mainly from significantly decreasing emissions from transport (due to increasing energy efficiency and reduced fuel export in the vehicle tank); emissions from industry remain stable due to additional measures and emissions from “other sectors” decrease to a slightly larger extent compared to the “with measures” scenario.

The emission trend is shown in Table 4.1 and Figure 4.1. A detailed report on greenhouse gas projections is available<sup>10</sup>, in-depth information on the emission trends in the subsectors can be found in Chapter 2 and Annex 1 of that report.

**Table 4.1: Actual and projected GHG emissions in Austria by sector and by gas (totals without LULUCF, in 1000 t)<sup>11</sup>:**

	Invent.				WM		WAM	
	1990	2000	2010	2013	2020	2030	2020	2030
<b>Sector*</b>								
Energy	14 544	12 772	14 671	11 852	10 470	8 952	10 205	8 963
Transport	13 974	18 820	22 379	22 809	23 267	23 042	18 831	16 597
Industry/industrial processes	21 819	23 250	27 386	27 160	27 786	28 949	27 223	27 110
Other sectors	14 507	13 683	11 506	9 287	9 305	7 095	8 877	6 191
Agriculture	7 959	7 292	6 852	6 807	7 044	7 063	6 965	6 935
Forestry/LULUCF	-13 042	-16 888	-6 167	-4 978	5 005	5 005	5 005	5 005
Waste management/waste	4 226	2 922	1 993	1 684	1 195	856	1 192	823
<b>Gas</b>								
CO <sub>2</sub>	62 217	66 229	72 691	67 768	67 252	65 156	61 602	56 783
CH <sub>4</sub>	10 614	8 296	6 947	6 530	6 189	5 921	6 161	5 872
N <sub>2</sub> O	4 197	4 213	3 251	3 264	3 324	3 275	3 239	3 096
HFCs	2	714	1 482	1 674	1 804	1 484	1 792	747
PFCs	1 183	87	78	49	49	49	49	49
SF <sub>6</sub>	471	575	336	304	439	63	439	63
NF <sub>3</sub>	NO,NA	11	4	10	10	10	10	10
<b>Total</b>	<b>78 683</b>	<b>80 124</b>	<b>84 788</b>	<b>79 599</b>	<b>79 067</b>	<b>75 957</b>	<b>73 293</b>	<b>66 619</b>

\* Energy: CRF 1.A.1, 1.B; Transport: CRF 1.A.3; Industry: CRF 1.A.2, 2; Other sectors: 1.A.4, 1.A.5.



**Figure 4.1: Actual and projected total GHG emissions in Austria (without LULUCF)**

<sup>10</sup> GHG Projections and Assessment of Policies and Measures in Austria; Reporting under Regulation (EU) 525/2013, 15 March 2015;

[http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail/?pub\\_id=2126](http://www.umweltbundesamt.at/aktuell/publikationen/publikationssuche/publikationsdetail/?pub_id=2126)

<sup>11</sup> N.B.: LULUCF and NF<sub>3</sub> are shown for comparability with the national greenhouse gas inventory, but are not included in the EU's quantified economy-wide emission reduction target.

The totals above show emissions from industries which are part of the EU emission trading system as well as emissions from the sources falling under the EU Effort Sharing Directive (cf. Chapter 2).

Emissions falling under the Effort Sharing Directive<sup>12</sup> (“ESD emissions”) represent less than 2/3 of Austrian total GHG emissions. Most of the emissions from energy industries and industry (including industrial processes) fall under the EU ETS, only about one quarter under the ESD. ESD emissions therefore are dominated by transport emissions, which currently account for slightly less than half of ESD emissions

ESD emissions in the scenario “with measures” are expected to increase from 49.7 Mt CO<sub>2</sub> equivalent in 2013 to 50.9 Mt in 2020 and to decrease to 48,0 Mt in 2030. This is an increase of 3 % and a decrease of 3 % respectively, compared to 2013. The trend is driven in the short term by increasing emissions from energy and industry as well as from transport and in the long term by considerably decreasing emissions in the sector “Other sectors”.

The scenario “with additional measures” shows a decrease of ESD emissions from 49.7 Mt in 2013 to 45.7 Mt in 2020 and to 39.5 Mt in 2030; this is a decrease of 8 % and 20 % respectively, compared to 2013. The trend results from significantly decreasing emissions from transport and a stronger decrease in “Other sectors”.

The trend of ESD emissions is shown in Table 4.2 and Figure 4.2.

**Table 4.2: Actual and projected GHG emissions in Austria covered by the EU Effort Sharing Directive<sup>13</sup>:**

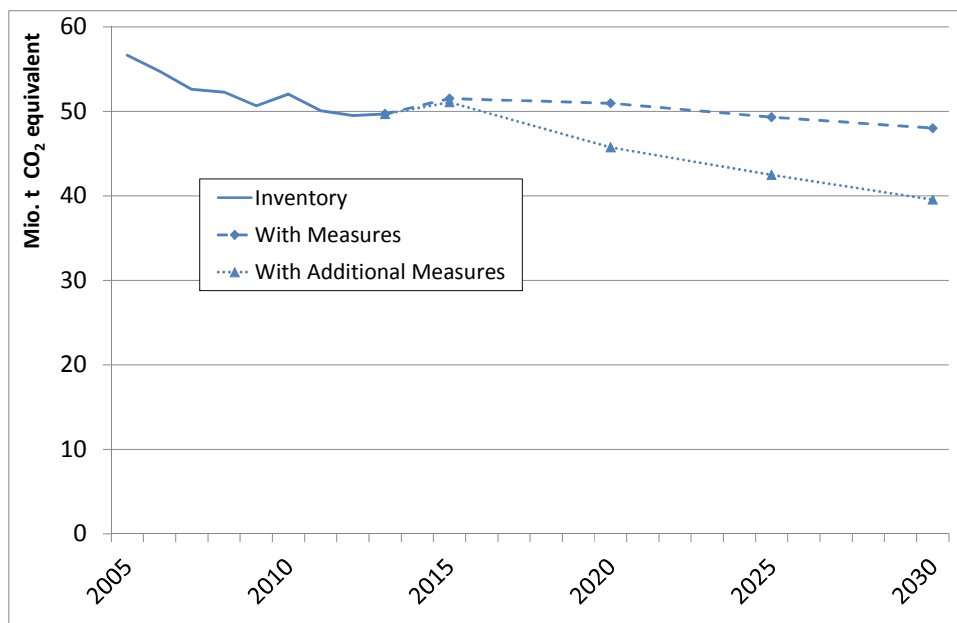
	Invent. **			WM		WAM	
	2006	2010	2013	2020	2030	2020	2030
<b>ESD Sector*</b>							
Energy & Industry	9 089	9 699	9 803	10 659	10 464	10 391	9 511
Transport	23 091	21 996	22 149	22 793	22 573	18 357	16 128
Other sectors	13 172	11 491	9 233	9 256	7 047	8 830	6 148
Agriculture	6 855	6 852	6 807	7 044	7 063	6 965	6 935
Waste management/waste	2 528	1 993	1 684	1 195	856	1 192	823
ESD Total	54 735	52 031	49 677	50 947	48 003	45 735	39 545

\* Energy & industry: CRF 1.A.1, 1.A.2, 1.B, 2; Transport: CRF 1.A.3; Other sectors: 1.A.4, 1.A.5.

