Austria's
THIRD 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 Third Biennial Report of Austria under the Framework Convention on Climate Change was compiled by the Federal Ministry of Agriculture, Forestry, Environment and Water Management, Division I/4.

Vienna, December 2017

Contents

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 April 2017[1]. 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_2, N_2O, CH_4, HFCs, PFCs, SF_6 and NF_3 (excluding Land Use, Land-Use Change and Forestry) were 78.8 Mt CO_2 equivalent in 1990 and at a comparable level of 78.9 Mt in 2015. 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 1990–2015, emissions by sector and gas for the years 1990 and 2015 are shown in Table 1.1.

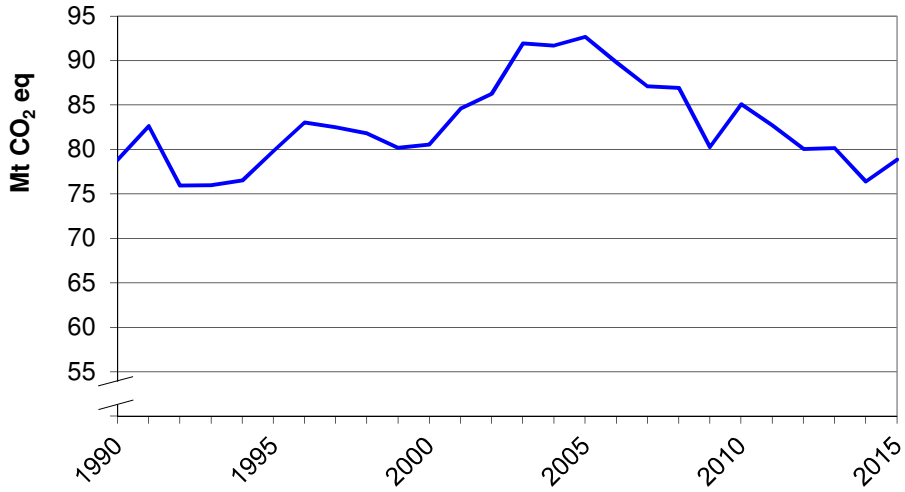

Figure 1.1: Trend in total GHG emissions 1990-2015 (excluding LULUCF)

[1] AUSTRIA'S NATIONAL INVENTORY REPORT 2017 – Submission under the United Nations Framework Convention on Climate Change.
http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/aut-2017-nir-12apr17.zip

Table 1.1: GHG emissions 1990 and 2015, in Mt CO_2 equivalent

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990					2015				
	CO_2	CH_4	N_2O	F-Gases	Total	CO_2	CH_4	N_2O	F-Gases	Total
Total without LULUCF	**62.29**	**10.51**	**4.34**	**1.66**	**78.80**	**66.72**	**6.57**	**3.52**	**2.03**	**78.85**
Total with LULUCF	**49.99**	**10.54**	**4.49**	**1.66**	**66.67**	**61.74**	**6.60**	**3.65**	**2.03**	**74.03**
1. Energy	**51.30**	**1.29**	**0.44**		**53.03**	**52.20**	**0.56**	**0.59**		**53.35**
A. Fuel Combustion	51.20	0.69	0.44		52.33	51.98	0.30	0.59		52.87
1. Energy Industries	13.79	0.01	0.04		13.84	10.80	0.03	0.11		10.93
2. Manuf, Industr., Constr.	9.81	0.01	0.07		9.89	10.31	0.02	0.13		10.47
3. Transport	13.78	0.07	0.13		13.98	22.38	0.01	0.20		22.59
4. Other Sectors	13.79	0.61	0.19		14.59	8.45	0.24	0.15		8.84
5. Other	0.04	0.00	0.00		0.04	0.05	0.00	0.00		0.05
B. Fugitive Emiss. from Fuels	0.10	0.60	IE,NA		0.70	0.21	0.26	IE,NA		0.48
2. IPPU	**10.87**	**0.04**	**1.10**	**1.66**	**13.66**	**14.41**	**0.05**	**0.18**	**2.03**	**16.68**
3. Agriculture	**0.09**	**5.41**	**2.69**		**8.19**	**0.11**	**4.57**	**2.49**		**7.17**
4. LULUCF	**-12.31**	**0.02**	**0.14**		**-12.14**	**-4.98**	**0.02**	**0.13**		**-4.82**
5. Waste	**0.03**	**3.78**	**0.12**		**3.93**	**0.00**	**1.40**	**0.26**		**1.66**
6. Other	**NO**	**NO**	**NO**		**NO**	**NO**	**NO**	**NO**		**NO**
Memo Items:										
International Bunkers	0.94	0.00	0.01		0.95	2.18	0.00	0.03		2.21
Aviation	0.89	0.00	0.01		0.90	2.13	0.00	0.02		2.15
Marine	0.05	0.00	0.01		0.05	0.05	0.00	0.00		0.06
Multilateral Operations	NO	NO	NO		NO	NO	NO	NO		NO
CO_2 Emissions from Biomass	10.42				10.42	23.38				23.38

Austria's *GHG emissions per capita* in 2015 were slightly above EU average and below OECD average: CO_2 emissions 7.7 t/capita, total GHG emissions 9.1 t/capita CO_2 equ. *GHG emissions per GDP* (at 2010 prices) were 229 kg CO_2 equ. per € 1000 in 2015, which is clearly at the lower end of the range of EU and OECD countries.

Total emissions are clearly dominated by CO_2 with a share of 85 % in 2015; the share of CH_4 has been decreasing since 1990 and has reached 8 %. The share of N_2O 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_2 emissions results from the trend in the sector fuel combustion, namely the increasing energy consumption in the transport sector. Decreasing CH_4 emissions are a result of the trend in the sectors waste and agriculture, the decrease of N_2O 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: There are almost no PFCs emissions any longer 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_6 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_3 have been quite low all the time.

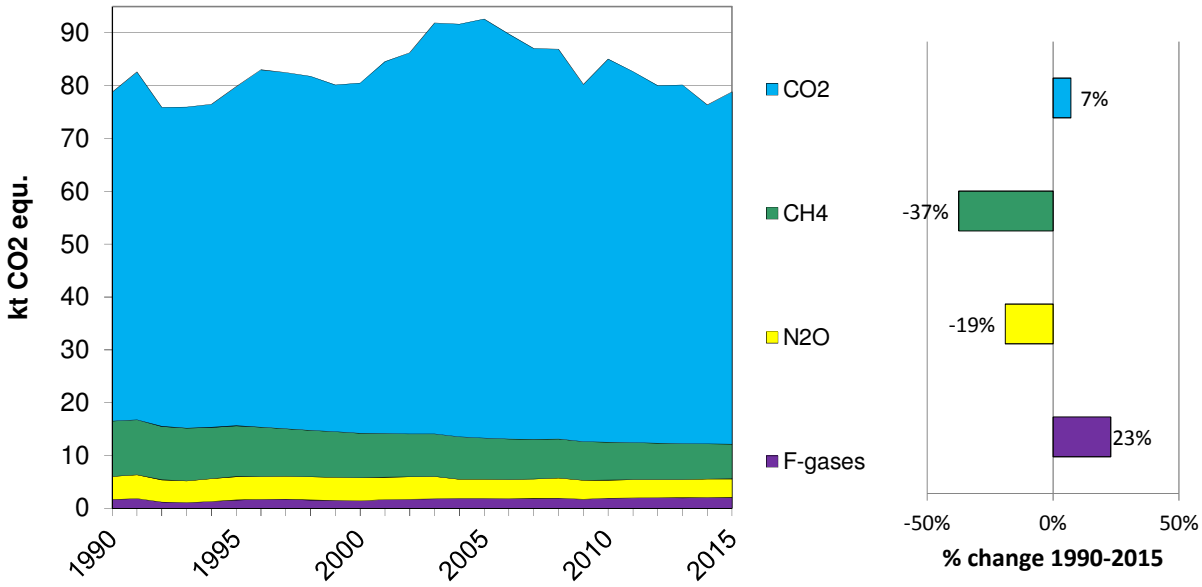

Figure 1.2: GHG emission trend (excluding land-use change and forestry) by gases

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 2015, followed by industrial processes (2., 21 %). Energy industries (1.A.1), manufacturing industries and construction (1.A.2) and "other sectors" (1.A.4) are in the range from 14 to 11 %. Agriculture follows with 9 % of total emissons, emissions from the waste sector are low (2 %). The increase of emissions from the mid 1990ies to 2005 was mainly driven by the transport sector; growth in the IPPU sector and in manufacturing industries and construction was considerably lower.

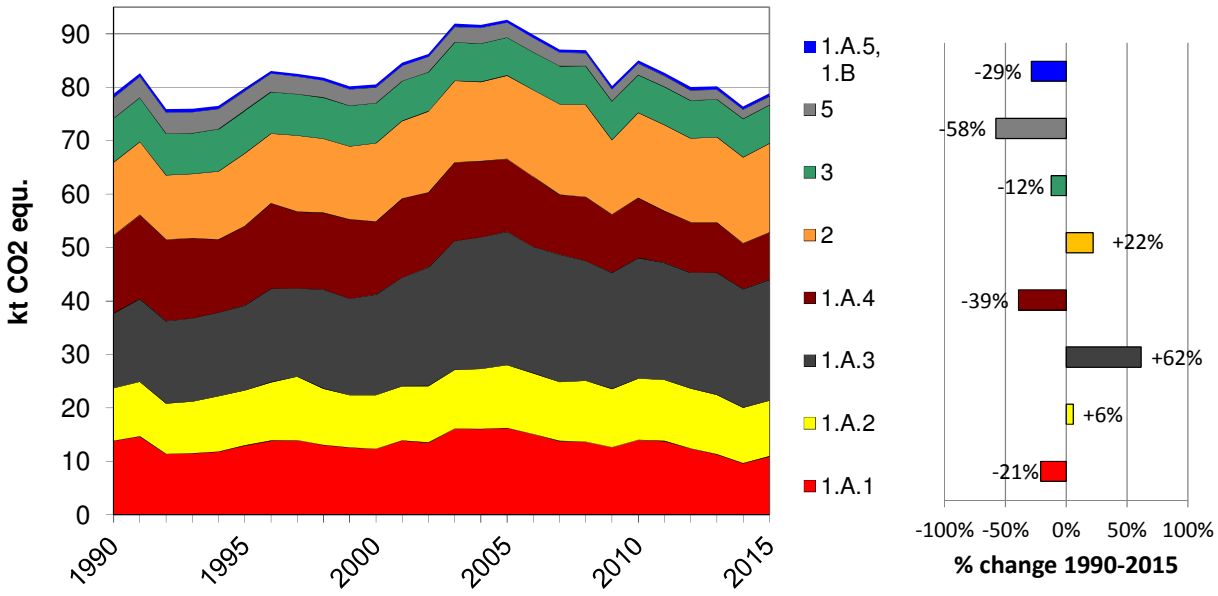

Figure 1.3: GHG emission trend (excluding land-use change and forestry) by sectors

Sectoral trends 1990–2015 and driving forces:

- Despite increasing electricity and district heating demand, emissions from energy industries decreased (-21%) due to a shift from solid and liquid fossil fuels to gas and biomass, increasing contribution of hydro and wind power, more electricity imports as well as increasing efficiency of production.
- Production increase in manufacturing industries and construction was the main driving force for the increase of emissions, but emission increase was only 6 % due to a fuel switch to gas and biomass as well as increasing use of electricity instead of combustion processes.
- Transport emissions growth (+62%) 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 (-39%) 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 (+22%). 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 2015, emission growth from processes was slowed down especially by efficiency measures in the steel industry and by N_2O abatement measures in the chemical industry.

- The emission decrease in the sector agriculture (-12%) is mainly due to decreasing livestock numbers and lower amounts of fertilizers applied on agricultural soils.
- Emissions from waste decreased substantially (-58%) 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.

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 2017[1].

There were no changes of the inventory system since the last Biennial Report.

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_2, CH_4, N_2O, HFCs, PFCs, SF_6
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[2]).

Under the revised EU ETS Directive[3], 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

[2] 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:2009:140:00 63:0087:en:PDF)

[3] 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 2.1.

Non-ETS emissions are addressed under the Effort Sharing Decision (ESD)[4]. 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)[5+6], expressed in Annual Emission Allocations (AEAs); in 2017 the allocations for the period 2017 to 2020 have been revised[7]. The quantified annual reduction targets 2013-2020 for Austria are tightened from 52.6 million AEAs in 2013, decreasing to 47.7 Million AEAs in 2020. In the year 2015 verified emission of stationary installations covered under the EU-ETS in Austria summed up to 29.5 Mt CO_2 equivalent. With total GHG emissions of 78.9 Mt CO_2 equivalent (without LULUCF) the share of ETS emissions is 37 %.

The monitoring process is harmonized for all European MS, especially laid down in the Monitoring Mechanism Regulation[8]. 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 BR3.

---

[4] Decision No 406/2009/EC

[5] 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)

[6] 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)

[7] Commission Decision (EU) 2017/1471 of 10 August 2017 amending Decision 2013/162/EU to revise Member States' annual emission allocations for the period from 2017 to 2020

[8] 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[9] 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.

[9] 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.

The *National Climate Change Committee* has been installed by law and supports the co-ordination of climate change related measures. It comprises high level representatives of the federal ministries involved in climate change and the *Länder*, of the "Social Partners", as well as representatives from science, energy and industry interest groups, environmental NGOs and the political parties represented in the first chamber of the Parliament.

A first programme with the aim to meet the targets of the Climate Change Act has been prepared in the National Climate Change Committee and adopted by the Federal Government and the *Länder* in 2013. An update of the programme has been adopted in 2016.

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 of 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[10]. Principal information on awareness raising measures, which may be

[10] GHG Projections and Assessment of Policies and Measures in Austria; Reporting under Regulation (EU) 525/2013, 15 March 2017; http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0610.pdf

mentioned below, can be found in Sections 9.2 and 9.3 of Austria's Seventh National Communication. All policies are implemented.

The "Energy" sector as defined in the reporting guidelines and used in the CTF tables covers policies in energy industries and manufacturing industries as well as policies in the buildings sector listed below (CRF 1.A.1, 1.A.2, 1.A.4), the "Industry/industrial processes" sector as defined in the reporting guidelines and used in the CTF tables covers policies in the industrial processes and product use sector listed below (CRF 2). Transport, agriculture and waste are equivalent to the CRF definitions.

3.1.2.1 Cross-cutting Policies and Measures

EU Emission Trading Scheme

The EU Emission Trading Scheme is the most important policy for installations with high energy demand and CO_2 emissions in energy industries, manufacturing industries and industrial processes, as well as N_2O 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.

The EU ETS (Directive 2003/87/EC as amended) is implemented in Austrian law with the Emissions Allowance Trading Act (Emissionszertifikategesetz 2011 - Federal Law Gazette I No. 118/2011 as amended).

From 2013 onwards, a fully harmonised system for allocation of free allowances is being applied, based on the revision of the ETS Directive (2009/29/EC). Rules on free allocation for stationary installations covered by the scheme are strictly harmonised within the EU, combined with a Union-wide cap, which is characterised by a linear factor that provides for the reduction of GHG emissions by 21% to be achieved in 2020 relative to 2005. So called "National Implementation Measures" need to strictly follow the rules for free allocation, laid down in the "Benchmarking Decision" by the European Commission. For most activities, free allocation is calculated on the basis of product or heat benchmarks, which are derived from the 10 % most efficient installations in Europe.

