European Commission

Second Biennial Report of the European Union under the UN Framework Convention on Climate Change

Climate Action

The Second Biennial Report of the European Union represents a compilation of the following documents:

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(required under Article 18(1) of 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 and Decision 2/CP.17 of the Conference of Parties of the UNFCCC)

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SECOND BIENNIAL REPORT OF THE EUROPEAN UNION UNDER THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE

INTRODUCTION

This report and its accompanying staff working document constitute the second Biennial Report of the European Union (EU), as required under Article 18(1) of Regulation (EU) No 525/2013 and Decision 2/CP.17 of the Conference of the Parties under the United Nations Framework Convention on Climate Change (UNFCCC). They will be transmitted to the UNFCCC as the EU's second Biennial Report submission.

INFORMATION ON GREENHOUSE GAS EMISSIONS AND TRENDS

Total greenhouse gas (GHG) emissions, including international aviation, in the EU-28 decreased by around 20% between 1990 and 2013. Emissions reported are the emissions relevant to the EU target under the Convention and are taken from the latest submission of the EU inventory to the UNFCCC. The most important GHG is CO2, accounting for 82 % of total EU-28 emissions in 2013.

Emissions per capita in the EU decreased by 26% between 1990 and 2013, from 11.8 t/capita, to 8.9 t/capita. Emissions in the EU-28 have been decreasing while the economy has grown.The decoupling of economic growth from GHG emissions has been progressing steadily since 1990. Gross Domestic Product (GDP) growth for the 1990-2013 period was approximatively 45% for the EU-28, while GHG emissions decreased by around 20%. As a result, the greenhouse gas emission intensity of the EU was reduced by almost a half.

The implementation of structural policies in the field of climate and energy has significantly contributed to this successful decoupling. In particular, the implementation of the 2020 Climate and Energy Package has resulted in a significant increase in renewable energy and progress in energy efficiency. Both of these are the key drivers behind the observed reduction in emissions, with the carbon price acting as driving force expected to be progressively stronger in the future.

EU QUANTIFIED ECONOMY-WIDE EMISSIONS REDUCTION TARGET

Under the UNFCCC, the EU and its Member States have taken a joint emission reduction target to reduce its GHG emissions by at least 20% compared to 1990 by 2020, with a conditional offer to move to a 30% reduction, provided that other developed countries commit themselves to comparable emission reductions and developing countries contribute adequately according to their responsibilities and respective capabilities.

The EU target is enshrined in legislation, and is being implemented by the EU and its Member States. At the heart of this legislation, the EU Climate and Energy package sets for the Union a 20% GHG emission reduction target by 2020 compared to 1990, which is equivalent to -14% compared to 2005. This effort has been divided between the sectors covered by the EU Emission Trading System (EU ETS) and non-ETS sectors under the Effort Sharing Decision (ESD).

PROGRESS IN ACHIEVING THE ECONOMY-WIDE EMISSIONS REDUCTION TARGET - EU POLICIES AND MEASURES AND THEIR EFFECTS

The EU and its 28 Member States, both individually and jointly, have been implementing domestic and international actions against climate change now for a considerable number of years, which resulted in significant emission reductions.

To respond to challenges and investment needs related to climate action, the EU has agreed that at least 20% of the EU budget for 2014-2020 – as much as €180 billion − should be spent on climate change-related action. This represents a significant increase compared to climate action related expenditure in the previous budget, which represented 6.8% of the EU budget for 2007-2013. To achieve this, mitigation and adaptation actions are integrated into all major EU spending programmes, in particular cohesion policy, regional development, energy, transport, research and innovation and the Common Agricultural Policy.

The EU and its Member States are continuously strengthening legislation to enable GHG reductions and the transition to a low carbon economy. Key policy developments since the submission of the first biennial report include developments to the EU ETS, new legislative instruments in the transport sector and a strengthened F-gas Regulation.

Since 2013, the EU ETS operates under the improved and harmonised rules of Phase 3 covering the period 2013-2020. A well-functioning, reformed EU ETS is needed as the main instrument to achieve the reduction of EU ETS emissions to 43% in 2030 compared to 2005. Europe's flagship tool is therefore undergoing significant structural reforms to place the EU on track towards a low-carbon economy.

As a first step, in order to address the challenge of a growing surplus of emission allowances that has built up in the EU ETS, the auctioning of 900 million allowances was postponed. As a second step, a market stability reserve was agreed that will both address the surplus of allowances and improve the system's resilience to major shocks by adjusting the supply of allowances to be auctioned. Finally, in July 2015 the Commission proposed a revision of the EU ETS in order to implement a reduction of EU ETS emissions to 43% in 2030 compared to 2005. This is the final step to make the EU ETS fit to play its full strength in the 2030 context.

Key policy developments also occurred in the transport sector, with new EU legislation setting binding emission targets for new car and van fleets to be met by 2021. The Heavy Duty Vehicle Strategy, adopted in May 2014 is the EU's first initiative to tackle the fuel consumption of, and CO2 emissions from, trucks, buses and coaches. In April 2015, the EU adopted a legislative instrument providing for an EU-wide monitoring, reporting and verification system for shipping as the first step in the EU strategy towards cutting emissions in this sector.

The revised F-gas Regulation applies from 1 January 2015, strengthening previously existing measures (e.g. containment of gases through the detection of leaks, installation of equipment by trained personnel, recovery of used gases) and introducing a phase-down in the use of F-gases that will cut total EU F-gas emissions by two-thirds by 2030 compared to 2014 levels. It also prohibits the placing of F-gases on the market in certain circumstances where alternatives are available, e.g. domestic refrigerators and freezers that contain HFCs with a GWP in excess of 150.

Moreover, building up on the 2020 Climate and Energy Package, and in line with the objective of moving towards a competitive low carbon economy, the European Council reached an agreement in October 2014 on the main building blocks of the EU 2030 Climate and Energy Framework: a

binding target of at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990; a target of at least 27 % renewable energy by 2030, binding at the EU level; an indicative energy efficiency target of at least 27% for 2030, to be reviewed in 2020 having in mind a 30% target.

For this purpose, the Commission has already proposed a revised EU ETS Directive in July 2015 which is currently in discussions in the EU institutions and will come forward with legislative proposals covering the non-ETS sectors. The Commission is also rolling out the initiatives foreseen in the Strategic Framework for the Energy Union, including upcoming proposals on renewable energy and energy efficiency.

PROGRESS IN ACHIEVING THE ECONOMY-WIDE EMISSIONS REDUCTION TARGET - PROJECTIONS

According to the latest projections with existing measures, as aggregates on basis of the data submitted by Member States in 2015 to the EU, emissions are estimated to be 24% lower in 2020 than in 1990. The EU is therefore currently on track towards meeting its target for 2020.

Up to 2030, GHG emissions are projected to decrease further.

Emissions from the energy sector, excluding transport, represent the largest share of total GHG emissions and of the projected total emission reductions. Emissions from this sector are projected to decrease by approximately 33 % in 2020 compared to 1990 and by about 38 % up to 2030. The transport sector is the only sector whose emissions are projected to increase, by 13% between 1990 and 2020 and then stable until 2030. After 2007, a slow but steady decline in transport emissions is visible, due to a combination of higher fuel prices and more stringent policies, such as CO_2 standards for cars and vans.

PROVISION OF FINANCIAL, TECHNOLOGICAL AND CAPACITY BUILDING SUPPORT TO DEVELOPING COUNTRY PARTIES

Climate finance plays a key role as a means to reaching the agreed goal of limiting the global average temperature increase to below 2°C above pre-industrial levels, achieving transformational change to low GHG emission economies and supporting climate resilient sustainable development. The EU and its Member States are the largest providers of Official Development Assistance (ODA) to developing countries, accounting for €58.2 billion in 2014 and allocated €7.34 billion to fast start finance over 2010-2012. Furthermore, in 2014, the EU and its Member States collectively committed €14,5 billion to help developing countries tackling climate change.

The EU promotes a common and comprehensive approach to financing for development, including climate change actions as part of the "Agenda for Change," emphasising mutually reinforcing climate and development co-benefits.

The total support provided by the EU to developing country Parties to the UNFCCC in 2013 and 2014 amounted to USD 2 178 million (€ 1 641 million).

Capacity development is at the heart of the EU development assistance and all development aid cooperation projects in the field of climate change, involve technology transfer activities. Europe is a leading player in the area of low carbon technologies and is maintaining its position with a range of policy initiatives. The EU supports the development and deployment of technologies in developing countries through substantial investments in innovation.

1. GREENHOUSE GAS EMISSION INVENTORIES

This section part summarises information on the EU's historic greenhouse gas (GHG) emissions since 1990.

1.1. Summary information on GHG emission trends

The emission data presented here is based on the European Union's national greenhouse gas inventory 1990-2013, submitted to the UNFCCC on 25 November 2015[1]. The inventory is in line with the UNFCCC reporting guidelines on annual inventories for Parties included in Annex I to the Convention (Decision 24/CP.19) and with Regulation (EU) No 525/2013.

1.1.1. Overall greenhouse gas emission trends

EU GHG emissions are the sum of Member State (MS) emissions. Thus, trends in EU GHG emissions fully reflect emission trends at MS level. Most EU MS reduced GHG emissions between 1990 and 2013 (Table 1-1) and consequently total GHG emissions, without Land Use, Land Use Change and Forestry (LULUCF), in the EU-28 decreased by 21.2 % between 1990 and 2013 (-1 203 million tonnes CO_2 equivalents). However, when including international aviation for comparability with the EU 2020 target, the decrease is 1 139 million tonnes CO_2 equivalents or 19.8%.

Emissions per capita in the EU-28 dropped by 26 % for the same period, from 12.0 t/capita, to 8.9 t/capita. Emissions in the EU-28 have been decreasing while the economy has grown; the decoupling of economic growth from GHG emissions has been progressing steadily since 1990.

Table 1-1 EU GHG emissions in CO_2 equivalents (without LULUCF)

MEMBER STATE	**1990** (million tonnes)	**2013** (million tonnes)	**2012–2013** (million tonnes)	**Change 2012–2013** (%)	**Change 1990-2013** (%)
Austria	78.7	79.6	-0.2	-0.2 %	1.2 %
Belgium	147.1	119.4	0.2	0.2 %	-18.8 %
Bulgaria	109.4	55.9	-5.3	-8.6 %	-48.9 %
Croatia	35.1	24.5	-1.0	-4.0 %	-30.3 %
Cyprus	5.6	8.3	-0.8	-8.9 %	49.7 %
Czech Republic	193.4	127.1	-3.5	-2.6 %	-34.2 %
Denmark	69.3	54.6	2.0	3.8 %	-21.2 %
Estonia	40.0	21.7	2.3	12.0 %	-45.7 %
Finland	71.1	63.0	0.6	1.0 %	-11.4 %
France	549.4	490.2	0.7	0.1 %	-10.8 %
Germany	1247.9	950.7	22.6	2.4 %	-23.8 %
Greece	105.0	105.1	-7.5	-6.6 %	0.1 %
Hungary	94.2	57.4	-2.6	-4.3 %	-39.1 %
Ireland	56.7	58.8	-0.8	-1.3 %	3.7 %

[1] http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php

MEMBER STATE	1990 (million tonnes)	2013 (million tonnes)	2012–2013 (million tonnes)	Change 2012–2013 (%)	Change 1990-2013 (%)
Italy	521.1	437.3	-31.6	-6.7 %	-16.1 %
Latvia	26.2	10.9	-0.1	-0.5 %	-58.3 %
Lithuania	47.8	19.9	-1.3	-6.1 %	-58.3 %
Luxembourg	12.9	11.1	-0.6	-5.1 %	-13.5 %
Malta	2.0	2.8	-0.4	-12.1 %	39.4 %
Netherlands	219.5	195.8	-0.5	-0.2 %	-10.8 %
Poland	473.9	394.9	-3.9	-1.0 %	-16.7 %
Portugal	60.4	65.1	-1.9	-2.8 %	7.7 %
Romania	253.3	110.9	-10.0	-8.3 %	-56.2 %
Slovakia	75.5	43.7	0.0	-0.1 %	-42.2 %
Slovenia	18.6	18.2	-0.7	-3.9 %	-2.1 %
Spain	290.7	322.0	-26.7	-7.7 %	10.8 %
Sweden	71.8	55.8	-1.6	-2.7 %	-22.4 %
United Kingdom	803.7	572.1	-13.5	-2.3 %	-28.8 %
EU-28	**5 680.2**	**4 476.8**	**-85.9**	**-1.9 %**	**-21.2 %**
EU-28 International bunkers: Aviation	69.5	134.2	-0.1	-0.1 %	93.1 %
EU-28 International bunkers: Marine	108.8	139.6	-8.0	-5.4 %	28.8 %

The overall EU GHG emission trend is dominated by the two largest emitters, Germany and the United Kingdom, which together account for more than one third of total EU-28 GHG emissions in 2013. These two Member States have achieved total domestic GHG emission reductions in 2013 of 529 million tonnes of CO_2 equivalents compared to 1990(not counting carbon sinks and the use of Kyoto mechanisms).

The main reasons for the favourable trend in Germany was increasing efficiency in power and heating plants and the economic restructuring of the five new Länder after German reunification. The reduction of GHG emissions in the United Kingdom was primarily the result of liberalising energy markets and the subsequent fuel switches from oil and coal to gas in electricity production, and N_2O emission reduction measures in the production of adipic acid.

France and Italy were the third and fourth largest emitters in 2013, with a share in the EU total of 11 % and 10 % respectively. Italy's GHG emissions were 16 % below 1990 levels in 2013. They increased in the years following 1990, primarily due to increases in road transport, electricity and heat production, and petroleum refining. However, Italian emissions decreased after 2004 with significant drops in 2009, 2012 and 2013, which were mainly due to the economic crisis and reductions in industrial output during these years. France's emissions were 11 % below 1990 levels in 2013. In France, large reductions were achieved in N_2O emissions from adipic acid production, but CO_2 emissions from road transport and HFC emissions from consumption of halocarbons increased considerably between 1990 and 2013.

Poland and Spain are the fifth and sixth largest emitters in the EU-28, accounting for 9 % and 7 %, respectively, of total EU-28 GHG emissions in 2013. Spain increased emissions by 11 % between 1990 and 2013. This was largely due to emission increases from road transport, electricity and heat production, and households and services. Poland decreased GHG emissions by 17 % between 1990 and 2013. The main factors for decreasing emissions in Poland – as with other new Member States

– was the decline of energy-inefficient heavy industry and the overall restructuring of the economy in the late 1980s and early 1990s. The notable exception was transport (especially road transport), where emissions increased.

1.1.2. Emission trends by gases

Table 1-2 gives an overview of the main trends in EU-28 GHG emissions and removals for 1990 – 2013. The most important GHG by far is CO_2, accounting for 82 % of total EU-28 emissions in 2013 excluding LULUCF. In 2013, EU-28 CO_2 emissions without LULUCF were 3 650million tonnes, which was 18 % below 1990 levels.

Table 1-2 Overview of EU-28 GHG emissions and removals from 1990 to 2013 in CO_2 equivalents (million tonnes)

GREENHOUSE GAS EMISSIONS	1990	1995	2000	2005	2010	2011	2012	2013
Net CO_2 emissions/removals	4 185	3 903	3 836	3 952	3 607	3 459	3 402	3 320
CO_2 emissions (without LULUCF)	4 460	4 201	4 162	4 286	3 934	3 788	3 728	3 650
CH_4	751	682	621	553	494	486	480	468
N_2O	413	373	333	311	265	260	257	258
HFCs	29	44	53	71	96	99	101	104
PFCs	25	17	12	7	4	4	4	4
Unspecified mix of HFCs and PFCs	6	6	2	1	0	0	0	0
SF_6	11	15	10	8	6	6	6	6
NF_3	0.02	0.04	0.12	0.16	0.12	0.13	0.09	0.07
Total (with net CO_2 emissions/removals)	**5 421**	**5 040**	**4 866**	**4 903**	**4 472**	**4 315**	**4 250**	**4 159**
Total (without CO_2 from LULUCF)	**5 696**	**5 338**	**5 192**	**5 238**	**4 799**	**4 643**	**4 576**	**4 489**
Total (without LULUCF)	**5 680**	**5 332**	**5 177**	**5 224**	**4 786**	**4 630**	**4 563**	**4 447**
International bunkers: Aviation	70	86	116	132	132	136	134	134
International bunkers: Marine	109	110	133	162	157	161	148	140

1.1.3. Emission trends by main source and sink categories

Table 1-3 gives an overview of EU-28 GHG emissions in the main source categories for 1990 – 2013. The most important sector by far is energy (i.e. combustion and fugitive emissions), accounting for 79 % of total EU-28 emissions in 2013. The second largest sector is agriculture (10 %), followed by industrial processes and product use (8 %).

Table 1-3 Overview of EU-28 GHG emissions in the main source and sink categories 1990 to 2013 in CO_2-equivalents (million tonnes)

GHG SOURCE AND SINK	1990	1995	2000	2005	2010	2011	2012	2013
1. Energy	4 356	4 088	4 018	4 115	3 798	3 650	3 604	3 524
2. Industrial Processes and Product Use	511	491	443	449	376	374	360	360
3. Agriculture	569	495	481	455	442	442	439	441
4. Land-Use, Land-Use Change and Forestry	-260	-282	-311	-321	-314	-316	-312	-318
5. Waste	244	248	235	205	170	164	159	152

GHG SOURCE AND SINK	1990	1995	2000	2005	2010	2011	2012	2013
6. Other	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Total (with net CO_2 emissions/removals)	**5 421**	**5 040**	**4 866**	**4 903**	**4 472**	**4 315**	**4 250**	**4 159**
Total (without LULUCF)	**5 680**	**5 332**	**5 177**	**5 224**	**4 786**	**4 630**	**4 563**	**4 447**
International bunkers: Aviation	70	86	116	132	132	136	134	134
International bunkers: Marine	109	110	133	162	157	161	148	140

Table 1-4 shows the sources with the largest contribution to the change in total GHG emissions in the EU-28 between 1990 and 2013 (and with greater disaggregation than Table 1-3).

Table 1-4 Overview of EU-28 categories whose emissions increased or decreased by more than 20 million tonnes CO_2 equivalents in the period 1990–2013

Source category	EU-28 Million tonnes (CO_2 eq.)
Road Transportation (CO2 from 1.A.3.b)	119
Refrigeration and Air conditioning (HFCs from 2.F.1)	91
Commercial/Institutional (CO2 from 1.A.4.a)	-20
Fluorochemical Production (HFCs from 2.B.9)	-28
Direct N2O Emissions From Managed Soils (N2O from 3.D.1)	-31
Cement Production (CO2 from 2.A.1)	-31
Oil and Natural Gas and Other Emissions from Energy Production (CH4 from 1.B.2)	-34
Nitric Acid Production (N2O from 2.B.2)	-45
Adipic Acid Production (N2O from 2.B.3)	-57
Manufacture of Solid Fuels and Other Energy Industries (CO2 from 1.A.1.c)	-61
Enteric Fermentation (CH4 from 3.A)	-61
Managed Waste Disposal Sites (CH4 from 5.A.1)	-71
Coal Mining and Handling (CH4 from 1.B.1.a)	-74
Residential (CO2 from 1.A.4.b)	-75
Iron and steel production (CO2 from 1.A.2.a +2.C.1)	-107
Public Electricity and Heat Production (CO2 from 1.A.1.a)	-267
Manufacturing industries (excl. Iron and steel) (Energy-related CO2 from 1A2 excl. 1A2a)	-290
Total	**-1 203**

1.2. The EU inventory arrangements

The EU GHG inventory is the direct sum of the sectoral emissions data contained in the national inventories of the EU-28 Member States. The legal basis of the compilation of the EU inventory up to June 2013 was Decision No. 280/2004/EC concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol. From 8 July 2013, this Decision was replaced by Regulation (EU) No 525/2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change (hereafter referred to as the Monitoring Mechanism Regulation or

MMR). The Directorate-General for Climate Action of the European Commission is the overall body responsible for preparing the inventory of the European Union.

The main institutions involved in the compilation of the EU GHG inventory are the Member States, the European Commission Directorate-General for Climate Action, the European Environment Agency (EEA) and its European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM), Eurostat, and the Joint Research Centre (JRC).

Since the Sixth national communication and First biennial report from the European Union under the UNFCCC, the following changes have occurred in the inventory arrangements:

Accession of Croatia

The European Union has enlarged and Croatia officially joined on 1 July 2013. The accession of Croatia has not brought about a change to the structure and functioning of the EU national inventory system. Instead, Croatia was smoothly integrated into the EU annual inventory preparation cycle, being fully compliant with the internal deadlines and procedures. As a result, the main change is that the EU inventory submission under the UNFCCC now covers the EU-28 aggregate instead of the EU-27 aggregate used in inventory submissions until 2013.

Adoption of the Monitoring Mechanism Regulation, replacing the Monitoring Mechanism Decision

The legal basis for the national inventories on EU level, which also establishes the Union inventory system, has been updated. The previous Monitoring Mechanism Decision 280/2004/EC has been repealed and replaced by the Monitoring Mechanism Regulation (EU) No 525/2013 (MMR, cf. also section 2.2.2.1). Article 6 of the MMR establishes the Union national system, whose main objective is to ensure the timeliness, transparency, accuracy, consistency, comparability and completeness of national inventories with regard to the Union greenhouse gas inventory. The European Commission continues to be the single entity with overall responsibility, with the task to administer, maintain and continuously improve the Union inventory system.

Article 6(2) of the MMR empowers the European Commission to establish the substantive requirements for a Union inventory system in order to fulfil the obligations pursuant to Decision 19/CMP.1 of the Conference of the Parties to the UNFCCC serving as the meeting of the Parties to the Kyoto Protocol on national systems for inventories. These requirements have been set out in Commission Delegated Regulation (EU) No 666/2014, which establishes provisions for the Union quality assurance and quality control programme, the gap-filling procedures in cases of missing data from Member States and the timescales for cooperation and coordination during the annual reporting process and the UNFCCC reviews.

New framework partnership agreement between the EEA and its ETC/ACM

Regulation (EC) No 401/2009 on the European Environment Agency (EEA) and the European Environment Information and Observation Network describes, in its Article 4(4)-(6), European Topic Centres as part of the Agency's network. European Topic Centres (ETCs) are centres of thematic expertise contracted by the EEA to carry out specific tasks identified in the EEA strategy.

The European Topic Centre for Air Pollution and Climate Change Mitigation (ETC/ACM) is a major partner under the Union inventory system, supporting the technical work of the European Environment Agency. It was established by a contract between the lead organisation Rijksinstituut voor Volksgezondheid en Milieu (RIVM) in the Netherlands and the EEA. The current framework

partnership agreement runs from 1 January 2014 until 31 December 2018. The ETC/ACM is a consortium of 14 European organisations with RIVM as its lead organisation.

2. QUANTIFIED ECONOMY-WIDE EMISSION REDUCTION TARGET

This section explains the EU 2020 emission reduction target under the UNFCCC and the target compliance architecture set up within the EU in order to meet that target, and gives an overview of other EU emission reduction targets.

2.1. The EU target under the Convention

In 2010, the EU submitted a pledge to reduce its GHG emissions by 2020 by 20 % compared to 1990 levels, in order to contribute to achieving the ultimate objective of the UNFCCC: 'to stabilise GHG concentrations at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system'[2], or, in other words, to limit the global temperature increase to less than 2°C compared to temperature levels before industrialization (FCCC/CP/2010/7/Add.1). The EU is also committed to raising this target to a 30 % emission reduction by 2020 compared with 1990 levels, provided that other developed countries also commit to achieving comparable emission reductions, and that developing countries contribute adequately, according to their responsibilities and respective capabilities. This offer was reiterated in the submission to the UNFCCC by the EU-28 and Iceland on 30 April 2014[3].

The definition of the Convention target for 2020 is documented in the revised note provided by the UNFCCC Secretariat on the 'Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention' (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).

The EU clarified that the accounting rules for the target under the UNFCCC are more ambitious than the current rules under the Kyoto Protocol, for example, including international aviation, adding an annual compliance cycle for emissions under the Effort Sharing Decision (ESD, see section 2.2.1) or higher Clean Development Mechanism (CDM) quality standards under the EU Emissions Trading System (EU ETS) (FCCC/TP/2013/7). Accordingly, the following assumptions and conditions apply to the EU's 20 % target under the UNFCCC:

- The EU Convention pledge does not include emissions/removals from Land Use, Land-Use Change and Forestry, but it is estimated to be a net sink over the relevant period. EU inventories also include information on emissions and removals from LULUCF in accordance with relevant reporting commitments under the UNFCCC. Accounting for LULUCF activities only takes place under the Kyoto Protocol.
- The target covers the gases CO_2, CH_4, N_2O, HFCs, PFCs and SF_6.
- The target refers to 1990 as a single base year for all covered gases and all Member States.

[2] First steps to a safer future: Introducing the United Nations Framework Convention on Climate Change http://unfccc.int/essential/_background/convention/items/6036.php

[3] European Union, its Member States and Iceland submission pursuant to par 9 of decision 1/CMP.8' http://ec.europa.eu/clima/policies/international/negotiations/docs/eu_submission_20140430_en.pdf

- Emissions from international aviation to the extent it is included in the EU ETS are included in the target[4].
- A limited number of CERs, ERUs and units from new market-based mechanisms may be used to achieve the target (see section 2.2.2.3): in the ETS, the use of international credits is capped (up to 50 % of the reduction required from EU ETS sectors by 2020). Quality standards also apply to the use of international credits in the EU ETS, including a ban on credits from LULUCF projects and certain industrial gas projects. In the ESD sectors, the annual use of international credits is limited to up to 3 % of each Member State's ESD emissions in 2005, with a limited number of Member States being permitted to use an additional 1 % from projects in Least Developed Countries (LDCs) or Small Island Developing States (SIDS), subject to conditions.
- The Global Warming Potentials (GWPs) used to aggregate GHG emissions up to 2020 under EU legislation were those based on the Second Assessment Report of the IPCC when the target was submitted. In its submission to clarify the 2020 target from 20 March 2012, the EU announced that the implications of the CMP Decision to revise the GWPs to those from the IPCC Fourth Assessment Report (AR4) are under review. This review has been completed and revised GWPs from AR4 were adopted for the EU ETS. For the revision of ESD targets the revised GWPs were taken into account. For the implementation until 2020, GWPs from AR4 will be used consistently with the UNFCCC reporting guidelines for GHG inventories.

Table 2-1 Key facts of the Convention target of the EU-28

Parameters	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 Potential	AR4
Sectors Covered	All IPCC sources and sectors, as measured by the full annual inventory and international aviation to the extent it is included in the EU ETS.
Land Use, Land-Use Change, and Forests (LULUCF)	Accounted under KP, reported in EU inventories under the Convention. Assumed to produce net removals
Use of international credits (JI and CDM)	Possible subject to quantitative and qualitative limits.
Other	Conditional offer to move to a 30% reduction by 2020 compared to 1990 levels as part of a global and comprehensive agreement for the period beyond 2012, provided that other developed countries commit themselves to comparable emission reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities.

[4] In the EU, the sum of emissions covered by category 1.A.3.a 'domestic aviation' and memo item 'international bunkers - aviation' go beyond the scope of the EU target, as emissions from international aviation are included in the EU Climate and Energy Package and the EU target under the UNFCCC to the extent to which aviation is part of the EU ETS.

2.2. The EU target compliance architecture

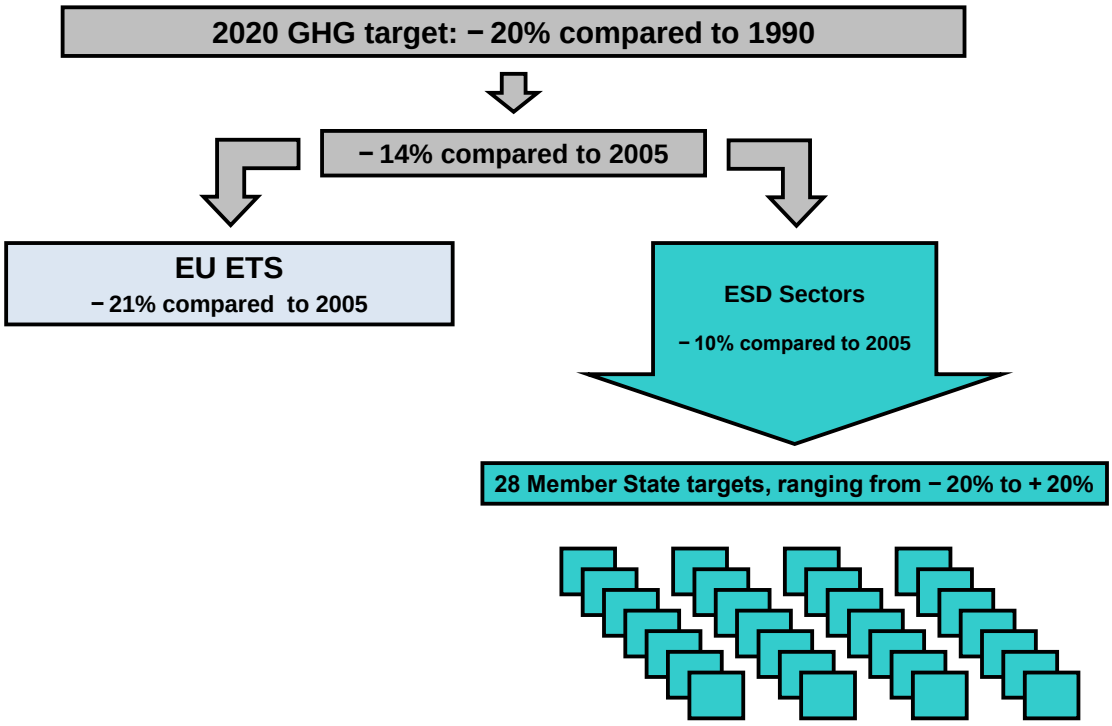
2.2.1. The 2020 climate and energy package

In 2009 the EU established internal rules under its "2020 climate and energy package"[5] - these underpin the EU implementation of the target under the Convention. The 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 the ETS and ESD sectors. These two sub-targets are:

- a 21 % reduction target compared to 2005 for emissions covered by the ETS (including domestic and international aviation);
- a 10 % reduction target compared to 2005 for ESD sectors, shared between the 28 Member States (MS) through individual national GHG targets.