\*\* Figures for the years before 2013 have been calculated taking into account the current sector definition.

<sup>12</sup> Excluded: Emissions falling under the EU ETS according to Annex I of Directive 2009/29/EC, emissions from sector 1.A.3.a, NF<sub>3</sub> emissions.

<sup>13</sup> i.e. without LULUCF, NF<sub>3</sub>, emissions from 1.A.3.a and from installations in the EU ETS.



**Figure 4.2: Actual and projected GHG emissions in Austria covered by the EU Effort Sharing Directive**

## 4.2 Methodology and changes in methodologies

Largely the same models and methods have been used for the preparation of the scenarios as for the scenarios described in Chapter 5 of Austria’s Sixth National Communication. Changes have only occurred with respect to the transport emissions model.

The model GLOBEMI, which has been used so far for the calculation of GHG and air pollutant emissions from road transport, has been replaced by the more sophisticated model NEMO (“Network Emission Model”). Just as its predecessor NEMO is used for inventory and scenario calculations. NEMO is set up according to the same methodology as the former model GLOBEMI and combines a detailed calculation of the fleet composition with a simulation of energy consumption and emission output on a vehicle level. It is fully capable of depicting the upcoming variety of possible combinations of propulsion systems and alternative fuels. In addition, NEMO has been designed for a road-section based approach.

Details of the models and references are shown in Chapter 3 of the report on greenhouse gas projections<sup>10</sup>, an explanation of the differences between transport emissions calculated with the old and the new transport model can be found in Section 6.1.3 of that report. An in-depth description of the new road transport model NEMO can be found in Section 3.2.12.2 of Austria’s National Inventory Report 2015.

## **5 Provision of financial, technological and capacity-building support to developing country Parties**

Tracking of the provision of financial, technological and capacity-building support is done in close collaboration between the Austrian Development Agency and the relevant Federal Ministries. An inter-ministerial working group has been established dedicated to climate finance. Reporting is based on OECD DAC Rio markers and support by ODA and OOF is tracked.

### **5.1 Finance**

Climate finance is a key element in tackling climate change at the global level. Austria takes its climate finance commitments under the Convention very seriously. In tables 5.1 to 5.6 below we provide full details of our efforts in 2013 and 2014, respectively.

Since the publication of its First Biennial Report, Austria adopted an international climate finance strategy (KFS) and established a new inter-ministerial working group (AGIK) dedicated to climate finance.

The KFS contains a matrix with an extensive work programme on issues pertaining to climate finance, including (1) identification of sources, (2) leveraging of sources, (3) development of qualitative and quantitative targets, (4) policy coherence, (5) application and further development of OECD DAC Rio markers, (6) optimising project implementation and (7) reporting. The AGIK working group is tasked to implement this matrix with concrete milestones and deliverables. The strategy will be reviewed in 2016.

Working to increase clarity of central concepts, capacity building for domestic actors, and raising awareness relating to the importance of climate finance to effectively meet the climate challenge at the global level are key areas of work in AGIK. The group is also working towards a better identification, mobilisation and reporting of sources at all levels, including at the national level, in bilateral exchanges, at the EU level, through the OECD and other fora.

The KFS also contains guidelines for tracking the provision of climate finance. These guidelines are based on OECD DAC methodologies to ensure consistency with Austria's ODA reporting. Developing countries eligible for support are determined through the DAC List of ODA Recipients. Climate-relevant projects are identified bottom-up using DAC Rio markers for mitigation and adaptation, respectively.

Flows are reported based on commitments (for grants) and disbursements (for other types of finance; cf. the concept of “wide-variety of sources”), respectively. Marker 1 projects are discounted with a default factor of 0.5, projects with markers for both mitigation and adaptation are not counted twice and the figures reported are limited to a maximum of 100 percent of the actual commitment/disbursement. Imputed multilateral shares are reported based on OECD DAC reports. Official OECD DAC exchange rates are used for conversion of EUR into USD.

Adaptation and mitigation needs of recipient countries are regularly addressed through ex ante with relevant recipient country representatives/stakeholders, as appropriate.

**Table 5.1 (CTF Table 7): Provision of public financial support: summary information in 2013**

Allocation channels	European euro - EUR					USD <sup>b</sup>				
	Core/ general <sup>c</sup>	Climate-specific <sup>d</sup>				Core/ general <sup>c</sup>	Climate-specific <sup>d</sup>			
		Mitigation	Adaptation	Cross-cutting <sup>e</sup>	Other <sup>f</sup>		Mitigation	Adaptation	Cross-cutting <sup>e</sup>	Other <sup>f</sup>
<b>Total contributions through multilateral channels:</b>				49 686 466				65 967 161		
Multilateral climate change funds <sup>g</sup>				7 852 287				10 425 236		
Other multilateral climate change funds <sup>h</sup>										
Multilateral financial institutions, including regional development banks				40 689 074				54 021 607		
Specialized United Nations bodies				1 145 104				1 520 318		
<b>Total contributions through bilateral, regional and other channels</b>		76 700 000	3 115 000	12 690 000		101 832 183	4 135 688	16 848 115		
<b>Total</b>		76 700 000	3 115 000	62 376 466		101 832 183	4 135 688	82 815 276		

**Table 5.2 (CTF Table 7): Provision of public financial support: summary information in 2014**

Allocation channels	European euro - EUR					USD <sup>b</sup>				
	Core/ general <sup>c</sup>	Climate-specific <sup>d</sup>				Core/ general <sup>c</sup>	Climate-specific <sup>d</sup>			
		Mitigation	Adaptation	Cross-cutting <sup>e</sup>	Other <sup>f</sup>		Mitigation	Adaptation	Cross-cutting <sup>e</sup>	Other <sup>f</sup>
<b>Total contributions through multilateral channels:</b>				41 485 477				55 042 427		
Multilateral climate change funds <sup>g</sup>										
Other multilateral climate change funds <sup>h</sup>										
Multilateral financial institutions, including regional development banks				40 331 412				53 511 228		
Specialized United Nations bodies				1 154 065				1 531 200		
<b>Total contributions through bilateral, regional and other channels</b>		71 002 910	6 882 195	21 868 146		94 205 798	9 131 213	29 014 391		
<b>Total</b>		71 002 910	6 882 195	63 353 623		94 205 798	9 131 213	84 056 818		

**Table 5.3 (CTF Table 7(a)): Provision of public financial support: contribution through multilateral channels in 2013**