The Domestic Environmental Support Scheme

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.

The legal basis is the Austrian Environmental Support Act, the scheme is administered by Kommunalkredit Public Consulting (www.publicconsulting.at/eng).

In 2015 support of about EUR 56 million has been granted for projects with relevance for GHG mitigation, in 2016 about 46 million. These projects are expected to bring about a current emission reduction of about 300 kt CO_2 p. a. and of 5.6 million tonnes over the whole life time of the projects. (An evaluation of the effect of all projects implemented over the years for a specific target year is not available.)

Austrian Climate and Energy Fund (KLI.EN)

The *Austrian Climate and Energy Fund (KLI.EN)* has been established in order to support the reduction of GHGs, mainly CO_2, 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.

The legal basis of the Fund is the Climate and Energy Fund Law ('Klima- und Energiefondsgesetz' Federal Law Gazette I No. 40/2007), its objective is to contribute to meeting Austria's climate change commitments by funding of climate and energy related projects. The funding should bring about a long-term transformation to a climate-friendly energy system. Two relevant funding concepts of the recent years are "Model Regions" to help climate-friendly energy and mobility systems to be successful at the regional level and "Flagship Projects" to help new technical developments to be actually tested and implemented. In 2015 and 2016 support of about EUR 183 million has been granted.

3.1.2.2 Policies in energy industries and manufacturing industries

The policies relevant for energy and manufacturing industries focus on the reduction of CO_2 emissions from fossil fuels.

Increase the share of renewable energy in power supply and district heating

Increasing the share of renewable energy sources in the public power and heat supply is the main policy to reduce climate impacts of the energy system. Large-scale hydro power for electricity generation has delivered a significant contribution to power supply since the first half of the last century.

In order to provide for further growth of renewable sources, quantitative targets for 2020 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. After similar previous regulations the current instrument to achieve this policy target is the Green Electricity Act 2012 (Federal Law Gazette I No. 75/2011 as amended) and the respective Feed-in Tariff Ordinance. Tariff support is provided for plants installed until 2020 for a limited period.

For biomass-based district heating systems investment support is granted under the Domestic Environmental Support Scheme and serves to increase the share of biomass in heat supply.

A lower mitigation effect of the policy (see Table 3.1) is estimated compared to BR2, mainly because because of different expectations concerning the future of biomass based CHP-plants, resulting in lower capacities for electricity generation from renewable energy sources.

Increase energy efficiency in energy and manufacturing industries

Efficiency increases are essential to limit growing demand for energy and fuels and their environmental impacts. Austria has implemented EU legislation (Energy efficiency Directive 2012/27/EU) through the Energy Efficiency Act (Federal Law Gazette I No. 72/2014), which specifies an energy efficiency target for 2020 and obligations for large companies and energy suppliers. An Energy Efficiency Action Plan has to be compiled and updated every three years.

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 (Combined Heat and Power Act, Federal Law Gazette I No. 111/2008 as amended). Due to unfavourable market conditions for gas-based CHP plants the effect of this regulation is currently estimated to be quite low.

3.1.2.3 Policies in the transport sector

The policies relevant for transport focus on the reduction of CO_2 emissions from fossil fuels, but there is also some effect on N_2O emissions from catalytic exhaust gas cleaning in cars.

Increase the share of clean energy sources in road transport

The substitution of fossil fuels by clean energy sources is an important and well established policy in the transport sector. Starting with the Biofuels Directive 2003/30/EC, the EU has in place legislation on the promotion of renewable energy sources in transport. Currently the Renewable Energy Sources Directive 2009/28/EC requires Member States to replace at least 10% of the fossil fuels used in transport by renewables by 2020. (Target includes biofuels and electricity from renewable energy sources in rail transport as well.)

The Directive has been implemented into national law by the Austrian Fuel Ordinance (Federal Law Gazette II No. 398/2012) which stipulates minimum targets for the share of biofuels (fatty-acid methyl ester and ethanol) in diesel and gasoline sold in Austria. The minimum share targets have been raised over time (currently 5.75 %, from 2020 onwards 8.45 %). A further instrument is funding through the consulting and funding programme “klimaaktiv mobil” (conversion of municipal and company fleets to run on pure biofuels).

The national Implementation Plan for electric mobility, a joint initiative of three federal ministries, aims at a (in the short term 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. RTD-funding of the Climate and Energy Funds is expected to contribute in the longer term to an expansion of electric road mobility.

Increase fuel efficiency of road transport

Energy demand for transport has more than doubled in the last three decades (partly due to increasing fuel export in the vehicle tank, however). Increasing fuel efficiency was therefore an essential policy to limit that growth. Efficiency of motors and vehicles has in principle improved due to technical progress. In freight transport real world performance of vehicles on the road has improved (due to inherent economic incentives of that sector). In passenger transport, however, consumer behaviour (i.e. desire for larger cars and higher engine power) has weakened or counteracted that trend.

Instruments for increasing efficiency need to foster the choice of vehicles with low specific consumption and their efficient use. Fuel tax according to the Mineral Oil Tax Act (Federal Law Gazette No. 630/1994 as amended) is directly related to fuel consumption on the road, the tax rate has last been raised in 2011. Fuel consumption based car registration tax according to the Standard Consumption Levy Act (Federal Law Gazette No. 695/1991 as amended) is expected to promote the sales of passenger cars with lower fuel consumption; taxable base is the price of the car, the tax rate increases parallel to the standard fuel consumption and therefore penalises cars with high consumption. (Cars with CO_2 emissions below 90g/km and electric vehicles are exempt from registration tax.)

Awareness raising and training programmes for fuel-efficient driving improve performance of drivers, fuel-efficient driving has also become part of the training in driving schools. Trainings for drivers of passenger cars, buses and heavy duty vehicles have been established by the programme "klimaaktiv mobil", 5–15 % lower CO_2 emissions can be achieved compared to conventional driving behaviour.

Other instruments like speed limits (which have been established due to other environmental concerns) and the mileage based lorry toll on highways (with lower rates for modern vehicles) contribute to reduced fuel consumption.

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. Considerable investments have been made in railway infrastructure in the last decade, as increased capacity is a prerequisite for enhancing rail transport and as railway stations had to be modernised to become an attractive place for passengers. An extension of the public transport network is also under implementation in Vienna, especially with respect to the underground lines.

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. It is funded by the Federal Ministry of Agriculture, Forestry, Environment and Water Management. 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.

In order to provide a sufficient service offer in public transport, the *Länder* order and pay for certain train and bus services which would be uneconomical for the public transport companies otherwise. With respect to freight transport, investment support for corporate feeder lines aims at shifting transport activities from road to rail.

3.1.2.4 Policies in the buildings sector

The policies relevant for the buildings sector focus on the reduction of CO_2 emissions from fossil fuels.

Increase energy efficiency of buildings

Improving the energy efficiency of buildings, including their heating systems, is for quite some time one of the most effective policies to reduce the carbon footprint of the Austrian population.

Construction standards with respect to the energy demand of new residential and non-residential buildings and criteria for the renovation of buildings are laid down in guidelines by the Austrian Institute for Constructional Engineering ("OIB Guideline 6 – Energy saving and thermal insulation"). Standards for the heat demand have been supplemented by standards for the total energy demand of buildings (including e.g. warm water and cooling). The requirements are based on the EU Directive on the energy performance of buildings (2010/31/EC) and are therefore tightened in regular intervals in order to achieve a 'nearly zero energy' building standard which will comply with the target of the EU Directive in 2020. The *Länder* are responsible for translating this guideline into their respective regional building law. Furthermore, energy performance certificates have to be provided by sellers and landlords in the course of real estate transactions or rentings.

Besides the mandatory standards funding is granted for the construction of residential buildings with advanced efficiency standards (housing support schemes of the *Länder*) and for the thermal renovation of buildings (including heating systems) within several programmes, e.g. the support schemes of the *Länder* and the federal "renovation cheque" initiative for residential buildings and a programme within the environmental support scheme for commercial and industrial buildings. In addition, the federal programme klimaaktiv as well as regional energy agencies of the *Länder* provide consulting and advice on these issues.

Increase the share of renewable energy for space heating

Apart from the efficiency of buildings, the type of energy source is crucial for greenhouse gas emissions from this sector. Financial support for biomass and solar heating systems (new buildings, boiler replacement) 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. Support is supplemented by awareness raising measures on federal (klimaaktiv programme) and on *Länder* level.

The District Heating and Cooling Act (Federal Law Gazette I No. 113/2008 as amended) aims at the construction of district cooling systems in order to reduce electricity demand for air conditioning, as well as at the expansion of district heating networks based on waste heat from industry and renewable energy sources; subsidies are provided for that purpose.

Increase of energy efficiency in residential electricity demand

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 (Directive 2009/125/EC and implementing acts) and the mandatory labelling of household appliances according to energy consumption (Directive 2010/30/EU and delegated acts). These instruments are supported by awareness raising measures at national level with respect to energy efficient products and by advice provided by regional energy agencies.

3.1.2.5 Policies in the industrial processes and product use sector

EU Emission Trading Scheme and the *Environmental Support Scheme* – both described under "cross-cutting" – are the leading policies and measures with respect to CO_2 and N_2O mitigation in this sector. Further measures focus on the use of F-gases.

Reduce emissions from F-gases and other product use

Mitigation of F-gas emissions has been early targeted by national policy. National bans for certain uses have been enacted since 2002 (Federal Law Gazette II No. 447/2002 as amended): The used of SF_6 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, EU Regulation No 517/2014 has introduced a quota system for production and imports and enhanced use restrictions. For air conditioning systems in passenger cars the use of refrigerants with GWPs higher than 150 has been prohibited for new models since 2013 and is completely banned for new cars since 2017.

CO_2 emissions from organic solvents are of limited relevance; it may be mentioned that legislation to reduce emissions from solvent use in industry and due to paint application exists at national and EU level.

3.1.2.6 Policies in the agriculture sector

The policies relevant for agriculture focus on the reduction of CH_4 and N_2O as well as of CO_2 emissions.

Implementation of EU agricultural policies

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 or organic farming etc. in the periods before 2013. The reform of the common agricultural policy at EU level in 2013 (Regulation (EU) No 1305/2013) has brought about some changes regarding direct payments and the requirement to maintain land in good agricultural and ecological condition ("cross-compliance"). The Austrian Agri-Environmental Programme is maintained for the period 2014–2020, relevant actions with respect to the mitigation of greenhouse gas emissions (CH_4, N_2O) are e.g. improved feeding of pigs and poultry, covering of manure storages, low-loss application of manure and biogas slurry, promotion of organic farming, promotion of grazing and reduced use of mineral fertilisers.

3.1.2.7 Policies in the waste sector

Reduce emissions from waste treatment

Emissions from the waste sector are clearly dominated by solid waste disposal, the policy focus has therefore been on the avoidance of emissions from landfills. Main principles of the Austrian Waste Management Act (Federal Law Gazette I No. 102/2002 as amended) are a. o. the prevention of waste and waste recovery/recycling (including incineration with energy recovery). Due to the Austrian Landfill Ordinance the deposition of untreated biodegradable waste has been banned completely. Methane emissions from old landfills are reduced by the mandatory collection and use of landfill gas.

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.

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. (kt CO_2) 2020/2030
EU Emission Trading Scheme (ETS)	Yes	Energy, Industry/industrial processes	CO_2, N_2O	framework policy multi-sectoral policy	Economic, regulatory	Implem.	The objective is to limit the CO2 emissions of energy intensive stationary installations and aviation through a trading mechanism for emission certificates.	n. a.
Domestic Environmental Support Scheme	Yes	Energy, Transport	CO_2, CH_4, N_2O	framework policy multi-sectoral policy	Economic	Implem.	Financial support to GHG mitigation projects (energy efficiency, renewables,waste,…)	n. a.
Austrian Climate and Energy Fund (KLI.EN)	Yes	Energy, Transport	CO_2	framework policy multi-sectoral policy	Economic, research	Implem.	Financial support to energy-relevant research projects, to climate friendly transport projects and to market launch of new climate friendly technologies.	n. a..
Increase the share of renewable energy in energy supply and district heating	Yes	Energy	CO_2	increase in renewable energy	Regulatory, economic	Implem.	granting fixed feed-in tariffs for various forms of electricity generation from renewable sources	4,200/n.a.
Increase energy efficiency and use of renewables in energy industries	Yes	Energy, Transport, Industry/industrial processes	CO_2	efficiency improvement in the energy and transformation sectorswitch to less carbon-intensive fuels	Economic, regulatory	Implem.	Energy efficiency target for 2020 and obligations for energy suppliers and large consumers, support for cogeneration of heat and power	n. a.
Increase share of clean energy sources in road transport	Yes	Energy, Transport, Agriculture	CO_2	low carbon fuels/electric cars	Economic Regulatory	Implem.	Mandatory minimum share of biofuels in transport fuels, support for electric mobility	n.a./4,800
Increase fuel efficiency of road transport	Yes	Transport, Energy	CO_2	efficiency improvements of vehicles and driving behaviour	Economic, fiscal, information, regulatory	Implem.	Fiscal instruments to penalise cars with high fuel consumption, initiatives to promote fuel-efficient driving,	n.a./1,300
Modal shift to environmentally friendly transport modes	Yes	Transport	CO_2	- demand management/reduction - modal shift to public transport or non-motorized transport	Information, economic	Implem.	Reduction of individual motorised transport and a shift towards public transport by mobility management, awareness raising, training; improving on intermodal freight transport logistics	n.a./550

				- improved behaviour				
Increased energy efficiency of buildings	Yes	Energy	CO_2	efficiency improvements of buildings	Regulatory Economic Information	Implem.	- construction standards for new buildings - thermal insulation of existing buildings - introduction of energy certificates for buildings - implementation of construction guidelines	440/610
Increased share of renewable energy for space heating	Yes	Energy	CO_2	increase in renewable energy	Economic, regulatory	Implem.	- Stepping up the replacement of heating systems - District heating and district cooling Act - Funding for wood heating systems and solar heating systems	590/1,320
Increased energy efficiency in residential electricity demand	Yes	Energy	CO_2	efficiency improvement of household appliances and in service/tertiary sector	Regulatory, information	Implem.	- implementation of eco-design requirements - introduction of energy labelling for energy consuming products - advice and information on energy efficient products	n. a.
Decrease emissions from F-gases and other product use	Yes	Industry/industrial processes	HFCs, PFCs, SF_6	- reduction of emissions of fluorinated gases - installation of abatement technologies	Regulatory	Implem.	- reduction of F-gases in stationary applications and products - restriction of HFC used in mobile air conditions - quota system on EU level	n. a.
Implementation of EU agricultural policies	Yes	Agriculture	CH_4, N_2O	- improved cropland management and reduced fertilizer/manure use - improved livestock and manure management - activities improving grazing land or grassland management	Regulatory, 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. a.
Reduce emissions from waste treatment	Yes	Waste management/waste	CH_4, N_2O	improved treatment technologies, improved landfill management	Regulatory	Implem.	Landfilling of untreated biodegradable waste banned. Mandatory landfill gas collection and use/flaring. Stricter requitements for waste plants due to revision of EU provisions for Best Available Techniques.	n. a.