The distribution of the total target across the ETS and ESD is shown in Figure 2-1.

Figure 2-1 GHG targets under the 2020 climate and energy package



Source: European Commission

Under the revised EU ETS Directive (Directive 2009/29/EC), a single ETS cap covers the EU Member States and three participating non-EU countries (Norway, Iceland and Liechtenstein), i.e. there are no further individual caps by country. Allowances allocated in the EU ETS from 2013 to 2020 decrease by 1.74 % annually, starting from the average level of allowances issued by Member States for the second trading period (2008–2012).

[5] http://ec.europa.eu/clima/policies/package/index_en.htm

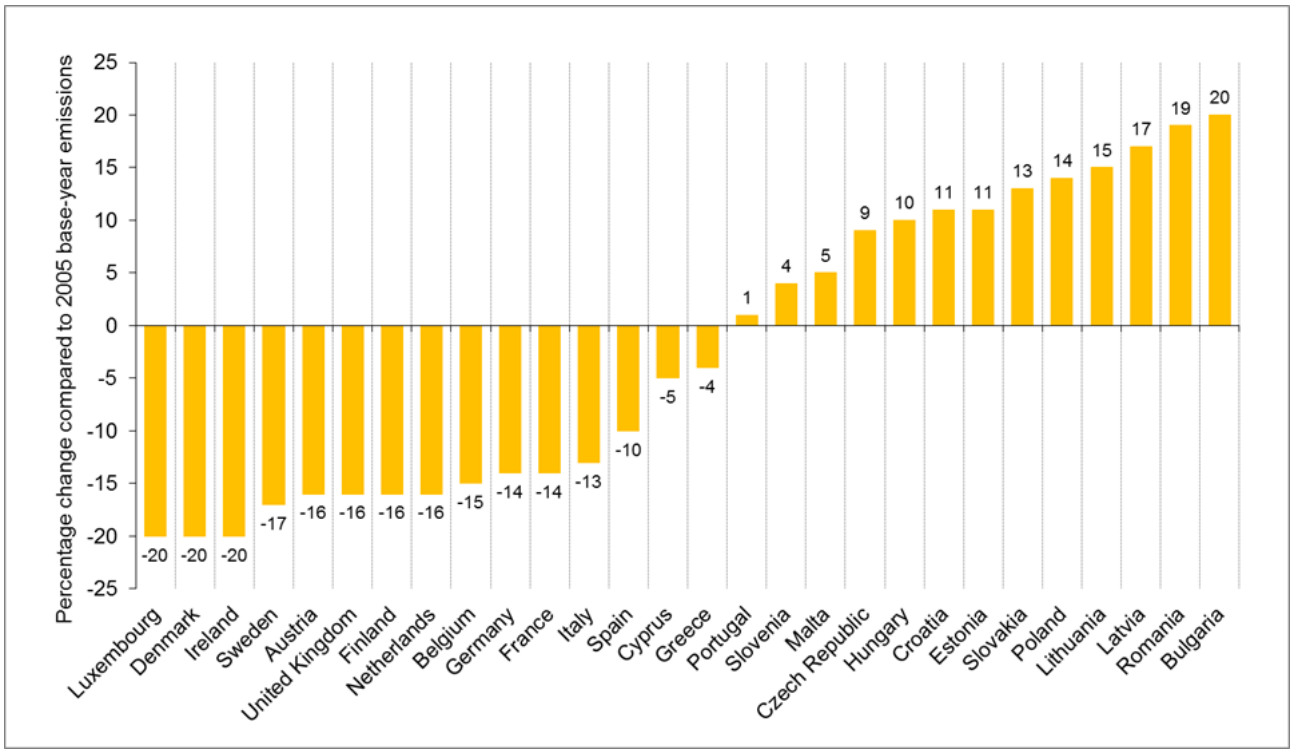
The three non-EU countries participating in EU ETS (Norway, Iceland and Liechtenstein) are also subject to a similarly defined cap and the same annual decrease in allowance allocation.

For further additional information on recent changes in the EU ETS see section 3.1.

The vast majority of emissions within the EU which fall outside the scope of the EU ETS are addressed under the Effort Sharing Decision (ESD) (Decision No 406/2009/EC). The ESD covers emissions from all sources outside the EU ETS, except for emissions from domestic and international aviation (which were included in the EU ETS from 1 January 2012), international maritime, 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 (see Figure 2-1). Under 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 (Commission Decisions 2013/162/EU and 2013/634/EU), denominated in Annual Emission Allocations (AEAs). At country level, 2020 targets under the ESD range from -20 % to +20 %, compared to 2005 levels. ESD targets for 2020 for each EU Member State are shown in Figure 2-2.

Figure 2-2 National 2020 GHG emission limits under the ESD, relative to 2005 emissions levels



Source: EU Decision No 406/2009/EC, Annex 2

The target levels have been set on the basis of Member States' relative Gross Domestic Product per capita. In addition, different levels of development in the EU-28 are taken into account by the provision of several flexibility options. Up to certain limitations, the ESD allows Member States to make use of flexibility provisions for meeting their annual targets: carry-over of over-achievements to subsequent years within each Member State, transfers of AEAs between Member States and the use of international credits (credits from Joint Implementation and the Clean Development Mechanism). Nevertheless ESD targets are designed in a strict manner: Every year, once MS emissions are reviewed according to strict criteria (described in Chapter III of the Commission Implementing Regulation 749/2014), the European Commission issues an implementing decision on MS ESD emissions in the given year. MS exceeding their annual AEA, even after taking into account the flexibility provisions and the use of JI/CDM credits, will face inter alia a penalty – a deduction from their emission allocation of the following year (excess emissions, multiplied by 1.08).

For additional information on recent changes related to the ESD see section 3.1.

2.2.2. Monitoring on progress to 2020 targets

For the monitoring of GHG emissions at the EU and the Member State level, the Monitoring Mechanism Regulation has been adopted, see section 2.2.2.1 below. Also for the effective operation of the EU ETS, robust, transparent, consistent and accurate monitoring and reporting of greenhouse gas emissions are essential, therefore an annual procedure of monitoring, reporting and verification (MRV) is implemented. Installations and aircraft operators have to monitor, report and verify their annual emissions in accordance with two EU Regulations, the Monitoring and Reporting Regulation

(MRR) and the Accreditation and Verification Regulation (AVR) which are explained in section 2.2.2.2.

2.2.2.1. Monitoring Mechanism Regulation

The Monitoring Mechanism Regulation No 525/2013 (MMR) was adopted in May 2013 and entered into force on 8 July 2013. The main aims of the MMR are to improve the quality of the data reported and assist the EU and Member States with the tracking of their progress towards emission targets for 2013-2020. The mechanism refers to the following reporting elements:

- Reporting on historical GHG emissions and removals, including national and Union inventory systems and approximated inventories;
- Reporting on low-carbon development strategies;
- Reporting on policies and measures and on projections of GHG emissions and removals
- Member States reporting on financial and technology support provided to developing countries;
- Member States' use of revenues from the auctioning of allowances in the EU Emissions Trading System (EU ETS);
- Member States' reporting on adaptation to climate change.

In 2014 the Implementing Regulation (EU No 749/2014) and Delegated Regulation (EU No 666/2014) were adopted to enable the implementation of the Monitoring Mechanism Regulation in several of its provisions, specifying in more detail the structure of the information, reporting formats, and submission procedures.

2.2.2.2. Monitoring and reporting under the EU Emission Trading System

The reform of the EU Emission Trading System in Phase III (2013-2020) has resulted in important changes with regard to domestic institutional arrangements for the monitoring and reporting of GHG emissions under the EU ETS. EU ETS MRV now requires complying with two Commission Regulations, one specific to monitoring and reporting (EU No 601/2012) and the other to verification and accreditation (EU No 600/2012). The latter introduces a framework of rules for the accreditation of verifiers to ensure that the verification of an installation's or an aircraft operator's emission report is carried out by a verifier that possesses the technical competence to perform the entrusted task in an independent and impartial manner and in conformity with the requirements and principles set out. These regulations have direct legal effect in the Member States and their provisions apply directly to operators or aircraft operators, verifiers, and accreditation parties. The regulations provide clarity on the roles and responsibilities of all parties (i.e. industrial installations and aircraft operators are required to have an approved monitoring plan) which will strengthen the compliance chain.[6]

[6] http://ec.europa.eu/clima/policies/ets/monitoring/documentation_en.htm

2.2.2.3. Accounting for Flexible Mechanisms under the 2020 target

In general, in the EU the use of flexible mechanisms can take place on the one hand by operators in the EU ETS, on the other hand by governments for the achievement of ESD targets.

As part of phase II of the EU ETS (the period 2008-2012), Member States were required to inform the European Commission in their National Allocation Plans of the limit on JI and CDM credits that could be used by operators. This limit was then assessed according to the principle of supplementarity, and where appropriate approved or revised by the European Commission. In total, this adds up to approximately 1.4 billion CERs or ERUs that could have been used by operators for compliance in phase II of the EU ETS.

The amended EU ETS Directive 2009/29/EC (Article 11a(8)) sets the upper limit for credit use for the period from 2008 to 2020 at a maximum of 50 % of the reduction effort below 2005 levels. This is further specified into installation-level limits in the Commission Regulation on international credit entitlements (RICE) (EU No 1123/2013). The sum of the installation-level limits is expected to be lower than the upper limit, but higher than the 1.4 billion CERs and ERUs already allowed in the second period. Since some entitlements are expressed as a percentage of verified emissions over the entire period, the overall maximum amount will only be known at the end of the third trading period.

Since 2013 it is no longer possible to track the use of flexible mechanisms in the EU ETS directly via information on EUTL public website because CERs and ERUs are no longer surrendered directly but are exchanged into EUAs. These exchanges will become public on installation level after three years, with the first information reflecting the use in 2013 available in 2016.

The ESD allows Member States to make use of flexibility provisions for meeting their annual targets, with certain limitations. In the ESD sectors, the annual use of carbon credits is limited to up to 3 % of each Member State's ESD emissions in 2005. Member States that do not use their 3 % limit for the use of international credits in any specific year can transfer the unused part of their limit to another Member State or bank it for their own use until 2020. Member States fulfilling additional criteria (Austria, Belgium, Cyprus, Denmark, Finland, Ireland, Italy, Luxembourg, Portugal, Slovenia, Spain and Sweden) may use credits from projects in Least Developed Countries (LDCs) and Small Island Developing States (SIDS) up to an additional 1 % of their verified emissions in 2005. These credits are not bankable and transferable. Approximately 750 Mt of international credits can be used during the period from 2013 to 2020 in the ESD.

Moreover, higher CDM quality standards apply to the use of CERs for compliance with the EU's target under the Convention.

2.3. Other EU emission reduction targets

In addition to the EU target under the Convention, the EU also committed to a legally binding quantified emission limitation reduction commitment for the second commitment period of the Kyoto Protocol (2013 - 2020). In Table 2-2 all relevant GHG reduction targets for the EU and their key facts are displayed in an overview. On the left, the table includes the international commitments under the Kyoto Protocol and the UNFCCC. On the right, the EU commitments under the Climate and Energy Package are included.

Table 2-2 Overview on EU targets

	International commitments			EU domestic legislation	
	Kyoto Protocol		UNFCCC	Climate and Energy Package	
				EU ETS	ESD
Target year of period	First commitment period (2008-2012)	Second commitment period (2013-2020)	2020	2013-2020	2013-2020
Emission reduction target	-8%	-20%	-20%	-21% compared to 2005 for ETS emissions	Annual targets by MS. In 2020 -10% compared to 2005 for non-ETS emissions
Further targets			Conditional target of -30% if other Parties take on adequate commitments	Renewable Energy Directive: 20% share of renewable energy of gross final energy consumption; Energy Efficiency Directive : Increase energy efficiency by 20 %	
Base year	1990 KP Flexibility rules (Art 3(5)) regarding F-gases and Economies in Transition	1990, but subject to flexibility rules. 1995 or 2000 may be used as its base year for NF3	1990	1990 for overall emission reduction target; 2005 for renewable energy and energy efficiency target; as well as for targets broken down into ETS and non-ETS emissions	
LULUCF	Included ARD and other activities if elected	Included ARD and forest management, other activities if elected (new accounting rules)	Excluded	Excluded	
Aviation	Domestic aviation included. International aviation excluded.	Domestic aviation included. International aviation excluded.	Aviation in the scope of the EU ETS included. In practice total aviation emissions considered.	Domestic and international aviation, as in the scope of EU ETS	Aviation generally excluded, some domestic aviation included (operators below ETS de minimis thresholds)

	International commitments			EU domestic legislation	
	Kyoto Protocol		UNFCCC	Climate and Energy Package	
				EU ETS	ESD
Use of international credits	Use of KP flexible mechanisms subject to KP rules	Use of KP flexible mechanisms subject to KP rules	Subject to quantitative and qualitative limits	Subject to quantitative and qualitative limits, see section 2.2.2.3	Subject to quantitative and qualitative limits, see section 2.2.2.3
Carry-over of units from preceding periods	Not applicable	Subject to KP rules including those agreed in the Doha Amendment	Not applicable	EU ETS allowances can be banked into subsequent ETS trading periods since the second trading period	No carry-over from previous period
Gases covered	CO2, CH4, N2O, HFCs, PFCs, SF6,	CO2, CH4, N2O, HFCs, PFCs, SF6, NF3	CO2, CH4, N2O, HFCs, PFCs, SF6	CO2, CH4, N2O, HFCs, PFCs, SF6	
Sectors included	Annex A of KP (Energy, IPPU, agriculture, waste), LULUCF according to KP accounting rules for CP1	Annex A of KP (Energy, IPPU, agriculture, waste), LULUCF according to accounting rules for CP2	Energy, IPPU, agriculture, waste, aviation in the scope of the EU ETS	Power & heat generation, energy-intensive industry sectors, aviation (Annex 1 of ETS directive)	Transport (except aviation), buildings, non-ETS industry, agriculture (except forestry) and waste
GWPs used	IPCC SAR	IPCC AR4	IPCC AR4	IPCC AR4	

3. POLICIES AND MEASURES

This chapter provides an overview on the EU policies and measures (PaMs) which contribute to meeting the EU emission reduction target as explained in section 2. A description of the EU system of assessing economic and social consequences of climate change response measures is included in section 3.9.

In the EU, there are two distinct levels of PaMs that have an impact on greenhouse gas emissions:

- European Union policies, which are proposed by the Commission and subsequently approved, amended or rejected by the Council of the European Union and the European Parliament. These common and coordinated policies and measures are applicable to all Member States, though Member States may implement Directives at different points in time. This report concentrates on these EU policies.

- National policies developed and implemented by Member States themselves. As such, these policies and measures are outside the scope of this Biennial Report.

Quantifications of the PaMs impacts on GHG emission reduction are attached in Table 3 of the Common Tabular Format (CTF). These (mostly) ex-ante estimates are produced by the European Commission in individual policy Impact Assessments and assume full implementation of the EU policies. However, estimates are not available for all EU policies and all years covered in CTF Table 3. Some older estimates refer to the EU-15 while more recent estimates are for the EU-27 or the EU-28.

3.1. Overarching policies and measures: the ETS and ESD

The two main overarching policies are the EU Emission Trading System (ETS) and the Effort Sharing Decision (ESD), both establishing EU internal rules under the "2020 climate and energy package" which underpin the implementation of the target under the Convention. The main elements of the ETS, the ESD and the EU monitoring system are presented in section 2. Details on ETS and ESD were reported in sections 4.2.2 and 4.2.3 of the first biennial report from the European Union under the UNFCCC (BR1). Changes and updates compared to the information provided in the BR1 are explained in the following two sections.

3.1.1. EU Emissions Trading System

The following structural changes to the ETS have taken place or have been decided since the publication of the BR1.

Firstly, the scope of the ETS with regard to aviation has been changed. Since 2012 emissions from all flights from, to and within the European Economic Area (EEA) - the 28 EU Member States, plus Iceland, Liechtenstein and Norway - are included in the EU Emissions Trading System (ETS). The legislation, adopted in 2008, applies to both EU and non-EU airlines alike. To allow time for negotiations on a global market-based measure applying to international aviation emissions, the ETS requirements were

suspended for flights in 2012 to and from non-European countries (Decision No 377/2013/EU). For the period 2013 to 2016 the legislation has also been amended so that only emissions from flights within the EEA fall under the ETS (Regulation EU No 421/2014). The EU made this change following agreement by the International Civil Aviation Organization (ICAO) Assembly in October 2013 to develop a global market-based mechanism addressing international aviation emissions by 2016 and apply it by 2020. The amended law provides for the Commission to report to the European Parliament and Council on the outcome of the 2016 ICAO Assembly and propose measures as appropriate to take international developments into account with effect from 2017. With Regulation EU No 421/2014 exemptions for operators with low emissions have also been introduced.

Since 2013, the EU ETS operates under the improved and harmonised rules of Phase 3. In October 2014 EU Heads of State and Government have decided- within the 2030 Climate and Energy Framework- that a well-functioning, reformed EU ETS together with an instrument to stabilise the market (Market Stability Reserve – MSR) will constitute the main mechanism to achieve the reduction of emissions in the EU ETS by 43% compared to 2005.

The MSR has adopted in October 2015 (Decision (EU) 2015/1814). The reserve will start operating in January 2019. It will neutralise the negative impacts of the existing surplus of allowances and improve the system's resilience to future shocks by adjusting the supply of allowances to be auctioned.

On 15 July 2015, the Commission presented a legislative proposal on the revision of the EU ETS for Phase 4 in line with the 2030 Climate and Energy policy Framework.

The key changes are:

- The overall number of emission allowances will decline at an annual rate of 2.2% from 2021 onwards, compared to 1.74% currently. This leads to a significant additional emissions reduction of some 556 million tonnes between 2021 and 2030.

- The proposal further develops predictable, robust and fair rules to address the risk of carbon leakage. The system of free allocation is revised in order to distribute the available allowances in the most effective and efficient way to those sectors at highest risk of relocating their production outside the EU (around 50 sectors in total).

- An Innovation Fund will be set up to extend existing support for the demonstration of innovative technologies to breakthrough innovation in industry. Free allowances will continue to be available to modernise the power sector in lower-income Member States. In addition, a dedicated Modernisation Fund will be established to facilitate investments in modernising the power sector and wider energy systems and boost energy efficiency in these Member States.

3.1.2. Effort Sharing Decision

Since the publication of the BR1 the national ESD targets have been adjusted to reflect the change in scope of the EU ETS with Decision 2013/634/EU. The progress of Member States in meeting the emission reduction targets set in the ESD is assessed under the Monitoring Mechanism Regulation (Regulation No 525/2013), and also as part of the European Semester[7].

3.1.3. Changes in domestic institutional arrangements

In 2014 the Implementing Regulation (EU No 749/2014) and Delegated Regulation (EU No 666/2014) were adopted to enable the implementation of the Monitoring Mechanism Regulation (Regulation No 525/2013, see section 2.2.2.1) in several of its provisions, specifying in more detail the structure of the information, reporting formats, and submission procedures. However, no new institutions were set up in that context.

3.2. Other Cross-cutting policies and measures

Climate action is a key priority for the EU. To respond to challenges and investment needs related to climate change, the EU has agreed that at least 20% of its budget for 2014-2020 – as much as €180 billion − should be spent on climate change-related action. To achieve this increase, mitigation and adaptation actions are integrated into all major EU spending programmes, in particular cohesion policy, regional development, energy, transport, research and innovation and the Common Agricultural Policy.

The key developments in cross cutting funding policies include:

- **Horizon 2020:** Horizon 2020[8] is the largest ever EU Research and Innovation programme, with nearly €80 billion of funding available over seven years (2014 to 2020). One of Horizon 2020's principle objectives is to provide solutions through the means of science and innovation to European and global societal challenges. The EU aims to spend 35% of the overall Horizon 2020 budget on climate-related research and innovation actions. Particular global and/or regional societal challenges that will be addressed include:
    - Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio-economy;
    - Secure, clean and efficient energy
    - Smart, green and integrated transport
    - Climate action, environment, resource efficiency and raw materials, as well as earth observation
- **European Structural and Investment Funds (ESIF)**: The budget and investment priorities of the ESIF[9] for the 2014-2020 programming period are

[7] The European Semester is the EU's annual cycle of economic policy guidance and surveillance: http://ec.europa.eu/economy_finance/economic_governance/the_european_semester/index_en.htm

[8] http://ec.europa.eu/programmes/horizon2020/en/what-horizon-2020

[9] http://ec.europa.eu/regional_policy/en/information/legislation/regulations

designed to ensure the implementation of the Europe 2020 strategy for smart, sustainable and inclusive growth. Regional policy targets all regions and cities in the European Union in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life. In order to reach these goals and address the diverse development needs in all EU regions, almost one third of the total EU budget has been set aside for Cohesion Policy for 2014-2020.

The key developments in cross cutting regulatory policies include:

- **The Energy Taxation Directive**: The Commission proposal for the revision of Directive 2003/96/EC of 2011[10] described in the BR1 was withdrawn by the Commission due to lack of agreement in the Council. The Commission is currently reflecting on appropriate initiatives in this area. Directive 2003/96/EC of course remains applicable to taxation of energy products and electricity.

- **National Emissions Ceiling (NEC) Directive:** A revised NEC Directive – presented as a Commission proposal in 2013 as part of the Clean Air Policy Package[11] – will (when agreed by the co-legislators) replace the existing directive from 2001 (Directive 2001/81/EC). Its overarching aim is to reduce adverse health impacts of air pollution, including reducing the cases of premature deaths per year due to air pollution by more than half. To this end the proposal includes national emission reduction commitments for each Member State for 2030 (with interim targets also set for 2025) for six specific pollutants: NO_x, SO_2, NMVOC, NH_3, $PM_{2.5}$ and CH_4.

3.3. Sectoral policies and measures: Energy

The EU energy policies are organised in a comprehensive framework consisting of different strategy papers, roadmaps and targets which affect the energy policy framework of the European Union whose overall objectives are the provision of "secure, competitive, and sustainable energy." The Energy Union Strategy (COM(2015) 80 final) extends the focus of the 2020 Energy Strategy (COM(2010) 639 final) and also includes two GHG relevant dimensions: (1) energy efficiency contributing to moderation of demand and (2) decarbonisation of the economy. Besides this overall Energy Union Strategy, the EU has set three milestones encompassing all EU energy targets which are relevant for GHG emissions for the time period 2020-2050 (see Figure 3-1).

[10] http://europa.eu/rapid/press-release_MEMO-11-238_en.htm?locale=en

[11] http://ec.europa.eu/environment/air/clean_air_policy.htm

Figure 3-1 Overview of the EU energy targets

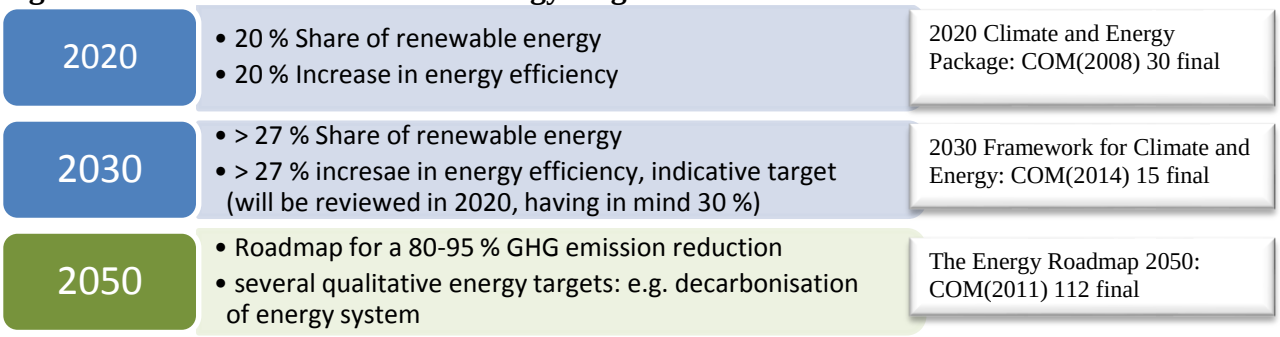
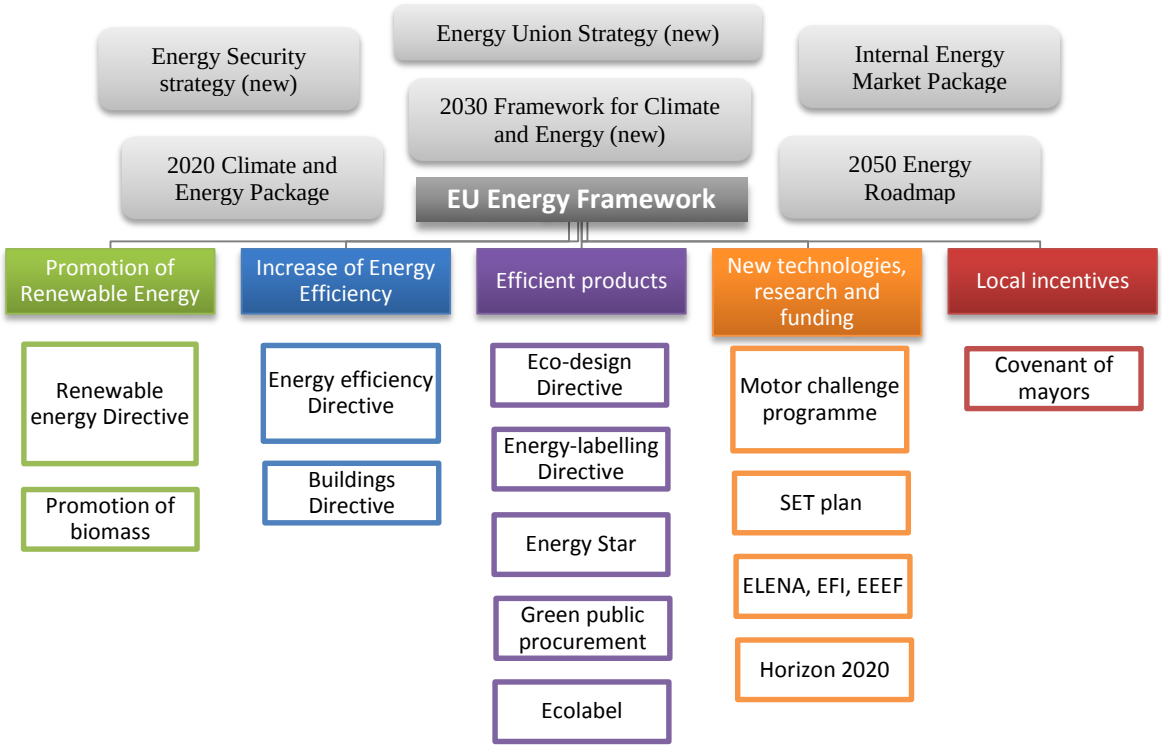


Figure 3-2 provides an overview of the main strategies and frameworks that influence the EU energy policies as well as the key Policies and Measures, organised by topic.

Figure 3-2 The EU energy policy framework



3.3.1. Promotion of renewable energy

The promotion of renewable energy in the EU has been part of the energy policy priorities during the last two decades. The EU has established a broad policy framework for renewable energies via the **Renewable Energy Directive** 2009/28/EC directly and indirectly affecting other sectors, such as transport or LULUCF. The Directive aims at a 20 % share of renewable energy by 2020. The EU is on track to meet this target and reached a share of 15 % of renewable energy in 2013, with 2014 share estimated at 15.3 %. The increase in renewable energy use since 2005 resulted in approx. 388 Mt of gross avoided CO_2 emissions at EU level in 2013 (COM(2015) 293 final). With 88 Mtoe or about 46 % of all primary renewable energy production in 2013, solid biomass still

made the largest contribution in RES primary production, followed by hydro energy (32 Mtoe), while wind and solar energy production levels have doubled since 2009[12].

The majority of the Member States are well on track to meeting the renewable energy targets laid down in the Renewable Energy Directive. For the EU as a whole, there are good prospects that the 2020 target will be reached. However, for a number of Member States, reaching the targets may appear difficult not least due to the steeper slope of the trajectory and persistent market barriers. Making best use of the opportunities offered by the cooperation mechanisms foreseen in the renewable Energy Directive is necessary.

The new **2030 Framework for Climate and Energy** framework (COM(2014) 15 final) stipulates a share of at least 27 % by 2030. The Energy Union Strategy (COM(2015) 80 final) includes the EU commitment to become the world leader in renewable energy, the global hub for developing the next generation of technically advanced and competitive renewable energies. Further deployment of renewable energy sources will be a key factor in the EU and in all other countries as the global efforts to mitigate climate change.

3.3.2. Increase of energy efficiency

The EU has an agreed target of improving energy efficiency by at least 27 % by 2030 within the context of the 2030 framework for Climate and Energy. This target will be reviewed in 2020 having in mind extending it to 30 %. According to the most recent Communication on Energy Efficiency (COM(2014) 520 final), the EU is expected to achieve energy savings of around 18-19% in 2020[13]. If all Member States work equally hard to implement fully the agreed legislation, the **Energy Efficiency Directive** 2012/27/EU[14], the 20 % target can be achieved without the need for additional measures.

As laid down in the new Energy Union Strategy, the EU will pay special attention to sectors with large energy efficiency potential, such as transport (cf. section 3.4.1) and buildings (**Energy Performance of Buildings Directive** 2010/31/EU). The Commission plans to promote new financing schemes to fully exploit the energy efficiency potential of buildings. At present energy efficiency polices in the EU include the following fields of action which are listed in Table 3-1:

[12] http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_from_renewable_sources

[13] This means falling short of the 20% savings target by 20-40 Mtoe.

[14] The Directive explicitly sets goals of 1 483 Mtoe (mega tonnes of oil equivalent) of primary energy consumption and 1 086 Mtoe of final energy consumption by 2020

Table 3-1 Major energy efficiency policies and their underlying measures

Energy Efficiency Directive 2012/27/EU	Energy Performance of Buildings Directive 2010/31/EU
Removal of market barriers in the energy market	Introduction of energy performance certificates
Introduction of energy audits and energy management systems	Establishment of inspections schemes for heating and air cooling systems
Energy efficiency in the public and private sector	All new buildings must be nearly zero energy buildings by 31/12/2020 (public buildings by 31/12/2018)
Promotion of CHP (combined heat and power) and district heating/cooling	Minimum energy performance requirements for new buildings and building renovations
Smart metering and billing	Financial measures to improve energy efficiency

3.3.3. Efficient products

In terms of products and appliances, the EU aims to reduce their environmental impact and increase energy efficiency. This objective, which also helps customers save money, can be seen in the Energy Union Strategy. It is estimated that consumers could save around € 100 billion annually by 2020 through more efficient appliances (COM(2014) 520 final).