Donor funding	Total amount				Status <sup>b</sup>	Funding source <sup>f</sup>	Financial instrument <sup>f</sup>	Type of support <sup>f,g</sup>	Sector <sup>c</sup>
	Core/general <sup>d</sup>		Climate-specific <sup>e</sup>						
	European euro - EUR	USD	European euro - EUR	USD					
Total contributions through multilateral channels			49 686 466	65 967 161					
Multilateral climate change funds <sup>8</sup>			7 852 287	10 425 236					
1. Global Environment Facility			5 853 614	7 771 660	Provided	ODA	Grant	Cross-cutting	N/A
2. Least Developed Countries Fund			1 499 005	1 990 182	Provided	ODA	Grant	Cross-cutting	N/A
3. Special Climate Change Fund									
4. Adaptation Fund			499 668	663 394	Provided	ODA	Grant	Cross-cutting	N/A
5. Green Climate Fund									
6. UNFCCC Trust Fund for Supplement. Activities									
7. Other multilateral climate change funds									
Multilateral financial institutions, including regional development banks			40 689 074	54 021 607					
1. World Bank			26 118 641	34 676 900	Provided	ODA	Grant	Cross-cutting	N/A
2. International Finance Corporation									
3. African Development Bank			12 571 760	16 691 131	Provided	ODA	Grant	Cross-cutting	N/A
4. Asian Development Bank			1 998 673	2 653 576	Provided	ODA	Grant	Cross-cutting	N/A
5. European Bank for Reconstr. and Development									
6. Inter-American Development Bank									
7. Other									
Specialized United Nations bodies			1 145 104	1 520 318					
1. United Nations Development Programme									
2. United Nations Environment Programme			1 073 325	1 425 020					
<i>Montreal Protocol</i>			1 073 325	1 425 020	Provided	ODA	Grant	Cross-cutting	N/A
3. Other			71 779	95 298					
<i>UNFCCC</i>			71 779	95 298	Provided	ODA	Grant	Cross-cutting	N/A



**Table 5.4 (CTF Table 7(a)): Provision of public financial support: contribution through multilateral channels in 2014**

Donor funding	Total amount				Status <sup>b</sup>	Funding source <sup>f</sup>	Financial instrument <sup>f</sup>	Type of support <sup>f,g</sup>	Sector <sup>c</sup>
	Core/general <sup>d</sup>		Climate-specific <sup>e</sup>						
	European euro - EUR	USD	European euro - EUR	USD					
Total contributions through multilateral channels			41 485 477	55 042 427					
Multilateral climate change funds <sup>8</sup>									
1. Global Environment Facility									
2. Least Developed Countries Fund									
3. Special Climate Change Fund									
4. Adaptation Fund									
5. Green Climate Fund									
6. UNFCCC Trust Fund for Supplement. Activities									
7. Other multilateral climate change funds									
Multilateral financial institutions, including regional development banks			40 331 412	53 511 228					
1. World Bank			26 135 980	34 676 900	Provided	ODA	Grant	Cross-cutting	N/A
2. International Finance Corporation									
3. African Development Bank			12 195 433	16 180 752	Provided	ODA	Grant	Cross-cutting	N/A
4. Asian Development Bank			2 000 000	2 653 576	Provided	ODA	Grant	Cross-cutting	N/A
5. European Bank for Reconstr. and Development									
6. Inter-American Development Bank									
7. Other									
Specialized United Nations bodies			1 154 065	1 531 200					
1. United Nations Development Programme									
2. United Nations Environment Programme			1 071 198	1 421 253					
<i>Montreal Protocol</i>			1 071 198	1 421 253	Provided	ODA	Grant	Cross-cutting	N/A
3. Other			82 867	109 946					
<i>UNFCCC</i>			82 867	109 946	Provided	ODA	Grant	Cross-cutting	N/A

**Table 5.5 (CTF Table 7(b)): Provision of public financial support: contribution through bilateral, regional and other channels in 2013**

Recipient country/ region/project/programme <sup>b</sup>	Total amount		Status <sup>c</sup>	Funding source <sup>g</sup>	Financial instrument <sup>g</sup>	Type of support <sup>g, h</sup>	Sector <sup>d</sup>	Additional information <sup>e</sup>
	Climate-specific <sup>f</sup>							
	European euro - EUR	USD						
260 (Niger)	400.000	531.067	committed	10 (ODA)	110 (grant)	adaptation	720 Emergency Response	Humanitarian Assistance to vulnerable population affected by food crisis and floods in Diffa region
287 (Burkina Faso)	100.000	132.767	committed	10 (ODA)	110 (grant)	adaptation	720 Emergency Response	Humanitarian relief for Malian refugees and livelihood support for local agro-pastoralists
289 (South of Sahara, regional)	30.000	39.830	committed	10 (ODA)	110 (grant)	adaptation	N/A	SMACC: Improving rural livelihoods in Sub-Saharan Africa: Sustainable and climate-smart intensification of agricultural production
289b (East Africa, regional)	150.000	199.150	committed	10 (ODA)	110 (grant)	adaptation	N/A	GEOSAF/FARMSUPPORT
298 (Africa, regional)	750.000	995.751	committed	10 (ODA)	110 (grant)	adaptation	140 WATER AND SANITATION	Financial Contribution to the African Water Facility
298 (Africa, regional)	250.000	331.917	committed	10 (ODA)	110 (grant)	adaptation	152 Conflict prevention and resolution, peace and security	Supporting Peace and Security in Ethiopia and Africa
389 (North & Central America, regional)	100.000	132.767	committed	10 (ODA)	110 (grant)	adaptation	740 Disaster prevention and preparedness	Support to OCHA ROLAC DP and DRR activities 2013-2014
610 (Armenia)	850.000	1.128.518	committed	10 (ODA)	110 (grant)	adaptation	311 AGRICULTURE	Communal Integrated Erosion Risk management
614 (Kyrgyz Rep.)	150.000	199.150	committed	10 (ODA)	110 (grant)	adaptation	N/A	Impact of climate change and related glacier hazards and mitigation strategies, inter alia in the Tien Shan Mountains, Central Asia

660 (Nepal)	50.000	66.383	committed	10 (ODA)	110 (grant)	adaptation	740 Disaster prevention and preparedness	VISTAR- Building resilient communities and institutions for natural disasters in Far and Mid- Western Region of Nepal
665 (Pakistan)	65.000	86.298	committed	10 (ODA)	110 (grant)	adaptation	740 Disaster prevention and preparedness	A Safer Tomorrow - Institutionalizing disaster preparedness in education system
89 (Europe, regional)	220.000	292.087	committed	10 (ODA)	110 (grant)	adaptation	230 ENERGY GENERATION AND SUPPLY	Climate Forum East (CFE)
<b>Subtotal</b>	<b>3.115.000</b>	<b>4.135.688</b>	<b>committed</b>	<b>10 (ODA)</b>	<b>110 (grant)</b>	<b>adaptation</b>		
238 (Ethiopia)	40.000	53.107	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	The role of enclosures on the diversity and productivity of rural landscapes in North Gondar, Ethiopia
285 (Uganda)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	cross-cutting	140 WATER AND SANITATION	Water and Sanitation Sector Financing
287 (Burkina Faso)	1.250.000	1.659.586	committed	10 (ODA)	110 (grant)	cross-cutting	311 AGRICULTURE	Regional Programme Boucle de Mouhoun
289 (South of Sahara, regional)	1.000.000	1.327.669	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	IFC Advisory Services Activities in Sub-Saharan Africa
298 (Africa, regional)	600.000	796.601	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	Technical Assistance Expert for the African Water Facility (AWF) of the African Development Bank (AfDB)
451 (Paraguay)	300.000	398.301	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	Reducing CO2 emissions from rural areas and strengthening Indigenous Peoples and Peasant Communities Rooting through agroecology
498 (America, regional)	800.000	1.062.135	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	Sustainable Energy and Climate Change Initiative (SECCI)
498 (America, regional)	400.000	531.067	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	Emerging and Sustainable Cities Initiative (ESCI)