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 2015.

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).

Austrian emissions falling under the ESD are shown in Figure 3.1 and Table 3.2 below.

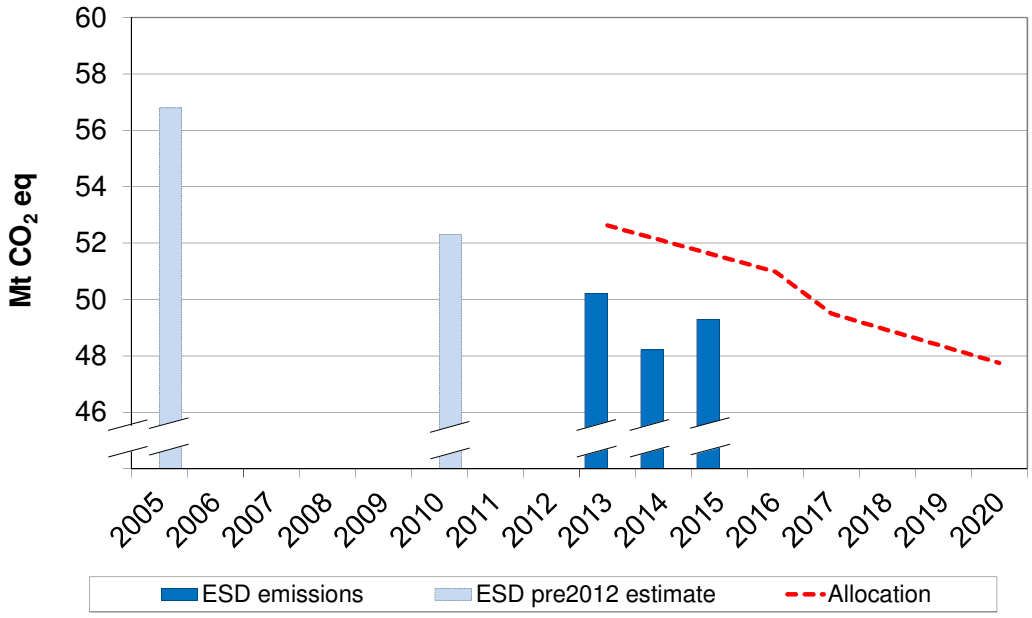

Figure 3.1: Austrian GHG emissions falling under the ESD

Table 3.2: Austrian GHG emissions falling under the ESD

	2005	2010	2013	2014	2015	2016	2017	2018	2019	2020
ESD emissions	*56.7*9*	*52.30**	50.23	48.21	49.30					
Allocation			52.63	52.08	51.53	50.99	49.50	48.92	48.33	47.75

* Estimated (ETS reporting before 2013 was based on a different set of installations, total emissions of the installations under the current ETS regime can therefore only be estimated for the years before 2013)

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 BR3 of the European Union. Compliance assessment under the

ESD has been finished for the years 2013 and 2014; Austria did not make use of flexible mechanisms in these years.

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 up to 2035 have been developed in the years 2016/2017. The "with measures" scenario (WM) takes account of climate change mitigation measures that were implemented and adopted before June 2016. Preparations for the energy and climate strategy for 2030 have already begun in Austria; the early election of the Parliament in autumn 2017 has temporarily stopped that work. Consensus on a set of planned policies and measures to meet the 2030 target has not yet been reached; this is why a "with additional measures" scenario has not yet been calculated. The scenario is described in more detail in the latest report on Austria's GHG emission projections "GHG Projections and Assessment of Policies and Measures in Austria" (http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0610.pdf).

The input parameters for the scenario are mostly comparable to those reported in the Second Biennial Report, i.e. a very moderate annual GDP growth of 1.5% and an 8 % population increase from 2015 to 2030; with +12 % a higher increase of the number of dwellings and with -4% a slightly slower decrease of heating degree days. Energy price levels are lower compared to the previous scenario.

4.1 Scenario results

- Total GHG emissions (excluding LULUCF) in the scenario "with measures": Decrease from 78.9 Mt CO_2 eq in 2015 to 75.4 Mt in 2020 and 69.8 in 2030 (-4 % and -12 % respectively);
- long-term decrease driven by energy industries, "other sectors" (1.A.4) and IPPU (decrease in the range from 3 to 2 Mt CO2 eq 2015–2030), decrease also in the transport sector (more than 1 Mt), relative decrease strongest in the waste sector (44 %);
- share of fuel combustion remains at a level of about two third in the longer term;
- CO_2 emissions per capita expected to decrease to 6.3 t in 2030 and total greenhouse gas emissions per capita to 7.4 t CO_2 eq.

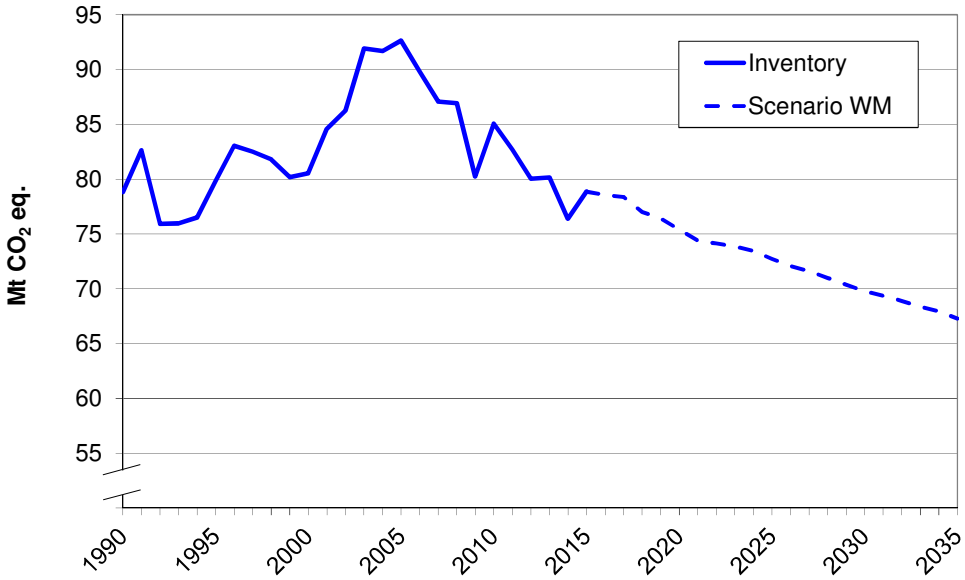

Figure 4.1: Actual and projected total GHG emissions (scenario WM) without LULUCF

Table 4.1: Actual and projected GHG emissions (scenario WM) by sector and by gas (in Mt)[11]:

	GHG emissions and removals (kt CO_2 eq)						GHG emission projections (kt CO_2 eq)			
	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035
Sector										
1.A.1 Energy industries	13,838	12,965	12,314	16,240	13,988	10,928	8,943	8,335	8,081	7,597
1.A.2 Manuf.. Industries	9,889	10,336	10,081	11,795	11,543	10,467	10,677	10,844	10,934	11,070
1.A.3 Transport	13,976	15,887	18,818	24,934	22,529	22,587	22,708	22,461	21,466	20,228
1.A.4 Other sectors	14,586	14,835	13,671	13,639	11,251	8,842	8,387	7,294	6,332	5,463
2. IPPU	13,663	13,606	14,642	15,612	15,926	16,676	15,512	14,947	14,308	14,267
3. Agriculture	8,189	8,038	7,506	7,104	7,094	7,168	7,342	7,347	7,357	7,538
5. Waste	3,925	3,651	2,963	2,791	2,158	1,656	1,312	1,083	930	833
1.A.5, 1.B	738	497	538	527	569	527	513	414	358	278
MEMO Intl. Bunkers	*950*	*1,410*	*1,793*	*2,069*	*2,148*	*2,207*	*2,162*	*2,207*	*2,328*	*2,463*
Gas										
CO_2 excluding LULUCF	62,293	64,207	66,346	79,369	72,547	66,724	63,562	61,702	59,525	57,136
CH_4 excluding LULUCF	10,514	9,640	8,447	7,808	7,211	6,575	6,312	6,064	5,920	5,942
N_2O excluding LULUCF	4,342	4,425	4,354	3,633	3,399	3,517	3,544	3,490	3,440	3,445
HFCs	2	353	714	1,146	1,483	1,662	1,442	1,127	659	490
PFCs	1,183	83	88	163	78	50	34	21	21	21
SF_6	471	1,100	575	494	336	309	476	288	159	188
NF_3 *	NO,NA	6	11	28	4	13	23	32	42	52
Total without LULUCF	78,805	79,815	80,534	92,642	85,059	78,851	75,393	72,724	69,767	67,274

* NF_3 is not covered by the joint quantified economy-wide emission reduction target of the EU and its Member States

[11] N.B.: LULUCF and NF_3 shown for comparability with the inventory, but not included in the EU's QEWERT.

Trend by gas:

- In 2030 the share of CO_2 and CH_4 in total emissions is still 85 % and 8 % respectively, insignificant change of the share of N_2O (increase) and F-gases (decrease);
- CO_2 emissions trend due to decrease in fuel combustion as well as in industrial processes;
- CH_4 emission decrease since 1990 continues due to further decrease in the waste sector;
- no significant change is expected for N_2O emissions;
- F-gas emissions are expected to decrease by more than half, mainly because of legal restrictions for HFCs (e. g. quota system on EU level).

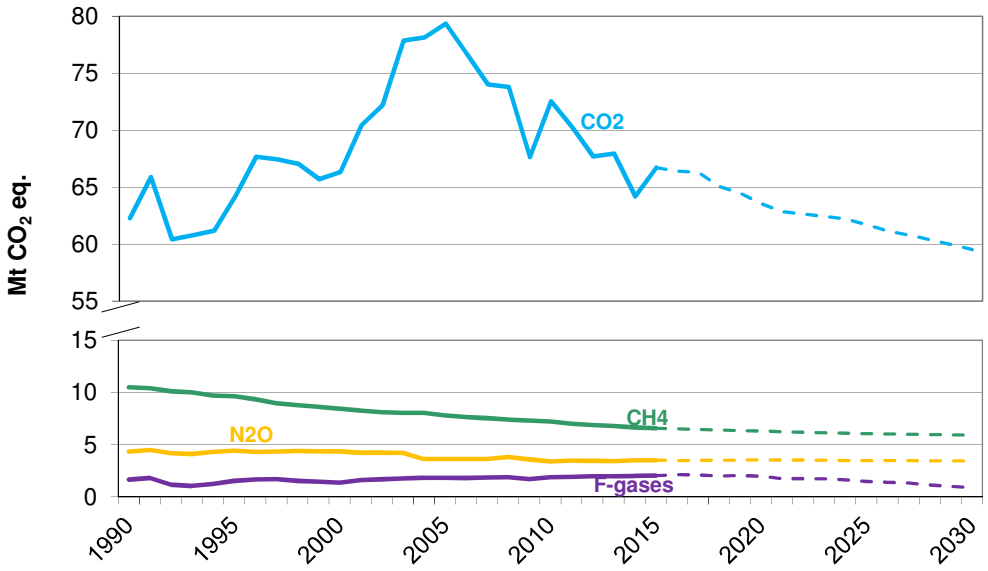

Figure 4.2: Actual and projected GHG emissions (scenario WM, excluding LULUCF) by gases

Trend by sector:

- Sectoral shares change by about 2–3 percentage points for most sectors from 2015 to 2030, therefore transport sector still dominates total emissions (31 %), followed by IPPU (21 %), manufacturing industries and construction (16 %), energy industries (12 %), agriculture (11 %) and "other sectors" (9 %);
- despite increasing electricity demand, emissions from energy industries are expected to decrease further (-26 % from 2015 to 2030) due to a further shift from solid and liquid fossil fuels to biomass, increasing contribution of hydro, solar and wind power;
- emission increase in several branches of manufacturing industries and construction due to the expected economic development (production increases), for the sector an increase of +4 % is projected;
- decrease of transport emissions (-5 %) by 2030 due to further increase in the use of biofuels, better efficiency standards and more electric mobility; the share of emissions caused by fuel exported in the vehicle tank is expected to remain constant at 25 %;
- a further decrease of emissions from "other sectors" (CRF 1.A.4, -26 %) is expected, mainly because of further improvement of energy efficiency of the building stock and heating systems, shift from fossil fuels to biomass and ambient heat (including heat pumps);

- in contrast to the past trend, emissions from industrial processes and product use are expected to decrease until 2030 (-14 %), mainly due to decreasing emissions from metal production (because of import of direct reduced iron from 2016 onwards); decreasing emissions of F-gases (see above) contribute to the trend;
- emission increase in the sector agriculture (+3%) is mainly due to an expected increase of livestock (dairy cattle and pigs), which cannot be sufficiently compensated by the mitigation measures;
- further downward trend of emissions from the waste sector (-44%), mainly because of the decreasing carbon content of historically landfilled waste.

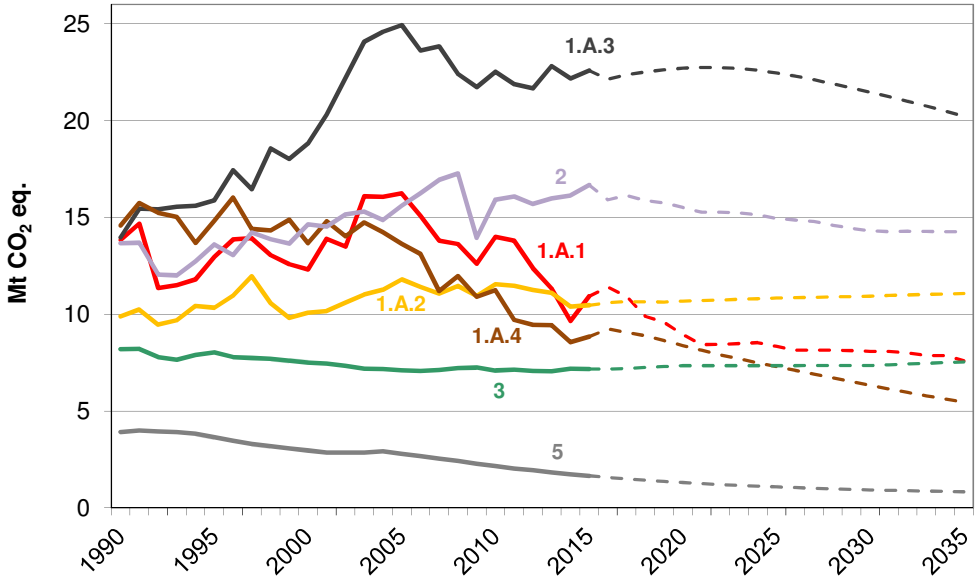

Figure 4.3: Actual and projected GHG emissions (scenario WM) by sectors

Sectoral activity data and parameters are listed in Annex C of the NC7.

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[12] ("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

[12] Excluded: Emissions falling under the EU ETS according to Annex I of Directive 2009/29/EC, emissions from sector 1.A.3.a, NF_3 emissions.