The EU has implemented two Directives which provide the overall frameworks for **ecodesign standards** (2009/125/EC) and **energy labelling** (2010/30/EU). These are followed by a set of regulations that define the technical details for each product category. The list of such products and appliances is continuously extended and kept up to date. A third, voluntary labelling scheme known as **Energy Star**[15] is also widely used for office equipment. With regard to the use of efficient products, the public sector acts as an example. Thus, the EU developed the **Green Public Procurement**[16] instrument which aims to promote the purchase of environmentally friendly goods, services and works. In July 2015 the Commission proposed a revision (COM(2015) 341 final) of the energy label, namely to simplify the energy label scale and to adapt the scale to current market efficiency standards.

The overall impact of these measures will depend on how many implementing regulations are adopted. The emission reductions achieved could be very substantial over time, reaching 320 Mt CO_2 per year by 2020, including the impact of energy labelling, Energy Star and tyre labelling[17].

[15] http://www.eu-energystar.org/

[16] http://ec.europa.eu/environment/gpp/index_en.htm

[17] Kemna R. (2014): Ecodesign Impact Accounting – Part 1 – Status Nov. 2013, https://ec.europa.eu/energy/sites/ener/files/documents/2014_06_ecodesign_impact_accounting_part1.pdf

3.3.4. New technologies, research and funding initiatives

Delivery on the ambitious GHG and energy targets depends to a great extent on the innovative capacity of the European industrial and research sector, with special regard to low-carbon technologies. The EU has therefore put in place European-level innovation strategies and R&D financing mechanisms, including public funds as well as public-private partnerships and technology initiatives. The common objective lying behind these efforts is to streamline scarce resources and accelerate the market-rollout of new technologies indispensable for decarbonising the economy.

Table 3-2 Overview of funding programmes and initiatives to promote low carbon technologies in the energy sector

Fund/programme/initiative	Description
European Strategic Energy Technology Plan (SET-Plan)	Provides the overall framework for promoting strengthened cooperation in R&I between the EU, Member States and stakeholders (research and industry), with the aim to step up the efforts to bring new, efficient and cost-competitive low-carbon technologies faster to the market and deliver the energy transition in a cost-competitive way.
The Horizon 2020 programme	From the € 80 billion strong Horizon 2020 budget nearly € 6 billion were allocated for research and innovation in the field of secure, clean and efficient energy technologies for the period of 2014 and 2020.
EU Project Development Assistance (PDA) Facilities	Provides the grant support for project promoters to develop and launch their energy efficiency investment projects and programmes.
InnovFin – EU Finance for Innovators programme under Horizon 2020	A joint initiative by the European Investment Bank (EIB) Group and the European Commission under Horizon 2020. It builds on the success of the Risk-Sharing Finance Facility developed under FP7. A new pilot scheme under InnovFin – Energy Demo Projects facility – enables the EIB for the first time to finance innovative first-of-a-kind demonstration projects in the field of renewable energy and hydrogen/fuel cells, i.e. projects which are often considered initially non-bankable. The EIB provides loans and loan guarantees between € 7.5 million and € 75 million.
The European Energy Efficiency Fund (EEEF)	Stocked with € 265 million for supporting private public partnerships investing in energy efficiency, renewable energy and GHG emission reductions.
European Regional Development Fund (ERDF)	Part of the European Structural and Innovation (ESI) Funds. € 38 billion are determined for investing in the fields of e.g. buildings, renewable energy, smart grids and transport during 2014 and 2020.
Motor Challenge Programme	A European Commission initiative to aid industrial companies to improve the energy efficiency of their electric motor driven systems.

3.3.5. Local incentives

The European Commission launched the **Covenant of Mayors** to endorse and support the efforts deployed by local authorities in the implementation of sustainable energy policies. This initiative is strongly supported by the European Commission in context of the new Energy Union Strategy. With regard to the 2030 framework , the “new integrated

Covenant of Mayors for climate and energy" was launched in October 2015, setting a 40 % emission reduction objective for 2030 and including adaptation and the international dimension.. By the beginning of 2015, more than 6 200 mayors, representing more than one fourth of the EU's inhabitants, have joined the Covenant. According to the most recent estimations of 2015 it is expected to achieve a 28 % CO_2 emission reduction[18] (on average) by 2020 compared to the base year (1990 is the recommended base year, although it may differ in some cases). This corresponds to a reduction of approximately 190 Mt of CO_2.

3.4. Sectoral policies and measures: Transport

EU transport sector policies are also organized in a comprehensive framework of strategy papers, roadmaps, Communications, Regulations and Directives. The most important overarching document is the White Paper of 2011 "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system" (COM(2011) 144 final). This paper defines a long-term strategy to achieve the 60 % GHG emission reduction target for transport by 2050. Based on the White Paper the Commission prepares appropriate legislative proposals.

3.4.1. Efficiency and technical standards

The **CO_2 and Cars Regulation** (EC) No 443/2009 limits CO_2 emissions from new cars to a fleet average of 130 grams of CO_2 per kilometre (g/km) by 2015 and 95 g/km by 2021. The 2015 and 2021 targets represent reductions of 18 % and 40 % respectively, compared with the 2007 fleet average. In 2014, Regulation (EU) No 333/2014 on modalities for reaching the 2021 target for cars was adopted. Implementing the 2021 emission targets for cars is expected to result in annual savings of 24.9 Mt CO_2 in 2021, and 43.6 Mt CO_2 in 2030.

The **CO_2 and Vans Regulation** (EU) No 510/2011 limits CO_2 emissions from new vans to a fleet average of 175 g/km by 2017 and 147 g/km by 2020. These cuts represent reductions of 14 % and 28% respectively, compared with the 2007 average. The annual CO_2 equivalent savings are expected to be 1.9 Mt in 2020 and 5.3 Mt in 2030.

The most recent (provisional) data published by the EEA[19] indicates that the EU car and van fleets will have met their targets well ahead of the deadlines. The average specific emissions of the European fleet in 2014 were 123.4 g/km for new cars (compared to the 130 g/km target for 2015) and 169.2 g/km for new vans (compared to the 175 g/km target for 2017).

The Directive 1999/94/EC on **Car Labelling** is a demand-side policy and an important complementary measure to help car manufacturers to meet their specific CO_2 emission targets and to raise consumer awareness on fuel use and CO_2 emissions of new passenger cars. It requires that information relating to the fuel economy and CO_2 emissions of new

[18] http://www.covenantofmayors.eu/IMG/pdf/Covenant_in_Figures_dec_2014.pdf

[19] EEA (2014): Monitoring CO_2 emissions from passenger cars and vans in 2013. EEA Technical report No 19/2014.

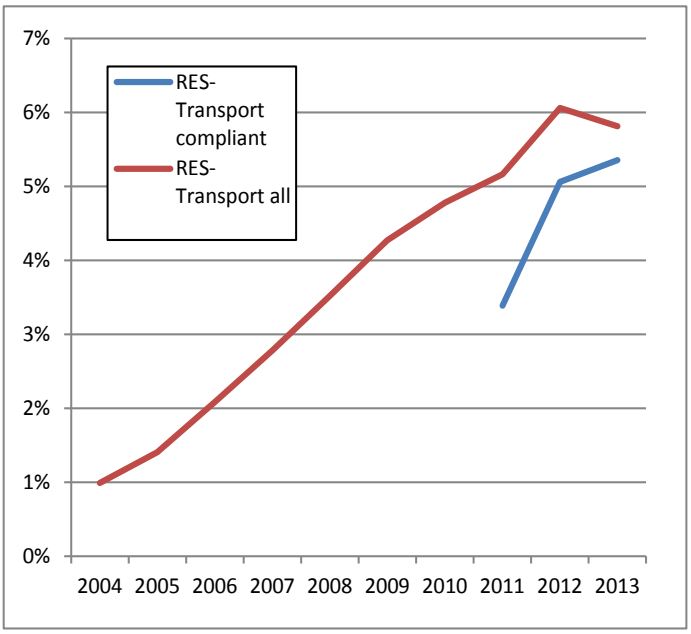
passenger cars offered for sale or lease in the Union is consistently made available to consumers in order to enable more informed purchase decisions.

A number of Regulations are in place related to **environmental and safety requirements of tyres and gear shift indicators (GSI)**. Regulation (EC) No 661/2009 aims at increasing the fuel efficiency of motor vehicles by introducing tyre pressure monitoring systems and GSI. In addition, Regulation (EC) No 1222/2009 on the labelling of tyres aims at influencing energy demand by promoting the market transformation towards fuel-efficient tyres. The Regulations' total CO_2 emission savings from all vehicle types are expected to range from 1.5 to 4 Mt annually by 2020.

3.4.2. Fuels from renewable energy sources

The **Renewable Energy Directive** 2009/28/EC sets, *inter alia*, mandatory targets for renewable energy used in the transport sector. By 2020, the share of renewable energy shall amount to 10 % of fuels consumed in the transport sector, which can include biofuels (including biogas), renewable electricity or hydrogen originating from renewable sources. In addition, the Renewable Energy Directive sets a number of sustainability criteria that must be met for biofuels to count towards the target, including a minimum threshold of GHG savings for biofuels: the life cycle GHG emissions of biofuels used must be at least 35 % lower than from the fossil fuel replaced. This threshold will be raised to 50 % in 2017. The Directive also lays down that biofuels must not derive from land with high carbon stocks or high biodiversity. Figure 3-3 shows that in 2013 5.4 % of transport related energy consumption came from renewable sources which were compliant with the sustainability criteria included in Article 17 of the Renewable Energy Directive. 2014 projection indicates a share of 5.7%. Achieving 10% renewable energy target for transport by 2020 is challenging, but remains feasible, and progress achieved in some Member States testify to this. A breakthrough in advanced biofuels, and a comprehensive approach towards decarbonisation of the transport sector, including decisive steps towards increasing the share of renewable electricity in transport, remains key (COM (2015) 293).

Figure 3-3 Share of renewable energy sources (RES) in transport



Note: overall and compliant according to the sustainability criteria included in Article 17 of the Renewable Energy Directive

Source: Eurostat SHARES 2013

Directive 2009/30/EC on **Fuel Quality** tightens the requirements for a number of fuel parameters. The Directive introduces a binding target for fuel suppliers to reduce life-cycle GHG emissions per unit of energy from fuel and energy supplied by 6 % by 2020 compared to 2010. The reduction is to be obtained through the use of biofuels, alternative

fuels, electricity in road transport or reductions in upstream emissions such as from flaring and venting at production sites. The expected savings of 6 % of total well-to-wheel road transport CO_2 emissions in 2020 amount to roughly 55 Mt CO_2 in 2020, excluding indirect land use change (ILUC) emissions. Council Directive (EU) 2015/652 specifies calculation methods and reporting requirements under the Fuel Quality Directive.

The EU agreed in April 2015 to amend both Directives mentioned above in order to limit negative effects of **indirect land use changes** (ILUC) which may be associated with the production of biofuels. ILUC can reduce the GHG savings associated with the use of biofuels if their production diverts food and feed production to new land. For this purpose, the amendment foresees that biofuels from food crops and some energy crops should be limited to a share of 7 % of the total fuel consumption. Other contributors to the 10 % target would be advanced biofuels made from waste, residues, non-food cellulosic material or ligno-cellulosic biomass and renewable electricity in road and rail. Note that these advanced options are all accounted for several times (factors 2 to 5) so that their contribution in real energy terms will be lower than the nominal 3 % needed to fill the theoretical gap to 10 %. In addition, the GHG performance of the biofuel production processes will be improved and a minimum threshold of 60 % for the GHG emission savings is set for new biofuel production installations.

3.4.3. Infrastructure

The **Directives on road user charges** (Directives 1999/62/EC, 2006/38/EC, 2011/76/EC) set common rules on distance-related (tolls) and time-based (vignettes) road user charges for heavy goods vehicles. These rules stipulate how and to what extent the cost of construction, operation, maintenance and development of the infrastructure as well as the costs of traffic-related noise and air pollution can be borne (through tolls and vignettes) by road users. Following the most recent amendment to the Directive, tolls may also include an "external cost charge" which reflects the cost of air pollution and/or noise pollution. Statistics on freight transport in two Member States show that the introduction of the tolls coincided with a decrease in the average distance travelled by trucks, notably resulting from the optimisation of road transport itself (reduction of empty running, increase in load factors).

The Directive 2014/94/EU on **Deployment of Alternative Fuels Infrastructure** requires Member States to adopt national policy frameworks for the market development of alternative fuels and their infrastructure, including targets for the build-up of alternative fuel infrastructure. The Directive also sets common technical specifications for the infrastructure interface and requests development of an alternative fuel labelling system to ensure clarity in the consumer information on vehicle/fuel compatibility, as well as an alternative fuel price comparison methodology.

3.4.4. Other policies and measures

The **Clean Vehicles Directive** 2009/33/EC aims at a broad market introduction of environmentally-friendly vehicles. The Directive requires that energy and environmental impacts linked to the operation of vehicles over their whole lifetime, including CO_2 emissions, are taken into account in public procurement, including public transport operators. Public procurement of clean efficient vehicles was expected to result in savings of up to 1.9 Mt CO_2 emissions per year in 2017 compared to the baseline

scenario. A recent external evaluation found that the impact has actually been much lower. A revision of this legislation has been announced for 2017 in the Energy Union Package.

The strategy for progressively including greenhouse gas emissions from **maritime transport** consists of the following consecutive steps (COM(2013) 479 final): (1) Establishing a system for monitoring, reporting and verifying (MRV) of CO_2 emissions; (2) Setting reduction targets for the maritime transport sector; (3) Applying further measures, including market-based instruments, in the medium to long term. Relating to the first of these three steps, on 29 April 2015 the Council and European Parliament adopted Regulation (EU) 2015/757 establishing an EU-wide MRV system for large ships. As from 2018, this system will cover all ships over 5 000 gross tonnes that use EU ports, irrespective of where the ships are registered. Under a MRV system, CO_2 emissions from the maritime transport sector are expected to be 2 % lower than the baseline in 2030.

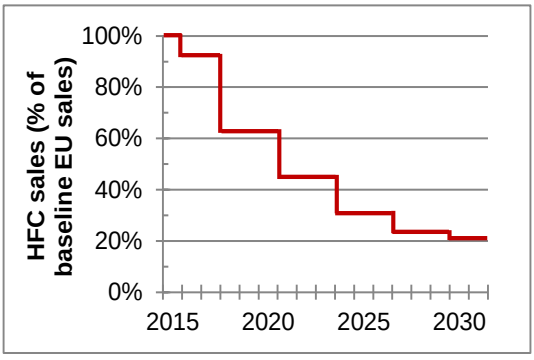
3.5. Sectoral policies and measures: Industry / industrial processes

Industrial processes in the mineral, chemical and metal industry are important sources of GHG emissions. With the **EU Emissions Trading System**, the European Union has a comprehensive and effective measure in place to control and reduce these emissions across all EU Member States (cf. section 3.1.1). This framework is complemented by additional policies and measures, *inter alia* addressing fluorinated gases.

3.5.1. Preventing emissions and substituting the use of fluorinated gases

Fluorinated gases (F-gases), in particular hydrofluorocarbons (HFCs), were introduced mostly as replacements for ozone depleting substances. The EU has been controlling the use of these gases since 2006 and has recently adopted a revised **F-Gas Regulation** (EU) No 517/2014 that will lead to significant emission reductions in the coming years. The revised Regulation retains many important and successful features of the previous F-Gas Regulation related to leak prevention, F-gas recovery and technical training. As its main measure to reduce the use of HFCs, the new Regulation prescribes a cap and subsequent reduction of HFCs that can be placed on the EU market ("phase-down"), thus eliminating 79 % of the current consumption levels of HFCs by 2030, leading to a two-thirds reduction of emissions.

Figure 3-4 The EU HFC phase-down



Note: Maximum allowed placing of HFCs on the EU market, compared to baseline EU sales (average of sales 2009-2012)

Source: F-Gas Regulation (EU) No 517/2014 (Annex V)

The new F-Gas Regulation also includes a number of bans. F-gases with high GWPs are restricted from use in new equipment in refrigeration, small air conditioners, fire protection, foams and technical aerosols. In addition, a "service ban" requires operators of existing equipment to start using more climate-friendly alternatives from 2020 onwards.

In addition, the EU proposed in April 2015 an amendment to the Montreal Protocol to include a phase-down of HFCs at global level.

3.5.2. Climate-friendly refrigerants in mobile air conditioning

Mobile air conditioning (MAC) systems so far mostly used the hydrofluorocarbon R134a, which is a potent greenhouse gas. In order to phase out its use, Directive 2006/40/EC was put in place which covers MACs fitted to passenger cars and light commercial vehicles. It is being enforced over three phases, starting in 2008. Currently, air conditioning systems in new *vehicle types* have to be filled with gases with a GWP lower than 150. From 2017 onwards this applies to all new air conditioned *vehicles* put on the EU market.

The fluorinated gas policies presented in chapters 3.5.1 and 3.5.22 are estimated to lead to cumulative emission savings of 1.5 Gt CO_2eq. by 2030 and 5 Gt CO_2eq. by 2050.

3.5.3. Best available techniques in industry

Energy and manufacturing industries account for more than half of the EU's total GHG emissions and are important energy consumers and emitters of atmospheric pollutants. The **Industrial Emissions Directive** 2010/75/EU (IED) sets out the main principles for the permitting and control of installations based on an integrated approach and the application of best available techniques (BAT). BAT means the most effective techniques to achieve a high level of environmental protection as a whole, which can be implemented under technically and economically viable conditions and taking into consideration the costs and benefits.

The IED affects climate change by regulating greenhouse gases (CO_2, CH_4, N_2O, fluorinated gases) to the extent they are not covered by the ETS or where this would be necessary to prevent significant local pollution, and by regulating indirect greenhouse gases such as NO_x and SO_x and short-lived climate forcers such as black carbon. Furthermore, the IED promotes energy efficiency and makes fuel switching more attractive. The Directive governs various types of industrial installations, and thus affects the energy sector (cf. section 3.3), the agriculture sector (3.6) and the waste sector (3.8). It is complemented by other EU-wide policies, such as the National Emission Ceilings (NEC) Directive (cf. section 3.2). The **European Pollutant Release and Transfer Register** (E-PRTR) provides easily accessible key environmental data, including GHG emissions, from industrial facilities in EU Member States. This register contributes to transparency and public participation in environmental decision-making.

Best available techniques are not fixed over time but are subject to an updating process. Currently, the BAT reference document for large combustion plants is under review. The new BAT conclusions, defining updated ranges of BAT-associated emission levels for air and water pollutants, are expected to be adopted in 2016.

3.6. Sectoral policies and measures: Agriculture

Agricultural activities can result in methane emissions from livestock digestion processes and storage of animal manure; the use of organic and mineral nitrogen fertilisers can lead to nitrous oxide emissions. On the other hand, products of agricultural activities can be a

renewable energy source and can contribute to CO_2 savings. These are allocated to the energy sector (cf. section 3.3).

3.6.1. Common Agricultural Policy

The agriculture sector has the specialty that it is mainly driven by one policy, the Common Agricultural Policy (CAP), which determines a common way for all Member States of the European Union. For the period 2014 – 2020, three strategic objectives for rural development in the EU have been set in line with the Europe 2020 Strategy (COM(2010) 2020 final): Improving the competitiveness of agriculture, the sustainable management of natural resources and climate action, and a balanced territorial development of rural areas. These objectives are to be met by various pieces of legislation, as described below and as shown in Figure 3-5).

Regulation (EU) No 1305/2013 on support for rural development by the **European Agricultural Fund for Rural Development** (EAFRD) foresees that Member States draw up and co-finance multiannual rural development programmes (RDPs), at national or regional level. These programmes have to meet the three strategic objectives for 2014 – 2020, including sustainability and climate action.

The "**Horizontal Regulation**" (EU) No 1306/2013 provides the financial management rules for the two CAP funds, the European Agricultural Guarantee Fund (EAGF) which finances market measures and direct payments, and the EAFRD which finances support to rural development. It brings together the rules on cross compliance, farm advisory systems and monitoring and evaluation of the CAP. The **Regulation on Transitional Provisions** (EU) No 1310/2013 is designed to bridge the gap between the two rural development programming periods – before and after the 2013 reform. Under certain circumstances already existing national programmes are also eligible for support in the new programming period.

In 2013, the EU has agreed that at least 20 % of the Union's budget for 2014 – 2020 should be spent on climate related action. This also affects the CAP and its specific funding programs, which consequently take climate mitigation and adaptation as an additional criterion for support.

Figure 3-5 Common agricultural policy as part of the EU 2020 strategy

Note: "Other ESI funds" are structural and investment funds in areas other than agriculture.

Source: European Commission[20]

3.6.2. Organic production, soil protection and minimising fertiliser use

Organic farming is growing in Europe at a fast pace, about 500 000 hectares of agricultural land convert to organic production each year (COM(2014)179 final). In 2014, the European Commission published the **Action Plan for the future of Organic Production** in the European Union (COM(2914) 179 final), together with a **Proposal for a Regulation on Organic Production** and labelling of organic products (COM(2014) 180 final). The Action Plan defines the strategy for organic production, controls and trade for the forthcoming period, by laying down 18 concrete actions, considering EU instruments, consumer awareness, research, monitoring, certification and trade with third countries. The proposal for a Regulation lays down principles for organic production and rules for production, labelling, certification and trading.

Soils are very relevant for GHG emissions policies. Soil is a carbon pool that can act as a significant sink or source of carbon emissions. The protection of soils is considered in the Common Agricultural Policy, especially the provisions of cross-compliance are important for agricultural soil protection. In 2006, the European Commission adopted a **Soil Thematic Strategy** (COM(2006) 231 final), which tackles the full range of threats associated with soil degradation and creates a common framework for the protection of soil. The **7th Environment Action Programme** (Decision No 1386/2013/EU) commits the EU and its Member States to increasing efforts to reduce soil erosion, increase soil organic matter and to remediate contaminated sites.

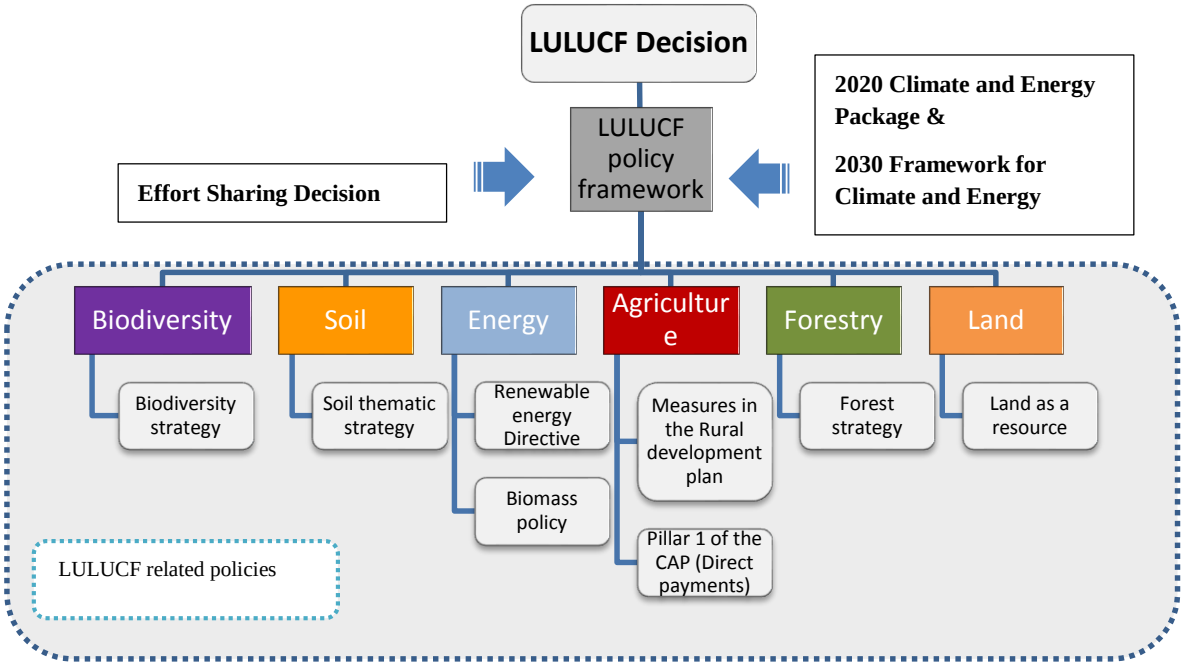
Between 2000 and 2012, N_2O emissions from agricultural soils in the EU-28 saw a 10 % decrease. The implementation of the **Nitrates Directive** 91/676/EEC, which sets limits for nitrogen content in livestock manure applied per surface area, contributed to this decrease. In addition, the National Emission Ceilings Directive 2001/81/EC (cf. section 3.2), indirectly affects N_2O emissions as it sets emission limits for ammonia (NH_3) and therefore triggers measures to reduce nitrogen input to soils.

[20] https://enrd.ec.europa.eu/en/policy-in-action/cap-towards-2020/rdp-programming-2014-2020/policy-overview

3.7. Sectoral policies and measures: Forestry / LULUCF

There are a number of other policies in place which have an impact on LULUCF emissions/removals, although they may not be known explicitly as LULUCF measures. This is presented in Figure 3-6 which also shows the wide range of different topics that can be associated with LULUCF emissions/removals: biodiversity, soil, energy, agriculture, forestry and land management. At present the EU's main LULUCF policy instrument is the **LULUCF Decision** (529/2013/EU). This sets out reporting obligations and processes for the development and improvement of national reporting systems. With regard to the future, especially in context to the 2030 Framework for Climate and Energy, the EU is examining how the LULUCF sector shall be integrated in the EU's climate policy, alongside the other non-ETS sectors.

Figure 3-6 LULUCF policy framework including related policies



3.7.1. LULUCF reporting and accounting in the EU (LULUCF Decision)

At present LULUCF emissions are not accounted towards the "internal" EU targets under the 2020 Climate and Energy Package. They are, however, covered under the EU's 2nd commitment period target in the Kyoto Protocol. If a Member State incurs a net emission debit between 2013 and 2020, the debit would have to be covered by additional emission reductions produced in other sectors of the economy in the EU, or in third countries. In the second commitment period of the Kyoto Protocol it has become mandatory to report Forest Management (FM) in addition to Afforestation, Reforestation and Deforestation (ARD). In addition, the EU Decision requires EU Member States to establish systems for estimating emissions and removals for Cropland Management and Grazing Land Management, even if the activity has not been elected under the Kyoto Protocol.

3.7.2. LULUCF in the 2030 Framework for Climate and Energy

The role of LULUCF in the EU climate change policy framework is becoming increasingly relevant and it is currently being assessed how LULUCF will be accounted for and integrated in the post-2020 framework.

At present in the 2030 Framework three policy options are under discussion in the EU, which were also laid out in the 2030 Impact Assessment (SWD(2014) 15 final. A stakeholder consultation was conducted from March to June 2015[21].

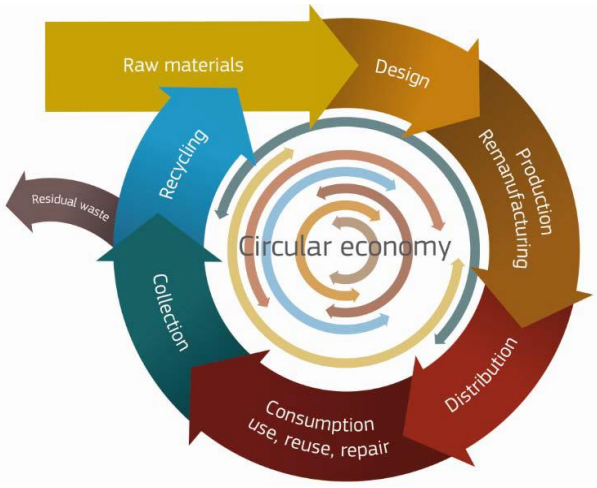
3.8. Sectoral policies and measures: Waste management / waste

Policies and measures relating to solid waste disposal, biological treatment of waste, waste incineration and open burning of waste, as well as wastewater treatment and discharge, are climate relevant. Important GHGs in this sector are CH_4, which mainly arises from the treatment and disposal of solid waste, and N_2O originating from waste water. In addition, a substitution of primary raw materials by secondary raw materials coming from recycling allow for significant GHG savings due to lower demand for energy needed to extract raw materials and turn them into products.

3.8.1. From waste management to a circular economy

Waste management in Europe has a long history; the first piece of legislation providing a framework for waste management was published in 1975, which laid down the principles of waste management: (1) prevention of waste, (2) recovery of waste, and (3) its use as a source of energy.

Figure 3-7 Main phases of a circular economy model



Source: European Commission.

In late 2015, a circular economy package was presented by the Commission, including a new proposal on waste targets. The circular economy package will go beyond waste management alone, by addressing the whole life cycle of resources and products, in order to close the loop. This means dealing with production processes, material and product design, consumer and buyer information, distribution and retail to stimulate waste prevention by increased re-using, repairing, refurbishing and also by recycling existing materials and products to minimise the residual waste, ideally leading to a zero waste society.

3.8.2. Limitation to landfilling

The objective of the **Landfill Directive** 1999/31/EC is to prevent or reduce as far as possible negative effects on the environment resulting from the landfilling of waste –

[21] http://ec.europa.eu/clima/consultations/articles/0026_en.htm

including emissions of GHG – by introducing stringent technical requirements for waste and landfills. By 2016, biodegradable waste going to landfills must be reduced to 35 % of the total amount (by weight) produced in 1995. In addition, the Directive requires collection of landfill gas from all landfills receiving biodegradable municipal waste. As an alternative to landfilling, waste is incinerated with energy recovery, which is governed by the Industrial Emissions Directive (cf. section 3.5.3). It is estimated that a full implementation of the Landfill Directive will lead to a net reduction of 62 million tonnes CO_2 eq in 2020 compared to 2008[22].