619 (Central Asia, regional)	800.000	1.062.135	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	Complementary measures to ENPI FLEG Programm
679 (South Asia, regional)	900.000	1.194.902	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	contribution to the Medium Term Action Plan
745 (Laos)	1.500.000	1.991.503	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	Reducing emissions from deforestation and forest degradation in the Xe Pian National Protected area and its buffer zone
798 (Asia, regional)	800.000	1.062.135	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	Cities Development Initiative for Asia (CDIA)
998 (Developing countries, unspecified)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	cross-cutting	140 WATER AND SANITATION	Water Partnership Program (WPP)
998 (Developing countries, unspecified)	300.000	398.301	committed	10 (ODA)	110 (grant)	cross-cutting	N/A	Crowdfunding platform
<b>Subtotal</b>	<b>12.690.000</b>	<b>16.848.115</b>	<b>committed</b>	<b>10 (ODA)</b>	<b>110 (grant)</b>	<b>cross-cutting</b>		
142 (Egypt)	500.000	663.834	committed	10 (ODA)	110 (grant)	mitigation	N/A	improving market environment for high-quality solarthermal solutions in egypt and mainstreaming within the Tourism industry
238 (Ethiopia)	3.000.000	3.983.006	committed	10 (ODA)	110 (grant)	mitigation	430 Other multisector	Sustainable Resource Management in North Gondar
289 (South of Sahara, regional)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	mitigation	N/A	Africa Sustainable Energy Facility (ASEF)
289a (West Africa, regional)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	mitigation	230 ENERGY GENERATION AND SUPPLY	Support to the ECOWAS Center for Renewable energy and energy efficiency (ECREEE)

289a (West Africa, regional)	550.000	730.218	committed	10 (ODA)	110 (grant)	mitigation	230 ENERGY GENERATION AND SUPPLY	Capacity Development programm of the ECOWAS Center for Renewable energy and energy efficiency (ECREEE)
289a (West Africa, regional)	600.000	796.601	committed	10 (ODA)	110 (grant)	mitigation	230 ENERGY GENERATION AND SUPPLY	TA for the ECOWAS center for renewable Energy and Energy efficiency
289b (East Africa, regional)	1.000.000	1.327.669	committed	10 (ODA)	110 (grant)	mitigation	230 ENERGY GENERATION AND SUPPLY	EAC center for Renewable Energy and energy efficiency (EACREEE)
289c (Southern Africa, regional)	300.000	398.301	committed	10 (ODA)	110 (grant)	mitigation	230 ENERGY GENERATION AND SUPPLY	SolTrain- solarthermal energy training and demonstration project in the SADC region Phase II, additional funding
289c (Southern Africa, regional)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	mitigation	230 ENERGY GENERATION AND SUPPLY	Contribution to the Energy and Environment Programme in Southern and Eastern Africa - Phase II
289c (Southern Africa, regional)	1.800.000	2.389.804	committed	10 (ODA)	110 (grant)	mitigation	230 ENERGY GENERATION AND SUPPLY	SADC center for Renewable Energy and energy efficiency (SACREEE)
612 (Georgia)	450.000	597.451	committed	10 (ODA)	110 (grant)	mitigation	N/A	Bank of Georgia - capacity building for RE project investors
615 (Tajikistan)	570.000	756.771	committed	10 (ODA)	110 (grant)	mitigation	N/A	Kairakkum HPP Rehabilitation Feasibility Study
619 (Central Asia, regional)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	mitigation	N/A	Early Transition Country (ETC) Energy Efficiency Programme
619 (Central Asia, regional)	700.000	929.368	committed	10 (ODA)	110 (grant)	mitigation	N/A	ECA Resource Efficiency
619 (Central Asia, regional)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	mitigation	N/A	EBRD Resource Efficiency
619 (Central Asia, regional)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	mitigation	N/A	EBRD Municipal Environment Infrastructure Fund

630 (Bhutan)	140.000	185.874	committed	10 (ODA)	110 (grant)	mitigation	230 ENERGY GENERATION AND SUPPLY	Additional Technical Assistance to Dagachhu Hydropower Project
89 (Europe, regional)	1.000.000	1.327.669	committed	10 (ODA)	110 (grant)	mitigation	N/A	EBRD Municipal Projects in the Western Balkan
998 (Developing countries, unspecified)	2.500.000	3.319.172	committed	10 (ODA)	110 (grant)	mitigation	N/A	IFC Austria Climate Change Partnership Program
998 (Developing countries, unspecified)	1.500.000	1.991.503	committed	10 (ODA)	110 (grant)	mitigation	N/A	Energy Sector Management Assistance Program (ESMAP)
998 (Developing countries, unspecified)	220.000	292.087	committed	10 (ODA)	110 (grant)	mitigation	N/A	Energy Efficiency in the Financial Sector Study
998 (Developing countries, unspecified)	2.000.000	2.655.337	committed	10 (ODA)	110 (grant)	mitigation	N/A	REEEP 10th Project Call
998 (Developing countries, unspecified)	1.000.000	1.327.669	committed	10 (ODA)	110 (grant)	mitigation	N/A	Contribution to the NAMA Registry
<b>Subtotal</b>	<b>29.830.000</b>	<b>39.604.355</b>	<b>committed</b>	<b>10 (ODA)</b>	<b>110 (grant)</b>	<b>mitigation</b>		
351 (Honduras)	6.060.000	8.045.672	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 ENERGY GENERATION AND SUPPLY	HPP La Vegona
389 (North & Central America, regional)	18.000.000	23.898.035	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 ENERGY GENERATION AND SUPPLY	CABEI
57 (Kosovo)	500.000	663.834	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 ENERGY GENERATION AND SUPPLY	Verbesserung der Fernwärmesysteme Prishtina
610 (Armenia)	3.000.000	3.983.006	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 ENERGY GENERATION AND SUPPLY	Ameriabank CJSC

612 (Georgia)	1.300.000	1.725.969	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 ENERGY GENERATION AND SUPPLY	JSC Bank of Georgia
619 (Central Asia, regional)	6.000.000	7.966.012	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 ENERGY GENERATION AND SUPPLY	Center Invest
998 (Developing countries, unspecified)	1.010.000	1.340.945	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	430 Other multisector	Interact Climate Change Facility (ICCF)
998 (Developing countries, unspecified)	11.000.000	14.604.355	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 ENERGY GENERATION AND SUPPLY	Global Climate Partnership Fund (GCPF)
<b>Subtotal</b>	<b>46.870.000</b>	<b>62.227.828</b>	<b>provided</b>	<b>20 (OOF)</b>	<b>000 (non-concessional development loan)</b>	<b>mitigation</b>		
<b>Subtotal</b>	<b>76.700.000</b>	<b>101.832.183</b>				<b>mitigation</b>		
<b>Total contributions through bilateral, regional and other channels</b>	<b>92.505.00</b>	<b>122.815.985</b>						

**Table 5.6 (CTF Table 7(b)): Provision of public financial support: contribution through bilateral, regional and other channels in 2014**