ESD emissions trend:

- Comparable emission level in the scenario "with measures" in 2015 (49.4 Mt CO_2 eq) and 2020 (49.1 Mt), decrease to 44.6 Mt (-9 %) in 2030.
- Emission trend up to 2030 is mainly driven by significant emission decrease in "other sectors" (1.A.4) (-2.5 Mt), IPPU (i.e. F-gases) (-1.2 Mt), transport (-0.9 Mt) and waste (-0.7 Mt).

Table 4.2: Actual and projected GHG emissions (scenario WM) in Austria covered by the EU Effort Sharing Directive[13]:

	GHG emissions and removals			GHG emission projections		
	(kt CO_2 eq)			(kt CO_2 eq)		
	2005*	2010*	2015	2020	2025	2030
ESD Sector						
1.A.1 Energy industries	1,783	1,736	2,174	2,400	2,453	2,553
1.A.2 Manufact. Industries	3,654	4,467	4,498	4,531	4,654	4,752
1.A.3 Transport	24,509	22,146	21,955	22,250	22,026	21,050
1.A.4 Other sectors	13,616	11,236	8,793	8,333	7,237	6,273
2. IPPU	2,810	2,897	2,525	2,462	1,953	1,364
3. Agriculture	7,104	7,094	7,168	7,342	7,347	7,357
5. Waste	2,791	2,158	1,656	1,312	1,083	930
1.A.5, 1.B	527	569	527	513	414	358
Total	56,795	52,302	49,295	49,142	47,167	44,637

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

4.2 Methodology and changes in methodologies

4.2.1 **Models**

Emission projections for CO_2, CH_4, N_2O and F-gases are generally calculated by the Environment Agency Austria (Umweltbundesamt). Basically, the same methodologies as for the national GHG inventory are applied, as reported in Austria´s National Inventory Reports. The projections are consistent with the historical emission data of the Austrian Emission Inventory submission April 2017, with emission data up to the data year 2015.

The underlying sectoral forecasts of activities are based on the use of several models and methods and have been carried out in close collaboration with several institutions:

- The energy forecast is based on the National Energy Balance of Statistics Austria and on the econometric input-output model DYNK of the Austrian Institute of Economic Research, supported by calculations based on bottom-up models:
    - Austrian Energy Agency with the model TIMES for public electric power and district heating supply,

[13] i.e. without LULUCF, NF_3, emissions from 1.A.3.a and from installations in the EU ETS.

    - Energy Economics Group of the Technical University Vienna with INVERT/EE-Lab, for domestic heating (including district heating demand) and hot water supply,
    - Technical University of Graz with the models NEMO, which was developed for the calculation of emission inventories for road transport in larger areas, and GEORG, a fleet based model for the calculation of energy consumption and emissions of mobile off-road sources.
- The forecast of emissions from industrial processes and solvents are based on expert judgements of Umweltbundesamt.
- The estimations of emissions for fluorinated gases are based on a study published in 2010, supplemented by assumptions on the latest EU legislation .
- The agricultural forecast is based on the PASMA model of the Austrian Institute of Economical Research.
- The waste forecast is generally based on Umweltbundesamt expert judgements on waste amount and waste treatment.
- Several models have been used for the different LULUCF subsectors:
    - For forest growth the model CALDIS was used, for soil organic carbon the YASSO 07 model;
    - for cropland and grassland the PASMA model model of the Austrian Institute of Economical Research;
    - expert judgements have been used for wetlands, settlements and other land;
    - the forest sector model FOHOW2 has been used for projections of harvested wood products.

Largely the same models and methods have been used for the preparation of the scenario as for the scenarios described in Austria's Second Biennial Report. For macro-economic modelling a new model has been used. The models are described in more detail in Annex C of the NC7. Details on models, emissions factors used and underlying parameters can be found in Chapter 3 of the (above mentioned) report on Austria's GHG emission projections "GHG Projections and Assessment of Policies and Measures in Austria" from March 2017 (http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0610.pdf).

Main strength of the modelling approach is the set of bottom-up models which provide a very detailed description of the Austrian situation and its combination with an economic top-down model. As a weakness can be seen that this approach needs considerable resources (time, staff and budget) for an individual scenario.

The data structure of activities, input data, emission factors and emission calculations is based on SNAP categories (Selected Nomenclature for sources of Air Pollution). The structure of output data is presented and aggregated in the Common Reporting Format (CRF) of the UNFCCC. Sectoral definitions align fully with the IPCC.

4.2.2 **Key Input Parameters**

A summary of key input parameters used is given in Table 4.3.

Table 4.3: Key input parameter of emission projections.

Key underlying assumptions		*Historical*					*Projected*			
Assumption	*Unit*	*1995*	2000	2005	2010	2015	2020	2025	2030	2035
GDP growth rate	%		3.4	2.2	1.8	1.1	1.6	1.6	1.5	1.6
Population	thousands	7,948	8,012	8,225	8,361	8,630	8,939	9,156	9,314	9,432
No. of households	thousands	3,093	3,237	3,475	3,624	3,817	3,989	4,124	4,226	4,314
Heating degree days		3,186	2,884	3,341	3,365	2,858	3,204	3,171	3,118	3,065
Exchange rate USD	USD/EUR				1.33	1.12	1.16	1.20	1.20	1.20
International oil price	USD/bbl.*					55.00	89.00	105.00	115.00	120.00
International coal price	USD/t*					57.00	74.00	92.00	110.00	117.00
International gas price	USD/GJ*					6.20	7.70	8.30	9.00	9.60
CO_2 certificate price	EUR/t CO_2					7.50	15.00	20.00	26.50	36.50
	* 2015 prices									

4.2.3 **Differences to Previous Scenarios**

Compared to data reported in the Second Biennial Report, the historic time series as well as the new WM scenario show lower total emissions for all years:

- Inventory revisions are in the range of -0.1 to -0.3 Mt CO_2 eq,
- for 2015 the latest inventory shows 0.9 Mt lower emissions than the previous projections,
- the difference between previous and current projections is -3.6 Mt for 2020 and -6.2 Mt for 2030.

Differences exist for all sectors, apart from LULUCF the highest are found in sectors 1.A.2 & 2 (from -1.6 Mt in 2020 to 3.7 Mt in 2030), followed by 1.A.3, 1.A.4 and 1.A.1.

Changes with respect to the previous GHG emission projections are influenced by four main factors:

- Changes in the base data (e.g. GHG inventory, energy balance);
- Changes in assumptions for activity scenarios, e.g. due to revised economic scenarios (lower growth rates for some relevant industrial branches), additional policies considered (implementation of the Energy Efficiency Act) or revisions of policies (F-gas regulations);
- updates of emission factors;
- changes in the models used for activity or emission scenario, i. e. a new economic model as well as a complete revision of scenario and underlying models for the LULUCF sector.

Details can be found in Chapter 5 of the above mentioned report on Austria's GHG emission projections.

4.2.4 **Sensitivity Analysis**

The sensitivity analysis regarding the energy sector was based on the influence of economic growth on GHG emissions from transport, energy industries and manufacturing industries and construction, as well as the influence of changes in fuel prices and subsidies on GHG emissions in the residential and commercial sector. All these assessments are based on model results, obtained by calculating the effects on the Energy sector.

It is necessary to mention that the emission results in general are not linearly dependent on changes of an input factor. This is the reason why the presented sensitivity data cannot be seen as a functional dependency with varied parameters. The emission effect can only be seen for the specific values of the given parameters.

Two complete scenarios with different assumptions on economic growth and energy prices were calculated, based on the WM scenario. Main difference was a higher average economic growth of 2.5 % per year in the "Sensitivity 1" scenario and a lower growth of 0.8 % per year in the "Sensitivity 2" scenario. Energy prices as well as certificate prices in the EU ETS are influenced by economic growth (at EU and global level), the price assumptions for the sensitivity scenarios are shown in Table 4.4.

Table 4.4: Changes of parameters for sensitivity scenarios compared to the WM scenario

Sensitivity 1	2020	2030
International oil price	+6%	+28%
International coal price	+3%	+13%
International gas price	+4%	+33%
CO_2 certificate price	+33%	+17%
Sensitivity 2		
International oil price	-2%	-8%
International coal price	+0%	-5%
International gas price	+4%	-11%
CO_2 certificate price	-13%	-25%

The model calculations show 9 % higher total emissions for "Sensitivity 1" compared to the "With Measures" scenario and 4 % lower emissions for "Sensitivity 2" in 2030, see Table 4.5. Sector 1.A.1 shows the highest dependency on GDP growth, as the model projects that increased electricity demand can be met by domestic production in existing power plants under these more favourable economic circumstances (prices).

Table 4.5: Results of the sensitivity analysis – emission change compared to WM

Sensitivity 1	2020	2030
1.A.1 Energy industries	+1%	+49%
1.A.2 Manuf.. Industries	+3%	+5%
1.A.3 Transport	+3%	+6%
1.A.4 Other sectors	+0%	+0%
2 IPPU	+2%	+4%
Total (without LULUCF)	+2%	+9%
Sensitivity 2		
1.A.1 Energy industries	-10%	-1%

1.A.2 Manuf.. Industries	-3%	-7%
1.A.3 Transport	-3%	-6%
1.A.4 Other sectors	0%	2%
2 IPPU	-2%	-4%
Total (without LULUCF)	-3%	-4%

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

The provision of financial, technological and capacity-building support to developing countries is a key element in tackling climate change at the global level.

Austria is firmly committed to providing such support in the larger context of meeting the ultimate objective of the Convention and the long-term goals of the Paris Agreement. In tables 7, 7(a), 7(b), 8, and 9 we provide full details on our efforts in 2015 and 2016, respectively (excluding mobilised private climate finance).

Public climate finance support by Austria to developing countries – including for technology transfer and capacity-building – has increased considerably since 1990. This development is in line with our commitment to provide "new and additional" resources, which we define as a gradual scaling up of support over the years since the Convention and its Kyoto Protocol entered into force, with new programmes, projects and focus areas supplementing and/or extending existing initiatives over time, with the overall volume of support provided increasing in the longer term.

We also strive to achieve in the longer term a balance between support for adaptation and mitigation in our bilateral cooperation, while noting that such a balance must be viewed in a comprehensive manner (both quantitatively and qualitatively, and acknowledging that projects often address both adaptation and mitigation elements) and also taking into account other priorities articulated by our partner countries.

Figure 1 below provides an overview of the last seven years (2010-2016) of climate finance provided by Austria to developing countries, including first efforts at tracking and reporting mobilised private climate finance.

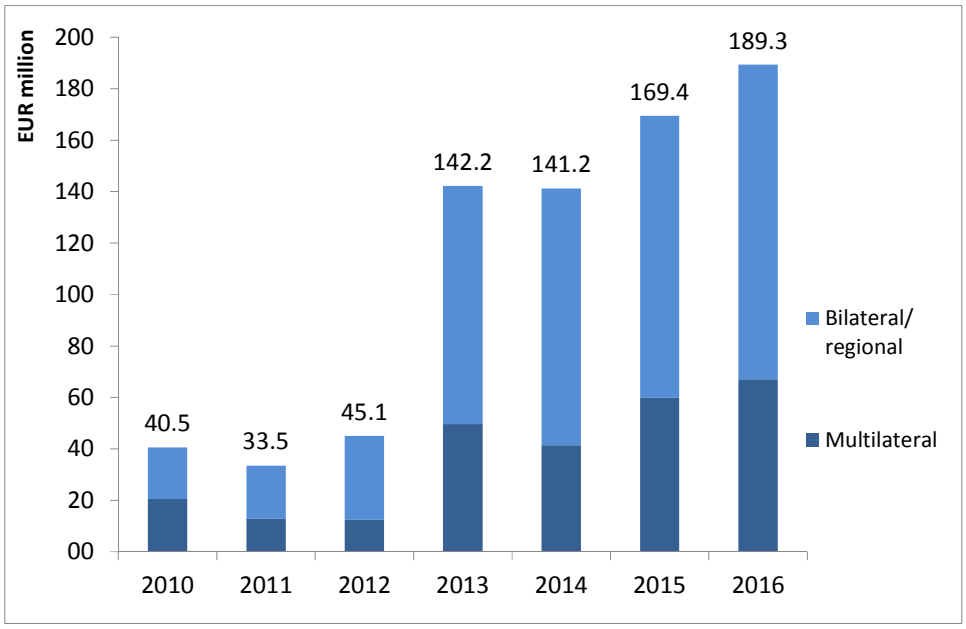

Figure 5.1: Austria's provision of climate finance to developing countries, 2010-2016

A broad range of actors and instruments contribute to Austria's overall contribution to climate finance. Key actors include the Development Bank of Austria (OeEB), the Federal Ministry of Finance (BMF), the Austrian Development Cooperation (ADC), and the Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW).

5.1 Finance

5.1.1 National approach for tracking the provision of financial, technological and capacity-building support to developing countries

In 2013, Austria adopted an international climate finance strategy (KFS, available in German only[14]). KFS established a new inter-ministerial working group (AGIK) dedicated to climate finance. AGIK is tasked to regularly take stock of national and international developments related to the provision of financial, technological and capacity-building support to developing countries and to respond to emerging developments, including on tracking the provision of financial, technological and capacity-building support.

KFS also contains guidelines for tracking the provision of climate finance. These guidelines stipulate the use of OECD DAC methodologies to ensure consistency with Austria's ODA reporting as well as comparability with other climate finance providers. This specifically entails:

- Identification of eligible recipient countries using the most current DAC list of ODA recipients;
- Bottom-up identification of climate-relevant projects using DAC Rio markers for mitigation and adaptation, respectively; (for projects marked with a Rio marker value "1", amounts reported as climate finance are discounted by 50 percent);
- No double-counting of DAC Rio markers (if a project has more than one Rio marker valued at "1" or above, only one value (the higher value) is used for the amounts reported as climate finance);
- Identification of "climate-specific" contributions to multilateral organizations (MDBs) using the latest available DAC data on imputed multilateral shares;
- Use of official DAC EUR-USD exchange rates for a given reporting year;
- All flows reported on a commitment basis (starting in 2016).

Data collection for climate finance is jointly supervised by the Austrian Development Agency (ADA) and BMLFUW, with ADA compiling and storing information as well as ensuring quality control.

Standard contractual clauses for individual contracts require monitoring and reporting of project implementation by the implementing agencies, thus ensuring that funds deliver on the objectives defined for individual projects.

[14] https://www.bmlfuw.gv.at/umwelt/klimaschutz/internationales/int_klimafinanzierung/strategie_berichte.html

5.1.2 How the provision of financial, technological and capacity-building support is assisting developing countries

All bilateral programmes, projects and initiatives that Austria supports are developed and implemented in close cooperation with our partner countries. Many projects result from priorities identified in jointly developed country strategies, while others may respond to individual requests from government agencies in partner countries. We seek to ensure that all programmes, projects and initiatives are compatible with other related national development strategies of our partner countries. We therefore understand that all bilateral programmes, projects and initiatives meet existing and emerging needs and interests expressed by our partner countries at the national level and in the context of concrete policy implementation.