3.8.3. Management of biodegradable waste

Biodegradable waste is of interest in terms of GHG emissions, as this is the waste fraction delivering most CH_4 emissions during anaerobic decomposition. Several EU legal instruments address the treatment of biodegradable waste: (1) The Landfill Directive requires Member States to reduce bio-waste deposited on landfills; (2) the **Waste Framework Directive** 2008/98/EC contains specific elements related to bio-waste and (3) the Industrial Emissions Directive lays down principles for controlling bio-waste treatment and incineration plants.

3.8.4. EU policies targeting waste streams

In this section policies are grouped together which target different waste streams; the GHG reduction potential may become apparent only in the overall life-cycle where emissions are avoided during production or due to smaller amounts of waste. Management of the biodegradable waste stream is described in section 3.8.3.

The **Packaging and Packaging Waste Directive** (PPWD) 94/62/EC provides for measures aimed at limiting the production of packaging waste and promoting recycling, re-use and other forms of waste recovery, hence, at reducing the final disposal of such waste. Member States are required to introduce systems for the return and/or collection of used packaging to meet the targets set out in the Directive. The particular problem of plastic waste is addressed by a Green Paper (COM(2013) 123 final) and a Proposal for an amendment to the PPWD to **reduce the consumption of lightweight plastic carrier bags** (COM(2013) 761 final). On 28 April 2015, the European Parliament approved of such an amendment that will require EU Member States to either reduce annual average consumption of lightweight plastic bags per citizen, or to ban the handing-over of free bags (Directive (EU) 2015/720).

The **Directive on Waste of Electrical and Electronic Equipment** (WEEED) 2012/19/EC requires Member States to take measures to encourage producers to design and produce electrical and electronic equipment which take into account and facilitate dismantling and recovery. Moreover, it sets ambitious collection targets in order to minimise the disposal of WEEE in the form of unsorted municipal waste. It also sets targets for re-use and recycling as well as targets for recovery of WEEE to ensure the correct treatment of all collected WEEE. **The End-of-Life Vehicles Directive** (ELVD) 2000/53/EC aims to reduce the amount of waste produced from vehicles when they are scrapped and to increase re-use, recycling and other forms of recovery of end-of-life

[22] European Environment Agency (EEA) (2011). Waste opportunities: past and future climate benefits from better municipal waste management in Europe. Report no. 3/2011.

vehicles and their components. The **Motor Vehicles Directive** 2005/64/EC sets very high targets for re-use, recycling and other forms of recovery of end-of-life vehicles and their components so as to reduce the disposal of waste as well as to improve the environmental performance of all economic operators involved in the life cycle of vehicles. Further, it sets provisions on the type-approval of motor-vehicles with regards to their reusability, recyclability and recoverability. The **Battery Directive** 2006/66/EC provides, *inter alia*, targets for collection and recycling and establishes rules for treatment and disposal of batteries and accumulators.

3.8.5. Reduction of GHG Emissions from Urban Waste Water Treatment

The **Urban Waste Water Treatment Directive** 91/271/EEC concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors. The Directive requires, *inter alia*, total nitrogen reduction for discharges from treatment plants to sensitive areas. As increased nitrogen removal has been found to lead to a decrease in N_2O emissions in wastewater treatment plants[23], this requirement can contribute to a reduction of N_2O emissions.

3.9. Assessment of the economic and social consequences of response measures

To ensure that all relevant possible impacts are taken into account, the EU has established processes that assess the economic and social consequences of climate policy measures.

For the development of new policy initiatives through legislative proposals by the European Commission, an impact assessment system has been established in which all proposals are examined before any legislation is passed. It is based on an integrated approach which analyses both benefits and costs, and addresses all significant economic, social and environmental impacts of possible new initiatives (for details please refer to section 4.10 of the EU BR1 as well as chapter 15 of the EU National Inventory Report 2014).

Beyond this internal impact assessment system, procedures for assessing the impacts of EU (climate change) policies on external countries have also been established. Even though there is no explicit dialogue on response measures, the impacts of policy measures implemented by the EU are naturally being discussed within the framework of bilateral and regional cooperation. Such processes are included in various EU cooperation policies and agreements with third countries on a sectoral level, such as for trade agreements, as well as on an overarching political level in regional cooperation with Africa, Asia and Latin America as well as in bilateral relations. This way, it is ensured that the effects of such policies on non-EU countries are taken into account.

The free Trade Agreements that have been concluded between the EU and third countries provide pertinent examples. For instance, the Deep and Comprehensive Free Trade Area (DCFTA) signed between the EU and Ukraine on 27 June 2014 sets out various processes which enable concerned stakeholders to get in contact with the EU on potential impacts of policies and regulations under the Trade Agreement.[24] These include

[23] http://www.bmlfuw.gv.at/publikationen/wasser/abwasser/Lachgasemissionen---Kl-ranlagen.html

[24] For more information see http://ec.europa.eu/trade/policy/countries-and-regions/countries/ukraine/.

provisions that allow interested parties to comment on proposed regulations under the agreement. Furthermore, enquiry or contact points are established to respond to questions arising from the application of regulations included in the agreement. Negotiations of similar agreements are taking place between the EU and Morocco, Tunisia, Jordan and Georgia, among others.

Furthermore, dialogues on impacts of EU policies on third countries take place in the context of the European Neighbourhood Policy (ENP). As the basis for cooperation between the EU and a neighbouring country an Association Agreement is negotiated bilaterally between the two partners. In such an agreement, specific political priorities are set for the country concerned. Following the agreement, actions plans are negotiated between the EU and the respective neighbouring country which include priority areas for cooperation and a specific focus of action for each of these areas for three to five years. In the negotiations of an action plan, the country is able to raise specific issues of concern with the EU. Additionally, in technical discussions within sub-committees established through the Association Agreement (particularly on energy, transport and the environment), targeted exchanges on policy issues and directions for future cooperation at bilateral level take place. Partner countries can ask questions about planned EU initiatives and legislatives at such meetings to technical experts.[25]

An example of an initiative to address the impacts of EU climate change policies on third countries is currently being prepared under the regional Union for the Mediterranean. Under this NAMA initiative, technical assistance will be provided to project development in key sectors, including tourism. This assistance will help stakeholders from individual countries to develop mitigation actions with easier access to climate finance. The initiative, suggested by Egypt, will focus on renewable energy and energy efficiency, and target key vulnerabilities of Mediterranean countries regarding strong fossil fuel reliance and fossil fuel subsidies.[26]

[25] For further information on the ENP see http://eeas.europa.eu/enp/.

[26] See http://ufmsecretariat.org/informal-ufm-high-level-conference-on-climate-change/.

4. PROJECTIONS

This part summarises information on the EU's projected emissions up to 2030 (section 4.1). Furthermore, as is necessary for the second Biennial Report from the European Union under the UNFCCC, an assessment of progress to the 2020 EU emission reduction target under the UNFCCC is provided in section 4.2 (cf. explanation in section 2.1).

4.1. Projections

4.1.1. Introduction

This section presents projections of greenhouse gas emissions (GHG emissions) for the "with existing measures scenario" (WEM), differentiated by sector and by gas and aggregated to EU-28 level. Projections are presented for 2015, 2020, 2025 and 2030. All emissions and projections are displayed in CO_2 equivalents and excluding emissions or removals from LULUCF. Projections of emissions related to fuel sold to ships and aircrafts engaged in international transport are not included in the totals reported in this section, unless noted otherwise.

The WEM projection of the European Union represents a business-as-usual scenario aggregated from 28 national WEM projections where only policies and measures that have been adopted or already implemented in the Member State are considered, as far as covered by national projections. With regard to EU policy coverage the WEM projection is thus a conservative scenario. For Member States that did not submit new projections in 2015, the EUCLIMIT Reference scenario 2013[27] was used for gap-filling purposes.

Information on sensitivity analysis (section 4.1.3) and methodology (section 4.1.4) is included below the following section on greenhouse gas projections.

4.1.2. Projections of EU GHG emissions

4.1.2.1. Summary

Table 4-1 summarises historic and projected greenhouse gas emissions as totals, per sector and per gas. This information is visualised and further insights are provided in Sections 4.1.2.2 - 4.1.2.4.

[27] http://ec.europa.eu/transport/media/publications/doc/trends-to-2050-update-2013.pdf

Table 4-1 Historic greenhouse gas emissions and greenhouse gas emission projections in the 'with existing measures' scenario

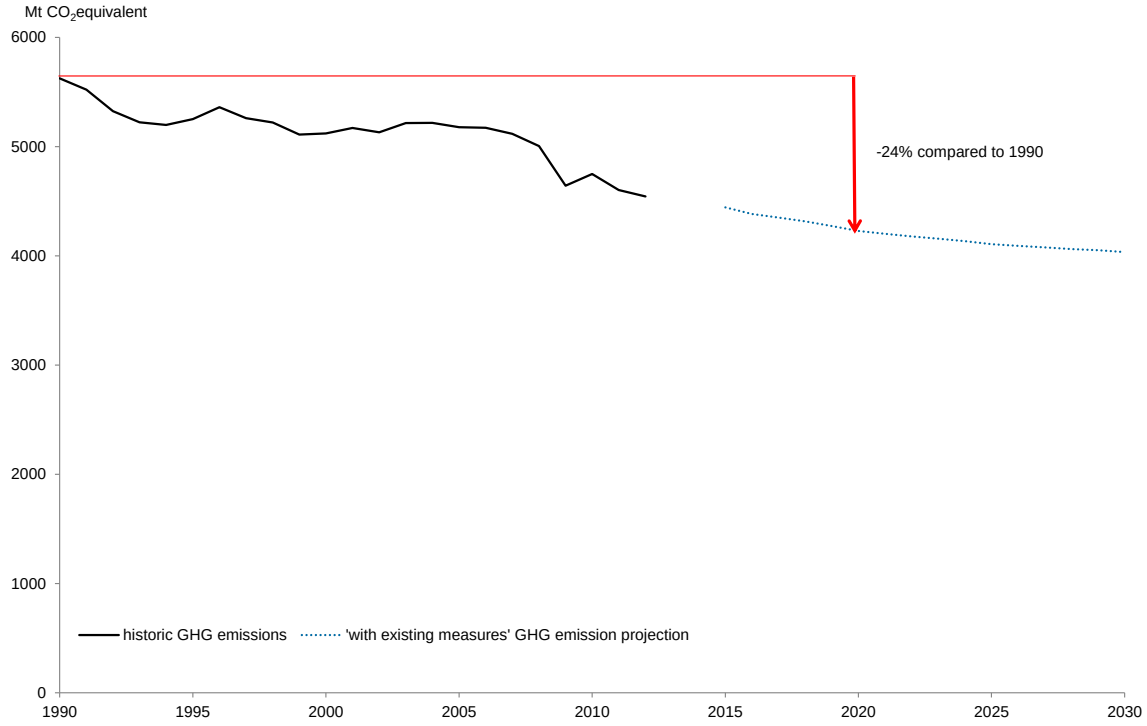
	1990	1995	2000	2005	2010	2013	2015	2020	2025	2030
History										
Mt CO_2equivalent										
Total GHG emissions (excl. LULUCF; excl. International aviation)	**5680**	**5322**	**5177**	**5224**	**4786**	**4477**				
By sector										
Energy	3570	3248	3097	3141	2859	2637				
Transport	786	840	921	974	939	887				
Industry/industrial processes	511	491	443	449	376	360				
Agriculture	569	495	481	455	442	441				
Waste management/waste	244	248	235	205	170	152				
By gas										
CH_4 emissions excluding CH_4 from LULUCF	744	673	613	547	489	463				
CO_2 emissions excluding net CO_2 from LULUCF	4460	4201	4162	4286	3934	3650				
N_2O emissions excluding N_2O from LULUCF	405	366	325	304	257	251				
Total F-Gases (excl. NF_3)	71	82	77	87	106	114				
Memo items										
Memo item: international aviation	*70*	*86*	*116*	*132*	*132*	*134*				
Memo item: international navigation	*109*	*110*	*133*	*162*	*157*	*140*				
With existing measures' scenario										
Mt CO_2equivalent										
Total GHG emissions (excl. LULUCF; excl. International aviation)							**4445**	**4228**	**4108**	**4034**
By sector										
Energy							2594	2400	2299	2224
Transport							895	885	878	889
Industry/industrial processes							364	363	356	348
Agriculture							445	449	453	458
Waste management/waste							146	132	121	115
By gas										
CH_4 emissions excluding CH_4 from LULUCF							457	440	427	418
CO_2 emissions excluding net CO_2 from LULUCF							3607	3414	3316	3259
N_2O emissions excluding N_2O from LULUCF							268	270	272	275
Total F-Gases (excl. NF_3)							109	103	90	80
Memo items										
Memo item: international aviation							*139*	*153*	*165*	*176*
Memo item: international navigation							*151*	*153*	*154*	*155*

Note: The EU's greenhouse gas projection is the result of an aggregation of Member States individual GHG projections. Member States had to submit these projections under the MMR in March 2015. The preparation of the projections takes considerable time. It is therefore likely that the F-Gas Regulation which was adopted in 2014 could not be considered within individual greenhouse gas projections. Therefore its anticipated effects are not completely reflected in the EU's greenhouse gas projection.

4.1.2.2. Total aggregate GHG emission projections

Figure 4-1 presents total aggregate GHG emission trends and the WEM projection for EU-28. The figure includes historic values (solid lines) and projected values (dotted line). In the WEM scenario, total EU-28 GHG in 2020 are projected to be 24% below 1990 GHG emissions (including international aviation). Up to 2030 GHG emissions are projected to decrease further compared to 1990.

Figure 4-1 Total, aggregate, absolute historic and projected EU-28 GHG emissions



Note: Values up to 2013 are from the latest available greenhouse gas inventory. Projected values, starting in 2015, stem from Member States submissions under Article 14, MMR. The 24 % emission reduction in 2020 (compared to 1990) is calculated taking into account international aviation.

4.1.2.3. Total aggregate GHG emission projections per sector

From a sectoral perspective (Figure 4 2) it can be seen that the largest share of GHG emission reductions are from the energy sector which also contributes the most to aggregate GHG emissions – shown here excluding transport. Energy sector emissions are projected to decrease by 33 % (vs. 1990) in 2020 and by 38 % up to 2030. In general, EU-28 GHG emissions from the energy sector show a gradual downward trend from 1990 to the present day, with a short and steep decrease during the economic crisis, after which they increased again somewhat and then continue with the downward trend also in projections. These decreases can be explained by a variety of factors but are mainly due to increased use of renewables, fuel switching to gas (also reducing CH4 emissions from coal mining), increased energy and technical efficiency and decreases in fuel combustion in manufacturing industries.

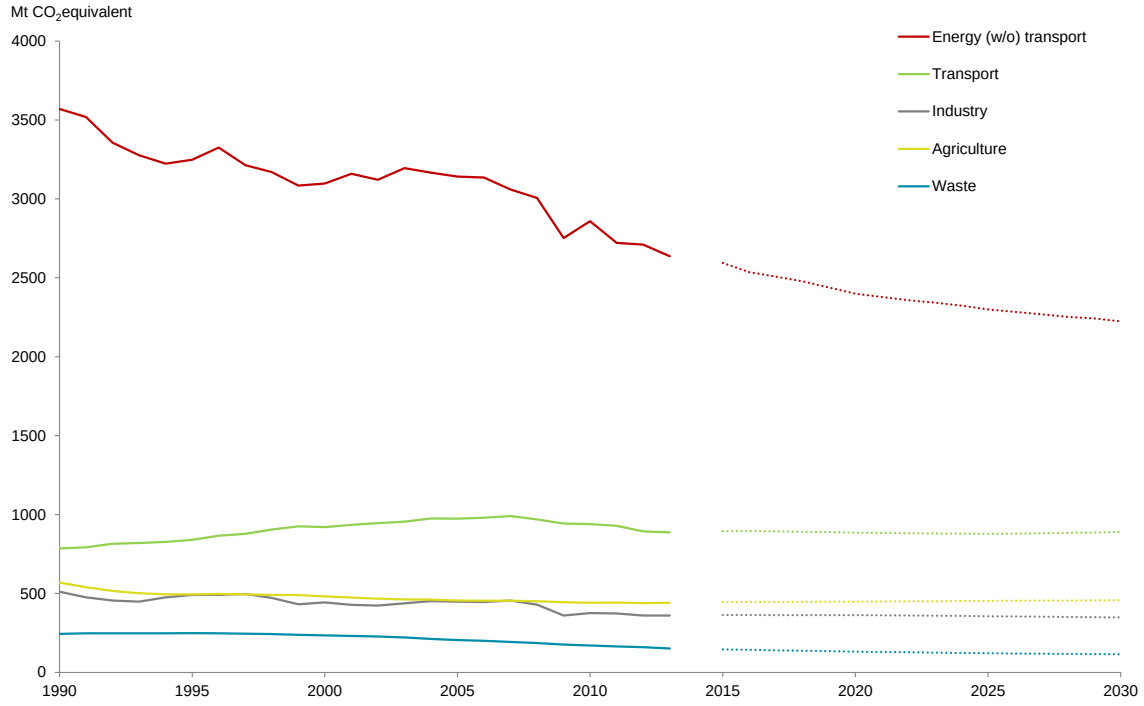
In the Eastern Member States, construction and restructuring of industry have also played a role in reducing emissions. However such reductions have been counteracted by increased housing stock and growth in the services sector, resulting in increased demand for energy services in buildings and homes, and in particular strong growth in demand for electricity to provide these. Recent economic growth in the Eastern Member States is reflected in increased demand for energy services. Projections for the sector anticipate that emissions from energy will further decrease due to the effects of existing policies and measures.

The only sector which is projected to exhibit 2020 GHG emissions larger than 1990 is the transport sector. After 2007 a slow but steady decline in transport emissions is

visible, due to a combination of higher fuel prices and more stringent policies, such as CO_2 standards for cars and vans. In 2020 it is projected to have 13 % higher GHG emissions than 1990, staying at about that level until 2030.

The industry sector is projected to decrease its process and product related GHG emissions by approximately 29 % in 2020 (vs. 1990) and by about 32 % up to 2030. The observed GHG emission trends and projections in the agriculture and waste sector were similar in the past – both exhibit a steady decline. The waste sector is projected to exhibit steadily declining GHG emissions (approximately -46 % vs. 1990 in 2020 and -53 % vs. 1990 in 2030).

Figure 4-2 EU-28 GHG emissions per sector in the WEM scenario



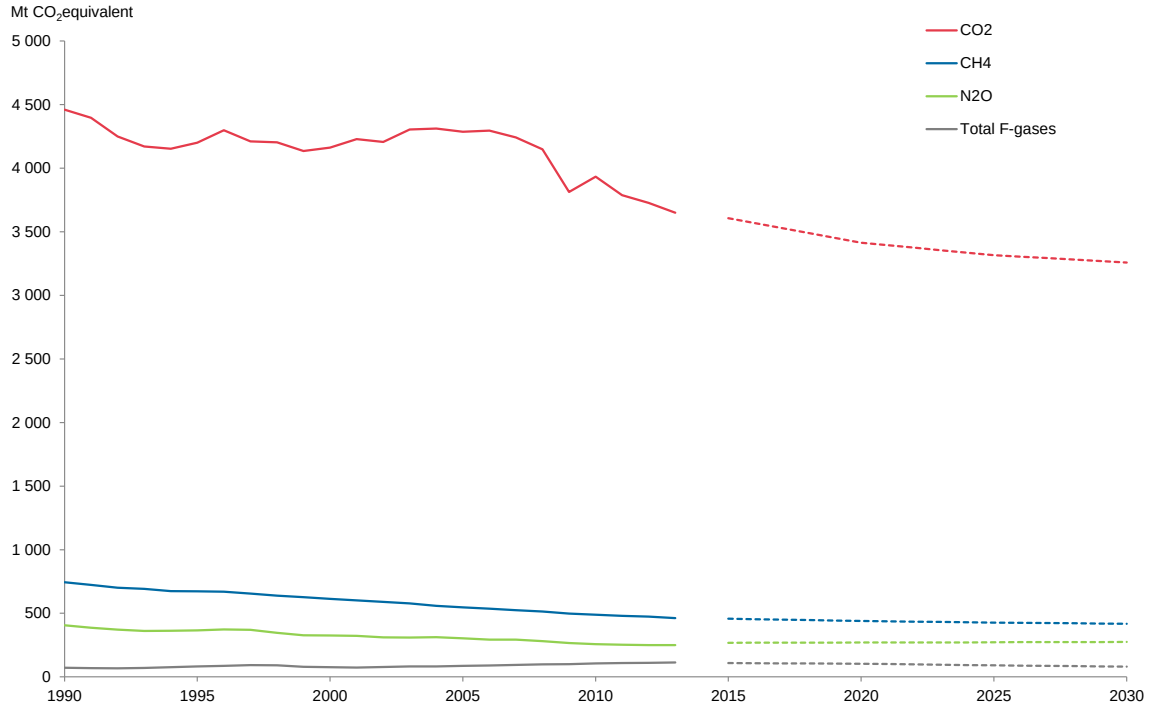
Note: The trajectories displayed here are not stacked, i.e. each trajectory refers to the values shown on the y-axis. Values up to 2013 are from the latest available greenhouse gas inventory. Projected values, starting in 2015, stem from Member States submissions under Article 14, MMR.

4.1.2.4. Total aggregate GHG emission projections gas

Figure 4-3 below illustrates the expected change in emissions from individual greenhouse gases between 1990 and 2030 under the WEM scenario. The major contributor to GHG emissions - CO_2 - is projected to decline by approximately 23 % (vs. 1990) by 2020 and by about 27 % up to 2030. CH_4 emissions steadily declined in the past and are projected to do so in the future.

N_2O emissions are projected to stagnate after 2015. F-gas emissions have been steadily rising for more than 10 years, however in the projections the emissions are expected to steadily decrease up to 2030 due to the implementation of EU F-Gases legislation.

Figure 4-3 EU-28 GHG emissions per gas in the WEM scenario



Note: The trajectories displayed here are not stacked, i.e. each trajectory refers to the values shown on the y-axis. Values up to 2012 are from the latest available greenhouse gas inventory. Projected values, starting in 2015, stem from Member States submissions under Article 14, MMR. For gap-filled countries, the share of gases has been calculated applying the average share of EU-28 of specific gases to total GHG emissions

The EU's greenhouse gas projection is the result of an aggregation of Member States individual GHG projections. Member States had to submit these projections under the MMR in March 2015. The preparation of the projections takes considerable time. It is therefore likely that the F-Gas Regulation which was adopted in 2014 could not be considered within individual greenhouse gas projections. Therefore its anticipated effects may not be completely reflected in the EU's greenhouse gas projection.

4.1.3. Sensitivity Analysis

Under Article 14 of Regulation 525/2013/EU Member States are required to report on results of a sensitivity analysis of their greenhouse gas projections. While this is mandatory reporting, no pre-defined set of parameters or variables is given.

As a consequence, Member States' sensitivity analyses are based on different assumptions and methodologies, take into account different national circumstances and structures. Across Member States key parameters and assumptions are varied in a heterogeneous manner. It is thus not possible to aggregate the results of individual Member State sensitivities into an EU-28 sensitivity projection scenario.

It is also not possible to repeat the sensitivity approach undertaken in the BR1 (cf. pp 426). At the time of the preparation of this report no updated, comparable EU-wide projection scenario was available from a homogenous modelling exercise which could serve as a sensitivity scenario.

The previous sensitivity projection is not suitable for a sensitivity analysis any longer because in the meantime further EU wide measures have been adopted. Moreover, it used

the SAR GWPs which are not directly comparable with the AR4 GWPs used for reporting projections under Article 14 of Regulation 525/2013/EU. However, at the time of drafting this biennial report, another EU-wide projection of GHG trends has been conducted which includes EU wide targets on renewable energy and the Energy Efficiency Directive of 2012 as an important new EU wide measure,. Both have induced a number of national measures during 2012-14 which are covered by the 2015 WEM projections. This scenario shows GHG emission reductions (excluding LULUCF) of 19% between 2005 and 2020 and 28% between 2005 and 2030, which are of a comparable order of magnitude as the aggregate EU projection 2015, which shows GHG emission reductions of 22% between 2005 and 2020 and 25% between 2005 and 2030[28].

4.1.4. Methodology

4.1.4.1. Compilation of the EU projections

The projections of GHG emissions for EU-28 are based on individual national projections of Member States' submissions to the European Commission under Regulation 525/2013/EU in 2015.

EEA's European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM) has compiled the national projections and applied QA/QC procedures to ensure consistency of the data reported by MS (see Section 4.1.4.4).

- The reported scenario is documented in Section 4.1.1.
- Projections unless otherwise noted, are reported excluding governmental use of Kyoto mechanisms and carbon sinks
- The sector breakdown reported follows the structure of the CTF Tables and includes: Energy (without transport), transport, industry/industrial processes, agriculture, and waste.
- The gases which are covered are: CH4 emissions excluding LULUCF, CO2 emissions excluding LULUCF, N2O emissions excluding LULUCF and total F-Gases.
- Figures represent historic GHG emissions up to 2013 Projections are represented starting 2015.

4.1.4.2. Projection methodology

Information presented in Section 4.1.2 for the EU-28 is derived through an aggregation of individual Member State projections. Detailed descriptions of the methodologies used to generate individual Member State projections, further information on their sensitivity analyses and their key parameters and assumptions are presented in individual Member State Biennial Reports. The EU-28 GHG projection has been aggregated using Member

[28] http://ec.europa.eu/transport/media/publications/doc/trends-to-2050-update-2013.pdf, recalculated with updated global warming potentials.

States' submissions to the European Commission under Regulation 525/2013/EU in 2015.

4.1.4.3. Key parameters and assumptions

The key parameter assumptions of individual Member States are documented in their national projections and, in addition, were aggregated to obtain information relating to the EU-28. The Commission provided Member States with recommended parameter values for the evolution of the EU ETS CO_2 price and for international fuel import prices. It also provided default values for GDP and population to improve consistency of Member State projections.

In national projections these were used to a varying extent. In the case of different national assumptions, Member States were invited to use the recommended values for sensitivity analysis. For documentation of the EU-28 projection, key parameters have been derived as weighted averages or sums of the values of key parameters as reported by Member States. These are shown for EU-28 in CTF Table 5.

4.1.4.4. QA/QC procedure

The QA/QC procedures applied to the projections data follow the EU QA/QC procedure as laid out in the document *Elements of the Union System for Policies and Measures and Projections and the Quality Assurance and Control (QA/QC) Programme as Required under Regulation (EU) No 525/2013*[29]and in the 2015 ETC technical report "*Quality assurance and quality control procedure for national and Union GHG projections*"are briefly explained here.

EEA's European Topic Centre for Air Pollution and Climate Change Mitigation (ETC/ACM) has compiled the national projections as submitted by the EU Member States under the MMR and applied quality assurance and quality control (QA/QC) procedures that consist of a number of checks against quality criteria such as completeness, consistency, comparability, accuracy and transparency of reported data.

If the quality checks showed that the submission did not follow the quality criteria, the ETC/ACM reviewer sought explanation in the accompanying documents submitted by MS. If no explanations could be found, the reviewers asked Member States projection experts to provide clarification or correct the dataset as necessary. If Member States did not provide the requested information, the ETC/ACM proceeded with corrective actions which consist of filling identified data gaps and performing error corrections and the reference year calibration. Such corrective actions are essential to ensure the quality of projections data used in the annual reports of the Commission and the EEA. The EU-28 emission projections presented here conform to the EEA's and European Commission's 2015 reports on progress towards the 2020 GHG target[30].

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[29] http://ec.europa.eu/clima/policies/strategies/progress/monitoring/docs/union_pams_projections_en.pdf

[30] The reports are available for download under : http://ec.europa.eu/clima/policies/strategies/progress/documentation_en.htm and http://www.eea.europa.eu/publications/trends-and-projections-in-europe-2015

4.1.4.5. Changes in methodologies

The methodologies to report on greenhouse gas projections remained unchanged to the first Biennial Report from the European Union under the UNFCCC (cf. EU BR1, Section 5.6).

Improvements to the QA/QC procedure were made. The procedure is documented completely in the 2015 ETC technical report "*Quality assurance and quality control procedure for national and Union GHG projections*".

4.2. Quantified progress to 2020 targets

For the quantification of the progress to the EU 2020 target under the UNFCC (cf. explanation in section 2.1), 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. The development of GHG emissions of EU-28 is shown in section 1.1 above. Considering the scope of the EU 2020 target (i.e. non LULUCF, including international aviation) the 2013 emissions are at 20% below the 1990 emission level, which means that EU-28 is well on track to reach its Convention target.

In the context of the EU's 2nd Biennial report to the UNFCCC, reporting on progress on targets is standardized in the Common Tabular Format (CTF) Tables 4, 4a and 4b.

Table 4-2 EU Reporting on progress (CTF Table 4)

	Unit	Base Year	2011	2012	2013	Comment
Total (without LULUCF)	Mt CO_2 eq	5 750	4 766	4 697	4 611	Total GHG including domestic and international aviation, excluding LULUCF and NF3
Contribution from LULUCF	Mt CO_2 eq	NA	NA	NA	NA	Not applicable: Numbers for LULUCF are not reported because this sector is not included under the Convention target
Market-based mechanisms under the Convention	number of units / Mt CO_2 eq		NA	NA	NA	Not applicable: Use of CER and ERU cannot be quantified at the time of reporting.
Other market-based mechanisms	number of units / Mt CO_2 eq		NA	NA	NA	Not applicable: No "other" market-based mechanisms are in use.

Emissions and sinks in the sector of LULUCF are not included under the Convention target; therefore they are not included in CTF tables related to progress to the Convention target. Emissions in this sector are only accounted under Kyoto targets. In the first Kyoto

commitment period the LULUCF sector has been a net sink for EU-28 due to a total emission removal of 381 Mt CO_2-equivalent (76 Mt CO_2-equivalent per year)[31].

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 (see section 2.2.2.3). Under the EU ETS, since 2013 it is no longer possible to track the use of flexible mechanisms directly via information on EUTL public website because CERs and ERUs are no longer surrendered directly rather they are exchanged into EUAs. These exchanges will become public on installation level after three years, with the first information reflecting the use in 2013 available in 2016. The use of flexible mechanisms can neither be quantified under the ESD at present. As the compliance assessment for the first year 2013 under the ESD will only take place in 2016, any potential use of CER and ERU units for the first year will only take place in 2016.

Thus, for the 2nd Biennial Report, the EU and its MS can only report that no units have been used under the ESD so far and no quantitative information can be given for the use of flexible mechanisms in CTF Tables 4 and 4b.