Recipient country/ region/project/programme <sup>b</sup>	Total amount		Status <sup>c</sup>	Funding source <sup>g</sup>	Financial instrument <sup>g</sup>	Type of support <sup>g, h</sup>	Sector <sup>d</sup>	Additional information <sup>e</sup>
	Climate-specific <sup>f</sup>							
	European euro - EUR	USD						
232 (Chad)	27.550	36.553	committed	10 (ODA)	110 (standard grant)	adaptation	311 (AGRICULTURE)	Strengthening of small-scale agriculture and vegetable production in Chad
232 (Chad)	43.550	57.782	committed	10 (ODA)	110 (standard grant)	adaptation	311 (AGRICULTURE)	Women-Water-Soil: Integrated water resource management
238 (Ethiopia)	249.700	331.299	committed	10 (ODA)	110 (standard grant)	adaptation	430 (Other multisector)	WP-ÄTH-HRNS, Coffee Alliances for Ethiopia (CAFÉ): Improved livelihoods of 2,500 smallholder farming households through improving their production and value addition of coffee and other crops
238 (Ethiopia)	150.000	199.018	committed	10 (ODA)	110 (standard grant)	adaptation	313 (AGRICULTURE)	Earmarked contribution to CGIAR: research project - reducing land degradation and farmers' vulnerability
238 (Ethiopia)	8.900	11.808	committed	10 (ODA)	110 (standard grant)	adaptation	430 (Other multisector)	Integrated rural development; water and sanitation
248 (Kenya)	12.500	16.585	committed	10 (ODA)	110 (standard grant)	adaptation	151 (Government and civil society, general)	Personnel deployment: documentation, monitoring and evaluation
259 (Mozambique)	66.500	88.231	committed	10 (ODA)	110 (standard grant)	adaptation	314 (AGRICULTURE)	Earmarked contribution to CGIAR: research project - Developing resilient and profitable rural livelihood systems in semi-arid Mozambique
282 (Tanzania)	100.000	132.679	committed	10 (ODA)	110 (standard grant)	adaptation	311 (AGRICULTURE)	Innovation platform for biological agriculture
289 (South of Sahara, regional)	200.000	265.358	committed	10 (ODA)	110 (standard grant)	adaptation	430 (Other multisector)	Austrian contribution to the OECD/Sahel and West Africa Club 2015-2016 Work Program



289 (South of Sahara, regional)	400.000	530.715	committed	10 (ODA)	110 (standard grant)	adaptation	430 (Other multisector)	Adaptation to Climate Change Learning Programme - Phase II
289 (South of Sahara, regional)	33.000	43.784	committed	10 (ODA)	110 (standard grant)	adaptation	410 (General environmental protection)	INCAA - INnovative Conservation Agriculture Approaches: Food Security and Climate Action Through Soil and Water Conservation
298 (Africa, regional)	500.000	663.394	committed	10 (ODA)	110 (standard grant)	adaptation	140 (WATER AND SANITATION)	Contribution to the African water facility of the African Development Bank
364 (Nicaragua)	25.000	33.170	committed	10 (ODA)	110 (standard grant)	adaptation	740 (Disaster prevention and preparedness)	Personnel deployment: consultant to minimize the risks of ecological disasters due to climate change, RAAS
389 (North & Central America, regional)	75.000	99.509	committed	10 (ODA)	110 (standard grant)	adaptation	311 (AGRICULTURE)	Earmarked contribution to CGIAR: research project-Forestry to enhance livelihoods and sustain forests in Mesoamerica
630 (Bhutan)	30.000	39.804	committed	10 (ODA)	110 (standard grant)	adaptation	410 (General environmental protection)	Developing a Geospatial Methodology to Assess Climate Change Adaptation Strategies for Traditional Economy in Bhutan
660 (Nepal)	93.300	123.789	committed	10 (ODA)	110 (standard grant)	adaptation	311 (AGRICULTURE)	Nepal: Agricultural productivity and commercialisation
679 (South Asia, regional)	66.500	88.231	committed	10 (ODA)	110 (standard grant)	adaptation	312 (AGRICULTURE)	Earmarked contribution to CGIAR: research project-Improving food security&nutrition of rural people in Nepal&Bhutan
755 (Philippines)	10.500	13.931	committed	10 (ODA)	110 (standard grant)	adaptation	720 (Emergency Response)	Emergency aid after taiphoon Taifun Haiyan - Phase 2 in the North of the Cebu Island and Borongan
832 (Fiji)	100.000	132.679	committed	10 (ODA)	110 (standard grant)	adaptation	311 (AGRICULTURE)	WP-FJI-Agrana Fruit S.A.S, Enhancement of productivity and development of sustainable sales opportunities for fruit farmers in Fiji
89 (Europe, regional)	1.500.000	1.990.182	committed	10 (ODA)	110 (standard grant)	adaptation	430 (Other multisector)	Urban Partnership Program

93 (Moldova)	190.195	252.348	committed	10 (ODA)	110 (standard grant)	adaptation	140 (WATER AND SANITATION)	Sustainability measures for water-related ecosystems in the Lower Dniester Ramsar Site
998 (Developing countries, unspecified)	1.000.000	1.326.788	committed	10 (ODA)	110 (standard grant)	adaptation	140 (WATER AND SANITATION)	World Bank Water and Sanitation Program
998 (Developing countries, unspecified)	2.000.000	2.653.576	committed	10 (ODA)	110 (standard grant)	adaptation	740 (Disaster prevention and preparedness)	Global Facility for Disaster Reduction and Recovery
<b>Subtotal</b>	<b>6.882.195</b>	<b>9.131.213</b>	<b>committed</b>	<b>10 (ODA)</b>	<b>110 (standard grant)</b>	<b>adaptation</b>		
285 (Uganda)	2.000.000	2.653.576	committed	10 (ODA)	110 (standard grant)	cross-cutting	140 (WATER AND SANITATION)	Water and Sanitation Sector Financing Uganda
285 (Uganda)	57.000	75.627	committed	10 (ODA)	110 (standard grant)	cross-cutting	311 (AGRICULTURE)	Livelihood improvement through sustainable and environmentally friendly agricultural production (LISEFAP)
298 (Africa, regional)	27.014	35.842	committed	10 (ODA)	110 (standard grant)	cross-cutting	410 (General environmental protection)	Contribution to the African Regional Mountain Forum 2014
298 (Africa, regional)	14.500	19.238	committed	10 (ODA)	110 (standard grant)	cross-cutting	311 (AGRICULTURE)	Transdisciplinary & transformative learning in university education for sustainable development
389 (North & Central America, regional)	1.300.000	1.724.824	committed	10 (ODA)	110 (standard grant)	cross-cutting	230 (ENERGY GENERATION AND SUPPLY)	CCREEE - start-up and first operational phase

489 (South America, regional)	804.764	1.067.751	committed	10 (ODA)	110 (standard grant)	cross-cutting	410 (General environmental protection)	Sustainable Energy and Climate Change Multidonor Fund
489 (South America, regional)	402.059	533.446	committed	10 (ODA)	110 (standard grant)	cross-cutting	430 (Other multisector)	Sustainable Emerging Cities Multidonor Trust Fund
619 (Central Asia, regional)	661.376	877.505	committed	10 (ODA)	110 (standard grant)	cross-cutting	230 (ENERGY GENERATION AND SUPPLY)	Energy Infrastructure Program
619 (Central Asia, regional)	1.000.000	1.326.788	committed	10 (ODA)	110 (standard grant)	cross-cutting	430 (Other multisector)	EBRD Municipal Environment Infrastructure Fund
619 (Central Asia, regional)	1.000.000	1.326.788	committed	10 (ODA)	110 (standard grant)	cross-cutting	230 (ENERGY GENERATION AND SUPPLY)	Early Transition Country (ETC) Energy Efficiency Programme
689 (South & Central Asia, regional)	1.613.944	2.141.361	committed	10 (ODA)	110 (standard grant)	cross-cutting	230 (ENERGY GENERATION AND SUPPLY)	Technical Assistance on Increasing Modern Energy Services in Urban Areas
745 (Laos)	1.599.990	2.122.847	committed	10 (ODA)	110 (standard grant)	cross-cutting	312 (FORESTRY)	Reducing Emissions from Deforestation and Forest Degradation through Biodiversity conservation in the Xie Pian National Protected Area and buffer zone in Southern Laos