5.1.3 Mobilised private climate finance

In line with the commitment of developed countries of mobilizing jointly USD 100 billion dollars a year by 2020 from a wide variety of sources, Austria is committed to mobilise private climate finance and to extend tracking to cover mobilised private climate finance over time. We recognize that reporting under the BR is voluntary and that there is no CTF table to provide information in a common format.

Austria is currently tracking mobilised private climate finance through ADC business partnerships.[15] These partnerships allow for a co-financing of up to 50 percent of a given business investment by ADC, provided the overall project supports development objectives in line with priorities of our partner countries. We are closely following international developments on this issue, e.g. under the OECD Research Collaborative for Tracking Private Climate Finance and intend to expand the scope of reporting on this issue as further guidance is developed.

15 http://www.entwicklung.at/fileadmin/user_upload/Dokumente/Unternehmen/Englisch/Guidelines_for_Business_Partnerships.pdf

Table 5.1 (CTF Table 7): Provision of public financial support: summary information in 2015

Allocation channels	*European euro - EUR*					*USD*[b]				
	Core/ general[c]	*Climate-specific*[d]				*Core/ general*[c]	*Climate-specific*[d]			
		Mitigation	*Adaptation*	*Cross-cutting*[e]	*Other*[f]		*Mitigation*	*Adaptation*	*Cross-cutting*[e]	*Other*[f]
Total contributions through multilateral channels:		1,176,755		58,627,580			1,303,162		64,925,338	
Multilateral climate change funds[g]				23,671,401					26,214,176	
Other multilateral climate change funds[h]										
Multilateral financial institutions, including regional development banks				34,736,237					38,467,593	
Specialized United Nations bodies		1,176,755		219,942			1,303,162		243,568	
Total contributions through bilateral, regional and other channels		97,987,199	7,119,240	4,507,804			108,512,955	7,883,987	4,992,030	
Total		99,163,954	7,119,240	63,135,384			109,816,117	7,883,987	69,917,368	

Table 5.2 (CTF Table 7): Provision of public financial support: summary information in 2016

Allocation channels	*European euro - EUR*					*USD*[b]				
	Core/ general[c]	*Climate-specific*[d]				*Core/ general*[c]	*Climate-specific*[d]			
		Mitigation	*Adaptation*	*Cross-cutting*[e]	*Other*[f]		*Mitigation*	*Adaptation*	*Cross-cutting*[e]	*Other*[f]
Total contributions through multilateral channels:		1,215,569		65,887,868			1,344,656		72,884,810	
Multilateral climate change funds[g]				20,435,701					22,605,864	
Other multilateral climate change funds[h]										
Multilateral financial institutions, including regional development banks				45,327,656					50,141,212	
Specialized United Nations bodies		1,215,569		124,511			1,344,656		137,734	
Total contributions through bilateral, regional and other channels		93,030,524	5,786,138	23,409,025			102,909,871	6,400,595	25,894,939	
Total		94,246,093	5,786,138	89,296,893			104,254,527	6,400,595	98,779,749	

Table 5.3 (CTF Table 7(a)): Provision of public financial support: contribution through multilateral channels in 2015

Donor funding	*Total amount*				*Status*[b]	*Funding source*[f]	*Financial instrument*[f]	*Type of support*[f, g]	*Sector*[c]
	Core/general[d]		*Climate-specific*[e]						
	European euro - EUR	*USD*	*European euro - EUR*	*USD*					
Total contributions through multilateral channels			59,804,335	66,228,499					
Multilateral climate change funds [g]			23,671,401	26,214,176					
1. Global Environment Facility			17,671,401	19,569,658	committed	ODA	grant	cross-cutting	
2. Least Developed Countries Fund									
3. Special Climate Change Fund									
4. Adaptation Fund									
5. Green Climate Fund			6,000,000	6,644,518	committed	ODA	grant	cross-cutting	
6. UNFCCC Trust Fund for Supplement. Activities									
7. Other multilateral climate change funds									
Multilateral financial institutions, including regional development banks			34,736,237	38,467,593					
1. World Bank			24,870,499	27,542,080	committed	ODA	grant	cross-cutting	
2. International Finance Corporation									
3. African Development Bank			8,486,788	9,398,436	committed	ODA	grant	cross-cutting	
4. Asian Development Bank			1,339,210	1,483,068	committed	ODA	grant	cross-cutting	
5. European Bank for Reconstr. and Devel.									
6. Inter-American Development Bank			39,740	44,008	committed	ODA	grant	cross-cutting	
7. Other									
Specialized United Nations bodies			1,396,697	1,546,730					
1. United Nations Development Programme									
2. United Nations Environment Programme									
Montreal Protocol			1,176,755	1,303,162	committed	ODA	grant	mitigation	
3. Other									
UNFCCC			219,942	243,568	committed	ODA	grant	cross-cutting	

Table 5.4 (CTF Table 7(a)): Provision of public financial support: contribution through multilateral channels in 2016

Donor funding	*Total amount*				*Status*[b]	*Funding source*[f]	*Financial instrument*[f]	*Type of support*[f, g]	*Sector*[c]
	Core/general[d]		*Climate-specific*[e]						
	European euro - EUR	*USD*	*European euro - EUR*	*USD*					
Total contributions through multilateral channels			67,103,437	74,229,466					
Multilateral climate change funds [g]			20,435,701	22,605,864					
1. Global Environment Facility			8,835,701	9,774,005	committed	ODA	grant	cross-cutting	
2. Least Developed Countries Fund									
3. Special Climate Change Fund									
4. Adaptation Fund									
5. Green Climate Fund			11,600,000	12,831,858	committed	ODA	grant	cross-cutting	
6. UNFCCC Trust Fund for Supplement. Activities									
7. Other multilateral climate change funds									
Multilateral financial institutions, including regional development banks			45,327,656	50,141,212					
1. World Bank			24,175,260	26,742,544	committed	ODA	grant	cross-cutting	
2. International Finance Corporation									
3. African Development Bank			8,538,304	9,445,026	committed	ODA	grant	cross-cutting	
4. Asian Development Bank			1,339,210	1,481,427	committed	ODA	grant	cross-cutting	
5. European Bank for Reconstr. and Development									
6. Inter-American Development Bank			39,964	44,207	committed	ODA	grant	cross-cutting	
7. Other									
International Fund for Agricultural Development			11,234,918	12,428,007	committed	ODA	grant	cross-cutting	
Specialized United Nations bodies			1,340,080	1,482,390					
1. United Nations Development Programme									
2. United Nations Environment Programme									
Montreal Protocol			1,215,569	1,344,656	committed	ODA	grant	mitigation	
3. Other									
UNFCCC, KP			124,511	137,734	committed	ODA	grant	cross-cutting	

Table 5.5 (CTF Table 7(b)): Provision of public financial support: contribution through bilateral, regional and other channels in 2015

Recipient country/ region/project/programme[b]	*Total amount*		*Status*[c]	*Funding source*[g]	*Financial instrument*[g]	*Type of support*[g, h]	*Sector*[d]	*Additional information*[e]
	Climate-specific[f]							
	European euro - EUR	*USD*						
057 Kosovo	200,000	221,484	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-cutting	Stärkung der Klimawandel-Agenda im Kosovo
063 Serbia	250,000	276,855	committed	10 ODA	110 Standard Grant	adaptation	410 Cross-cutting	Rehabilitation of Flood Protection Infrastructure - OEZA Vorfinanzierung
071 Albania	313,500	347,176	provided	22 OSEC	421 Standard loan	mitigation	140 Water and Sanitation	Waste Water Plant for Municipality of Bilisht
085 Ukraine	5,200	5,759	committed	10 ODA	110 Standard Grant	cross-cutting	231 Energy	Austrian Energy Partnerships with Countries in Central and Eastern Europe
085 Ukraine	20,000	22,148	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	FS-UKR-Delta Projektconsult GmbH,Energieeffizienzprojekt in der Ukraine
089 Europe, regional	198,000	219,269	committed	10 ODA	110 Standard Grant	adaptation	740 Other	Building Safe and Resilient Communities II
089 Europe, regional	2,500,000	2,768,549	committed	10 ODA	110 Standard Grant	adaptation	140 Water and Sanitation	Danube region water supply & wastewater utilities capacity building program (water facility for the Danube countries)
089 Europe, regional	64,000	70,875	committed	10 ODA	110 Standard Grant	cross-cutting	151 Other	Climate Forum East II (CFE II) - Klimaforum OST II
089 Europe, regional	750,000	830,565	committed	10 ODA	110 Standard Grant	cross-cutting	430 Cross-cutting	IFC - Europe & central Asia (ECA) Cities Platform
089 Europe, regional	2,000,000	2,214,839	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Delivering Resource Efficiency Investments in the Western Balkans and Turkey (DRIVE) Programme Account
089 Europe, regional	500,000	553,710	committed	10 ODA	110 Standard Grant	mitigation	430 Cross-cutting	Contribution to EBRD/MEI - Municipial Infrastructure Fund (in support of building communal infrastructure)
142 Egypt	200,000	221,484	committed	10 ODA	110 Standard Grant	cross-cutting	232 Energy	SEKEM Agro-photovoltaik for Greening the Desert
189 North of Sahara, regional	5,000	5,537	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Field Study on Sustainable Energy for the OSCE Mediterranean Partners

232 Chad	100,000	110,742	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Tschad: Frauen, Klimawandelanpassung, Wasser, Resilienz
238 Ethiopia	89,723	99,360	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Earmarked contribution to CGIAR: research project - reducing land degradation and farmers' vulnerability
241 Ghana	1,629,000	1,803,987	provided	22 OSEC	421 Standard loan	mitigation	231 Energy	Implementing the Photovoltaic Based Street Lighting Programme
248 Kenya	15,000	16,611	committed	10 ODA	110 Standard Grant	adaptation	151 Other	Developing fire danger maps for identifying fire hot spots and improving fire management in Mt. Kenya forest
248 Kenya	36,304	40,204	committed	10 ODA	110 Standard Grant	mitigation	151 Other	Personnel deployment: Advisor for monitoring/evaluation and marketing
248 Kenya	10,000	11,074	committed	10 ODA	110 Standard Grant	mitigation	113 Other	FS-KEN-LiSEC Capacity development for professional glass processing in Kenya
249 Lesotho	112,161	124,209	committed	10 ODA	110 Standard Grant	adaptation	140 Water and Sanitation	Upgrading the RIBASIM software and its institutionalisation at the Ministry of Water
260 Niger	90,000	99,668	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	WP-NIG-Solanum,Pessl, Agro-meteorological information chain for food security and poverty reduction of farmers in Niger
269 Senegal	1,835	2,032	committed	10 ODA	110 Standard Grant	mitigation	140 Water and Sanitation	Construction of a well with water conservation and solar powered pump in Enampore
279 South Sudan	5,000	5,537	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Solarlamps "Sunlight"
282 Tanzania	3,025	3,350	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Personnel deployment: consultant for Value Chaines & Marketing
282 Tanzania	5,000	5,537	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Sustainabel agriculture for food security in the Ileje district
282 Tanzania	5,000	5,537	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Improve energy efficiency in schools and agriculture
282 Tanzania	72,609	80,408	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Personnel deployment: Advisor for tansanian association for renewable energies TAREA
282 Tanzania	543,000	601,329	provided	22 OSEC	421 Standard loan	mitigation	231 Energy	Photovoltic-Container and Photovoltaic Street Lamps
285 Uganda	1,000,000	1,107,420	committed	10 ODA	110 Standard Grant	cross-cutting	140 Water and Sanitation	Water and Sanitation Sector Financing Uganda

285 Uganda	775,000	858,250	committed	10 ODA	110 Standard Grant	cross-cutting	140 Water and Sanitation	Water and Sanitation Sector Financing Uganda
285 Uganda	225,000	249,169	committed	10 ODA	110 Standard Grant	cross-cutting	140 Water and Sanitation	Water and Sanitation Sector Financing Uganda
285 Uganda	33,279	36,854	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Personnel deployment: consultant for Financial management; Advisor for Association for Renewable Energies, UCMB , Kampala
285 Uganda	30,254	33,503	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Personnel deployment: Support CREEC - Centre for Research in Energy and Energy Conservation
285 Uganda	4,000	4,430	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Solar Light for All Uganda in Masaka
287 Burkina Faso	12,500	13,843	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Construction and useage of a rain water collection tank for food security
287 Burkina Faso	48,350	53,544	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Nahrungsmittelsicherheit und Einkommensschaffung in peri-urbanen Regionen Burkina Fasos
287 Burkina Faso	40,000	44,297	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Biogas4Burkina Faso
287 Burkina Faso	200,000	221,484	committed	10 ODA	110 Standard Grant	mitigation	311 Agriculture	WP-BFA-gebana; Stärkung der biologischen Mango-Produktion in Burkina Faso
289 South of Sahara, regional	12,500	13,843	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Improving rural livelihoods in Sub-Saharan Africa: Sustainable and climate-smart intensification of agricultural production
289 South of Sahara, regional	6,050	6,700	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	CONNEcting - framework for adaptive organic resource management, targeting soil aggradation and agroecosystems' resilience in SSA
289 South of Sahara, regional	825,000	913,621	committed	10 ODA	110 Standard Grant	adaptation	114 Other	Aufbau von Ausbildungs- u. Forschungskapazität zum nachhaltigen Management von aquatischen Ökosystemen im östlichen Afrika
289 South of Sahara, regional	1,000,000	1,107,420	committed	10 ODA	110 Standard Grant	adaptation	140 Water and Sanitation	Building drought resilience through land and water management in arid and semi-arid areas in Kenya and Uganda (phase 2)
289 South of Sahara, regional	65,000	71,982	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	SAIREC SOLTRAIN Side Event und Beitrag Konferenzkosten
289 South of Sahara,	250,000	276,855	committed	10 ODA	110 Standard	mitigation	231 Energy	Mainstreaming Gender in the SADC Renewable

regional					Grant			Energy Sector
289 South of Sahara, regional	7,300,000	8,084,164	provided	10 ODA	520 CIV shares	mitigation	232 Energy	Africa Renewable Energy Fund - Equity Participation
298 Africa, regional	250,000	276,855	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Secondment eines Experten für erneuerbare Energie
364 Nicaragua	72,609	80,408	committed	10 ODA	110 Standard Grant	adaptation	410 Cross-cutting	Personnel deployment: Advisor to minimize the risks of ecological disasters due to climate change, RAAS
364 Nicaragua	15,000	16,611	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Energy saving ovens in Chacara seca in León
364 Nicaragua	3,000	3,322	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Construction of Pyrolysis cooker
364 Nicaragua	4,500	4,983	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	"Licht for fisher families" Construction of a photovoltaic system in Rio San Juan
389 North & Central America, regional	90,000	99,668	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Earmarked contribution to CGIAR: research project-Forestry to enhance livelihoods and sustain forests in Mesoamerica
389 North & Central America, regional	225,000	249,169	committed	10 ODA	110 Standard Grant	mitigation	311 Agriculture	Certification of credit by LAAD
389 North & Central America, regional	56,500	62,569	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Unterstützung der Vorbereitungsphase, zentralamerikanisches Zentrum für Erneuerbare Energie und Energieeffizienz (MCREEE)
428 Bolivia	5,500	6,091	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Equipment for use of solar power
431 Brazil	10,000	11,074	committed	10 ODA	110 Standard Grant	adaptation	312 Forestry	timber-frame construction and training
431 Brazil	29,000	32,115	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Climate Alliance project: financial contribution to the Rio-Negro regional development project
431 Brazil	2,075	2,298	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Climate Alliance project: financial contribution to the RIO NEGRO regional developement projekt
431 Brazil	4,500	4,983	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Climate Allliance project partnership Rio Negro
431 Brazil	20,000	22,148	committed	10 ODA	110 Standard Grant	mitigation	312 Forestry	Pilot project on sustainable harvesting of non-timber forest products in the Araripe region (Brazil) 2015