[31] EEA 2014 Progress towards 2008-2012 Kyoto targets in Europe. http://www.eea.europa.eu/publications/progress-towards-2008-2012-kyoto

5. PROVISION OF FINANCIAL, TECHNOLOGICAL AND CAPACITY BUILDING SUPPORT TO DEVELOPING COUNTRIES

This section includes information on the provision of financial, technological and capacity-building support to developing countries by the EU (activities carried out by the EU institutions, such as the European Commission and the European Investment Bank).

Information on the provision of financial, technological and capacity-building support to developing countries by individual EU Member States can be found in their respective Biennial Reports.

Detailed data on the support provided in 2013 and 2014 are included in the annexed Common Tabular Format (CTF) Tables 7, 8 & 9.

5.1. The EU's approach to provision of climate finance, including the provision of new and additional resources

The European Commission published a Communication in February 2005 entitled "Winning the Battle Against Climate Change". This Communication outlined key elements for the EU's post-2012 strategy. Specifically, it called for stronger cooperation with third countries in order to tackle the climate change problem[32].

EU climate and development actions are largely intertwined, contributing to inclusive growth for sustainable human development which cannot be thought of without limiting climate change. The EU promotes a common and comprehensive approach to financing for development, including climate change actions as part of the "Agenda for Change," emphasising mutually reinforcing climate and development co-benefits. The EU emphasises the catalytic role that official development aid (ODA) has in facilitating increased financing from other sources. Thus, the EU has strengthened efforts to create instruments and platforms that support leveraging of financing from multiple sources, in particular from the private sector.

The implementation of climate action at national and regional levels is supported by geographical programmes[33] that focus on development priorities defined for a specific country or region.

The Commission draws up strategy papers in cooperation with the beneficiary countries. They are based on the specific needs and situation of regions and partner countries and also take their performance into account. The strategy papers set out priority areas and financial allocations and serve as the basis for the programming of aid. Based on these strategies, yearly action programmes are adopted defining more specific objectives and fields of intervention, as well as expected results and the exact amount of available funding.

[32] For further information on the CC cooperation with non-EU countries, please visit the following website: http://ec.europa.eu/clima/policies/international/cooperation/index_en.htm.

[33] For more information on these programmes – the Development Cooperation Instrument (DCI), European Neighbourhood and Partnership Instrument (ENPI) and the European Development Fund (EDF), please see BR1.

Further, the EU has established a number of innovative initiatives and facilities such as the Global Climate Change Alliance (GCCA), the Forest Law Enforcement, Governance and Trade (FLEGT), the Global Energy Efficiency and Renewable Energy Fund (GEEREF) and the EU water and energy facilities and the Regional Investment Facilities (the so called blending mechanisms).

The financial resources reported in this Biennial Report are considered to be "new and additional resources" meaning that they were committed after and not included in the previous national communication or biennial report. As per recommendation of the ERT[34], it is further stated that the EU budgets are determined on an annual basis so that each annual commitment cycle represents new and additional resources.

Scaling up climate finance by 2020 will be an iterative process. It will need to go hand in hand with national governments developing enabling environments, such as domestic climate strategies, policies, instruments and mechanisms, and conducive regulatory frameworks. These will facilitate actions and create viable projects which are ready for support. Such approaches will provide incentives to (re)direct private investment towards low carbon development.

The EU and its Member States see private finance as key to scaling up levels of climate finance, although not as a substitute for public finance where public finance is needed. Private finance and investment will be pivotal to achieving long-term transformation of developing countries into low-carbon, sustainable, and climate-resilient economies.

5.1.1. Addressing the needs of developing countries

It is the responsibility of governments to take the lead in designing and implementing climate policies as a basis for enhanced action and enhanced support. The EU strives to work closely with its partners to strengthen national planning capacities, institutions, planning processes, public financial management and procedures and monitoring systems to create a solid basis for countries to take charge of climate mainstreaming and to enable them to benefit from climate change finance and support from all sources.

The EU has placed climate change high on the agenda of our external relations; and in particular in our relations with developing countries. Climate change is now regularly discussed in the framework of our Policy Dialogue with Partner countries. National ownership is a key principle for all EU support. Programming of bilateral support normally starts with the national government / actors taking ownership of an inclusive development process. To the extent possible, the EU bases its programming on the partner countries'/regions' own development plans or equivalent, including regional and sector plans, such as National Adaptation Programmes of Action (NAPAs/NAPs) or Nationally Appropriate Mitigation Actions (NAMAs) or – as appropriate – a combination of such documents, depending on the national context.

The GCCA (see section 5.4.2) , for example, provides a platform for dialogue and exchange between the EU and developing countries most vulnerable to climate change, in particular Least Developed Countries (LDCs) and Small Island Developing States (SIDS). The aim is to promote climate change as a core issue in the partnership between these countries and the EU, building confidence and supporting a convergence of visions on how best to address climate change.

[34] ERT: Expert Review Team under the UNFCCC, having reviewed the First biennial report from the European Union.

In 2014, a global evaluation recognised that the GCCA had made a significant contribution to the formulation and implementation of national policies and dialogue on climate change.

Building on recommendations from the GCCA evaluation, a new phase started: The Global Climate Change Alliance Plus EU Flagship Initiative (GCCA+).

The new GCCA+ is sharper in focus and wider in outreach. It will concentrate on three priority areas where the greatest impact is anticipated: (1) Mainstreaming climate change into poverty reduction and development efforts; (2) Increasing resilience to climate-related stresses and shocks; (3) Supporting formulation and implementation of concrete sectoral-based adaptation strategies.

The GCCA programmes are designed to align with national priorities and support on-going national or regional activities. For instance, the GCCA supports the Mekong River Commission's Climate Change and Adaptation Initiative and the implementation of some priorities of the Pacific Islands Framework for Action on Climate Change.

The table below shows how GCCA-supported interventions promote or build on national adaptation strategies.

Table 5-1 GCCA programme contributions to existing national programmes or strategies

GCCA programme	Contributes to the implementation of
Bangladesh	The Bangladesh Climate Change Strategy and Action Plan
Belize	The National Adaptation Strategy to Address Climate Change in the Water Sector
Bhutan	The Renewable Natural Resources sector programme/five-year plan
Burkina Faso	The National Rural Sector Plan
Chad	A number of NAPA priorities and the National Development Plan 2015–2020
Central African Republic	The national REDD+ strategy in the south-western region
Comoros, the	The national poverty reduction and growth strategy
Ethiopia	The Climate Resilient Green Economy strategy, the national Climate Change Adaptation programme, and the Sustainable Land Management programme
Guyana	The National Mangrove Action plan
Lesotho	The environment and climate change priorities of the National Strategic Development Plan
Malawi	A number of NAPA priorities
Mauritania	A number of NAPA priorities
Mauritius	The Maurice Île Durable sustainable development strategy
Nepal	Mainstreaming of NAPA-prioritised activities through the national framework of Local Adaptation Plans for Action
Papua New Guinea	The national REDD readiness plan
Rwanda	The Strategic Road Map for Land Reform and the Strategic Plan for Environment and Natural Resources
Samoa	The Water for Life sector plan
São Tomé and Príncipe	The National Programme for Food and Nutritional Security
Seychelles	The Seychelles National Climate Change Strategy and the Seychelles Sustainable Development Strategy
Solomon Islands	A number of NAPA priorities and the National Disaster Risk Management Plan
Uganda	The NAPA, operationalisation of two climate–related objectives of the 2010 National Development Plan
Vanuatu	Measures identified in the NAPA

Source: From Integrated Climate Strategies to Climate Finance Effectiveness: Experiences from the Global Climate Change Alliance (2013)

5.1.1.1. Addressing both adaptation and mitigation needs

The EU has taken steps to ensure a balanced provision of support between adaptation and mitigation, in a situation in which mitigation gathered more resources than adaptation in the past. As in the previous biennial report, when considering grants only, the EU has provided balanced support between adaptation and mitigation in 2013 and 2014 (USD 1 465 million / €

1 104 million and USD 1 450 / € 1 093 million respectively). This has been achieved by integrating adaptation considerations into existing and new development assistance programmes and through engagement in new areas of work such as combined adaptation and disaster risk reduction efforts.

In providing climate support, the EU has made intense efforts to take into account and integrate our partners concerns and priorities on topics such as, in addition to mitigation and adaptation *tout court*: green economy, migration, disaster risk reduction, clean energy, biodiversity, forests, agriculture and research and innovation.

5.1.2. Innovating in delivering support: engaging the private sector in adaptation and mitigation in developing countries

There is an increasing range of ways to collect and pool revenues, use traditional development finance and deliver aid. Engaging the private sector in development financing is another innovative way of mobilizing new funds.

The EU and Member States, together with European and international public financing institutions are actively collaborating though regional blending mechanisms, which are expected to be further scaled up in future, in order to use grant funding to leverage financing from other sources.

Blending is a powerful tool for leveraging additional resources and increasing the impact of EU aid on the transition towards low emission and climate resilient economies and societies.

Blending combines EU grants with loans or equity from public and private financiers. The EU grant attracts additional financing for important investments in partner countries by creating a favourable investment environment and reducing risk for private investors. On a case-by-case basis, the EU grant contribution can take different forms to support investment projects:

- investment grant or interest rate subsidy - reducing the initial investment and overall project cost for the partner country;
- technical assistance - ensuring the quality, efficiency and sustainability of the project;
- risk capital (i.e. equity or quasi-equity) - attracting additional financing;
- guarantees - unlocking financing for development by reducing risk.

Nowadays EU regional blending facilities have been established in all regions of EU external cooperation: Neighbourhood Investment Facility (NIF), Latin America Investment Facility (LAIF), Asian Investment Facility (AIF), Investment facility for Central Asia (IFCA), Caribbean Investment Facility (CIF), Investment Facility for the Pacific (IFP), the EU-Africa Infrastructure Trust Fund (ITF) and the *Western Balkans* Investment Framework (WBIF).

Between 2007 and 2014, the EU issued grants worth more than €2 billion to finance about 200 blended projects, leveraging at least €19 billion from other public financial institutions to produce an overall investment volume of more € 44 billion. The Commission estimates that about 62% of the projects financed by EU Blending Facilities since 2007 had a climate change objective as a main or significant objective.

The EU has also made innovative efforts, as recommended in its policy papers[35], to involve the private sector in development and climate investments, for example, by using risk mitigation instruments for renewables or providing focused credit lines to financial intermediaries on energy efficiency.

5.1.3. Methodology for tracking the provision of finance, technology and capacity building support

The approach used by the EU to track its provision of climate finance, technology and capacity building support is based on the OECD Development Assistance Committee (DAC) system of Rio markers that has been integrated into the EU's own project monitoring and reporting system.

The following definitions are used to track climate finance and support.

- Definition of climate finance: Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts (adapted from the definition of climate finance by the Standing Committee on Finance).

- Definition of mitigation activities: An activity should be considered as climate-change mitigation related if it contributes to the objective of stabilisation of greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG sequestration (adapted from the operational definitions and criteria for eligibility of the OECD-DAC Policy Markers in tracking and reporting climate support to mitigation activities).

- Definition of adaptation activities: An activity should be considered as adaptation related if it intends to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience. This encompasses a range of activities from information and knowledge generation, to capacity development, planning and the implementation of climate change adaptation actions (adapted from the operational definitions and criteria for eligibility of the OECD-DAC Policy Markers in tracking and reporting climate support to adaptation activities).

- Definition of climate relevant technology development and transfer: a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, non-governmental organizations (NGOs) and research/education institutions. The broad and inclusive term "transfer" comprises the process of learning to understand, utilize and replicate the technology, including the capacity to choose and adapt to local conditions and integrate it with

[35] Brussels, 13.5.2014 COM(2014) 263 final "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions a Stronger Role of the Private Sector in Achieving Inclusive and Sustainable Growth in Developing Countries".

indigenous technologies (adapted from the IPCC definition of climate relevant technology transfer).

- Definition of climate relevant capacity building: capacity-building is a process which seeks to build, develop, strengthen, enhance and improve existing scientific and technical skills, capabilities and institutions particularly in developing countries, to enable them to assess, adapt, manage and develop technologies. Capacity building must be country-driven, addressing specific needs and conditions of developing countries and reflecting their national sustainable development strategies, priorities and initiatives (adapted from the UNFCCC definition of capacity building activities).

The Rio markers are policy markers, and were originally not intended for accurate quantification of flows to support policy goals. Therefore, an activity can have more than one principal or significant policy objective (i.e. it can be marked for several Rio markers; mitigation, adaptation and other Rio conventions such as Biodiversity and Desertification).

The EU has adopted the following approach to "translate" the Rio marked data into estimated climate finance flows:

- If an activity is marked as principal for mitigation or adaptation, 100% of the support is considered and reported as climate finance;

- If an aid activity is marked as significant for mitigation or adaptation, then only 40% of the support is considered and reported as climate finance.

- To avoid double counting, any activity can only count as 100%, 40% or 0%. If an activity is marked for both mitigation and adaptation, only the highest marking will count when calculating the total climate relevant financial contributing of the activity.

This biennial report covers support that has been committed in 2013 and 2014. A commitment entails that a final decision has been taken on allocation of the funds to a specific project and programme. In general, disbursement follows commitment unless exceptional circumstances arise. The EU is working towards tracking climate relevant disbursements in the near future.

The EIB's climate relevant financial flows have been tracked using the joint approach developed by the Multilateral Development Banks (MDBs)[36].

5.2. Financial Resources

5.2.1. Provision of financial support through multilateral channels

The EU has not provided core contributions to multilateral organizations, including to the operating entities of the financial mechanism of UNFCCC (the Global Environmental Facility and the Green Climate Fund)[37].

[36] Can be found at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/06/16/090224b082f3a601/2_0/Rendered/PDF/20140joint0rep0nks00climate0finance.pdf

The EU has, however, supported a number of global programmes and Trust Funds managed by multilateral organisations, such as UNDP, UNEP, FAO and the World Bank.[38] In the context of this Biennial Report these initiatives are reported as bilateral support and included in CTF table 7(b).

5.2.2. Provision of financial support through bilateral channels

The total support provided by the EU to developing country Parties to the UNFCCC[39] in 2013 and 2014 was USD 2 178 million (€ 1 641 million). Of this support, USD 1 465 million (€ 1104 million) was directed to adaptation and USD 1 450 (€ 1 093 million) to mitigation.[40]

Table 5-2 - Provision of financial support in 2013-2014[41]

	Adaptation	**Mitigation**	**Total**
2013			
EURO	661,394,000.00	606,266,904.58	964,262,104.58
USD	878,331,232.00	805,122,449.28	1,280,540,074.88
2014			
EURO	442,366,448.63	486,583,205.71	677,011,701.71
USD	586,577,910.89	645,209,330.77	897,717,516.48
TOTAL			
Euro	**1,103,760,448.63**	**1,092,850,110.29**	**1,641,273,806.29**
USD	**1,464,909,142.89**	**1,450,331,780.05**	**2,178,257,591.36**

Of total finance provided by the EU in 2013 and 2014, 18% or USD 382 million (€ 288 million) were provided to LDCs. USD 259 million (€ 195 million) were provided for adaptation-relevant activities in LDCs and USD 185 million (€ 139 million) for activities related to mitigation.[42]

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37 The EU's contributions to the UNFCCC and the Kyoto Protocol's budgets are included in the National Communication.

38 For the description of two such initiatives (the EU-UNDP Low Emissions Capacity Building Programme and the UN-REDD Programme), please also see the EU's BR1.

39 The list of recipients includes all developing country Parties to the UNFCCC who are on the DAC list of ODA recipients (link: http://www.oecd.org/dac/stats/documentupload/DAC%20List%20of%20ODA%20Recipients%202014%20final.pdf).

40 Please note that the mitigation and adaptation figures cannot be added up to provide the total. This is due to the fact that a number of projects are both mitigation and adaptation relevant. For details, please see the Rio markers methodology in 5.1.3.

41 Totals in this table correspond to the total figures shown in CTF table 7. However, totals for mitigation and adaptation are not shown in CTF table 7b, but were calculated for this overview table in line with the methodology for applying the Rio markers explained in chapter 5.1.3 for EU funds. The Rio markers are not applied to projects funded by the EIB which are also included in CTF table 7b.

42 Please note that the mitigation and adaptation figures cannot be added up to provide the total. This is due to the fact that a number of projects are both mitigation and adaptation relevant. For details, please see the Rio markers methodology in 5.1.3.

In addition, climate finance is channelled to developing country Parties to the UNFCCC by the European Investment Bank (EIB). All EIB funds which are reported here are provided in the form of loans. In line with the MDBs' joint approach to tracking climate finance[43], it is specified for each project, which share is relevant for mitigation or adaptation. The Rio markers are not applied to funding provided by the EIB.

In 2013, total climate finance provided to developing country Parties to the UNFCCC by the EIB was USD 2 718 million (EUR 2 047 million). In 2014, total climate finance provided to developing country Parties to UNFCCC by the EIB was USD 2 783 million (€ 2 098 million).

Table 5-3 - Climate financing by the EIB

	Adaptation	Mitigation	Total
2013			
EURO	97 500 000.00	1 949 027 799.00	2 046 527 799.00
USD	129 480 000.00	2 588 308 917.07	2 717 788 917.07
2014			
EURO	51 600 000.00	2 046 850 000.00	2 098 450 000.00
USD	68 421 600.00	2 714 123 100.00	2 782 544 700.00
TOTAL			
EURO	**149 100 000.00**	**3 995 877 799.00**	**4 144 977 799.00**
USD	**197 901 600.00**	**5 302 432 017.07**	**5 500 333 617.07**

Of total climate finance provided by the EIB in 2014, USD 431 million were channelled to developing countries as ODA and USD 242 million were delivered as OOF (for USD 2 110 million, this information is not available).

For detailed information on the bilateral provision of support by the EU and the EIB, please see CTF Table 7(b) in the CTF Appendix.

5.3. Technology development and transfer

Europe is a leading player in the area of low carbon technologies and is maintaining its position with a range of policy initiatives.

While emissions are falling in Europe, it is predicted that by 2020, nearly two-thirds of the world's emissions will come from developing countries. It is therefore vital that climate technologies are accessible in all parts of the world in order to keep the average global temperature rise to below 2°C compared to pre-industrial levels – the threshold beyond which we risk dangerous and irreversible climate change.

But accessible knowledge and technologies are not enough; the right set of specific local conditions needs to be in place to attract project developers and investors. This so-called 'enabling environment' involves a set of interrelated conditions - legal, organisational, fiscal, informational, political, and cultural. Key elements include the reduction of risks related to

[43] See http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/06/16/090224b082f3a601/2_0/Rendered/PDF/20140joint0rep0nks00climate0finance.pdf.

the project investment and its operation and to the policies in place. A skilled workforce is also crucial to maintain know-how in the community.

The transfer of technologies to developing countries offers great business opportunities for the private sector, which has the potential to leverage much higher investments than can be obtained through the public sector. Private sector involvement is also a key driver of technological innovation. In the EU, more than two-thirds of spending on innovation comes from the private sector and the vast majority of technologies are owned and operated by private actors.

The EU supports the development and deployment of technologies in developing countries through substantial investments in innovation. It also supports the transfer of climate technologies to developing countries, although such cooperation also requires governments, private sector entities, financial institutions, NGOs, and research and education institutions in developing countries to play their part. This includes support to increase administrative capacities and explore opportunities for public-private partnerships. It also helps harness finance to leverage private funding for infrastructure projects.

The EU also supports new forms of partnerships and multi-stakeholder alliances between national or local authorities, enterprises and NGOs for skills development and the provision of basic services.

These partnerships facilitate access to sustainable and affordable energy, water and agriculture. They develop synergies between public and private interests in technology transfer, and engage stakeholders in the development and diffusion of technology, particularly to and between developing countries.

Capacity building and innovation are important and the EU works closely with governments in developing countries to help them develop and implement policies in support of private sector involvement. The aim is to reinforce administrative capacities and support the development of legal and regulatory frameworks and guidelines for public-private partnerships.

5.3.1. EU Funded Technology Transfer Initiatives and Programme

All development aid cooperation projects in the field of climate change, and described in the previous section, involve technology transfer activities as defined by the technology transfer framework (both hard and soft technologies considered). It is, however, in most cases impossible, within a given programme, to get a breakdown of the technology transfer activities and related financial resources.

CTF Table 8 includes details of a non-exhaustive list of selected initiatives implemented in cooperation with developing country partners, with an important technology development and transfer component, which the EU believes are fairly representative of the overall technology development and transfer support provided by the EU.

5.3.1.1. EU research and innovation framework programmes

The EU research and innovation framework programmes are open for participation from third countries, with ‘automatic EU funding’ being limited to developing countries. There are also

dedicated programme instruments in place to support specific cooperation priorities with third countries. In the 7th Framework Programme (FP7) that covered the period between 2007 and 2013, 4.73% of all participation came from third countries (incl. developed and developing countries), which received 1.93% of all EU funding. Many of these international cooperation actions contributed to technology development in and/or knowledge transfer to developing countries.

Horizon 2020 is the EU's "new" research and innovation framework programme for 2014-2020, with a nearly € 80 billion budget. In order to facilitate joint knowledge creation and transfer, Horizon 2020 is also open for third country participation, and work programmes will include targeted calls to address specific research and innovation cooperation priorities jointly identified with partner countries.

The Horizon 2020 Regulation establishes climate action and sustainable development as cross-cutting priorities. It sets expenditure objectives of 35% and 60% respectively and requires monitoring and reporting of these.

5.4. Capacity building

Capacity development is at the heart of the EU development assistance, in line with the provisions of the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action. The EU's development activities in the field of climate change are based on, and emphasize the importance of, the principles of national ownership, stakeholder participation, country-driven demand, cooperation between donors and across programmes, and impact assessment and monitoring (when appropriate). Due to the fact that almost all development activities undertaken by the EU and its Member States include a capacity-building component(s) or activities and given the high number and volume of development programmes supported, it is impossible to estimate and single out the full extent of financial support provided by the EU explicitly for the purposes of capacity-building. Since EU support is partner country-driven, only information from partner countries, for example through their National Communications, is the best way to get a picture of capacity building support and activities and their effectiveness.

CTF Table 9 includes details of a non-exhaustive list of selected support initiatives with an important capacity building component, which the EU believes are fairly representative of the overall capacity building support provided by the EU.

In addition to those included in CTF table 9, we would highlight two flagship initiatives:

- The Low Emissions Capacity Building Programme, focused on mitigation action and its MRV, mostly in middle income countries, and
- The Global Climate Change Alliance, focused on adaptation in least developed countries and small island development states.

5.4.1. The Low Emissions Capacity Building Programme

A global initiative to support national climate change mitigation efforts, low emission development strategies and enhanced measuring, reporting and verification systems.

The UNDP Low Emission Capacity Building (LECB) Programme[44] promotes essential cooperation between relevant institutions, engaging the public sector and industry in a concerted effort to address climate change consistent with national development priorities around the world. Programme-supported projects aim to strengthen technical and institutional capacity at the national level. This work includes the identification and formulation of NAMAs, Low emission development strategies (LEDS), mitigation actions in selected industries with the participation of the private sector, the strengthening of GHG inventory management systems and the design of Measurement, Reporting and Verification (MRV) systems.

The LECB Programme runs through 2016 and is active in twenty five countries around the globe, including: Argentina, Bhutan, Chile, China, Colombia, Costa Rica, DRC, Ecuador, Egypt, Ghana, Indonesia, Kenya, Lebanon, Malaysia, Mexico, Moldova, Morocco, Peru, Philippines, Tanzania, Thailand, Trinidad and Tobago, Uganda, Vietnam and Zambia.

The global programme is supported through contributions by the European Commission, the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), and the Australian Government, while implemented by UNDP.

5.4.2. The Global Climate Change Alliance

The GCCA[45] was established by the European Union (EU) in 2007 to strengthen dialogue and cooperation with developing countries, in particular least developed countries (LDCs) and small island developing States (SIDS).

It started its work in just four pilot countries. Today it has a budget of more than €300 million and is one of the most significant climate initiatives in the world. It supports 51 programmes around the world and is active in 38 countries, 8 regions and subregions and at the global level.

By fostering effective dialogue and cooperation on climate change, the Alliance helps to ensure that poor developing countries most vulnerable to climate change increase their capacities to adapt to the effects of climate change, in support of the achievement of the Millennium Development Goals (MDGs).

Where this benefits their poverty reduction objectives, the Alliance also helps such countries to participate in the global climate change mitigation effort.

In 2014, a new phase of the GCCA, the GCCA+ flagship initiative, began in line with the European Commission's new Multiannual Financial Framework (2014-2020).

The GCCA+ aim is to boost the efficiency of its response to the needs of vulnerable countries and groups. Using ambitious and innovative approaches, it will achieve its goals by building on its two mutually reinforcing pillars:

- Under the first pillar, the GCCA+ serves as a platform for dialogue and exchange of experience between the EU and developing countries, focusing on climate policy and bringing renewed attention to the issue of international climate finance. The results

[44] More information can be found at www.lowemissiondevelopment.org

[45] More information can be found at: http://www.gcca.eu/

feed into negotiations for a new climate deal under the United Nations Framework Convention on Climate Change (UNFCCC).

- Under the second pillar, the GCCA+ acts as a source of technical and financial support for the world's most climate-vulnerable countries, whose populations need climate finance the most. Extra efforts will be made to strengthen the strategically important issues of ecosystems-based adaptation, migration and gender equality.

PART 2: COMMON TABULAR FORMAT TABLES

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In accordance with Decision 19/CP.18, these tables shall be submitted to the UNFCCC through an electronic reporting application for a common tabular format (the CTF portal)

1. CTF TABLE 1: EMISSION TRENDS

This table is based on the latest currently available inventory (EU inventory submission for EU-28 of 25 November 2015[46])
Table 1 consists of five parts.

Table 1 - Emission trends (Summary)

GREENHOUSE GAS EMISSIONS	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change from base to latest reported year
	CO_2 equivalent (kt)																									(%)
CO_2 emissions without net CO_2 from LULUCF	4,460,311.45	4,460,311.45	4,397,135.15	4,250,192.29	4,171,156.45	4,153,081.60	4,201,309.60	4,299,411.21	4,211,872.64	4,204,211.20	4,135,436.26	4,161,878.17	4,229,157.66	4,207,007.54	4,304,228.30	4,312,063.90	4,286,470.06	4,296,166.77	4,242,009.77	4,148,173.42	3,813,183.92	3,933,902.96	3,787,834.12	3,727,928.75	3,649,699.23	-18.17
CO_2 emissions with net CO_2 from LULUCF	4,185,099.72	4,185,099.72	4,094,840.95	3,985,352.22	3,900,594.60	3,869,503.40	3,903,245.22	3,971,510.60	3,885,767.22	3,861,951.94	3,781,979.72	3,835,749.39	3,885,717.27	3,896,627.28	4,005,888.97	3,977,297.69	3,952,270.66	3,929,117.94	3,927,678.75	3,797,373.16	3,468,971.63	3,606,760.50	3,459,050.20	3,401,994.47	3,319,556.17	-20.68
CH_4 emissions without CH_4 from LULUCF	743,539.30	743,539.30	722,610.63	701,024.79	691,749.85	674,436.93	673,176.62	669,264.68	655,241.70	638,203.08	627,373.73	613,194.52	601,462.03	589,362.01	578,159.96	559,179.48	546,575.30	535,653.50	524,401.54	513,360.70	498,003.69	488,680.86	479,747.34	474,157.31	462,664.07	-37.78
CH_4 emissions with CH_4 from LULUCF	750,849.11	750,849.11	728,979.68	707,300.43	698,856.08	683,732.96	681,799.46	677,108.91	663,002.05	646,007.74	633,957.80	620,563.52	607,884.58	595,259.07	585,281.61	565,059.74	552,762.43	541,756.37	531,792.46	518,842.37	503,542.87	494,485.43	485,577.10	480,420.36	467,804.38	-37.70
N_2O emissions without N_2O from LULUCF	405,082.48	405,082.48	385,672.08	370,990.28	360,491.12	363,255.69	365,734.95	372,518.43	369,437.96	347,025.43	326,905.96	325,229.74	322,078.49	310,639.51	308,573.51	312,204.66	303,723.73	293,579.66	293,105.60	281,359.42	266,592.44	257,197.37	252,908.82	249,535.42	250,500.04	-38.16
N_2O emissions with N_2O from LULUCF	413,403.61	413,403.61	392,952.86	378,414.87	367,896.73	370,782.46	373,071.87	380,080.43	376,942.96	354,542.43	334,374.16	332,800.22	329,486.42	318,055.60	316,163.69	319,498.61	311,225.57	300,972.51	300,630.05	289,619.57	273,835.51	264,522.17	260,268.80	256,877.57	257,557.94	-37.70
HFCs	29,327.74	29,327.74	29,354.92	31,774.68	34,846.18	39,710.43	44,411.00	51,601.61	59,361.07	60,170.87	51,469.80	52,588.39	51,731.89	55,583.30	62,414.59	65,259.75	70,987.91	74,557.33	80,498.47	85,741.26	89,987.13	95,512.13	98,928.13	100,839.13	103,561.00	253.12
PFCs	25,224.24	25,224.24	22,890.72	18,729.58	17,784.03	17,124.57	16,711.40	16,060.73	14,880.72	14,073.47	13,686.46	11,723.80	10,500.66	12,225.44	10,100.48	8,543.60	7,146.80	6,363.82	5,887.47	5,048.75	3,286.73	3,813.13	4,194.05	3,659.20	3,829.99	-84.82
Unspecified mix of HFCs and PFCs	5,703.88	5,703.88	5,232.46	5,213.58	5,203.09	5,474.99	5,756.95	4,304.66	4,188.35	4,087.11	3,924.30	2,053.87	1,770.41	1,847.12	995.25	855.83	883.44	725.89	544.70	784.18	1,094.30	357.74	165.32	174.92	174.27	-96.94
SF_6	10,937.37	10,937.37	11,391.99	12,215.08	12,891.92	14,061.97	15,138.62	15,020.10	13,542.37	12,797.41	10,479.87	10,469.79	9,669.01	8,520.81	8,040.01	8,062.33	7,871.35	7,362.07	7,041.72	6,631.87	6,295.20	6,376.96	6,239.63	6,315.83	6,277.87	-42.60
NF_3	23.78	23.78	25.49	27.37	29.45	32.49	43.48	69.42	103.42	116.82	60.79	115.81	82.37	133.94	146.82	132.43	155.97	141.02	163.04	149.15	77.37	119.45	127.22	93.13	69.18	190.97
Total (without LULUCF)	5,680,150.24	5,680,150.24	5,574,313.44	5,390,167.64	5,294,152.08	5,267,178.66	5,322,282.62	5,428,250.84	5,328,628.23	5,280,685.39	5,169,337.17	5,177,254.10	5,226,452.52	5,185,319.67	5,272,658.91	5,266,301.97	5,223,814.56	5,214,550.07	5,153,652.30	5,041,248.76	4,678,520.77	4,785,960.60	4,630,144.63	4,562,703.69	4,476,775.64	-21.19
Total (with LULUCF)	5,420,569.46	5,420,569.46	5,285,669.08	5,139,027.81	5,038,102.08	5,000,423.27	5,040,178.00	5,115,756.46	5,017,788.15	4,953,747.79	4,829,932.89	4,866,064.79	4,896,842.62	4,888,252.56	4,989,031.42	4,944,709.96	4,903,304.13	4,860,996.97	4,854,236.66	4,704,190.31	4,347,090.73	4,471,947.50	4,314,550.44	4,250,374.61	4,158,830.79	-23.28
Total (without LULUCF, with indirect)	5,688,891.54	5,688,891.54	5,582,863.39	5,398,479.52	5,302,248.39	5,275,033.41	5,329,725.73	5,435,736.37	5,336,005.23	5,287,657.65	5,177,153.81	5,183,598.32	5,232,616.34	5,191,146.20	5,278,556.01	5,271,999.88	5,229,333.78	5,219,988.69	5,158,920.21	5,046,320.33	4,683,092.45	4,790,542.24	4,634,676.75	4,567,018.63	4,481,328.25	-21.23
Total (with LULUCF, with indirect)	5,429,310.76	5,429,310.76	5,294,219.03	5,147,339.69	5,046,198.39	5,008,278.02	5,047,621.10	5,123,241.98	5,025,165.16	4,960,720.05	4,837,749.54	4,872,409.01	4,903,006.44	4,894,079.09	4,994,928.51	4,950,407.87	4,908,823.35	4,866,435.59	4,859,504.56	4,709,261.89	4,351,662.41	4,476,529.14	4,319,082.56	4,254,689.55	4,163,383.40	-23.32