88 (States Ex-Yugoslavia unspecified)	525.000	696.564	committed	10 (ODA)	110 (standard grant)	cross-cutting	410 (General environmental protection)	Themis Network – Stage 2: Promoting regional cooperation in SEE via networking within the authorities responsible for the environment and justice sectors
89 (Europe, regional)	1.000.000	1.326.788	committed	10 (ODA)	110 (standard grant)	cross-cutting	230 (ENERGY GENERATION AND SUPPLY)	EBRD Resource Efficiency
89 (Europe, regional)	3.000.000	3.980.364	committed	10 (ODA)	110 (standard grant)	cross-cutting	230 (ENERGY GENERATION AND SUPPLY)	EBRD SEFF Market Readiness Program
998 (Developing countries, unspecified)	700.000	928.751	committed	10 (ODA)	110 (standard grant)	cross-cutting	230 (ENERGY GENERATION AND SUPPLY)	World Bank Energy Sector Management Assistance Program (ESMAP)
998 (Developing countries, unspecified)	70.000	92.875	committed	10 (ODA)	110 (standard grant)	cross-cutting	410 (General environmental protection)	Technical dialogue on nationally determined contributions towards a 2015 Agreement under the UNFCCC
<b>Subtotal</b>	<b>15.775.646</b>	<b>20.930.936</b>	<b>committed</b>	<b>10 (ODA)</b>	<b>110 (standard grant)</b>	<b>cross-cutting</b>		<b>0</b>
351 (Honduras)	318.500	422.582	provided	20 (OOF)	453 (bank exp.cred.)	cross-cutting	311 (AGRICULTURE)	Delivery of Irrigation Systems, Agricultural Machines and Spare Parts including Training
351 (Honduras)	3.245.000	4.305.427	provided	20 (OOF)	453 (bank exp.cred.)	cross-cutting	311 (AGRICULTURE)	Delivery and Installation of Irrigation Systems including Training

730 (China)	149.000	197.691	provided	20 (OOF)	453 (bank exp.cred.)	cross-cutting	311 (AGRICULTURE)	Irrigation Project
745 (Laos)	2.380.000	3.157.755	provided	20 (OOF)	453 (bank exp.cred.)	cross-cutting	311 (AGRICULTURE)	Irrigation Project
<b>Subtotal</b>	<b>6.092.500</b>	<b>8.083.455</b>	<b>provided</b>	<b>20 (OOF)</b>	<b>453 (bank exp.cred.)</b>	<b>cross-cutting</b>		
<b>Subtotal</b>	<b>21.868.146</b>	<b>29.014.390</b>				<b>cross-cutting</b>		<b>0</b>
238 (Ethiopia)	63.130	83.760	committed	10 (ODA)	110 (standard grant)	mitigation	312 (FORESTRY)	Carbon storage and soil biodiversity in forest landscapes in Ethiopia: Knowledge base and participatory management (REDD+ component)
255 (Mali)	38.030	50.458	committed	10 (ODA)	110 (standard grant)	mitigation	312 (FORESTRY)	Mali National Forest Inventory Project Appraisal
259 (Mozambique)	700.000	928.751	committed	10 (ODA)	110 (standard grant)	mitigation	311 (AGRICULTURE)	Project Support for Agricultural Production of Family Sector, focusing on institutional strengthening of the Provincial Directorate of Agriculture of Sofala, 10/2012 – 12/2015, PASF Sofala
261 (Nigeria)	7.500	9.951	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Photovoltaics, Water supply and schools
282 (Tanzania)	7.000	9.288	committed	10 (ODA)	110 (standard grant)	mitigation	140 (WATER AND SANITATION)	Securing drinking water supply of a Primary School in Nariva: renovation of a well, construction of a solar pump
282 (Tanzania)	7.000	9.288	committed	10 (ODA)	110 (standard grant)	mitigation	311 (AGRICULTURE)	Sustainable resource management and agriculture - CHEMA Programme 2014

285 (Uganda)	25.000	33.170	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Personnel deployment: Support CREEC - Centre for Research in Energy and Energy Conservation
287 (Burkina Faso)	2.500	3.317	committed	10 (ODA)	110 (standard grant)	mitigation	160 (OTHER SOCIAL INFRASTRUCTURE AND SERVICES)	Light for schools and Rural Health Center
287 (Burkina Faso)	2.000	2.654	committed	10 (ODA)	110 (standard grant)	mitigation	321 (INDUSTRY)	solar driven mill in the village Konekongo
289 (South of Sahara, regional)	48.000	63.686	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Contribution to the international conference Solar Energy Technology in Development Cooperation
289 (South of Sahara, regional)	257.350	341.449	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Technical Assistance to the SADC Energy Division
364 (Nicaragua)	50.000	66.339	committed	10 (ODA)	110 (standard grant)	mitigation	113 (Secondary education [incl. vocational education/training])	Community development through technical education and training
364 (Nicaragua)	3.100	4.113	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Plant oil "Tempate" as an efficient source of electricity
364 (Nicaragua)	9.000	11.941	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Light for farmer families - construction of a PV processor in Rio San Juan
428 (Bolivia)	11.000	14.595	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Promotion of solar power

431 (Brazil)	14.500	19.238	committed	10 (ODA)	110 (standard grant)	mitigation	410 (General environmental protection)	Support of the Climate Alliance partnership organisation FOIRN
431 (Brazil)	2.000	2.654	committed	10 (ODA)	110 (standard grant)	mitigation	410 (General environmental protection)	Climate Alliance project: financial contribution to the Rio-Negro regional development project
431 (Brazil)	5.000	6.634	committed	10 (ODA)	110 (standard grant)	mitigation	410 (General environmental protection)	Climate Alliance project partnership Rio Negro
434 (Chile)	185.000	245.456	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Solar Power Plant Environmental and Social Study
451 (Paraguay)	300.000	398.036	committed	10 (ODA)	110 (standard grant)	mitigation	311 (AGRICULTURE)	Reducing emissions in rural areas in Paraguay and strengthening indigenous peoples and peasant communities through agroecology
489 (South America, regional)	206.500	273.982	committed	10 (ODA)	110 (standard grant)	mitigation	0	IDB Associate Professional Officer (APO) Programme - Austrian experts
489 (South America, regional)	804.000	1.066.737	committed	10 (ODA)	110 (standard grant)	mitigation	410 (General environmental protection)	Contribution to projects within the IDB sustainable energy and climate change multidonor fund (SECCI)
612 (Georgia)	900.000	1.194.109	committed	10 (ODA)	110 (standard grant)	mitigation	312 (FORESTRY)	ADA-BMZ/GIZ Forest Sector Reform Programme in Georgia
645 (India)	25.000	33.170	committed	10 (ODA)	110 (standard grant)	mitigation	410 (General environmental protection)	Bhoruka Power Environmental and Social Management