437 Colombia	1,298	1,438	committed	10 ODA	110 Standard Grant	mitigation	430 Cross-cutting	Various projects of the climate alliance Vorarlberg
457 Suriname	30,000	33,223	committed	10 ODA	110 Standard Grant	cross-cutting	312 Forestry	Development of inventory procedures to efficiently provide relevant informatiomn for policy and forest management
498 America, regional	81,489	90,243	committed	10 ODA	110 Standard Grant	cross-cutting	430 Cross-cutting	Associate Professional Officer for Emerging and Sustainable Cities Initiative
498 America, regional	250,000	276,855	committed	10 ODA	110 Standard Grant	cross-cutting	430 Cross-cutting	Academic Partnership Program of the University of Technology of Vienna (UTV): Design-Based Solutions for Emerging and sustainable Cities (ESC)
498 America, regional	465,000	514,950	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	PALCEE II - Programm zur Förderung von Energieeffizienz in Zentralamerika und der Karibik
610 Armenia	240,000	265,781	committed	10 ODA	110 Standard Grant	adaptation	740 Other	Building Safe and Resilient Communities II
610 Armenia	599,970	664,419	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Livestock Development in Northern Armenia
610 Armenia	250,000	276,855	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Organic Agriculture Support Initiative (OASI) - OEZA-Kofinanzierung
610 Armenia	63,800	70,653	committed	10 ODA	110 Standard Grant	mitigation	230 Energy	Grüne Energie für Armutsbekämpfung in Nordwestarmenien
611 Azerbaijan	102,000	112,957	committed	10 ODA	110 Standard Grant	adaptation	740 Other	Building Safe and Resilient Communities II
612 Georgia	160,000	177,187	committed	10 ODA	110 Standard Grant	adaptation	740 Other	Building Safe and Resilient Communities II
612 Georgia	35,000	38,760	committed	10 ODA	110 Standard Grant	cross-cutting	232 Energy	Hydro Decision Support System Georgia
612 Georgia	1,000,000	1,107,420	committed	10 ODA	110 Standard Grant	mitigation	312 Forestry	Sustainable Forest Governance in Georgia Phase II
612 Georgia	5,500,000	6,090,808	provided	10 ODA	520 CIV shares	mitigation	232 Energy	Schulze Caucasus Clean Energy Fund - Equity Participation
619 Central Asia, regional	138,774	153,681	committed	10 ODA	110 Standard Grant	cross-cutting	430 Cross-cutting	Contribution to AsEB cities development initiative for Asia (CDIA) - infrastructure and development planning in cities in Central Asia
630 Bhutan	9,976	11,048	committed	10 ODA	110 Standard	mitigation	321 Industry	Machbarkeitsstudie Deckenheizung/Kühlung

					Grant			
640 Sri Lanka	1,622,000	1,796,235	provided	22 OSEC	421 Standard loan	mitigation	140 Water and Sanitation	Upgrading of Sewerage Infrastructure
645 India	1,400	1,550	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-cutting	Experts for the participation at the World Water Forum
660 Nepal	47,050	52,104	committed	10 ODA	110 Standard Grant	adaptation	740 Other	VISTAR II – Resilienzstärkung gegen Naturkatastrophenauswirkungen in Westnepal
660 Nepal	200,000	221,484	committed	10 ODA	110 Standard Grant	mitigation	230 Energy	WP-NEP-EFG Turbinen und Kraftwerksanlagenbau GmbH & Co KG, Wasserkraft für Nepal
666 Bangladesh	15,000	16,611	committed	10 ODA	110 Standard Grant	mitigation	240 Other	E&S Capacity Building Financial Institutions
679 South Asia, regional	10,000	11,074	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Solarthermie für Südostasien
689 South & Central Asia, regional	101,700	112,625	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Contribution Feasibility Study Centre for Renewable Energy and Energy Efficiency Himalaya
730 China	2,500	2,769	committed	10 ODA	110 Standard Grant	cross-cutting	312 Forestry	Expert exchange and training
730 China	470,000	520,487	provided	22 OSEC	421 Standard loan	mitigation	140 Water and Sanitation	Sewage Treatment Plant, Guilin
730 China	229,500	254,153	provided	22 OSEC	421 Standard loan	mitigation	140 Water and Sanitation	Wastewater Treatment Project of Zibo City
745 Laos	70,000	77,519	provided	22 OSEC	421 Standard loan	cross-cutting	311 Agriculture	Irrigation Project
755 Philippines	7,500	8,306	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Sustainable agriculture and disaster prevention at the Polillo-islands
798 Asia, regional	51,773	57,334	committed	10 ODA	110 Standard Grant	cross-cutting	210 Transport	Secondment of an expert for transportation - support of the AsDB Programme
798 Asia, regional	66,493	73,636	committed	10 ODA	110 Standard Grant	cross-cutting	232 Energy	Secondment of an expert for renewable energy - support of the AsDB Programme
998 Developing countries, unspecified	129,039	142,900	committed	10 ODA	110 Standard Grant	adaptation	740 Other	IBRD - Donor Funded Staffing Program; JPO to support the Global Facility for Disaster Reduction and Recovery
998 Developing countries,	105,000	116,279	committed	10 ODA	110 Standard	adaptation	998 Other	Climate Alliance project information and

unspecified					Grant			awareness raising
998 Developing countries, unspecified	7,500	8,306	committed	10 ODA	110 Standard Grant	cross-cutting	411 Cross-cutting	Technical support for data gathering (climate finance)
998 Developing countries, unspecified	115,906	128,357	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	IBRD - Donor Funded Staffing Program; JPO to support the Energy Sector Management Assessment Program
998 Developing countries, unspecified	174	192	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Climate Alliance
998 Developing countries, unspecified	85,000	94,131	committed	10 ODA	110 Standard Grant	mitigation	998 Other	promotion of development awareness
998 Developing countries, unspecified	81,000	89,701	committed	10 ODA	110 Standard Grant	mitigation	998 Other	promotion of development awareness
998 Developing countries, unspecified	8,763	9,705	committed	10 ODA	110 Standard Grant	adaptation	410 Cross-cutting	Technical support for UNFCCC negotiations (adaptation)
998 Developing countries, unspecified	30,000	33,223	committed	10 ODA	110 Standard Grant	adaptation	410 Cross-cutting	Technical support for UNFCCC negotiations (adaptation)
998 Developing countries, unspecified	250,000	276,855	committed	10 ODA	110 Standard Grant	cross-cutting	231 Energy	TA program(Energy Sector Management Assistance Program - ESMAP) to support improved energy policy development
998 Developing countries, unspecified	10,000	11,074	committed	10 ODA	110 Standard Grant	cross-cutting	312 Forestry	Planning, Preperation and execution of the International Forestry Students Symposium (IFSS)
998 Developing countries, unspecified	30,000	33,223	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-cutting	Voluntary contribution to the UNFCCC Trust Fund for Participation; technical support for UNFCCC negotiations (adaptation)
998 Developing countries, unspecified	20,000	22,148	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-cutting	Technical support for UNFCCC Negotiations (legal counselling)
998 Developing countries, unspecified	40,000	44,297	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-cutting	Voluntary contribution to the Technology Executive Committee
998 Developing countries, unspecified	203,675	225,554	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-cutting	IBRD - Donor Funded Staffing Program; JPO to support the Agricultural and Environmental Services
998 Developing countries, unspecified	100,000	110,742	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Contribution to REEEP - Renewable Energy and Energy Efficiency Partnership
998 Developing countries, unspecified	261,125	289,175	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Beitrag zum Vienna Energy Forum 2015

998 Developing countries, unspecified	51,000	56,478	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Energy Efficiency Market Study
998 Developing countries, unspecified	2,000,000	2,214,839	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	IFC - Energy and Water Efficiency in Europe & Central Asia (ECA) Platform
998 Developing countries, unspecified	1,000,000	1,107,420	committed	10 ODA	110 Standard Grant	mitigation	250 Other	IFC - Europe & Central Asia (ECA) Public Private Partnership (PPP) Program
998 Developing countries, unspecified	11,085	12,276	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Technical support for UNFCCC negotiations (reporting)
998 Developing countries, unspecified	20,000	22,148	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Climate change workshops for women migrants
998 Developing countries, unspecified	10,000	11,074	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Voluntary contribution to OECD RC- Tracking Private Climate Finance
998 Developing countries, unspecified	88,779	98,316	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	REEEP 10th Project Call - Additional Funding
998 Developing countries, unspecified	20,000	22,148	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Voluntary contribution to UNECE THE PEP (Transport Health Environment Pan-European Program)
998 Developing countries, unspecified	20,000	22,148	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-cutting	Voluntary contribution to WHO THE PEP (Transport Health Environment Pan-European Program)
998 Developing countries, unspecified	1,000,000	1,107,420	committed	10 ODA	110 Standard Grant	mitigation	430 Cross-cutting	Contribution to the EIB - Eastern Partnership Technical Assistance Trust Fund (EPTATF)
998 Developing countries, unspecified	69,756,000	77,249,169	provided	20 OOF	900 Other	mitigation	430 Cross-cutting	Aggregated dispersements for climate-related projects of the Development Bank of Austria
Total contributions through bilateral, regional and other channels	109.614.242	121.388.972						
Subtotal	34,981,242	38,738,917		ODA				
Subtotal	74,633,000	82,650,055		OOF				
Subtotal	22,181,242	24,563,945			Grants			
Subtotal	4,877,000	5,400,886			Conc. loans			
Subtotal	82,556,000	91,424,142			Other			
Subtotal	1.809.618	2,004,006					Agriculture	

Subtotal	21.761.865	24,099,519					Energy	
Subtotal	1.072.500	1,187,708					Forestry	
Subtotal	9.976	11,048					Industry	
Subtotal	51.773	57,334					Transport	
Subtotal	8.248.996	9,135,101					Water	
Subtotal	3.112.393	3,446,726					Other	
Subtotal	73.547.120	81,447,531					Cross-cutting	

Table 5.6 (CTF Table 7(b)): Provision of public financial support: contribution through bilateral, regional and other channels in 2016

Recipient country/ region/project/programme[b]	*Total amount*		*Status*[c]	*Funding source*[g]	*Financial instrument*[g]	*Type of support*[g, h]	*Sector*[d]	*Additional information*[e]
	Climate-specific[f]							
	European euro - EUR	*USD*						
063 Serbia	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	140 Water and Sanitation	FS BioVision – sustainable waste management and processing
064 Bosnia and Herzegovina	34,977	38,691	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	EPoverty_Bosnia: Energy efficiency and renewable energy to reduce energy poverty in the heating sectro in urban areas of Bosnia and Herzegovina
065 Montenegro	39,950	44,192	committed	10 ODA	110 Standard Grant	cross-cutting	232 Energy	Co-Financing of a study on the market of energy efficiency actors and opportunities in Montenegro
066 Macedonia	69,690	77,091	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Climate, Energy & Transport - Capacity Builidng fpr reducing GHG-emissions from urban transport in Macedonia
085 Ukraine	7,959	8,805	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Austrian Energy Partnerships with Countries in Central and Eastern Europe
085 Ukraine	17,790	19,680	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Austrian Energy Partnerships with Countries in Central and Eastern Europe
085 Ukraine	4,378	4,843	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Austrian Energy Partnerships with Countries in Central and Eastern Europe
085 Ukraine	8,445	9,342	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Austrian Energy Partnerships with Countries in Central and Eastern Europe
086 Belarus	29,541	32,678	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Austrian Energy Partnerships with Countries in Central and Eastern Europe
086 Belarus	3,800	4,204	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Austrian Energy Partnerships with Countries in Central and Eastern Europe
088 States of ex-Yugoslavia, unspecified	1,500,000	1,659,292	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	EBRD European Western Balkans Joint Fund (WBJF)
089 Europe, regional/multi-country	1,500,000	1,659,292	committed	10 ODA	110 Standard Grant	adaptation	410 Cross-Cutting	Enhancing Environmental Performance Through Climate Proofing of Infrastructure Investments in the Western Balkan Region from an EU integration perspective
089 Europe, regional/multi-country	1,000,000	1,106,195	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	IFC -Clean Energy Infrastructure Programme for Southeast and Eastern Europe

089 Europe, regional/multi-country	479,983	530,955	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	South East Europe Energy Roadmap (SEEERMAP)
089 Europe, regional/multi-country	1,000,000	1,106,195	committed	10 ODA	110 Standard Grant	mitigation	250 Other (Business and other services)	IFC -Europe & Central Asia (ECA) Public Private Partnership (PPP) Program
089 Europe, regional/multi-country	250,000	276,549	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Support for countries on the Western Balkans in implementing climate change actions, especially in the area of Measuring, Reporting and Verification (MRV)
089 Europe, regional/multi-country	1,500,000	1,659,292	committed	10 ODA	110 Standard Grant	mitigation	430 Cross-Cutting	Contribution to EBRD/MEI - Municipial Infrastructure Fund (in support of building communal infrastructure)
093 Moldova	196,000	216,814	committed	10 ODA	110 Standard Grant	adaptation	410 Cross-Cutting	Supporting Moldova's National Climate Change Adaptation Planning Process
142 Egypt	250,000	276,549	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Paving new ways for sustainable photovoltaic solutions in Egypt
142 Egypt	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Opportunities through wind power
142 Egypt	3,500,000	3,871,681	committed	21 OOF	421 Standard loan	cross-cutting	311 Agriculture	Credit
218 South Africa	18,973,532	20,988,420	committed	21 OOF	421 Standard loan	mitigation	232 Energy	Credit
238 Ethiopia	1,000,000	1,106,195	committed	10 ODA	110 Standard Grant	adaptation	122 Other (Basic health)	Productive Safety Net Project 4
238 Ethiopia	175,000	193,584	committed	10 ODA	110 Standard Grant	cross-cutting	151 Other (Government and civil society, general)	Delivering Together in Support of the 2030 Agenda in Ethiopia (Delivering as One)
238 Ethiopia	770,000	851,770	committed	10 ODA	110 Standard Grant	mitigation	113 Other (Secondary education)	Ethiopia: 13 Months of Solar Power
238 Ethiopia	55,558	61,457	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Strengthening Implementation of the Yayu Coffee Forest Biosphere Reserve
241 Ghana	100,000	110,619	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	WP Access to affordable solar energy under the 200.000 rooftop PV program in Ghana
241 Ghana	100,000	110,619	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Strengthening solar-charging micro-enterprises in West-Africa
244 Guinea-Bissau	350,000	387,168	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Project development for Hydro Power Plant Saltinho