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change from base to latest reported year
	CO_2 equivalent (kt)																									(%)
1. Energy	4,356,201.68	4,356,201.68	4,311,209.39	4,171,933.75	4,097,459.60	4,049,513.13	4,087,627.98	4,191,684.65	4,091,690.60	4,074,948.80	4,009,462.96	4,017,863.09	4,093,254.68	4,066,461.60	4,150,468.29	4,141,603.70	4,114,609.51	4,115,216.85	4,050,071.64	3,975,545.43	3,696,061.63	3,798,118.91	3,650,153.24	3,604,017.01	3,524,113.34	-19.10
2. Industrial processes and product use	510,618.38	510,618.38	476,151.32	455,641.41	447,916.22	475,389.91	491,112.42	491,100.19	496,751.45	472,599.10	432,017.84	443,219.46	427,701.38	424,013.69	437,885.74	451,389.71	448,877.78	445,544.29	455,698.07	429,420.91	360,317.08	376,116.78	373,717.75	360,416.95	360,225.89	-29.45
3. Agriculture	569,201.34	569,201.34	539,385.07	515,432.62	501,435.95	494,876.47	495,091.13	497,497.48	494,957.00	490,544.84	489,934.90	481,023.88	474,215.41	466,889.91	462,859.21	461,261.24	454,818.02	453,882.06	454,335.84	450,593.62	445,264.04	441,567.46	442,028.83	438,891.71	440,675.74	-22.58
4. Land use, land-use change and forestry[5]	-259,580.78	-259,580.78	-288,644.36	-251,139.83	-256,050.00	-266,755.39	-282,104.62	-312,494.38	-310,840.07	-326,937.60	-339,404.27	-311,189.30	-329,609.90	-297,067.11	-283,627.49	-321,592.01	-320,510.43	-353,553.11	-299,415.65	-337,058.45	-331,430.04	-314,013.10	-315,594.18	-312,329.08	-317,944.85	22.48
5. Waste	244,102.01	244,102.01	247,540.85	247,136.02	247,316.47	247,375.32	248,433.21	247,953.62	245,211.29	242,577.75	237,906.57	235,129.79	231,266.16	227,942.54	221,427.79	212,026.46	205,491.37	199,886.01	193,528.87	185,670.92	176,866.10	170,142.55	164,229.91	159,366.10	151,748.75	-37.83
6. Other	26.82	26.82	26.82	23.84	23.84	23.84	17.88	14.90	17.88	14.90	14.90	17.88	14.90	11.92	17.88	20.86	17.88	20.86	17.88	17.88	11.92	14.90	14.90	11.92	11.92	-55.56
Total (including LULUCF)[5]	5,420,569.46	5,420,569.46	5,285,669.08	5,139,027.81	5,038,102.08	5,000,423.27	5,040,178.00	5,115,756.46	5,017,788.15	4,953,747.79	4,829,932.89	4,866,064.79	4,896,842.62	4,888,252.56	4,989,031.42	4,944,709.96	4,903,304.13	4,860,996.97	4,854,236.66	4,704,190.31	4,347,090.73	4,471,947.50	4,314,550.44	4,250,374.61	4,158,830.79	-23.28

The base year column refers to 1990 as the EU's base year for the quantified economy-wide emission reduction target as reported in CTF table 2.

[46] http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php

Table 1 - Emission trends (CO_2)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change from base to latest reported year
	(kt)																									%
1. Energy	4,120,988.96	4,120,988.96	4,087,065.99	3,958,329.89	3,885,625.33	3,850,174.80	3,887,605.42	3,993,876.41	3,901,306.75	3,896,238.73	3,837,136.72	3,852,206.23	3,931,515.20	3,909,529.45	3,996,474.79	3,993,981.27	3,972,413.33	3,978,695.37	3,919,280.74	3,845,510.74	3,572,885.93	3,673,433.19	3,528,096.30	3,481,613.97	3,404,358.27	-17.39
A. Fuel combustion (sectoral approach)	4,091,114.54	4,091,114.54	4,058,791.15	3,929,673.64	3,856,925.02	3,821,956.00	3,857,614.87	3,963,716.51	3,871,377.12	3,868,525.26	3,810,148.99	3,824,497.48	3,904,816.14	3,882,230.77	3,968,408.90	3,966,896.76	3,944,043.39	3,949,380.43	3,890,203.84	3,817,478.35	3,546,761.25	3,646,902.94	3,502,030.79	3,456,169.08	3,377,344.94	-17.45
1. Energy industries	1,649,748.53	1,649,748.53	1,612,468.42	1,573,348.54	1,506,334.04	1,510,686.17	1,512,264.20	1,542,327.03	1,495,324.26	1,512,296.49	1,468,813.08	1,500,694.24	1,540,459.83	1,557,265.06	1,607,840.69	1,593,191.24	1,585,711.21	1,597,207.06	1,604,787.34	1,529,905.81	1,406,019.59	1,428,643.74	1,405,028.26	1,399,901.01	1,319,106.07	-20.04
2. Manufacturing industries and construction	856,982.65	856,982.65	809,612.19	751,181.10	727,002.28	728,182.15	743,483.35	730,908.04	724,193.04	691,711.12	670,891.30	679,557.40	654,805.86	637,329.24	647,532.97	643,606.17	633,671.94	629,628.25	630,278.97	601,883.50	504,059.04	538,498.39	522,792.84	504,126.66	496,517.70	-42.06
3. Transport	772,028.91	772,028.91	778,652.95	801,551.99	805,960.19	811,687.98	823,733.42	848,859.86	860,422.16	887,633.99	908,069.86	905,827.67	920,483.63	931,699.91	942,191.04	962,114.48	961,836.26	968,043.38	978,565.50	958,417.83	932,769.62	928,771.55	917,807.88	882,604.89	877,018.29	13.60
4. Other sectors	789,522.97	789,522.97	839,152.23	787,243.94	803,307.53	757,452.45	764,886.37	829,981.87	779,618.87	765,627.47	752,284.84	729,153.25	780,657.64	747,424.62	761,790.44	757,955.74	753,239.41	745,159.58	666,884.87	718,548.77	695,798.99	743,286.45	648,812.41	662,812.53	678,106.20	-14.11
5. Other	22,831.49	22,831.49	18,905.36	16,348.07	14,320.97	13,947.26	13,247.53	11,639.71	11,818.80	11,256.19	10,089.92	9,264.92	8,409.18	8,511.94	9,053.77	10,029.12	9,584.57	9,342.15	9,687.17	8,722.44	8,114.01	7,702.80	7,589.40	6,723.98	6,596.68	-71.11
B. Fugitive emissions from fuels	29,874.42	29,874.42	28,274.84	28,656.25	28,700.31	28,218.80	29,990.55	30,159.90	29,929.63	27,713.48	26,987.72	27,708.76	26,699.06	27,298.68	28,065.89	27,084.51	28,369.94	29,314.94	29,076.90	28,032.38	26,124.68	26,530.25	26,065.51	25,444.89	27,013.33	-9.58
1. Solid fuels	7,108.60	7,108.60	5,495.03	5,314.61	4,755.42	3,296.26	4,107.72	3,768.89	4,865.91	2,986.09	3,816.05	4,557.34	3,875.45	4,102.24	4,628.23	4,473.25	3,934.67	4,353.20	4,104.68	3,895.21	2,750.83	3,667.98	3,329.23	3,238.11	3,789.14	-46.70
2. Oil and natural gas and other emissions from energy production	22,765.81	22,765.81	22,779.82	23,341.64	23,944.89	24,922.54	25,882.83	26,391.01	25,063.72	24,727.39	23,171.68	23,151.42	22,823.61	23,196.45	23,437.65	22,611.26	24,435.27	24,961.74	24,972.22	24,137.17	23,373.85	22,862.27	22,736.28	22,206.78	23,224.19	2.01
C. CO_2 transport and storage	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
2. Industrial processes	320,333.54	320,333.54	292,892.44	276,298.97	270,822.57	288,197.28	298,605.84	290,524.73	295,849.23	293,885.75	284,581.68	296,435.51	284,820.06	284,150.97	294,353.71	305,240.50	301,351.52	304,789.48	310,148.91	290,369.46	227,988.64	248,615.81	247,270.67	234,274.20	232,992.36	-27.27
A. Mineral industry	144,892.81	144,892.81	132,394.43	128,381.77	122,826.57	130,720.96	135,116.31	131,036.67	133,898.19	136,421.20	136,858.08	139,330.36	136,539.90	136,210.74	137,975.59	143,976.22	143,913.36	147,797.34	153,002.01	142,835.02	114,636.57	116,106.04	116,339.87	109,256.94	105,713.39	-27.04
B. Chemical industry	51,883.75	51,883.75	49,427.25	46,464.32	44,327.69	48,258.58	52,655.33	52,814.32	51,344.57	51,332.51	50,762.33	53,511.45	50,703.00	48,251.89	50,854.42	52,395.31	54,216.05	52,055.48	54,889.51	51,741.88	44,632.45	49,419.20	51,374.85	50,064.74	49,679.76	-4.25
C. Metal industry	108,197.60	108,197.60	96,837.03	86,732.08	88,909.84	95,828.14	97,010.19	92,386.85	96,804.19	92,414.39	83,921.64	90,355.15	84,908.31	86,756.76	92,705.77	95,223.23	90,844.31	92,550.98	89,820.42	83,535.01	57,809.18	70,875.65	68,108.98	64,059.25	66,406.09	-38.63
D. Non-energy products from fuels and solvent use	15,224.52	15,224.52	14,125.37	14,606.11	14,651.99	13,304.86	13,745.43	14,181.73	13,699.63	13,626.97	12,938.59	13,134.93	12,571.13	12,846.22	12,720.05	13,549.60	12,283.45	12,303.63	12,341.90	12,150.27	10,801.65	12,097.84	11,327.00	10,770.57	10,890.22	-28.47
E. Electronic industry																										
F. Product uses as ODS substitutes																										
G. Other product manufacture and use	0.28	0.28	0.33	0.38	0.38	0.41	0.52	0.56	0.51	0.65	0.94	0.80	0.61	0.74	0.93	1.04	1.30	4.06	9.75	16.64	22.07	30.24	34.08	38.24	45.50	16,391.44
H. Other	134.58	134.58	108.02	114.31	106.11	84.33	78.07	104.60	102.15	90.04	100.10	102.83	97.12	84.63	96.96	95.09	93.05	77.99	85.32	90.63	86.73	86.84	85.89	84.47	257.41	91.27
3. Agriculture	13,701.11	13,701.11	11,869.20	10,211.56	9,506.48	9,762.02	10,571.37	10,612.14	10,886.35	10,415.48	10,307.58	9,924.20	9,466.48	9,666.31	9,499.34	9,225.19	8,935.65	8,932.14	8,904.56	8,643.01	8,791.92	8,304.56	9,057.24	8,640.94	8,938.48	-34.76
A. Enteric fermentation																										
B. Manure management																										
C. Rice cultivation																										
D. Agricultural soils																										
E. Prescribed burning of savannas																										
F. Field burning of agricultural residues																										
G. Liming	10,312.97	10,312.97	8,807.67	7,293.81	6,642.86	6,936.79	7,827.76	8,050.93	8,085.92	7,633.83	7,416.04	7,039.64	6,527.48	6,541.46	6,511.08	6,031.15	5,904.62	5,749.57	5,593.53	5,382.11	5,433.12	5,275.14	5,489.33	5,302.45	5,668.11	-45.04
H. Urea application	3,327.00	3,327.00	3,017.54	2,867.96	2,822.00	2,789.82	2,710.17	2,535.97	2,784.28	2,767.96	2,875.56	2,864.02	2,918.59	3,104.56	2,969.65	3,166.19	3,007.69	3,157.14	3,278.85	3,231.35	3,316.64	2,981.69	3,511.14	3,267.04	3,191.17	-4.08
I. Other carbon-containing fertilizers	61.15	61.15	43.99	49.79	41.63	35.41	33.43	25.24	16.16	13.69	15.98	20.54	20.41	20.29	18.61	27.85	23.34	25.43	32.18	29.55	42.16	47.74	56.76	71.44	79.20	29.52
J. Other	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	
4. Land use, land-use change and forestry [2]	-275,211.73	-275,211.73	-302,294.20	-264,840.07	-270,561.84	-283,578.19	-298,064.38	-327,900.61	-326,105.42	-342,259.26	-353,456.54	-326,128.78	-343,440.39	-310,380.26	-298,339.33	-334,766.22	-334,199.40	-367,048.82	-314,331.02	-350,800.26	-344,212.30	-327,142.46	-328,783.92	-325,934.28	-330,143.06	19.96
A. Forest land	-401,728.48	-401,728.48	-434,970.84	-403,936.49	-411,158.34	-411,480.43	-425,206.13	-448,315.18	-443,712.53	-456,367.89	-469,603.62	-433,716.27	-452,555.12	-417,552.44	-402,651.35	-427,573.42	-426,525.41	-459,261.44	-406,450.17	-459,760.83	-462,656.43	-437,178.51	-446,716.31	-444,987.93	-448,102.19	11.54
B. Cropland	72,496.18	72,496.18	72,068.49	76,732.46	76,625.71	74,945.73	80,430.31	75,568.94	77,977.63	76,530.74	79,254.98	78,239.32	75,100.22	76,638.34	76,028.33	67,974.47	67,901.56	70,078.24	66,329.37	68,997.48	65,380.80	67,722.21	72,761.55	67,777.39	69,134.77	-4.64
C. Grassland	29,901.23	29,901.23	23,779.97	22,245.79	23,912.26	20,221.34	13,860.00	13,492.19	14,537.11	13,827.75	10,188.10	10,617.28	8,815.32	7,487.84	8,479.35	7,842.62	8,292.51	8,209.93	15,394.13	9,228.55	10,562.05	7,900.95	7,554.10	10,844.59	5,327.63	-82.18
D. Wetlands	14,160.27	14,160.27	14,180.85	13,264.39	12,409.74	13,799.22	13,520.03	13,872.39	13,033.73	11,311.15	13,787.55	12,583.61	13,950.27	14,695.14	14,832.48	14,150.45	15,032.22	16,068.11	14,824.93	14,402.28	13,869.17	15,167.51	15,835.59	13,421.77	14,510.23	2.47
E. Settlements	35,262.02	35,262.02	37,873.33	37,023.59	41,277.47	39,117.73	40,648.86	39,044.80	40,406.32	41,021.26	42,836.93	41,773.28	41,543.25	42,385.05	43,286.96	45,236.40	45,804.95	47,206.42	48,492.50	49,781.55	50,358.53	48,407.40	49,304.58	49,423.65	49,715.02	40.99
F. Other land	2,710.82	2,710.82	2,261.40	1,959.30	1,618.27	1,419.10	-40.33	-65.56	-102.35	-150.29	-164.11	-243.66	-272.48	-397.00	-442.45	-476.34	-411.44	1,039.91	-781.28	-826.06	-660.70	-423.83	-148.53	218.45	563.30	-79.22
G. Harvested wood products	-28,013.77	-28,013.77	-17,487.40	-12,129.12	-15,246.94	-22,634.88	-22,494.55	-22,559.95	-29,171.35	-29,239.62	-30,460.73	-35,996.64	-30,557.62	-34,104.45	-38,280.18	-42,275.82	-44,603.75	-50,660.33	-52,376.27	-32,828.87	-21,245.06	-28,894.60	-27,511.31	-22,751.18	-21,395.60	-23.62
H. Other	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	1,034.00	1,217.43	1,061.77	926.02	807.62	704.36	614.31	535.77	467.27	407.52	355.42	309.98	270.34	235.78	205.63	179.34	156.41	136.41	118.97	103.76	
5. Waste	5,287.84	5,287.84	5,307.52	5,351.86	5,202.06	4,947.50	4,526.96	4,397.93	3,830.30	3,671.24	3,410.28	3,312.22	3,355.91	3,660.82	3,900.45	3,616.94	3,769.56	3,749.78	3,675.56	3,650.22	3,517.42	3,549.40	3,409.92	3,399.65	3,410.11	-35.51
A. Solid waste disposal	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	
B. Biological treatment of solid waste																										
C. Incineration and open burning of waste	5,270.30	5,270.30	5,289.58	5,332.88	5,184.41	4,929.75	4,507.36	4,378.07	3,811.45	3,653.59	3,391.76	3,293.83	3,337.61	3,642.87	3,881.11	3,599.35	3,751.43	3,731.08	3,656.27	3,628.80	3,496.40	3,531.10	3,391.58	3,383.35	3,394.15	-35.60
D. Waste water treatment and discharge																										
E. Other	17.54	17.54	17.94	18.99	17.66	17.75	19.60	19.86	18.85	17.65	18.52	18.40	18.30	17.95	19.34	17.60	18.13	18.70	19.29	21.42	21.02	18.30	18.34	16.29	15.97	-8.96
6. Other *(as specified in summary 1.A)*	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Memo items:																										
International bunkers	176,446.27	176,446.27	173,872.91	181,229.09	188,934.04	188,791.63	193,676.49	205,607.72	219,434.46	231,527.70	233,756.65	246,724.40	251,005.85	252,284.27	260,651.56	278,566.19	291,429.64	307,895.04	321,141.25	320,668.91	291,171.76	286,820.53	294,034.52	279,284.52	271,237.14	53.72
Aviation	68,870.90	68,870.90	67,529.43	73,167.33	77,424.40	80,693.59	85,459.24	89,394.25	93,529.64	100,702.00	108,611.28	114,792.62	113,233.34	110,462.84	114,941.74	123,796.65	130,528.93	136,403.31	140,773.81	141,532.55	130,940.93	131,018.49	135,015.05	133,126.30	133,021.98	93.15
Navigation	107,575.36	107,575.36	106,343.48	108,061.76	111,509.65	108,098.04	108,217.25	116,213.47	125,904.82	130,825.70	125,145.37	131,931.78	137,772.50	141,821.43	145,709.83	154,769.54	160,900.71	171,491.72	180,367.45	179,136.36	160,230.83	155,802.04	159,019.47	146,158.22	138,215.16	28.48
Multilateral operations	1.35	1.35	1.78	1.56	1.83	2.05	2.48	2.70	3.10	2.94	2.85	3.41	3.08	4.27	2.52	2.81	15.67	17.34	13.43	9.25	10.70	10.26	10.24	7.98	6.61	390.18
CO_2 emissions from biomass	190,980.63	190,980.63	199,546.82	199,175.47	216,910.50	218,352.34	224,125.36	237,906.06	249,849.69	252,772.31	259,297.08	260,293.79	269,925.64	274,534.46	299,539.92	317,902.40	333,587.52	356,132.80	377,549.53	411,198.86	431,751.01	478,709.16	477,618.12	482,770.15	504,000.38	163.90
CO_2 captured	0.00	0.00	0.00	0.03	0.89	20.08	54.16	73.55	106.08	127.68	156.47	181.77	177.15	176.35	188.91	208.07	186.74	211.84	233.99	213.21	184.97	197.63	179.61	146.66	134.53	6,148,585.11
Long-term storage of C in waste disposal sites	56,534.76	56,534.76	58,613.69	60,710.59	62,707.14	64,189.21	66,757.05	68,683.46	70,723.08	72,488.89	74,214.24	76,330.37	78,321.24	80,362.97	82,841.73	84,343.88	85,919.48	87,433.33	89,198.80	90,632.20	91,652.75	93,728.46	94,206.73	94,954.44	96,590.90	70.85
Indirect N_2O																										
Indirect CO_2 [3]	8,741.30	8,741.30	8,549.95	8,311.88	8,096.31	7,854.75	7,443.11	7,485.52	7,377.00	6,972.26	7,816.65	6,344.22	6,163.82	5,826.53	5,897.10	5,697.91	5,519.22	5,438.62	5,267.91	5,071.58	4,571.68	4,581.64	4,532.12	4,314.94	4,552.61	-47.92
Total CO_2 equivalent emissions without land use, land-use change and forestry	5,680,150.24	5,680,150.24	5,574,313.44	5,390,167.64	5,294,152.08	5,267,178.66	5,322,282.62	5,428,250.84	5,328,628.23	5,280,685.39	5,169,337.17	5,177,254.10	5,226,452.52	5,185,319.67	5,272,658.91	5,266,301.97	5,223,814.56	5,214,550.07	5,153,652.30	5,041,248.76	4,678,520.77	4,785,960.60	4,630,144.63	4,562,703.69	4,476,775.64	-21.19
Total CO_2 equivalent emissions with land use, land-use change and forestry	5,420,569.46	5,420,569.46	5,285,669.08	5,139,027.81	5,038,102.08	5,000,423.27	5,040,178.00	5,115,756.46	5,017,788.15	4,953,747.79	4,829,932.89	4,866,064.79	4,896,842.62	4,888,252.56	4,989,031.42	4,944,709.96	4,903,304.13	4,860,996.97	4,854,236.66	4,704,190.31	4,347,090.73	4,471,947.50	4,314,550.44	4,250,374.61	4,158,830.79	-23.28
Total CO_2 equivalent emissions, including indirect CO2, without land use, land-use change and forestry	4,469,052.75	4,469,052.75	4,405,685.10	4,258,504.17	4,179,252.76	4,160,936.34	4,208,752.70	4,306,896.73	4,219,249.64	4,211,183.46	4,143,252.91	4,168,222.39	4,235,321.48	4,212,834.07	4,310,125.39	4,317,761.82	4,291,989.28	4,301,605.39	4,247,277.67	4,153,245.00	3,817,755.60	3,938,484.60	3,792,366.24	3,732,243.69	3,654,251.84	-18.23
Total CO_2 equivalent emissions, including indirect CO2, with land use, land-use change and forestry	4,193,841.02	4,193,841.02	4,103,390.90	3,993,664.10	3,908,690.91	3,877,358.15	3,910,688.33	3,978,996.12	3,893,144.22	3,868,924.20	3,789,796.37	3,842,093.61	3,891,881.09	3,902,453.81	4,011,786.06	3,982,995.60	3,957,789.88	3,934,556.56	3,932,946.65	3,802,444.73	3,473,543.31	3,611,342.14	3,463,582.32	3,406,309.41	3,324,108.78	-20.74

The base year column refers to 1990 as the EU's base year for the quantified economy-wide emission reduction target as reported in CTF table 2.