655 (Maldives)	200.000	265.358	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	WP-MDV-Reniva-Swimsol, Offshore Photovoltaic in the Maldives
679 (South Asia, regional)	228.600	303.304	committed	10 (ODA)	110 (standard grant)	mitigation	332 (TOURISM)	Zero-Carbon-Resorts, sustainable development tourism sector
753 (Mongolia)	339.350	450.245	committed	10 (ODA)	110 (standard grant)	mitigation	14050 (Waste management/disposal)	Support to the Implementation of waste-to-energy solutions in the city of Ulaanbaatar
798 (Asia, regional)	28.500	37.813	committed	10 (ODA)	110 (standard grant)	mitigation	430 (Other multisector)	Secondment of an expert for urbanisation- support of the AsDB Programme
798 (Asia, regional)	76.000	100.836	committed	10 (ODA)	110 (standard grant)	mitigation	410 (General environmental protection)	Secondment of an expert for climate change - support of the AsDB Programme
798 (Asia, regional)	168.000	222.900	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Secondment of an expert for renewable energy - support of the AsDB Programme
89 (Europe, regional)	200.000	265.358	committed	10 (ODA)	110 (standard grant)	mitigation	430 (Other multisector)	CEI Know-how Exchange Programme - KEP AUSTRIA 2014 - 2016
998 (Developing countries, unspecified)	383.700	509.088	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Technical consultancy for ADC sustainable energy sector
998 (Developing countries, unspecified)	4.000.000	5.307.151	committed	10 (ODA)	110 (standard grant)	mitigation	430 (Other multisector)	Contribution to the EIB - Eastern Partnership Technical Assistance Trust Fund (EPTATF)



998 (Developing countries, unspecified)	150	199	committed	10 (ODA)	110 (standard grant)	mitigation	410 (General environmental protection)	Climate Alliance
998 (Developing countries, unspecified)	300.000	398.036	committed	10 (ODA)	110 (standard grant)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Green for Growth Fund Technica Assistance Facility
<b>Subtotal</b>	<b>9.596.910</b>	<b>12.733.064</b>	<b>committed</b>	<b>10 (ODA)</b>	<b>110 (standard grant)</b>	<b>mitigation</b>		
660 (Nepal)	46.000	61.032	provided	10 (ODA)	512 (equity other)	mitigation	400 (MULTISECTOR/CROSS-CUTTING)	Dolma Impact Fund
<b>Subtotal</b>	<b>46.000</b>	<b>61.032</b>	<b>provided</b>	<b>10 (ODA)</b>	<b>512 (equity other)</b>	<b>mitigation</b>		
<b>Subtotal</b>	<b>9.642.910</b>	<b>12.794.096</b>		<b>10 (ODA)</b>		<b>mitigation</b>		
351 (Honduras)	1.720.000	2.282.075	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Hydro Power Plant La Vegona, Credit Line
366 (Panama)	18.920.000	25.102.826	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Penonome Wind Park Credit Line
612 (Georgia)	2.470.000	3.277.166	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	400 (MULTISECTOR/CROSS-CUTTING)	PCBG Energy Efficiency Credit Line
71 (Albania)	2.120.000	2.812.790	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Hydro Power Plant Lengarica, Credit Line
998 (Developing countries, unspecified)	1.950.000	2.587.236	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	400 (MULTISECTOR/CROSS-CUTTING)	Interact Climate Change Facility
998 (Developing countries, unspecified)	15.400.000	20.432.533	provided	20 (OOF)	000 (non-concessional development loan)	mitigation	400 (MULTISECTOR/CROSS-CUTTING)	Green for Growth Fund
<b>Subtotal</b>	<b>42.580.000</b>	<b>56.494.627</b>	<b>provided</b>	<b>20 (OOF)</b>	<b>000 (non-concessional development loan)</b>	<b>mitigation</b>		

57 (Kosovo)	985.000	1.306.886	provided	20 (OOF)	1100 (guarantees/insurance NEW)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Prishtina Community Heating, Risk Participation
612 (Georgia)	320.000	424.572	provided	20 (OOF)	1100 (guarantees/insurance NEW)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Bank of Georgia Renewable Energy Credit Line
645 (India)	9.200.000	12.206.448	provided	20 (OOF)	1100 (guarantees/insurance NEW)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Bhoruka Power Wind Park, Risk Participation
<b>Subtotal</b>	<b>10.505.000</b>	<b>13.937.906</b>	<b>provided</b>	<b>20 (OOF)</b>	<b>1100 (guarantees/insurance NEW)</b>	<b>mitigation</b>		
241 (Ghana)	2.892.000	3.837.070	provided	20 (OOF)	453 (bank exp.cred.)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Enhancement of Road Safety by Implementing the Photovoltaic Based Street Lighting Programme
269 (Senegal)	548.000	727.080	provided	20 (OOF)	453 (bank exp.cred.)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Planning, Engineering and Delivery of Photovoltaic- Container and Photovoltaic Street Lamps incl. Training
282 (Tanzania)	4.835.000	6.415.019	provided	20 (OOF)	453 (bank exp.cred.)	mitigation	230 (ENERGY GENERATION AND SUPPLY)	Photovoltaic-Container and Photovoltaic Street Lamps
<b>Subtotal</b>	<b>8.275.000</b>	<b>10.979.169</b>	<b>provided</b>	<b>20 (OOF)</b>	<b>453 (bank exp.cred.)</b>	<b>mitigation</b>		
<b>Subtotal</b>	<b>61.360.000</b>	<b>81.411.702</b>	<b>provided</b>	<b>20 (OOF)</b>		<b>mitigation</b>		
<b>Subtotal</b>	<b>71.002.910</b>	<b>94.205.798</b>				<b>mitigation</b>		
<b>Total contributions through bilateral, regional and other channels</b>	<b>99.753.251</b>	<b>132.351.401</b>						

## **5.2 Technology development and transfer**

Austria is committed to a range of actions to advance technology development and transfer. Technology for mitigation and adaptation is a component of many of the programmes and projects supported by Austria's climate finance commitments. Some examples are highlighted in Table 5.7 below.

The Austrian Development Cooperation (ADC) has a strong focus on sustainable energy, in particular hydro and solar power as well as dissemination of decentralised renewable energy solutions. Furthermore, ADC does support initiatives by Austrian enterprises in developing countries. Most often, the fields of interests do concern renewable energy (especially solar energy systems) and energy efficient buildings. The granted funding by this "business partnerships programme" has to be matched by at least the same amount of the enterprises own funds. This is why business partnership projects, can serve as an incubator for private investments.

The Austrian Development Bank (OeEB) has a special focus on renewable energy and energy efficiency. This includes financing for the construction of hydro, solar, wind and geothermal plants employing adequate technology as well as financing for the refurbishment of existing hydro plants and transmission lines. In addition, OeEB provides credit lines to local financial institutions and advisory services, e.g. enable local borrower to implement measures for enhancing energy efficiency, address environmental and social issues and training measures for local banks.