248 Kenya	154,000	170,354	committed	10 ODA	110 Standard Grant	mitigation	430 Cross-Cutting	Co-financing: Water supply and Community hygiene Turkana County
259 Mozambique	350,000	387,168	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Promoting Agricultural Productivity of Smallholder Farmers in Sofala Contribution 2016
259 Mozambique	120,000	132,743	committed	10 ODA	110 Standard Grant	adaptation	740 Other (Disaster prevention and preparedness)	PROPREM - Programme for Preparedness and Response to Emergencies in Mozambique
261 Nigeria	9,000	9,956	committed	10 ODA	110 Standard Grant	mitigation	311 Agriculture	Contribution to irrigation through solar pumps in Aouderas
265 Zimbabwe	10,000	11,062	committed	10 ODA	110 Standard Grant	cross-cutting	311 Agriculture	Vocational agricultural training of young people
266 Rwanda	75,000	82,965	committed	10 ODA	110 Standard Grant	adaptation	430 Cross-Cutting	Regional development cooperation to strengthen the resilience of rural communities in Kirimbi/Nyamsheke (concerning economic, health and ecology)
269 Senegal	520,647	575,937	committed	10 ODA	110 Standard Grant	cross-cutting	430 Cross-Cutting	Co-financing: Improving food security and income of country people in the regions Kaolack, Thiès, Fatick, Kaffrine and Tambacounda
279 South Sudan	500	553	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Support for the construction of photovoltaic plants
279 South Sudan	16,500	18,252	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Extension of the Solar Lamp Project "Sunlight" in South Sudan
282 Tanzania	2,500	2,765	committed	10 ODA	110 Standard Grant	adaptation	740 Other (Disaster prevention and preparedness)	Establishment of disaster risk management
282 Tanzania	7,500	8,296	committed	10 ODA	110 Standard Grant	cross-cutting	140 Water and Sanitation	Clean water for the schools in Duru/Tansania
282 Tanzania	109,690	121,339	committed	10 ODA	110 Standard Grant	cross-cutting	430 Cross-Cutting	Co-financing: Management of natural resources and sustainable Agriculture in Karagwe and Kyerwa
283 Togo	6,000	6,637	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Support for the construction of a solar plant and maintenance of a groundwater pump in Togoville
285 Uganda	10,000	11,062	committed	10 ODA	110 Standard Grant	adaptation	140 Water and Sanitation	Wash up - Water and Sanitation facilities
285 Uganda	500,000	553,097	committed	10 ODA	110 Standard Grant	cross-cutting	140 Water and Sanitation	JWESSP 2016/17: Joint Water and Environment Sector Programme Support – Sector Financing

								Uganda
285 Uganda	1,200,000	1,327,434	committed	10 ODA	110 Standard Grant	cross-cutting	140 Water and Sanitation	JWESSP 2016/17: Joint Water and Environment Sector Programme Support – Sector Financing Uganda
285 Uganda	225,000	248,894	committed	10 ODA	110 Standard Grant	cross-cutting	140 Water and Sanitation	JWESSP 2016/17: Joint Water and Environment Sector Programme Support – Sector Financing Uganda
285 Uganda	50,000	55,310	committed	10 ODA	110 Standard Grant	cross-cutting	312 Forestry	The green lung of Uganda
285 Uganda	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Knowledge Management and Knowledge Services for sustainable development in Eastern Africa
287 Burkina Faso	65,000	71,903	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Earmarked contribution to CGIAR: Participatory Planning for Inclusive and Sustainable Water Management - Burkina Faso
287 Burkina Faso	65,000	71,903	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Earmarked contribution to CGIAR: Nutrition Sensitive forest restoration to adapt to change - Burkina Faso
287 Burkina Faso	98,000	108,407	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	COGEL - Strengthening of public and private capacities to cope with the consequences and impact of climate change and integration in development strategies
287 Burkina Faso	1,500	1,659	committed	10 ODA	110 Standard Grant	mitigation	140 Water and Sanitation	Contribution to the construction of a deep well with solar pump
287 Burkina Faso	1,078	1,192	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Co-financing of the school campaign "Fair Play": Support to the provision of solar energy for schools and health clinics
289 South of Sahara, regional/multi-country	375,000	414,823	committed	10 ODA	110 Standard Grant	cross-cutting	151 Other (Government and civil society, general)	Contribution to the Strategic Plan of SADC-Council of NGOs, earmarked for Programme Area 2 Poverty Eradication for Sustainable Development 2016 - 2018
289 South of Sahara, regional/multi-country	2,000,000	2,212,389	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Southern African Solar Training and Demonstration Initiative, Phase III
289 South of Sahara, regional/multi-country	4,200,000	4,646,018	committed	10 ODA	520 Shares in collective investment vehicles	mitigation	232 Energy	Investment Fund targeting renewable energy investments

298 Africa, regional/multi-country	500,000	553,097	committed	10 ODA	110 Standard Grant	adaptation	140 Water and Sanitation	AfEB - African Water Facility Special Fund
298 Africa, regional/multi-country	2,000,000	2,212,389	committed	10 ODA	110 Standard Grant	cross-cutting	140 Water and Sanitation	Water, Climate and Development Programme in Africa
298 Africa, regional/multi-country	29,997	33,182	committed	10 ODA	110 Standard Grant	mitigation	140 Water and Sanitation	Establishing the Scientific base for a Landfill Research and Training Centre
298 Africa, regional/multi-country	500,000	553,097	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Secondment Sustainable Energy Investment Expert to AfDB
298 Africa, regional/multi-country	70,000	77,434	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Study on Energy Efficiency in Tanzania, Kenya, Uganda
336 Costa Rica	12,451,380	13,773,651	committed	21 OOF	421 Standard loan	mitigation	232 Energy	Alisios Wind Park
338 Cuba	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	311 Agriculture	MS Mobile fruit drying - El secado de frutas móvil
342 El Salvador	48,000	53,097	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Organic farming and sustainable development
342 El Salvador	113,503	125,556	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Co-financing: Agrarecological Development
342 El Salvador	112,305	124,231	committed	10 ODA	110 Standard Grant	cross-cutting	311 Agriculture	Co-financing: Ecological Municipial Development
347 Guatemala	118,563	131,153	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Co-financing: Agricultural ecology family based farming (Comite Campesino del Altiplano; CCDA)
347 Guatemala	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Refurbishment of the solar plant in Loita community
364 Nicaragua	12,500	13,827	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Manufacturing of energy efficient components in the partner school in Leon
364 Nicaragua	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Electrification through solar energy in Wawahang
364 Nicaragua	556,989	616,139	committed	10 ODA	210 Interest subsidy	mitigation	232 Energy	Subsidy for Frame II Export Credit Charges: Solar driven wram water supply and cooling for "Dr. Alejandro Davila Bolanos" Hospital
364 Nicaragua	1,779,000	1,967,920	committed	10 ODA	210 Interest subsidy	mitigation	232 Energy	Interest Subsidy Commitment: Solar driven wram water supply and cooling for "Dr. Alejandro Davila Bolanos" Hospital
364 Nicaragua	3,839,650	4,247,400	committed	22 OSEC	421 Standard loan	mitigation	232 Energy	Frame II Export Credit: Solar driven wram water supply and cooling for "Dr. Alejandro Davila Bolanos" Hospital

389 North & Central America, regional/multi-country	565,000	625,000	committed	10 ODA	110 Standard Grant	adaptation	740 Other (Disaster prevention and preparedness)	UNISDR - Strengthening regional disaster risk reduction strategies and capacities for resilience in the Caribbean
425 Argentina	50,000	55,310	committed	10 ODA	110 Standard Grant	mitigation	312 Forestry	Enhancing Sustainable Livelihoods in Argentina Northeastern Model Forests: a practical approach
428 Bolivia	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Support for the installation of small solar and photovoltaic facilities in Independencia
428 Bolivia	9,000	9,956	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Support of solar energy
431 Brazil	29,000	32,080	committed	10 ODA	110 Standard Grant	cross-cutting	151 Other (Government and civil society, general)	Program to secure land rights and landuse planning of the indigenous population at the Rio Negro
431 Brazil	10,600	11,726	committed	10 ODA	110 Standard Grant	cross-cutting	151 Other (Government and civil society, general)	Land rights and landuse plans at Rio Negro. Brazil A-15-501 Good Life at Rio Negro II
431 Brazil	9,000	9,956	committed	10 ODA	110 Standard Grant	cross-cutting	151 Other (Government and civil society, general)	Land rights and management plans along the rio Negro, Brazil
431 Brazil	7,270	8,042	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Support of Climate Alliance Projects in the Rio Negro area
431 Brazil	475,000	525,442	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Promotion of the use of biogas/ethane in Brazil
431 Brazil	74,500	82,412	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Design, assessment and implemenation of advanced agriculture based Biogas facilities for low carbon rural development in Brazil (BioBraz)
437 Colombia	10,000	11,062	committed	10 ODA	110 Standard Grant	cross-cutting	311 Agriculture	Riverbasin management für sustainable agriculture and forestry in Colombia
451 Paraguay	399,790	442,246	committed	10 ODA	110 Standard Grant	mitigation	312 Forestry	Reducing CO2 emissions through agroecology ans sustainable forestry and strengthening inidgenous peoples and peasant communities in Paraguay
457 Suriname	48,000	53,097	committed	10 ODA	110 Standard Grant	mitigation	312 Forestry	Provision of forest inventory data of the Amazon shield to carry out further research on tropical forest inventories
489 South America, regional/multi-country	45,712	50,567	committed	10 ODA	110 Standard Grant	adaptation	140 Water and Sanitation	Associate Professional Officer (APO) Program - Water and Sanitation Division
498 America, regional/multi-country	472,233	522,381	committed	10 ODA	110 Standard Grant	adaptation	140 Water and Sanitation	Aquafund inkl. Trust Fund Appointee

498 America, regional/multi-country	43,098	47,674	committed	10 ODA	110 Standard Grant	cross-cutting	430 Cross-Cutting	Associate Professional Officer (APO) Program - Institutions for Development Department (IFD) - ESCI
498 America, regional/multi-country	5,692,060	6,296,526	committed	21 OOF	421 Standard loan	mitigation	232 Energy	Credit Line (30%)
612 Georgia	200,000	221,239	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Hydro Power Plant Mestiachala 2 - detailed studies
612 Georgia	231,969	256,603	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Hydro Power Plant Mestiachala 1 - detailed studies
612 Georgia	900,000	995,575	committed	10 ODA	110 Standard Grant	mitigation	321 Industry	Reducing greenhouse gas (GHG) emissions through improved energy efficiency in the industrial sector in Georgia
619 Central Asia, regional/multi-country	5,000	5,531	committed	10 ODA	110 Standard Grant	adaptation	140 Water and Sanitation	Support to the finalization of the agreement on the management of transboundary watercourses shared by Georgia and Azerbaijan
619 Central Asia, regional/multi-country	1,356,450	1,500,498	committed	10 ODA	110 Standard Grant	mitigation	321 Industry	IFC - Central Asia Agrifinance Project (CAAP)
630 Bhutan	140,000	154,867	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Earmarked contribution to CGIAR: Forest ecosystem service provision and adaptation to land-use and climate change in Bhutan (SLANT-Bhutan)
630 Bhutan	3,500	3,872	committed	10 ODA	110 Standard Grant	adaptation	311 Agriculture	Exchange of knowledge between organic farmers
630 Bhutan	224,500	248,341	committed	10 ODA	110 Standard Grant	cross-cutting	312 Forestry	Climate Change adaptation potentials of forests in Bhutan – building human capacities and knowledge base (BC-CAP II)
645 India	36,000	39,823	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Enlargement of the environmental and social management system
645 India	15,000,000	16,592,920	committed	21 OOF	421 Standard loan	mitigation	232 Energy	Credit Line SREI Infrastructure Finance Ltd.
660 Nepal	15,000	16,593	committed	10 ODA	110 Standard Grant	adaptation	730 Other (Reconstruction relief and rehabilitation)	Contribution to sustainable reconstruction of houses
660 Nepal	55,850	61,781	committed	10 ODA	110 Standard Grant	adaptation	740 Other (Disaster prevention and preparedness)	"PRAYAAS" - Strengthening resilience of local communities and institutions from the impacts of natural disaster along the earthquake affected regions of Nepal.
660 Nepal	18,000	19,912	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Technical support to the Fund Manager of the Dolma Impact Fund II

666 Bangladesh	9,486,766	10,494,210	committed	21 OOF	421 Standard loan	mitigation	232 Energy	Credit line for the financing of SMEs as well as of green finance and renewable energy projects.
689 South & Central Asia, regional/multi-country	600,000	663,717	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Contribution 2016 and 2017 ICIMOD's MTAP 20134 2017
730 China	1,980	2,190	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Organisation of a workshop in the frame of the China-EU-Water Platform. Title: "Operation and Development of Small Hydropower".
730 China	24,360	26,947	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Professional support CEWP Co-lead Programme on Small Hydropower
730 China	1,000	1,106	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Organisation of a workshop regarding "Green Urban Development - Challenges in the fields of air quality and waste management/circular econmy".
730 China	2,355	2,605	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Organisational cost for the Workshop regarding "Green Urban Development - Challenges in the fields of air quality and waste management/circular economy".
745 Laos	44,900	49,668	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Consulting for the project development initiative
798 Asia, regional/multi-country	147,014	162,626	committed	10 ODA	110 Standard Grant	mitigation	210 Transport	Secondment of a transport specialist with a focus on railways
798 Asia, regional/multi-country	192,392	212,823	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Secondment of a hydropower specialist
889 Oceania, regional/multi-country	2,500	2,765	committed	10 ODA	110 Standard Grant	adaptation	998 Other	Voluntary Contribution to IUCN
889 Oceania, regional/multi-country	600,000	663,717	committed	10 ODA	110 Standard Grant	cross-cutting	231 Energy	First operational phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)
998 Bilateral unallocated	146,381	161,926	committed	10 ODA	110 Standard Grant	adaptation	160 Other (Other social infrastructure and services)	IBRD - Donor Funded Staffing Program - Poverty and Equity Global Practice, Front Office (GPVDR)
998 Bilateral unallocated	25,000	27,655	committed	10 ODA	110 Standard Grant	adaptation	410 Cross-Cutting	Technical support for UNFCCC negotiations (adaptation)
998 Bilateral unallocated	146,396	161,943	committed	10 ODA	110 Standard Grant	adaptation	430 Cross-Cutting	IBRD - Donor Funded Staffing Program - GSURR, Urban Risk
998 Bilateral unallocated	2,400,000	2,654,867	committed	10 ODA	110 Standard Grant	cross-cutting	210 Transport	Mobility and Logistics Multi-Donor Trust Fund