Table 1 - Emission trends (CH_4)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change from base to latest reported year
	(kt)																									%
1. Energy	8,129.18	8,129.18	7,699.64	7,288.65	7,207.90	6,680.74	6,656.10	6,510.07	6,197.42	5,716.89	5,497.21	5,297.09	5,139.89	4,960.85	4,821.49	4,559.86	4,374.05	4,146.33	3,920.67	3,905.94	3,702.02	3,735.69	3,644.64	3,666.98	3,555.07	-56.27
A. Fuel combustion (sectoral approach)	1,204.68	1,204.68	1,223.51	1,133.93	1,147.68	1,054.09	1,047.93	1,099.48	1,039.38	977.57	952.58	880.91	875.77	840.71	859.58	867.58	859.83	861.81	861.85	903.80	897.59	974.44	910.76	937.28	973.00	-19.23
1. Energy industries	46.92	46.92	47.83	47.68	49.53	54.23	63.71	70.30	70.70	73.70	74.79	71.95	73.26	75.55	89.18	91.28	94.98	102.57	110.15	116.61	119.74	136.82	139.13	145.08	142.52	203.74
2. Manufacturing industries and construction	58.27	58.27	55.25	53.89	53.47	55.11	58.79	59.77	61.06	61.39	61.26	64.32	64.92	66.35	70.03	74.85	75.60	68.66	71.83	69.77	59.57	65.68	67.06	68.61	72.45	24.33
3. Transport	243.42	243.42	233.04	230.09	221.06	208.46	199.24	193.62	183.15	174.87	165.12	148.62	140.70	130.91	122.03	113.98	104.13	95.65	87.85	80.10	72.56	68.05	62.52	56.87	54.07	-77.79
4. Other sectors	844.07	844.07	877.45	796.47	819.25	733.48	723.79	773.70	722.67	666.08	649.78	594.87	594.28	565.18	575.78	585.07	582.04	592.09	589.60	635.10	643.74	701.86	640.78	665.50	702.88	-16.73
5. Other	11.99	11.99	9.94	5.79	4.37	2.81	2.40	2.09	1.81	1.52	1.64	1.14	2.61	2.72	2.56	2.40	3.07	2.84	2.43	2.21	1.97	2.03	1.27	1.22	1.08	-90.99
B. Fugitive emissions from fuels	6,924.50	6,924.50	6,476.13	6,154.73	6,060.22	5,626.65	5,608.17	5,410.59	5,158.04	4,739.32	4,544.63	4,416.18	4,264.11	4,120.14	3,961.91	3,692.28	3,514.22	3,284.52	3,058.82	3,002.14	2,804.44	2,761.25	2,733.88	2,729.70	2,582.07	-62.71
1. Solid fuels	3,960.40	3,960.40	3,773.65	3,586.99	3,484.96	3,107.50	3,168.07	3,038.16	2,929.77	2,578.69	2,465.96	2,363.55	2,227.39	2,086.14	1,945.65	1,743.12	1,578.95	1,453.27	1,291.88	1,242.03	1,110.78	1,079.67	1,084.32	1,126.77	993.96	-74.90
2. Oil and natural gas and other emissions from energy production	2,964.10	2,964.10	2,702.48	2,567.74	2,575.26	2,519.15	2,440.11	2,372.43	2,228.26	2,160.63	2,078.67	2,052.63	2,036.72	2,034.00	2,016.26	1,949.15	1,935.27	1,831.24	1,766.94	1,760.11	1,693.65	1,681.59	1,649.56	1,602.93	1,588.11	-46.42
C. CO_2 transport and storage																										
2. Industrial processes	72.32	72.32	69.87	71.46	71.86	77.47	75.70	73.51	74.85	72.94	73.87	76.09	75.91	75.26	80.91	79.77	81.98	82.48	82.55	74.74	66.29	71.95	84.50	86.62	82.63	14.26
A. Mineral industry																										
B. Chemical industry	58.13	58.13	56.98	59.37	59.85	64.45	62.48	61.26	61.93	60.67	62.19	64.15	63.63	63.75	68.79	66.69	67.73	67.08	67.04	61.38	57.11	62.01	58.40	56.84	55.64	-4.29
C. Metal industry	10.33	10.33	9.19	8.42	8.51	9.33	9.42	8.40	9.01	8.47	7.94	8.12	8.50	7.70	8.13	9.14	10.33	11.20	11.21	9.64	5.38	6.09	22.25	25.92	23.14	123.91
D. Non-energy products from fuels and solvent use	0.09	0.09	0.10	0.12	0.11	0.11	0.13	0.12	0.14	0.15	0.13	0.14	0.18	0.16	0.13	0.16	0.17	0.14	0.14	0.13	0.13	0.12	0.11	0.10	0.09	-3.76
E. Electronic industry																										
F. Product uses as ODS substitutes																										
G. Other product manufacture and use	2.27	2.27	2.32	2.38	2.36	2.45	2.55	2.69	2.75	2.66	2.74	2.79	2.71	2.76	2.91	2.85	2.91	2.90	2.96	2.84	3.10	3.16	3.19	3.28	3.28	44.39
H. Other	1.49	1.49	1.27	1.17	1.03	1.12	1.12	1.04	1.02	0.98	0.87	0.90	0.89	0.89	0.94	0.93	0.83	1.16	1.20	0.74	0.56	0.57	0.55	0.47	0.49	-67.14
3. Agriculture	12,359.81	12,359.81	11,813.32	11,373.86	11,067.94	10,884.77	10,802.46	10,811.74	10,652.35	10,566.33	10,535.26	10,283.35	10,132.14	9,982.76	9,942.88	9,808.21	9,767.26	9,783.32	9,817.73	9,715.91	9,663.44	9,533.79	9,484.02	9,431.66	9,398.83	-23.96
A. Enteric fermentation	9,820.36	9,820.36	9,397.58	9,010.13	8,762.62	8,631.79	8,572.94	8,566.76	8,432.14	8,349.27	8,284.72	8,129.15	8,001.96	7,846.13	7,785.64	7,684.45	7,646.38	7,609.33	7,639.44	7,608.96	7,547.05	7,450.23	7,371.04	7,358.25	7,377.03	-24.88
B. Manure management	2,362.81	2,362.81	2,246.34	2,180.20	2,129.67	2,075.61	2,053.23	2,052.33	2,036.03	2,034.79	2,082.89	1,972.97	1,964.05	1,967.31	1,974.42	1,950.32	1,950.79	1,998.37	1,975.37	1,927.79	1,913.62	1,877.62	1,898.22	1,853.54	1,818.24	-23.05
C. Rice cultivation	119.63	119.63	113.19	112.27	115.91	122.98	123.52	130.33	131.37	123.48	117.60	111.66	112.10	115.26	118.32	123.41	119.66	117.21	121.56	115.10	128.83	130.03	130.21	127.50	121.62	1.66
D. Agricultural soils	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	IE,NE,NO	
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
F. Field burning of agricultural residues	57.01	57.01	56.19	71.23	59.68	54.34	52.62	62.10	52.52	58.12	49.29	68.35	52.30	51.59	61.58	46.24	40.26	44.38	62.68	42.63	47.25	43.01	44.34	49.47	37.33	-34.53
G. Liming																										
H. Urea application																										
I. Other carbon-containing fertilizers																										
J. Other	0.01	0.01	0.03	0.04	0.05	0.06	0.14	0.24	0.30	0.67	0.77	1.21	1.72	2.48	2.93	3.79	10.16	14.03	18.68	21.43	26.70	32.89	40.21	42.90	44.62	398,015.33
4. Land use, land-use change and forestry	292.39	292.39	254.76	251.03	284.25	371.84	344.91	313.77	310.41	312.19	263.36	294.76	256.90	235.88	284.87	235.21	247.49	244.11	295.64	219.27	221.57	232.18	233.19	250.52	205.61	-29.68
A. Forest land	175.87	175.87	150.21	147.17	167.22	162.77	138.05	127.98	147.30	157.69	133.55	160.75	129.53	126.19	157.07	118.86	139.47	133.83	152.88	104.19	107.55	107.07	103.93	129.77	101.27	-42.42
B. Cropland	32.01	32.01	32.53	32.09	31.72	31.30	31.09	30.81	30.32	30.37	30.01	29.75	29.28	29.16	31.63	29.23	29.37	28.79	29.09	29.09	29.06	29.43	29.13	29.29	29.96	-6.39
C. Grassland	70.40	70.40	59.27	60.31	71.81	65.93	51.80	56.13	59.31	66.61	52.30	63.20	58.21	49.95	62.57	57.40	53.35	54.57	86.06	59.84	61.77	62.40	66.47	69.76	49.86	-29.18
D. Wetlands	10.19	10.19	8.78	7.78	9.92	10.48	12.30	15.44	10.05	8.35	8.24	10.09	14.25	8.55	14.34	12.23	8.70	11.34	12.62	11.44	8.88	19.54	20.17	8.37	11.13	9.19
E. Settlements	2.21	2.21	2.14	2.08	2.02	2.19	2.06	1.95	2.30	2.21	2.89	1.82	1.99	2.18	1.96	2.29	2.61	2.85	3.01	3.28	3.09	2.54	2.72	2.72	2.72	22.94
F. Other land	0.16	0.16	0.30	0.09	0.08	0.13	0.28	0.24	0.07	0.35	0.14	0.35	0.16	0.14	0.32	0.17	0.34	0.09	0.06	0.03	0.16	0.38	0.13	0.08	0.17	6.36
G. Harvested wood products																										
H. Other	1.54	1.54	1.52	1.50	1.48	99.04	109.34	81.22	61.06	46.60	36.23	28.79	23.49	19.70	16.98	15.04	13.65	12.64	11.92	11.41	11.06	10.82	10.65	10.54	10.51	579.99
5. Waste	9,180.26	9,180.26	9,321.59	9,307.02	9,322.30	9,334.50	9,392.80	9,375.27	9,285.05	9,171.96	8,988.61	8,871.26	8,710.55	8,555.61	8,281.11	7,919.34	7,639.73	7,414.02	7,155.11	6,837.83	6,488.39	6,205.80	5,976.74	5,781.03	5,470.03	-40.42
A. Solid waste disposal	7,749.11	7,749.11	7,969.23	8,009.51	8,058.13	8,089.10	8,147.05	8,153.06	8,084.66	7,992.20	7,845.80	7,759.85	7,674.45	7,525.79	7,235.12	6,878.27	6,636.82	6,424.95	6,170.82	5,884.16	5,570.73	5,267.17	5,027.19	4,845.30	4,517.30	-41.71
B. Biological treatment of solid waste	13.09	13.09	14.17	15.98	18.80	23.66	28.52	32.73	36.07	39.61	44.82	50.72	55.69	62.71	66.79	72.22	81.24	84.14	93.08	100.17	104.59	113.04	121.62	133.53	146.83	1,021.45
C. Incineration and open burning of waste	9.10	9.10	9.68	9.35	8.82	7.69	7.21	7.33	4.48	4.57	4.79	4.42	4.25	4.53	4.61	4.84	4.47	4.42	4.31	4.40	4.15	3.93	3.99	3.93	3.84	-57.85
D. Waste water treatment and discharge	1,407.12	1,407.12	1,326.76	1,270.51	1,234.97	1,212.63	1,208.75	1,181.00	1,158.90	1,134.64	1,092.26	1,055.27	975.12	961.49	973.46	962.87	916.09	899.44	885.84	848.02	808.19	821.32	823.58	797.93	801.73	-43.02
E. Other	1.83	1.83	1.76	1.66	1.57	1.41	1.27	1.14	0.95	0.95	0.94	1.00	1.04	1.09	1.13	1.13	1.11	1.07	1.06	1.08	0.73	0.34	0.36	0.34	0.34	-81.52
6. Other *(as specified in summary 1.A)*	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Total CH_4 emissions without CH_4 from LULUCF	29,741.57	29,741.57	28,904.43	28,040.99	27,669.99	26,977.48	26,927.06	26,770.59	26,209.67	25,528.12	25,094.95	24,527.78	24,058.48	23,574.48	23,126.40	22,367.18	21,863.01	21,426.14	20,976.06	20,534.43	19,920.15	19,547.23	19,189.89	18,966.29	18,506.56	-37.78
Total CH_4 emissions with CH_4 from LULUCF	30,033.96	30,033.96	29,159.19	28,292.02	27,954.24	27,349.32	27,271.98	27,084.36	26,520.08	25,840.31	25,358.31	24,822.54	24,315.38	23,810.36	23,411.26	22,602.39	22,110.50	21,670.25	21,271.70	20,753.69	20,141.71	19,779.42	19,423.08	19,216.81	18,712.18	-37.70
Memo items:																										
International bunkers	7.68	7.68	7.61	7.72	8.02	7.85	7.76	8.18	8.60	8.91	8.83	9.33	9.80	9.55	9.61	10.16	10.55	11.13	11.40	11.16	10.31	9.87	10.43	9.70	9.23	20.16
Aviation	0.96	0.96	0.87	0.88	0.86	0.84	0.86	0.87	0.88	0.91	0.92	0.87	0.83	0.78	0.80	0.86	0.89	0.90	0.88	0.88	0.81	0.80	0.84	0.81	0.92	-4.55
Navigation	6.72	6.72	6.74	6.85	7.16	7.01	6.90	7.31	7.72	8.00	7.91	8.46	8.98	8.77	8.80	9.30	9.66	10.23	10.52	10.27	9.50	9.06	9.59	8.89	8.32	23.68
Multilateral operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,829.70
CO_2 emissions from biomass																										
CO_2 captured																										
Long-term storage of C in waste disposal sites																										
Indirect N_2O																										
Indirect CO_2 [3]																										

The base year column refers to 1990 as the EU's base year for the quantified economy-wide emission reduction target as reported in CTF table 2.

Table 1 - Emission trends (N_2O)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change from base to latest reported year
	(kt)																									%
1. Energy	107.33	107.33	106.22	105.33	106.16	108.46	112.82	117.64	118.95	120.09	117.10	111.51	111.55	110.44	112.27	112.84	110.22	110.28	109.98	108.68	102.77	105.01	103.83	103.12	103.62	-3.45
A. Fuel combustion (sectoral approach)	106.85	106.85	105.57	104.65	105.53	107.82	112.23	117.01	118.22	119.47	116.16	110.79	110.80	109.76	111.60	112.12	109.57	109.65	109.31	108.14	102.30	104.52	103.43	102.76	103.27	-3.35
1. Energy industries	30.29	30.29	29.81	29.10	27.79	27.80	27.63	28.23	27.07	27.20	26.28	27.09	28.39	28.84	29.95	30.27	30.14	30.86	30.89	30.35	29.15	29.84	29.85	30.37	28.96	-4.39
2. Manufacturing industries and construction	22.72	22.72	21.67	21.03	20.09	19.89	20.47	20.06	20.16	20.19	19.81	19.73	19.96	20.39	20.74	20.82	20.63	20.77	20.60	19.95	16.91	17.46	16.93	16.64	15.83	-30.33
3. Transport	26.10	26.10	26.22	27.71	29.70	32.95	37.01	40.63	43.07	45.19	43.10	37.19	35.51	33.98	33.51	33.47	31.09	31.15	31.84	31.22	29.76	30.15	30.40	30.26	30.58	17.20
4. Other sectors	27.01	27.01	27.16	26.16	27.31	26.56	26.56	27.59	27.40	26.42	26.54	26.39	26.66	26.27	27.01	27.03	27.15	26.37	25.47	26.17	26.00	26.71	25.94	25.20	27.59	2.14
5. Other	0.75	0.75	0.71	0.66	0.65	0.62	0.56	0.50	0.52	0.47	0.43	0.39	0.28	0.29	0.39	0.54	0.55	0.50	0.50	0.45	0.48	0.36	0.32	0.29	0.32	-57.32
B. Fugitive emissions from fuels	0.47	0.47	0.65	0.67	0.63	0.64	0.59	0.63	0.74	0.62	0.94	0.72	0.75	0.68	0.67	0.71	0.65	0.63	0.67	0.54	0.47	0.49	0.39	0.36	0.35	-26.99
1. Solid fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-57.61
2. Oil and natural gas and other emissions from energy production	0.47	0.47	0.65	0.67	0.63	0.64	0.59	0.63	0.74	0.62	0.94	0.72	0.75	0.68	0.67	0.71	0.65	0.63	0.67	0.54	0.47	0.49	0.39	0.36	0.35	-26.97
C. CO_2 transport and storage																										
2. Industrial processes	393.49	393.49	377.91	367.77	350.81	365.27	364.27	374.77	358.91	287.40	221.37	227.95	225.60	200.24	200.71	205.71	196.08	166.25	165.60	130.29	100.44	65.51	49.26	43.27	37.77	-90.40
A. Mineral industry																										
B. Chemical industry	375.76	375.76	360.40	350.15	333.20	347.96	346.86	357.10	341.60	270.07	204.60	211.66	209.74	185.31	186.55	192.08	182.49	152.39	152.18	117.35	88.04	53.57	37.73	32.03	26.90	-92.84
C. Metal industry	0.21	0.21	0.20	0.20	0.21	0.21	0.22	0.21	0.22	0.21	0.22	0.20	0.20	0.17	0.20	0.20	0.19	0.18	0.19	0.16	0.12	0.11	0.10	0.12	0.15	-27.58
D. Non-energy products from fuels and solvent use	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-17.28
E. Electronic industry																										
F. Product uses as ODS substitutes																										
G. Other product manufacture and use	17.30	17.30	17.07	17.18	17.16	16.85	16.95	17.21	16.83	16.86	16.29	15.81	15.39	14.47	13.67	13.14	13.10	13.40	12.95	12.50	12.01	11.56	11.16	10.84	10.43	-39.68
H. Other	0.21	0.21	0.23	0.23	0.23	0.23	0.23	0.23	0.25	0.24	0.24	0.27	0.27	0.27	0.28	0.28	0.28	0.28	0.28	0.27	0.26	0.27	0.26	0.27	0.27	26.64
3. Agriculture	827.20	827.20	779.14	741.19	722.25	714.75	719.66	726.82	730.74	724.74	725.66	718.17	709.55	696.83	687.21	694.06	676.85	672.37	671.10	667.96	653.98	654.09	657.29	652.55	660.29	-20.18
A. Enteric fermentation																										
B. Manure management	106.26	106.26	101.66	96.97	93.47	90.40	89.74	89.21	90.74	87.49	86.32	83.89	83.98	82.94	82.13	81.00	80.45	79.38	79.85	78.61	77.33	76.58	75.58	74.17	73.91	-30.44
C. Rice cultivation																										
D. Agricultural soils	719.43	719.43	676.04	642.29	627.20	622.92	628.52	635.92	638.67	635.68	638.00	632.44	624.25	612.50	603.50	611.86	595.10	591.53	589.13	587.78	574.89	575.80	579.87	576.36	584.71	-18.73
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
F. Field burning of agricultural residues	1.51	1.51	1.44	1.93	1.59	1.43	1.39	1.68	1.33	1.55	1.31	1.81	1.25	1.31	1.49	1.08	0.99	1.05	1.60	1.01	1.10	0.95	0.98	1.28	0.91	-39.94
G. Liming																										
H. Urea application																										
I. Other carbon containing fertlizers																										
J. Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.04	0.06	0.08	0.09	0.12	0.31	0.41	0.52	0.56	0.66	0.76	0.86	0.74	0.77	195,950.10
4. Land use, land-use change and forestry	27.92	27.92	24.43	24.91	24.85	25.26	24.62	25.38	25.18	25.22	25.06	25.40	24.86	24.89	25.47	24.48	25.17	24.81	25.25	27.72	24.31	24.58	24.70	24.64	23.68	-15.18
A. Forest land	12.55	12.55	12.31	12.40	12.26	12.40	12.34	13.03	12.33	12.49	12.32	12.76	12.35	12.49	12.92	12.29	12.61	12.48	12.44	12.30	12.36	12.49	12.56	12.66	12.43	-0.97
B. Cropland	9.16	9.16	6.25	6.63	6.21	6.59	6.36	6.23	6.44	6.19	6.59	6.11	6.05	6.16	5.77	5.64	6.14	5.79	5.41	8.67	5.12	5.16	4.95	4.76	4.74	-48.21
C. Grassland	1.71	1.71	1.38	1.41	1.81	1.65	1.19	1.25	1.45	1.70	1.23	1.46	1.19	1.01	1.30	1.05	0.93	0.89	1.68	0.92	1.03	0.81	1.06	1.31	0.49	-71.36
D. Wetlands	0.53	0.53	0.50	0.48	0.53	0.55	0.61	0.69	0.75	0.55	0.56	0.61	0.72	0.59	0.73	0.69	0.61	0.68	0.71	0.70	0.64	0.90	0.92	0.64	0.71	33.18
E. Settlements	3.17	3.17	3.21	3.24	3.29	3.32	3.37	3.43	3.49	3.54	3.61	3.69	3.79	3.88	3.98	4.03	4.10	4.12	4.15	4.21	4.21	4.25	4.25	4.29	4.32	36.17
F. Other land	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.04	0.05	0.06	0.07	0.09	0.09	0.11	0.12	0.13	0.14	0.19	0.19	0.24	0.24	0.25	0.25	0.25	0.25	6,492.96
G. Harvested wood products																										
H. Other	0.36	0.36	0.35	0.34	0.34	0.33	0.32	0.31	0.31	0.30	0.29	0.29	0.29	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.31	0.32	0.32	0.33	0.34	-4.54
5. Waste	31.23	31.23	30.85	30.57	30.39	30.42	30.49	30.79	31.06	32.24	32.82	33.68	34.05	34.87	35.23	34.99	36.00	36.19	36.83	37.16	37.38	38.42	38.26	38.39	38.89	24.50
A. Solid waste disposal																										
B. Biological treatment of solid waste	1.06	1.06	1.11	1.23	1.41	1.77	2.10	2.35	2.73	3.12	3.72	4.31	4.84	5.66	6.05	5.93	6.72	7.10	7.70	8.19	8.55	9.25	9.46	9.82	10.21	863.63
C. Incineration and open burning of waste	0.71	0.71	0.72	0.73	0.72	0.71	0.66	0.66	0.63	0.75	0.74	0.74	0.77	0.73	0.77	0.76	0.77	0.79	0.73	0.70	0.67	0.64	0.66	0.65	0.64	-9.85
D. Waste water treatment and discharge	29.47	29.47	29.02	28.61	28.26	27.94	27.68	27.66	27.62	28.17	28.15	28.33	28.11	28.09	28.04	27.96	28.07	27.92	28.02	27.88	27.76	28.11	27.70	27.49	27.62	-6.29
E. Other	NO	NO	NO	NO	0.00	0.01	0.04	0.11	0.07	0.20	0.22	0.29	0.32	0.38	0.37	0.35	0.44	0.38	0.38	0.40	0.40	0.42	0.45	0.43	0.43	
6. Other ***(as specified in summary 1.A)***	0.09	0.09	0.09	0.08	0.08	0.08	0.06	0.05	0.06	0.05	0.05	0.06	0.05	0.04	0.06	0.07	0.06	0.07	0.06	0.06	0.04	0.05	0.05	0.04	0.04	-55.56
Total direct N_2O emissions without N_2O from LULUCF	1,359.34	1,359.34	1,294.20	1,244.93	1,209.70	1,218.98	1,227.30	1,250.06	1,239.72	1,164.51	1,097.00	1,091.37	1,080.80	1,042.41	1,035.48	1,047.67	1,019.21	985.17	983.58	944.16	894.61	863.08	848.69	837.37	840.60	-38.16
Total direct N_2O emissions with N_2O from LULUCF	1,387.26	1,387.26	1,318.63	1,269.85	1,234.55	1,244.24	1,251.92	1,275.44	1,264.91	1,189.74	1,122.06	1,116.78	1,105.66	1,067.30	1,060.95	1,072.14	1,044.38	1,009.97	1,008.83	971.88	918.91	887.66	873.39	862.01	864.29	-37.70
Memo items:																										
International bunkers	5.62	5.62	5.41	5.80	6.22	6.43	6.73	6.79	7.11	7.42	7.49	7.87	7.92	7.63	7.79	8.24	8.51	8.98	9.27	9.17	8.50	8.37	8.60	8.24	7.99	42.29
Aviation	2.08	2.08	2.03	2.22	2.36	2.46	2.60	2.72	2.86	3.08	3.32	3.51	3.47	3.39	3.49	3.77	3.97	4.14	4.28	4.30	4.00	4.00	4.12	4.07	4.03	94.11
Navigation	3.54	3.54	3.38	3.58	3.86	3.97	4.13	4.07	4.25	4.34	4.17	4.36	4.45	4.24	4.30	4.47	4.54	4.84	4.98	4.87	4.50	4.37	4.48	4.16	3.96	11.88
Multilateral operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59,073.32
CO_2 emissions from biomass																										
CO_2 captured																										
Long-term storage of C in waste disposal sites																										
Indirect N_2O	53.26	53.26	48.70	45.97	45.24	42.50	41.61	40.75	40.27	38.39	37.36	36.22	36.34	35.67	35.49	36.37	35.43	34.80	34.42	33.98	32.75	32.46	32.33	31.49	35.58	-33.19
Indirect CO_2 [3]																										

Table 1 - Emission trends (HFCs, PFCs and SF6)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change from base to latest reported year
	(kt)																									%
Emissions of HFCs and PFCs - (kt CO_2 equivalent)	60,255.87	60,255.87	57,478.10	55,717.84	57,833.31	62,309.99	66,879.36	71,967.00	78,430.13	78,331.45	69,080.56	66,366.06	64,002.96	69,655.85	73,510.32	74,659.17	79,018.15	81,647.05	86,930.65	91,574.19	94,368.16	99,683.00	103,287.50	104,673.25	107,565.26	78.51
Emissions of HFCs - (kt CO_2 equivalent)	29,327.74	29,327.74	29,354.92	31,774.68	34,846.18	39,710.43	44,411.00	51,601.61	59,361.07	60,170.87	51,469.80	52,588.39	51,731.89	55,583.30	62,414.59	65,259.75	70,987.91	74,557.33	80,498.47	85,741.26	89,987.13	95,512.13	98,928.13	100,839.13	103,561.00	253.12
HFC-23	1.81	1.81	1.81	1.95	2.06	2.26	2.41	2.60	2.78	2.54	1.70	1.35	0.83	0.67	0.65	0.44	0.40	0.24	0.20	0.21	0.18	0.23	0.16	0.14	0.14	-92.26
HFC-32	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.05	0.09	0.14	0.20	0.29	0.38	0.52	0.72	0.88	1.10	1.37	1.65	1.84	2.12	2.41	2.66	2.98	57,492.62
HFC-41	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
HFC-43-10mee	NO	NO	NO	NO	0.01	0.01	0.02	0.04	0.04	0.04	0.06	0.10	0.13	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.11	0.10	0.09	0.07	0.05	
HFC-125	0.03	0.03	0.03	0.03	0.05	0.10	0.20	0.31	0.50	0.70	1.01	1.41	1.88	2.31	2.88	3.42	3.95	4.56	5.15	5.66	6.21	6.98	7.55	7.95	8.42	30,703.32
HFC-134	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00	0.00	0.00	0.00	0.00	0.01	
HFC-134a	0.05	0.05	0.07	0.64	2.79	3.72	4.84	6.92	9.02	10.93	12.02	13.72	16.02	17.62	19.42	20.49	22.28	23.55	25.03	26.32	27.15	27.21	27.79	27.72	27.91	52,453.91
HFC-143	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
HFC-143a	0.52	0.52	0.54	0.42	0.04	0.09	0.15	0.29	0.43	0.64	0.90	1.39	1.76	2.16	2.65	3.01	3.44	3.81	4.21	4.59	4.95	5.34	5.61	5.76	5.92	1,033.45
HFC-152	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
HFC-152a	0.00	0.00	0.00	0.01	0.14	0.16	0.91	1.03	1.16	1.17	1.29	1.87	2.96	4.00	4.21	3.89	3.26	3.58	3.79	3.60	3.83	3.92	3.72	3.58	3.66	3,304,003.84
HFC-161	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
HFC-227ea	C,NO	C,NO	C,NO	C,NO	0.00	0.00	0.00	0.01	0.02	0.04	0.06	0.11	0.14	0.19	0.23	0.27	0.28	0.30	0.33	0.34	0.36	0.38	0.41	0.43	0.44	
HFC-236cb	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
HFC-236ea	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
HFC-236fa	NO	NO	NO	NO	NO	NO	NO	NO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
HFC-245ca	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HFC-245fa	NO	NO	NO	NO	NO	NO	0.00	0.00	0.00	0.00	0.00	0.11	0.29	0.60	0.67	1.02	0.99	1.05	1.09	0.80	0.62	0.66	0.68	0.71	0.70	
HFC-365mfc	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.02	0.07	0.16	0.25	0.66	0.73	0.73	0.75	0.69	0.65	0.66	0.66	0.64	0.61	
Unspecified mix of HFCs[4] - (kt CO_2 equivalent)	2.45	2.45	3.90	5.63	28.77	132.12	218.78	549.94	1,358.10	1,244.62	1,067.06	849.14	529.64	325.59	295.63	333.02	279.77	313.01	387.67	423.47	384.86	350.06	469.47	411.26	343.66	13,938.86
Emissions of PFCs - (kt CO_2 equivalent)	25,224.24	25,224.24	22,890.72	18,729.58	17,784.03	17,124.57	16,711.40	16,060.73	14,880.72	14,073.47	13,686.46	11,723.80	10,500.66	12,225.44	10,100.48	8,543.60	7,146.80	6,363.82	5,887.47	5,048.75	3,286.73	3,813.13	4,194.05	3,659.20	3,829.99	-84.82
CF_4	2.42	2.42	2.17	1.70	1.56	1.46	1.48	1.42	1.35	1.32	1.28	1.04	0.93	1.12	0.92	0.76	0.62	0.54	0.50	0.43	0.25	0.31	0.35	0.28	0.30	-87.65
C_2F_6	0.47	0.47	0.43	0.38	0.38	0.37	0.29	0.29	0.27	0.25	0.25	0.23	0.20	0.25	0.18	0.13	0.10	0.09	0.07	0.06	0.04	0.04	0.04	0.03	0.03	-93.51
C_3F_8	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.02	0.01	0.01	0.02	0.02	0.02	-34.41
C_4F_{10}	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.02	0.03	0.03	-3.60
c-C_4F_8	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-80.21
C_5F_{12}	0.04	0.04	0.04	0.05	0.04	0.06	0.06	0.06	0.02	0.03	0.02	0.03	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-99.99
C_6F_{14}	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.00	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.00	0.01	0.02	-33.64
$C_{10}F_{18}$	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	C,NO	
c-C_3F_6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Unspecified mix of PFCs[4] - (kt CO_2 equivalent)	300.42	300.42	314.36	328.87	391.20	382.87	541.74	466.13	421.92	385.79	450.62	488.17	506.85	458.19	575.58	630.81	705.45	708.20	802.77	756.76	614.04	683.24	709.15	728.16	648.24	115.78
Unspecified mix of HFCs and PFCs - (kt CO_2 equivalent)	5,703.88	5,703.88	5,232.46	5,213.58	5,203.09	5,474.99	5,756.95	4,304.66	4,188.35	4,087.11	3,924.30	2,053.87	1,770.41	1,847.12	995.25	855.83	883.44	725.89	544.70	784.18	1,094.30	357.74	165.32	174.92	174.27	-96.94
Emissions of SF_6 - (kt CO_2 equivalent)	10,937.37	10,937.37	11,391.99	12,215.08	12,891.92	14,061.97	15,138.62	15,020.10	13,542.37	12,797.41	10,479.87	10,469.79	9,669.01	8,520.81	8,040.01	8,062.33	7,871.35	7,362.07	7,041.72	6,631.87	6,295.20	6,376.96	6,239.63	6,315.83	6,277.87	-42.60
SF_6	0.48	0.48	0.50	0.54	0.57	0.62	0.66	0.66	0.59	0.56	0.46	0.46	0.42	0.37	0.35	0.35	0.35	0.32	0.31	0.29	0.28	0.28	0.27	0.28	0.28	-42.60
Emissions of NF_3 - (kt CO_2 equivalent)	23.78	23.78	25.49	27.37	29.45	32.49	43.48	69.42	103.42	116.82	60.79	115.81	82.37	133.94	146.82	132.43	155.97	141.02	163.04	149.15	77.37	119.45	127.22	93.13	69.18	190.97
NF_3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	190.97

The base year column refers to 1990 as the EU's base year for the quantified economy-wide emission reduction target as reported in CTF table 2.