In addition to coordinating the reporting of Austria's climate finance contributions the Austrian Ministry of Agriculture, Forestry, Environment and Water Management undertakes concrete cooperation projects in partner countries, for example to enhance mitigation and adaptation measures in forestry, including software training, technical mentoring and guidance.

Further initiatives of the Austrian government, e.g. the joint environmental-technologies initiative of the Federal Ministry of Agriculture, Forestry, Environment and Water Management and the Federal Economic Chamber, support export oriented SMEs and hence supports technology transfer. Austria is member of institutions and initiatives that focus on research and transfer of technology, e.g. CTI, CTI PFAN, REEEP.

**Table 5.7 (CTF Table 8): Selection of projects with respect to provision of technology development and transfer support**

<i>Recipient country and/or region</i>	<i>Targeted area</i>	<i>Measures and activities related to technology transfer</i>	<i>Sector<sup>c</sup></i>	<i>Source of the funding for technology transfer</i>	<i>Activities undertaken by</i>	<i>Status</i>
Honduras	Mitigation	Supply of energy from solar power plant (Valle Solar PV). Capacity of 70 MW and an expected annual power generation of 122 GWh.	Energy	Public	Public/Private	Under implementation (since 2015)
Global (Uganda, Bangladesh, Kenya, Nicaragua, Nepal, Cambodia)	Adaptation/Mitigation	Advancing Clean Energy Investment-Stimulating climate action and fostering energy access (REEEP, 10 <sup>th</sup> Project Call)	Energy	Public	Public/Private	Under implementation (since 2013)
Panama	Mitigation	Supply of energy from wind power (Penonome Wind Farm). Capacity of 215 MW and an annual power generation of 448 GWh (approx.. 5% of the country's total energy demand)	Energy	Public	Public/Private	Under implementation (since 2015)
Mongolia	Mitigation	Support to the implementation of waste-to-energy solutions in the city of Ulaanbaatar. Contribution to the implementation of the Mongolia national action programme on climate change	Waste/Energy	Public	Public	Under implementation (since 2014)
Mali	Adaptation/Mitigation	Scoping project to assess a National Forest Inventory. Fact finding mission to Mali and technical training course for experts from Mali in Vienna.	Forestry	Public	Public	Implemented (2014)
Eastern Europe Region	Mitigation	EBRD Resource Efficiency Investments Programme. Advice and know-how regarding market understanding, investment preparation and support, technical assistance, capacity building and policy dialogue.	Energy	Public	Public	Under implementation (Since 2015)
East Africa Region (EAC)	Mitigation	Start-up and first operational phase of the East African Centre for Renewable Energy and Energy Efficiency (EACREEE)	Energy	Public	International Organisation / UNIDO	Under implementation (2013-2017)
Southern Africa Region (SADC)	Mitigation	Start-up and first operational phase of the South African Centre for Renewable Energy and Energy Efficiency (SACREEE)	Energy	Public	International Organisation / UNIDO	Under implementation (2013-2017)
West Africa (ECOWAS)	Mitigation	Strengthening the capacities of the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)	Energy	Public	International Organisation / UNIDO	Under implementation (2013-2016)
Namibia, Mozambique, Zimbabwe,	Mitigation	Top-up funding of Solar thermal trainings and demonstration in SADC, Phase II, including Lesotho	Energy	Public	CSO	Under implementation (2013-

South Africa, Lesotho						2016)
Egypt	Mitigation	Installation and market penetration of high-quality solar thermal energy systems in Egypt, including integration in tourism	Energy	Public/Private	Private sector	Under implementation (2013-2016)
South Eastern Europe Region	Mitigation/Adaptation	Support for Low Emission Development in SEE (SLED)	Environmental Policy	Public	International Organisation	Under implementation (2013-2016)
Tanzania	Adaptation	Capacity building in biological agriculture; improving food security; support climate change resilience; participatory on-farm research	Agriculture	Public/Private	CSO	Under implementation (2014-2016)
Chad	Adaptation	Capacity development for rural households, vegetable farmers and poor/vulnerable women; training in technical and organisational skills; improved agricultural production; improved competitive position of rural value chains	Agriculture	Public/Private	CSO	Under implementation (2014-2016)
Fiji	Adaptation	infrastructure improvement in the communities; agricultural know-how and natural disaster prevention measures; training for international certification according to Australian Certified Organic and Fairtrade standards	Agriculture	Public/Private	Private Sector	Under implementation (2014-2017)
Maldives	Mitigation	Support (and demonstration) to the technical and economic viability of floating solar systems; capacity building for Maldivian SMEs and policy makers on business opportunities and economic welfare effects such as lowering of power prices; development of hybrid solar PV financing and operation models for different stakeholders (including community owned mini-grid operators)	Energy	Public/Private	Private Sector	Under implementation (2014-2017)
Georgia	Mitigation	Support to improvement of management of the forests of Georgia; establishment of a national framework for sustainable forest management; establishment of a National Forest Monitoring System; implementation of pilot interventions to demonstrate sustainable forest management; enhancement of human capacities of public and private actors	Forestry	Public	Public	Under implementation (2014-2017)

### 5.3 Capacity-building

Climate change is a global challenge, and addressing it requires serious efforts by all countries. But not all countries currently have the capacity – the knowledge, the tools, the public support, the scientific expertise and the political know-how – to efficiently and effectively mitigate and adapt. Austria therefore places great emphasis on capacity-building in climate programmes and projects in developing countries. Almost all of the programmes and projects listed in CRF tables 7(a) and 7(b) contain a capacity-building component. As a

cross-cutting issue, capacity-building is also often a co-benefit in programmes and projects that do not target the issue specifically. Table 5.8 lists a small selection of projects from several world regions with a specific focus on capacity-building.

**Table 5.8 (CTF Table 9): Selection of projects with a specific focus on capacity-building**

<i>Recipient country/region</i>	<i>Targeted area</i>	<i>Programme or project title</i>	<i>Description of programme or project</i> <sup>b,c</sup>
Chad	Adaptation	Strengthening of small-scale agriculture and vegetable production in Chad	Capacity development for rural households, vegetable farmers and poor/vulnerable women; training in technical and organisational skills; improved agricultural production; improved competitive position of rural value chains; implementation of a market information system (2014)
Georgia	Mitigation	Bank of Georgia - capacity building for RE project investors	Financed by the Development Bank of Austria (OeEB) with grant funds provided by the Federal Ministry of Finance (MoF) of Austria. Capacity building support to investors of small hydropower projects in Georgia in project development phase (investors will receive funding from Bank of Georgia who in turn obtained a loan from OeEB earmarked for this purpose) (2013)
South Asia, regional	Mitigation	Zero-Carbon-Resorts, sustainable development tourism sector	Support to sustainable development of tourism sector in Philippines and Thailand; reduction of consumption of fossil fuels and reduction of CO <sub>2</sub> -emissions by improvement of energy and resource efficiency of SME in the tourism sector; improved availability of renewable energy sources; development of zero-carbon certificate and methodology for hotels and resorts; capacity building for stakeholders in tourism sector; growing network of low-carbon tourism SME. (2014)
West Africa, regional	Mitigation	Capacity Development programme of the ECOWAS Center for Renewable energy and energy efficiency (ECREEE)	The Overall Objective of ECREEE is to contribute to the sustainable economic, social and environmental development of West Africa by improving access to modern, reliable and affordable energy services, energy security and reduction of energy related externalities (GHG, local pollution).