998 Bilateral unallocated	250,000	276,549	committed	10 ODA	110 Standard Grant	cross-cutting	231 Energy	Contribution to Sustainable Energy for All (SE4all)
998 Bilateral unallocated	6,900	7,633	committed	10 ODA	110 Standard Grant	cross-cutting	240 Other (Banking and financial services)	Assistance for the implementation of an Environmental and Social Action Plan (ESAP) at Developing World Markets (DWM)
998 Bilateral unallocated	50,000	55,310	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Contribution to the Poverty and Environment Partnership (PEP) Strategy 2016-2018
998 Bilateral unallocated	20,000	22,124	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Voluntary contribution towards the International Institute for Sustainable Development (IISD)
998 Bilateral unallocated	28,565	31,599	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	IUCN (International Union for Conservation of Nature and Natural Resources) Membership fee 2016
998 Bilateral unallocated	30,000	33,186	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Voluntary contribution to the UNFCCC Trust Fund for Participation
998 Bilateral unallocated	10,000	11,062	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Voluntary contribution to OECD RC - Tracking Private Climate Finance
998 Bilateral unallocated	50,000	55,310	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Supporting a technical dialogue for developing countries on nationally determined contributions
998 Bilateral unallocated	45,000	49,779	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Study on the role of the private sector in the contect of climate finance
998 Bilateral unallocated	8,000	8,850	committed	10 ODA	110 Standard Grant	cross-cutting	410 Cross-Cutting	Technical support for tracking and reporting of the austrian contribution for climate finance
998 Bilateral unallocated	20,000	22,124	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	FS on the setting up of an "International Center for Energy Transformation“ (ICET)
998 Bilateral unallocated	193,572	214,128	committed	10 ODA	110 Standard Grant	mitigation	231 Energy	Study on Energy Efficiency
998 Bilateral unallocated	49,720	55,000	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	UP sunlight modular lighting for off grid regions
998 Bilateral unallocated	70,000	77,434	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Contribution 2016/2017 towards the Renewable Energy and Energy Efficiency Partenership (REEEP)
998 Bilateral unallocated	500,000	553,097	committed	10 ODA	110 Standard Grant	mitigation	232 Energy	Kilimo Biashara Sustainable Energy Fund
998 Bilateral unallocated	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	321 Industry	MS Back Ma's International - transfer of energy saving climate friendly oven technology

998 Bilateral unallocated	20,000	22,124	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Voluntary contribution towards the International Institute for Sustainable Development (IISD)
998 Bilateral unallocated	16,984	18,788	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Technical support on legal issues in the context of the UNFCCC
998 Bilateral unallocated	17,800	19,690	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	THE PEP (Transport, Health and Environment Pan-European Programme; 89% ODA)
998 Bilateral unallocated	15,200	16,814	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	THE PEP (Transport, Health and Environment Pan-European Programme; 76% ODA)
998 Bilateral unallocated	22,049	24,391	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Contribution 2016 to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
998 Bilateral unallocated	11,915	13,180	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Technical support for UNFCCC negotiations (reporting)
998 Bilateral unallocated	12,000	13,274	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Participation in Reviews of Inventories under the Kyoto Protocol and in the CLRTAP-Review
998 Bilateral unallocated	10,000	11,062	committed	10 ODA	110 Standard Grant	mitigation	410 Cross-Cutting	Contribution to the Annual Aarhus Centres Meeting with a focus on "green economy and resource efficiency"
998 Bilateral unallocated	500,000	553,097	committed	10 ODA	110 Standard Grant	mitigation	430 Cross-Cutting	Contribution to the EIB - Eastern Partnership Technical Assistance Trust Fund (EPTATF)
998 Bilateral unallocated	20,000	22,124	committed	10 ODA	110 Standard Grant	mitigation	998 Other	Climate change workshops for women migrants in Austria (Peregrina)
998 Bilateral unallocated	10,000,000	11,061,947	committed	21 OOF	421 Standard loan	cross-cutting	232 Energy	ICCF II Financing Envelope
998 Bilateral unallocated	5,000,000	5,530,973	committed	21 OOF	431 Subordinated loan	mitigation	231 Energy	Credit Line
Total contributions through bilateral, regional and other channels	122,225,686	135,205,405						
Subtotal	38,282,299	42,347,676		ODA				
Subtotal	83,943,388	92,857,730		OOF				
Subtotal	31,746,309	35,117,599			Grants			

Subtotal	83,943,388	92,857,730			Conc. loans			
Subtotal	6,535,989	7,230,077			Other			
Subtotal	4,554,871	5,038,574					Agriculture	
Subtotal	96,500,171	106,747,977					Energy	
Subtotal	772,290	854,303					Forestry	
Subtotal	2,266,450	2,507,135					Industry	
Subtotal	2,547,014	2,817,494					Transport	
Subtotal	5,006,942	5,538,652					Water	
Subtotal	4,302,731	4,759,658					Other	
Subtotal	6,275,218	6,941,612					Cross-cutting	

5.2 Technology development and transfer

Austria is a pioneer nation in environmental technologies. Austrian cutting-edge technologies in the fields of solar energy and photovoltaics (for hot water supply and supplementary heating, but also for environmentally sound refrigeration and the production of cold from heat), wind and hydropower for the generation of electricity, biomass (for the generation of electricity, heat and organic fuels), waste treatment, air and water purification as well as ecological construction are used world-wide. Currently about 200,000 people are employed in Austria's environmental sector. The turnover generated amounted to Euro 33.9 billion in 2015, which is about 10 % of the GDP. Austria's vision continues - not only to become a leading supplier of environmental technology and services - but also to increase the production and supply of energy from renewable sources as well as energy efficiency measures at home.

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 the table below.

The Austrian Development Cooperation (ADC)[16] 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 are related to 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.

About ten years ago, most of ADC's financial support to the energy sector was dedicated to the construction and maintaining of hydropower plants for the national energy supply of partner countries. In 2007, the first contribution agreement to the regional "Energy and Environment Partnership" (EEP) in Central America was signed, and since 2009 the focus of ADC's energy portfolio is on regional initiatives that support the development and dissemination of decentralised renewable energy solutions, help mitigate existing barriers to renewable energy and energy efficiency markets, investments and industries and promote south-south and triangular experience exchange. Therewith, the support of applied research and technology transfer gains importance within the energy portfolio.

[16] Bilateral Austrian Development Cooperation

Although not all renewable energy sources are equally recommended in view of their direct GHG emissions, it has to be taken into account that in Africa, where most of the above mentioned regional initiatives take place, almost all energy currently used is coming either from fossil fuel and gas, or from wooden biomass. In this regard, a switch to energy efficient solutions or any non-wood renewable energy source is a significant contribution to combatting deforestation and therewith indirectly mitigating atmospheric GHG emissions.

In the context of rural development projects and programs, which are following a multisector, interlinked and systemic approach, the entry points for climate change mitigation are correspondingly divers: activities to avoid deforestation and degradation of vegetation and soils are matched by the search for alternative energy sources respectively energy efficiency solutions for household, sustainable and climate-smart agricultural production (i.e. climate-resilient seeds) and small business activities.

Another important actor is OeEB, which acts as the official Development Bank of Austria. As a private sector financial institution it has been mandated by the Republic of Austria to promote economically, environmentally and socially sustainable development through financing and investing in profitable private sector projects in developing and transition countries and through the provision of advisory services. Renewable energy, energy and resource efficiency are areas of special focus. By end-2016, OeEB had directly co-financed renewable energy projects for EUR 162.8 million. In addition, OeEB supports renewable energy and energy efficiency projects through local financial intermediaries. By end-2016, local financial institutions had used EUR 299.9 million of OeEB's funds to finance renewable energy projects with a total credit volume of EUR 1,799 million (including equity and credit volume of co-financing partners). This enable the construction of 1,525 MW newly installed capacity from renewable resources.

OeEB's total committed loan portfolio for projects contributing to the mitigation of climate change amounted to EUR 602.8 million by end-2016 (including equity and credit volume of co-financing partners). This included financing for the construction of hydro, solar, wind and geothermal power plants employing adequate technology as well as projects for the refurbishment of existing hydro plants and transmission lines and measures to enhance energy efficiency. In addition, advisory services were provided, inter alia, for training local financial institution staff to build up a green finance business line and in support of the national energy sector regulator of a developing country. Finally, OeEB also provided funding to technical assistance facilities of the Green for Growth Fund and the Global Climate Partnership Fund.

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. The National Designated Entity (NDE) for the Climate Technology Centre and Network is located in the Ministry. Furthermore the

Ministry also nominated a member for the Technology Executive Committee who served two terms (four year) and was actively engaged in the development and implementation of TEC's rolling work plan.

Further initiatives of the Austrian government, such as the joint environmental-technologies initiative of the Ministry of Agriculture, Forestry, Environment and Water Management and the Federal Economic Chamber, supports export oriented SMEs and hence supports technology transfer. It provides support and strengthens the export orientation of SMEs. Information events abroad present the offers and capacities of Austrian environmental technology and service providers. In addition to the opportunity of participating in various seminars in the target markets, participants present their environmental-technology products and services. The goods and services offered by the enterprises selling environmental technologies are presented also in joint catalogues and business guides.

Austria is also member of institutions and initiatives that focus on technology development and transfer, e.g. Renewable Energy and Energy Efficiency Partnership (REEEP), Private Financing Advisory Network (PFAN), Sustainable Energy for All. REEEP (located in Vienna) is a public private partnership for scaling up clean energy business models in developing countries and emerging markets and collaborates with PFAN on business models for technology transfer.

Since 1999, Austria is playing a key role as initiator and supporter of the Global Forum on Sustainable Energy (GFSE). GFSE is a neutral multi-stakeholder platform that is facilitating international dialogue on energy for sustainable development by taking into accounts the special interests and challenges of developing countries. It plays an active role and cooperates with UNIDO in the preparation of the Vienna Energy Forum (VEF).

Some examples of programmes and projects supporting development and transfer of technology:

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

Recipient country and/or region	*Targeted area*	*Measures and activities related to technology transfer*	*Sector[c]*	*Funding source*	*Activities under-taken by*	*Status*
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	Private and Public e	Under implemen-tation (since 2015)
Global (Uganda, Bangladesh, Kenya, Nicaragua, Nepal, Cambodia)	Adaptation and Mitigation	Advancing Clean Energy Investment- Stimulating climate action and fostering energy access (REEEP, 10th Project Call)	Energy	Public	Private and Public	Under implemen-tation (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	Private and Public	Under implemen-tation (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 implemen-tation (since 2014)
Mali	Adaptation and 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	Imple-mented (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 implemen-tation (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	Inter-national Organi-sation / UNIDO	Under implemen-tation (2013-2019)
Central America and Caribbean	Mitigation	Energy Efficiency Promotion Programme in Central America and the Caribbean	Energy	Public	Inter-national Organi-sation / OLADE	Under implement-tation (phase II: 2015-2018)
Southern Africa Region (SADC)	Mitigation	Start-up and first operational phase of the Southern African Centre for Renewable Energy and Energy Efficiency (SACREEE)	Energy	Public	Inter-national Organi-sation / UNIDO	Under implemen-tation (2013-2019)
West Africa (ECOWAS)	Mitigation	Support to the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)	Energy	Public	Inter-national Organi-sation / ECREEE	Under implemen-tation (2013-2018)
Caribbean	Mitigation	Start-up and first operational phase of the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)	Energy	Public	Inter-national Organi-	Under implemen-tation (2014-

					sation / UNIDO	2019)
Botswana, Lesotho, Mozambique ,Namibia, South Africa, Zimbabwe	Mitigation	Southern African Solar Thermal Training and Demonstration Initiative, Phase III	Energy	Public	CSO	Under implementation (2016-2019)
Egypt	Mitigation	Paving new ways for sustainable solar photovoltaic solutions in Egypt	Energy	Private and Public	Private	Under implementation (2016-2019)
South Eastern Europe Region	Adaptation and Mitigation	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	Private and Public	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	Private and Public	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	Private and Public	Private	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	Private and Public	Private	Under implementation (2014-2018)
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)
South Eastern Europe Region	Adaptation	Capacity Development for the countries of the Western Balkans concerning climate proofing investments in the infrastructure sector. Strengthening national capacities to understand climate change and climate change related risks in the region through improvement of the information base by development of a methodology on high resolution, localized, bias corrected climate change scenarios for the whole target region based onEuroCordex and MedCordex and development of a software for development of further bias corrected with the integration of additional local observations	Infrastructure	Public	International Organisation / UNEnvironment	Under Implementation (2016-2019)

Africa regional	Adaptation and Mitigation	The WACDEP goal is to promote water as a key part of sustainable regional and national development and contribute to climate change adaptation for economic growth and human security. The overall objective of WACDEP is to support integration of water security and climate resilience in development planning and decision making processes, through enhanced technical and institutional capacity and predictable financing and investments in water security and climate change adaptation.	Water	Public	Inter-national Organi-sation (GWP)	Under Implemen-tation (2011-2019
Moldova	Adaptation	Support to Moldova's National Climate Change Adaptation Planning Process: Support to national capacities at all levels to integrate climate change adaptation in planning and budgeting. Cooperation between the Austrian State Hydro-meteorological Service and the Moldovan State Hydro-meteorological Service on capacity development and technology transfer including support to join the EUMETNET programmes.	Adaptation	Public	Inter-national Organi-sation / UNDP	Under Implemen-tation (2013-2017)
Honduras	Mitigation	Supply of energy from hydrodynamic sources; reduce share of electricity generation using non-renewable sources	Energy	Private and Public	Private	Under Implemen-tation (since 10 /2015)
Sub-Sahara Africa	Mitigation	A fund providing equity capital for renewable energy projects in order to improve Sub-Sahara Africa's energy supply	Energy	Private and Public	Private and Public	Under implemen-tation (since 2016)
Georgia	Adaptation and Mitigation	Strengthening the national regulatory body; web-based decision support system to analyse the impact of climate change and water resource development in a certain area of Georgia	Energy	Private and Public	Private and Public	Under implement-tation (since 2016)

5.3 Capacity-building

Capacity-building is a key precondition for the efficient and effective implementation of climate action in developing countries. We recognize this fact by developing programmes, projects and initiatives with our partner countries in such a way that capacity-building is an integral part of most of the projects we support. CTF table 9 provides a small sample of projects that address capacity-building in a context-specific, results-oriented manner.

As already mentioned in section 5.1, above, our bilateral programmes, projects and initiatives are developed and implemented in close cooperation with our partner countries. We therefore understand that they meet existing and emerging needs and interests expressed by our partner countries, including in relation to capacity-building.

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

Recipient country/region	*Targeted area*	*Programme or project title*	*Description of programme or project* [b,c]
Africa, regional	Multiple areas	Water, Climate and Development Programme in Africa	The overall objective of WACDEP is to support integration of water security and climate resilience in development planning and decision making processes, through enhanced technical and institutional capacity and predictable financing and investments in water security and climate change adaptation.
Burkina Faso	Adaptation	Earmarked contribution to CGIAR: Nutrition Sensitive forest restoration to adapt to change - Burkina Faso	Nutrition-sensitive forest restoration to enhance the capacity of rural communities in Burkina Faso to adapt to change
China	Mitigation	Green Urban Development - Challenges in the fields of air quality and waste management/circular economy	A workshop was held in Beijing and focused on capacity building in the area of air quality, waste management and circular economy. Participants included representatives of Chinese Ministries, research institutions, regional and international organisations etc.
Ghana	Mitigation	Strengthening solar-charging micro-enterprises in West-Africa	The business partnership aims at contributing to affordable, cost-saving and environmentally-friendly energy services for rural populations and facilitating entrepreneurship by building the capacity of solar-charging micro-entrepreneurs.