2. CTF TABLE 2: DESCRIPTION OF QUANTIFIED ECONOMY-WIDE EMISSION REDUCTION TARGET

Emission reduction target: base year and target		
		Comments
Base year/ base period Emission reductions target (% of base year/base period)	1990	Legally binding target trajectories for the period 2013-2020 are enshrined in both the EU-ETS Directive (Directive 2003/87/EC and respective amendments) and the Effort Sharing Decision (Decision No 406/2009/EC). These legally binding trajectories not only result in a 20% GHG reduction in 2020 compared to 1990 but also define the EU's annual target pathway to reduce EU GHG emissions from 2013 to 2020. The Effort Sharing Decision sets annual national emission targets for all Member States for the period 2013-2020 for those sectors not covered by the EU emissions trading system (ETS), expressed as percentage changes from 2005 levels. In March 2013, the Commission formally adopted the national annual limits throughout the period for each Member State. By 2020, the national targets will collectively deliver a reduction of around 10% in total EU emissions from the sectors covered compared with 2005 levels. The emission reduction to be achieved from the sectors covered by the EU ETS will be 21% below 2005 emission levels
Emission reductions target (% of 1990)	20%	
Period for reaching target	**BY-2020**	

Gases and sectors covered. GWP values.				
Gases covered	**Covered**	**Base Year**	**GWP[b] reference source**	**Comments**
CO_2	Yes	1990	IPCC AR4	as adopted in UNFCCC reporting guidelines for national GHG inventories of Annex I Parties and as adopted under the EU Monitoring Mechanism Regulation
CH_4	Yes	1990	IPCC AR4	as adopted in UNFCCC reporting guidelines for national GHG inventories of Annex I Parties and as adopted under the EU Monitoring Mechanism Regulation
N_2O	Yes	1990	IPCC AR4	as adopted in UNFCCC reporting guidelines for national GHG inventories of Annex I Parties and as adopted under the EU Monitoring Mechanism Regulation
HFCs	Yes	1990	IPCC AR4	as adopted in UNFCCC reporting guidelines for national GHG inventories of Annex I Parties and as adopted under the EU Monitoring Mechanism Regulation

Gases and sectors covered. GWP values.				
Gases covered	**Covered**	**Base Year**	**GWP[b] reference source**	**Comments**
PFCs	Yes	1990	IPCC AR4	as adopted in UNFCCC reporting guidelines for national GHG inventories of Annex I Parties and as adopted under the EU Monitoring Mechanism Regulation
SF_6	Yes	1990	IPCC AR4	as adopted in UNFCCC reporting guidelines for national GHG inventories of Annex I Parties and as adopted under the EU Monitoring Mechanism Regulation
NF_3	NO		IPCC AR4	

Sectors covered	**Covered**	**Comment:**
Energy	Yes	
Transport[c]	Yes	
Industrial processes[d]	Yes	
Agriculture	Yes	
LULUCF	No	
Waste	Yes	
Other sectors (specify)		
Aviation in the scope of the EU-ETS		In principle, the EU ETS should cover CO2 emissions of all flights arriving at, and departing from, airports in all EU Member States, Norway, Iceland and Liechtenstein and closely related territories. However, since 2012, flights to and from aerodromes from other countries have not been included in the EU ETS.This exclusion was taken in order to facilitate negotiation of a global agreement to address aviation emissions in the forum of the International Civil Aviation Organisation (ICAO). The EU has decided on a reduced scope in the 2013–2016 period (Regulation (EU) No 421/2014 of the European Parliament and of the Council of 16 April 2014)

Role of LULUCF sector		
LULUCF in base year level and target	excluded	
Contribution of LULUCF is calculated using		

Possible scale of contributions of market-based mechanisms		Comment:
Possible scale of contributions of market-based mechanisms under the convention		The 2020 Climate and Energy Package allows Certified Emission Reductions (CERs) and Emission Reduction Units (ERUs) to be used for compliance purposes, subject to a number of restrictions in terms of origin and type of project and up to an established limit. In addition, the legislation foresees the possible recognition of units from new market mechanisms. Under the EU ETS the limit does not exceed 50% of the required reduction below 2005 levels. In the sectors not covered by the ETS, annual use shall not exceed to 3 % of each Member States' non-ETS greenhouse gas emissions in 2005. A limited number of Member States may use an additional 1%, from projects in LDCs or SIDS subject to conditions.
CERs		The use of these units under the ETS Directive and the Effort Sharing Decision is subject to the limits specified above which do not separate between CERs and ERUs, but include additional criteria for the use of CERs.
ERUs		The use of these units under the ETS Directive and the Effort Sharing Decision is subject to the limits specified above which do not separate between CERs and ERUs, but include additional criteria for the use of CERs.
AAUs[b]		AAUs for the period 2013-2020 have not yet been determined. The EU expects to achieve its 20% target for the period 2013-2020 with the implementation of the ETS Directive and the ESD Decision in the non-ETS sectors which do not allow the use of AAUs from non-EU Parties.
Carry-over units[c]		The time-period of the Convention target is from 1990-2020, no carry-over units will be used to achieve the 2020 target.
Other mechanism units under the Convention (specify)[d]		There are general provisions in place in the EU legislation that allow for the use of such units provided that the necessary legal arrangements for the creation of such units have been put in place in the EU which is not the case at the point in time of the provision of this report.
Any other information:		In December 2009, the European Council reiterated the conditional offer of the EU to move to a 30% reduction by 2020 compared to 1990 levels as part of a global and comprehensive agreement for the period beyond 2012, provided that other developed countries commit themselves to comparable emission reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities.
Possible scale of contributions of other market-based mechanisms		None

3. CTF TABLE 3: PROGRESS IN ACHIEVEMENT OF THE QUANTIFIED ECONOMY-WIDE EMISSION REDUCTION TARGET: INFORMATION ON MITIGATION ACTIONS AND THEIR EFFECTS

Name of mitigation action [a]	Sectors affected [b]	GHGs affected	Objective and/or activity affected	Type of instrument [c]	Status of implementation [d]	Brief description [e]	Start year of implementation	Implementing entity or entities	Estimate of mitigation impact f (not cumulative, in kt CO2 eq)					Proposed footnote text for BR2
									2010 [1]	2015 [1]	2020	2025 [1]	2030 [1]	
Directive 2009/29/EC and 2003/87/EC EU-Emission trading system	cross-cutting	CO2, N2O,PFC	Cost-efficient reduction of emissions	regulatory	implemented	Putting a marked price to carbon and giving a financial value to each tonne of emissions saved	2005	CION/MS	NE	NE	NE	NE	NE	For 2020 the mitigation impact is estimated at 21% compared to 2005 levels.
Directive 2009/29/EC Effort Sharing Decision	cross-cutting	CO2,CH4 N2O,HFC, PFC, SF6	GHG emissions reduction in sectors not included in the EU ETS.	regulatory	implemented	Binding GHG emissions targets for MS for the years 2013-2020 for sectors not included in the EU ETS	2013	MS need to implement national measures and policies to limit emissions from sectors covered here	NE	NE	NE	NE	NE	For 2020 the mitigation impact is estimated at 10 % compared to 2005 levels.
CCS Directive	cross-cutting	CO2	Geological storage of CO2	Regulatory	Adopted	Establishes a legal framework for the environmentally safe geological storage of CO2	2009	MS	NE	NE	NE	NE	NE	The CCS Directive is not described in the BR2. Therefore for more information see the EU 1st Biennial Report chapter 4.2.4
Taxation of Energy Products and Electricity	cross-cutting	CO2, CH4, N_2O	Sets minimum levels of taxation of energy products used as motor fuel or as heating fuel and for electricity	Regulatory	Implemented	The Directive covers electricity and all energy products consumed as motor fuel, heating fuel , and provides for common taxation rules and common minimum EU levels of taxation	2003	MS	NE	NE	NE	NE	NE	The current status of the revision to the Taxation of Energy Products Electricity Directive is explained in chapter 3.2 of the EU's 2nd Biennial Report. For further background information on the original directive see EU's 1st Biennial report, chapter 4.2.5
Horizon 2020	cross-cutting	Other (Not directly affected)	EU research and development programme (Horizon 2020) for 2014-2020. Contains objective of reaching 35% climate related expenditures.	Research	Implemented	Horizon 2020 is the largest ever EU Research and Innovation programme, with nearly €80 billion of funding available over seven years (2014 to 2020)..	2014	CION/EP, MS and others	NE	NE	NE	NE	NE	The Horizon 2020 programme is explained in more detail in chapter 3.2 of the EU's 2nd Biennial report. For more information on other PaMs targeted towards research and observation, see the EU's 1st Biennial report, chapter 4.2.6
European Structural and Investment Funds (ESIF)	cross-cutting	Other (Not directly affected)	Funds are financial instruments of European Union cohesion policy, to narrow the development disparities among regions and Member States	Fiscal	Implemented	The budget and investment priorities of the ESIF for the 2014-2020 programming period are designed to ensure the implementation of the Europe 2020 strategy for smart, sustainable and inclusive growth.	2014	CION/MS	NE	NE	NE	NE	NE	The European Structural and Investment Funds programme is explained in more detail in chapter 3.2 of the EU's 2nd Biennial report.
National Emissions Ceilings Directive	cross-cutting	Atmospheric pollutants: NOx, SO_2, NMVOC, NH_3, $PM_{2.5}$ and CH_4	Revision proposal aims to reduce adverse health impacts of air pollution, including reducing the cases of premature deaths per year due to air pollution by more than half.	regulatory	Implemented	The revision proposal includes national emission reduction commitments for each Member State for 2030 (with interim targets also set for 2025) for six specific pollutants	2001	CION/MS	NE	NE	NE	NE	NE	A proposed revision to the National Emissions Ceiling Directive is explained in chapter 3.2 of the EU's 2nd Biennial report. For further information on the original directive see the EU's 1st Biennial report, chapter 4.2.8
Directive 2009/28/EC on the promotion of the use of energy from renewable sources	Energy, transport	CO2	20 % share of renewable sources in EU total gross final energy consumption in 2020 (electricity, heat and transport)	regulatory	implemented	The Directive promotes the increase of renewables in the energy supply sector, such as the transport sector and it supports cooperation between Member States.	2010	MS	NE	NE	750000	NE	NE	Estimated impact range: 600-900 Mt (2020), Source: Citizens' Summary of 23 January 2008 see chapter 3.3.1 of the EU's 2nd Biennial Report.

2020 Climate & Energy Package (COM(2008) 30 final)	Cross-cutting	CO2, CH4, N2O, HFC, PFC, SF6	20 % cut in greenhouse gas emissions, 20 % share of renewable energy, 20 % increase in energy efficiency	regulatory	implemented	The 2020 climate & energy package is a set of binding legislation to ensure that the EU meets its climate and energy targets for the year 2020.	2009	CION/MS	NA	NE	NE	NE	NE	The 2020 Climate and Energy package provides the emission reduction target. The mitigation impact results from a wide range of measures. See chapter 3.3 of the EU's 2nd Biennial Report.
2030 Framework for Climate and Energy (COM(2014) 15 final)	Cross-cutting	CO2,CH4, N2O, HFC, PFC, SF6, NF3	At least 40 % cut in greenhouse gas emissions, at least 27 % share of renewable energy, at least 27 % increase in energy efficiency	regulatory	adopted	It provides the framework and defines the targets to help the EU achieve a more competitive, secure and sustainable energy system and to meet its long-term 2050 greenhouse gas reductions target.	2014	CION/MS	NA	NE	NE	NE	NE	The 2030 Framework for Climate and Energy provides the emission reduction target. The mitigation impact results from a wide range of measures. See chapter 3.3 of the EU's 2nd Biennial Report.
Energy Union Strategy (COM(2015) 80 final)	Energy	CO2	Ensure that Europe has secure, affordable and climate-friendly energy	regulatory	adopted	It provides the framework for supply security, a fully-integrated internal energy market, energy efficiency and greenhouse gas emission reductions in the EU energy sector.	2015	CION/MS	NA	NE	NE	NE	NE	The strategy is in line with the 2030 Framework for Climate and Energy (COM(2014) 15 final). The mitigation impact is given in the CTF table under that policy. See chapter 3.3 of the EU's 2nd Biennial Report.
Biomass Action Plan	Energy	CO2	Increase use of biomass for electricity and heat production and transport	regulatory	Adopted	Sets out Community actions to increase the demand for biomass, improve supply, overcome technical barriers and develop research.	2005	MS	148000	NE	NE	NE	NE	Impact includes reductions in the transport sector, SEC(2005) 1573. See chapter 3.4.2 of the EU's 2nd Biennial Report.
Directive 2010/31/EU on the energy performance of buildings	Energy	CO2	Improve the energy performance of new buildings and of existing buildings	Regulatory	Implemented	The Directive obliges Member States to set minimum standards for the energy performance of new buildings and existing buildings that are subject to major renovation work.	2012	MS	NE	NE	185000	NE	NE	Estimated impact range: 160000-210000kt (2020), Source: SEC(2008) 2864 See chapter 3.3.2 of the EU's 2nd Biennial Report.
Directive 2012/27/EU on energy efficiency	Energy, Industry/industrial processes	CO2	Reduction of barriers in the energy market and avoiding market failure, increase of energy efficiency at all stages of the energy chain.	Regulatory	Adopted	The Directive establishes a common framework of measures for the promotion of energy efficiency and supports the Energy Efficiency Plan 2011.	2014	MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.2 of the EU's 2nd Biennial Report.
Directive 2009/125/EC establishing a framework for the setting of eco-design requirements for energy-related products	Energy	CO2	Reduce energy consumption	regulatory	implemented	This is the framework Directive for eco-design requirements and one of the major cornerstones of the Community Strategy on Integrated Product Policy, together with the Energy Labelling Directive.	2009	CION/MS	NE	NE	NE	NE	NE	Impact estimated separately for each product category (see related eco-design regulations below) See chapter 3.3.3 of the EU's 2nd Biennial Report.
Directive 2010/30/EU on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products	Energy	CO2	Help consumers to identify energy-saving products.	regulatory	implemented	The Directive is part of the Community Strategy for Integrated Product Policy and introduces energy labels to sign energy-related products. The ranking scale ranges from A(+++) most efficient to G least efficient.	2010	CION/MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.3 of the EU's 2nd Biennial Report.
Proposal for a Regulation setting a framework for energy efficiency labelling and repealing Directive 2010/30/EU	Energy	CO2	Simplify the energy label scale and to adapt the scale to current market efficiency standards.	regulatory	planned	This Regulation lays down a framework on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products during use and supplementary information concerning energy-related products in order to allow customers to choose more efficient products	2015	CION/MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.3 of the EU's 2nd Biennial Report.

Eco-design requirements for glandless standalone circulators and glandless circulators integrated in products (COM REG (EC) 641/2009)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for glandless standalone circulators and circulator integrated products, including the requirement for Energy labelling (see Reg. (EC) 622/2012)	2009	CION/MS/ industry	NE	NE	12000	NE	NE	SEC(2009) 1016 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps (COM REG (EC) 245/2009 amended by COM REG (EU) 347/2010)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for fluorescent lamps, high discharge lamps, ballasts and luminaires able to operate such lamps, including the requirement for Energy labelling. (see Reg. (EU) 874/2012)	2009	CION/MS/industry	NE	15300	NE	NE	NE	SEC(2009) 324 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for non-directional household lamps, amendment is replacing functionality requirements for lamps excluding compact fluorescent lamps and LED lamps (COM REG (EC) 244/2009 amended by COM REG (EC) 859/2009)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for non-directional household lamps, including the requirement for Energy labelling (see Reg. (EU) 874/2012).	2009	CION/MS/industry	NE	NE	15400	NE	NE	SEC(2009) 327 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for household refrigerating appliances (COM REG (EC) 643/2009)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for household refrigerating appliances, including the requirement for Energy labelling (see Reg. (EU) 1060/2010).	2009	CION/MS/industry	NE	NE	2000	6000	NE	SEC(2009) 1020 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for no-load condition electric power consumption and average active efficiency of external power supplies (COM REG (EC) 278/2009)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for no-load condition electric power consumption and average active efficiency of external power supplies; Energy labelling has not been introduced.	2009	CION/MS/industry	NE	NE	36000	NE	NE	SEC(2009) 434 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for simple set-top boxes (COM REG (EC) 107/2009)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for simple set-top boxes; Energy labelling has not been introduced.	2009	CION/MS/industry	NE	NE	17000	NE	NE	SEC(2009) 114 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment (COM REG (EC) 1275/2008)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for standby and off mode electric power consumption of electrical and electronic household and office equipment; Energy labelling has not been introduced.	2009	CION/MS/industry	NE	NE	14000	NE	NE	SEC(2008) 3071 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for household tumble driers (COM REG (EU) 932/2012)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for household tumble driers, including the requirement for Energy labelling (see Reg. (EU) 392/2012)	2012	CION/MS/industry	NE	400	1500	2900	3800	SWD(2012) 289 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for water pumps (COM REG (EU) 547/2012)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for water pumps; Energy labelling has not been introduced.	2012	CION/MS/industry	NE	NE	NE	NE	NE	Impact assessment shows ranges between 1200 and 2100 kt in 2020, Source: SWD(2012) 178 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for air conditioners and comfort fans (COM REG (EU) 206/2012)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for air conditioners and comfort fans, including the requirement for Energy labelling (see Reg. (EU) 626/2011)	2012	CION/MS/industry	NE	1700	3800	5500	6000	SWD(2012) 35 final See chapter 3.3.3 of the EU's 2nd Biennial Report.

Eco-design requirements for industrial fans (COM REG (EU) 327/2011)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for industrial fans; Energy labelling has not been introduced.	2011	CION/MS/industry	NE	9600	24800	41600	NE	SEC(2011) 384 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for household dishwashers (COM REG (EU) 1016/2010)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for household dishwashers, including the requirement for Energy labelling (see Reg. (EU) 1059/2010)	2010	CION/MS/industry	NE	NE	500	1800	NE	SEC(2010) 1356 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for household washing machines (COM REG (EU) 1015/2010)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for household washing machines, including the requirement for Energy labelling (see Reg. (EU) 1061/2010)	2010	CION/MS/industry	NE	NE	800	NE	NE	SEC(2010) 1354 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for directional lamps, light emitting diode lamps and related equipment (COM REG (EU) 1194/2012)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for directional lamps, light emitting diode lamps and related equipment, including the requirement for Energy labelling (see Reg. (EU) 874/2012)	2013	CION/MS/industry	NE	NE	9500	10300	NE	SWD(2012) 0419 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for space heaters and combination heaters (COM REG (EU) 813/2013)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation aims to set minimum standards for space heaters and combination heaters.	2013	CION/MS/industry	NE	NE	110 000	NE	NE	SWD(2013) 296 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for computers and computer servers (COM REG (EU) 617/2013)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for computers and servers.	2013	CION/MS/industry	NE	NE	4 200	NE	NE	SWD(2013) 219 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for vacuum cleaners (COM REG (EU) 666/2013)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for vacuum cleaners including the requirement for energy labelling.	2013	CION/MS/industry	NE	NE	6 000	NE	NE	SWD(2013) 240 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for domestic ovens, hobs and range hoods (COM REG (EU) 66/2014)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for domestic ovens, hobs and range hoods including the requirement for energy labelling.	2014	CION/MS/industry	NE	NE	1 200	NE	2 600	SWD(2014) 3 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for small, medium and large power transformers (COM REG (EU) 548/2014)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for power transformers.	2014	CION/MS/industry	NE	NE	NE	4 000	NE	SWD(2014) 161 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for ventilator units (COM REG (EU) 1253/2014)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for ventilators including the requirement for energy labelling.	2014	CION/MS/industry	NE	NE	NE	NE	80 000	SWD(2014) 223 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for television and networked standby losses (COM REG (EU) 801/2013)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for television, including the requirement for energy labelling.	2013	CION/MS/industry	NE	NE	11 700	NE	NE	SWD(2013) 305 See chapter 3.3.3 of the EU's 2nd Biennial Report.

Eco-design requirements for water heaters and hot water storage tanks (COM REG (EU) 814/2013)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for water heaters and hot water storage tanks, including the requirement for energy labelling.	2013	CION/MS/industry	NE	NE	20 000	NE	NE	SWD (2013) 294 See chapter 3.3.3 of the EU's 2nd Biennial Report.
Eco-design requirements for electric motors (COM REG (EU) 4/2014; amendment of COM REG (EC) 640/2009)	Energy	CO2	Reduce energy consumption	regulatory	implemented	The Regulation sets minimum standards for electric motors, including the requirement for energy labelling	2013	CION/MS/industry	NE	NE	64000	94000	NE	SEC(2009) 1013 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Voluntary eco-design scheme for complex set-top boxes	Energy	CO2	Reduce energy consumption	Voluntary agreement	implemented	Voluntary agreement on energy consumption targets for set-top boxes without Energy labelling.	2010	CION/MS/industry	NE	NE	NE	NE	NE	Cumulative impact 2020: 21000kt, SWD(2012) 391 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Voluntary eco- design scheme for imaging equipment	Energy	CO2	Reduce energy consumption	Voluntary agreement	implemented	Voluntary agreement on energy consumption targets for imaging equipment without Energy labelling.	2011	CION/MS/industry	NE	NE	10200	NE	NE	SWD(2013) 15 final See chapter 3.3.3 of the EU's 2nd Biennial Report.
Green Public Procurement	Energy	CO2	Increase the share of efficient and environmentally friendly technologies, products, services in the public sector	Voluntary agreement	Implemented	Increase the share of efficient and environmentally friendly technologies, products, services in the public sector	2004	MS	35000	NE	NE	NE	NE	Estimated impact range: 25000-45000kt (2010) Source: Second ECCP Progress Report (EU 15 only) See chapter 3.3.3 of the EU's 2nd Biennial Report.
Energy Star Programme	Energy	CO2	Promotion of less energy consuming office appliances	Voluntary agreement	Implemented	The label shall help consumers to identify low energy consumption products.	2002	MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.3 of the EU's 2nd Biennial Report.
EU Project Development Assistance (PDA) Facilities	Energy	CO2	Support of energy efficiency investment projects	Economic	Implemented	It provides the grant support for project promoters to develop and launch their energy efficiency investment projects and programmes.	2014	CION/industry	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.4 of the EU's 2nd Biennial Report.
European Energy Efficiency Fund (EEEF)	Energy	CO2	Support private public partnership investments in in energy efficiency, renewable energy and GHG emission reductions.	Economic	Implemented	It is stocked with 265 million EUR for supporting private public partnerships investing in energy efficiency, renewable energy and GHG emission reductions.	2014	CION/industry	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.4 of the EU's 2nd Biennial Report.
European Regional Development Fund (ERDF)	Energy	CO2	Support investments in energy-related areas such as buildings, renewable energy or, smart grids.	Economic	Implemented	It is part of the European Structural and Innovation Funds (ESIF) 38 billion EUR are determined for investing in the fields of e.g. buildings, renewable energy, smart grids and transport during 2014 and 2020.	2014	CION/ regional authorities	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.4 of the EU's 2nd Biennial Report.
Motor Challenge Programme	Industry	CO2	Improve the energy efficiency of their electric Motor Driven Systems	Voluntary	Implemented	Companies receive aid, advice and technical assistance to undertake specific measures to reduce energy consumption.	2003	Industry	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.4 of the EU's 2nd Biennial Report.
Strategic Energy Technology Plan (COM(2007) 723)	Energy	CO2	Support introduction of low carbon technologies	Regulatiory	Implemented	The plan comprises measures relating to planning, implementation, resources and international cooperation in the field of energy technology	2007	CION	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.3.4 of the EU's 2nd Biennial Report.

New integrated Covenant of Mayors for climate and energy	Energy	CO2	Support local authorities to deploy sustainable energy policies and cut GHG emissions.	Voluntary Agreement	Implemented	In order to translate their political commitment into specific measures and projects, Covenant signatories undertake to prepare and submit a Sustainable Energy Action Plan (SEAP). In 2015, the covenant was extended to the 2030 horizon and adaptation and the international dimension were included.	2008	Local governments	NE	NE	190000	NE	NE	Impact compared to base year 1990. Source: "The Covenant of Mayors in Figures - 6 year Assessment" by JRC (2014) See chapter 3.3.5 of the EU's 2nd Biennial Report.
CO2 from cars (Regulation 443/2009)	Transport	CO2	130 grams of CO2 per kilometre (g/km) by 2015 and 95g/km by 2020.	Regulatory	Implemented	The Regulation is setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO2 emissions from light-duty vehicles	2009	MS	NE	NE	NE	NE	NE	See chapter 3.4.1 of the EU's 2nd Biennial Report.
CO2 from vans (Regulation 510/2011)	Transport	CO2	175 grams of CO2 per kilometre (g/km) by 2017 and 147g/km by 2020.	Regulatory	Implemented	The Regulation is similar to the one for new cars and sets CO2 emission targets for new vans sold on the EU market.	2011	MS	NE	NE	NE	NE	NE	See chapter 3.4.1 of the EU's 2nd Biennial Report.
Strategy for reducing Heavy-Duty Vehicles' fuel consumption and CO2 emissions	Transport	CO2	Curb Heavy Duty Vehicles' CO2 emissions in a cost-efficient and proportionate way	Regulatory	Adopted	The Strategy addresses modal shift, measures to reduce fuel GHG intensity, development and rolling out of vehicles with a lower carbon footprint and vehicle fleet operation.	2011	MS	NE	NE	NE	NE	NE	Impacts were determine for various options. The actual impact will depend on the final policy. See chapter 3.4 of the EU's 2nd Biennial Report.
Directive 1999/94/EC on Car Labelling	Transport	CO2	Raise consumer awareness on fuel use and CO_2 emissions of new passenger cars	Regulatory	Implemented	The Directive requires that information relating to the fuel economy and CO_2 emissions of new passenger cars is consistently made available to consumers.	1994	MS, industry	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.4.1 of the EU's 2nd Biennial Report.
Directive 2009/28/EC on the promotion of the use of energy from renewable sources (Transport sector)	Transport	CO2	By 2020, the share of renewable energy shall amount to 10 % of fuels consumed in the transport sector	Regulatory	Implemented	The Directive sets a number of sustainability criteria that must be met for biofuels and bioliquids to count towards the target, including a minimum threshold of GHG savings for biofuels	2010	MS	NE	NE	NE	NE	NE	(impact not estimated for transport sector) See chapter 3.4.2 of the EU's 2nd Biennial Report.
Directive 2009/30/EC on the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions	Transport	CO2	Reduce the greenhouse gas intensity of fuels used in road transport by 6% in 2020	Regulatory	Implemented	The reduction shall be obtained through the use of biofuels, alternative fuels or reductions in flaring and venting. The Directive applies to all petrol, diesel and biofuels used in road transport, as well as to gas oil used in non-road-mobile machinery.	2010	MS	NE	NE	NE	NE	NE	See chapter 3.4.2 of the EU's 2nd Biennial Report.
Directive 2009/30/EC on the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions, including amendment on indirect land use changes	Transport	CO2	Reduce the greenhouse gas intensity of fuels used in road transport by 6% in 2020 and reduce GHG emissions from indirect land-use change	Regulatory	Implemented	The reduction shall be obtained through the use of biofuels, alternative fuels or reductions in flaring and venting. The Directive applies to all petrol, diesel and biofuels used in road transport, as well as to gas oil used in non-road-mobile machinery. The EU agreed in April 2015 to amend both the Fuel Quality Directive and the transport-related section of the Renewable Energy Directive in order to limit negative effects of indirect land use changes (ILUC)	2009	MS	NE	NE	48000	NE	NE	SWD(2012) 343 final This figure only includes emission reductions in the transport sector See chapter 3.4.2 of the EU's 2nd Biennial Report.

General Safety Regulation (EC) 661/2009 and Tyre Labelling and Minimum Rolling Resistance (EC) 1222/2009	Transport	CO2	Enhance safety of motor vehicles, increase fuel efficiency of motor vehicles and tyres, reduce noise emissions of tyres.	Regulatory	Implemented	The regulation integrates environmental and safety requirements for type approval of vehicles and tyres. It applies to vehicles of passenger transport (category M), transportation of goods (category N) and trailers (category O).	2009	Industry	NE	NE	2750	NE	NE	Estimated impact range: 1500-5000 kt, Source: SEC(2008)2860 See chapter 3.4.1 of the EU's 2nd Biennial Report.
Infrastructure charging for heavy goods vehicles (1999/62//EC, amended by 2006/38/EC and 2011/76/EU)	Transport	CO2	Better functioning of the internal market and reduction of congestion, noise and air pollution	regulatory	Implemented	The Directive stipulates rules how and to what extent the cost of constructing, operating and developing infrastructure can be borne (through tolls and vignettes) by road users.	1999	MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.4.3 of the EU's 2nd Biennial Report.
Directive 2014/94/EU on Deployment of Alternative Fuels Infrastructure	Transport	CO2	Reduce CO2 emissions through shift of fuel type	regulatory	Implemented	The Directive requires Member States to adopt national policy frameworks for the market development of alternative fuels and their infrastructure, and sets binding targets for the build-up of alternative fuel infrastructure.	2014	MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.4.3 of the EU's 2nd Biennial Report.
Clean vehicles Directive (2009/33/EC)	Transport	CO2	Reduce CO2 emissions through procurement of green vehicles	regulatory	implemented	The Directive requires that energy and environmental impacts linked to the operation of vehicles over their whole lifetime, including CO2 emissions, are taken into account in public procurement decisions.	2010	MS	NE	1900	NE	NE	NE	Impact estimated for year 2017, Impact assessment report See chapter 3.4.4 of the EU's 2nd Biennial Report.
White Paper: Roadmap to a Single European Transport Area COM(2011) 144 final	Transport	CO2	Create a competitive and efficient internal EU transport system, cut transport emissions by 60% by 2050.	Regulatory	adopted	The 2011 White Paper, which forms an integral part of the "Resource Efficiency" initiative of the Commission, defines a long-term strategy to achieve a competitive and resource efficient transport system.	2011	CION	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.4 of the EU's 2nd Biennial Report.
Integrating maritime transport emissions in the EU's greenhouse gas reduction policies (COM(2013) 479 final and Regulation (EU) 2015/757)	Transport	CO2	Include GHG emissions from maritime transport in the EU's emission reduction policy.	Regulatory	adopted	The Strategy for maritime transport proposes an MRV system, reduction targets and further measures, including market-based instruments. The Regulation establishes an EU-wide MRV system for large ships.	2013	CION	NE	NE	NE	NE	4400	SWD(2013) 237 final/2 See chapter 3.4.4 of the EU's 2nd Biennial Report.
F-Gas Regulation (EU) No 517/2014	Industry/industrial processes	HFCs, PFCs, SF6	Reduce consumption and use of F-gases	Regulatory	Implemented	The Regulation prescribes a cap and subsequent reduction of HFCs that can be placed on the EU market ("phase-down"). It also includes a number of bans.	2015	CION, MS	NE	NE	NE	NE	72000	SWD(2012) 363 Ssee chapter 3.5.1 of the EU's 2nd Biennial Report.
European Directive on mobile air-conditioning systems (MACs) (2006/40/EC)	Industry/industrial Processes	HFCs	Reduce use and consumption of F-gases	Regulatory	Implemented	The Directive lays down the requirements for the EC type approval or national type-approval of vehicles as regards emissions from, and the safe functioning of, air-conditioning systems.	2006	CION, MS, industry	NE	3000	13000	NE	NE	COM (2011) 581 final See chapter 3.5.2 of the EU's 2nd Biennial Report.
Industrial Emissions Directive (2010/75/EU)	Industry/industrial processes	CO2	Reduction of harmful industrial emissions across the EU	Regulatory	Implemented	The Directive is a recast of existing legislation aiming at achieving benefits to the environment and human health by reducing polluting emissions as well as waste from industrial and agricultural installations in particular through Best Available Techniques (BAT).	2011	CION, MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.5.3 of the EU's 2nd Biennial Report.

Regulation (EU) No 1305/2013 on support for rural development by the European Agricultural Fund for Rural Development	Agriculture	CO2, CH4, N2O	Ensure sustainable agriculture	Regulatory, economic, information	implemented	The Regulation foresees that Member States draw up and co-finance multiannual rural development programmes. These programmes have to meet the three strategic objectives for 2014 – 2020, including sustainability and climate action.	2014	CION/MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.6.1 of the EU's 2nd Biennial Report.
Action Plan for the future of Organic Production (COM(2914) 179 final), Proposal for a Regulation on Organic Production and labelling of organic products (COM(2014) 180 final)	Agriculture	CO2, CH4, N2O	Support growth in the organic production sector	Regulatory	Planned	The Action Plan defines the strategy for organic production, controls and trade for the forthcoming period, by laying down 18 concrete actions, considering EU instruments, consumer awareness, research, monitoring, certification and trade with third countries. The proposal for a Regulation lays down principles for organic production and rules for production, labelling, certification and trading.	2015	CION/MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.6.2 of the EU's 2nd Biennial Report.
Soil Thematic Strategy (COM(2006) 231)	Agriculture, LULUCF	CO2	Protect soil as carbon pool	information, education, research, regulatory	Adopted	The Strategy tackles the full range of threats associated with soil degradation and creates a common framework for the protection of soil	2006	CION/MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.6.2 of the EU's 2nd Biennial Report.
Nitrates Directive (91/676/EEC)	Agriculture	N2O	Prevent water pollution	regulatory	implemented	The Directive contains actions and measures to be elaborated by the Member States, such as monitoring of waters, identification of nitrates vulnerable zones (NZV), establishment of Codes of Good Agricultural Practices (CGAP) and implementation of actions plans.	1991	CION/MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.6.2 of the EU's 2nd Biennial Report.
LULUCF accounting (LULUCF Decision 529/2013/EU)	LULUCF	CO2,	Robust accounting of LULUCF activities across Europe	regulatory	Adopted	Provides the basis for a formal inclusion of the LULUCF sector and ensures a harmonized legal framework allowing the collection of reliable data by robust accounting and reporting in a standardised way.	2013	CION	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.7.1 of the EU's 2nd Biennial Report.
Waste Framework Directive (2008/98/EC)	Waste, Energy, Industry/industrial Processes	CH4, CO2	Promote prevention and recycling of waste	regulatory	implemented	The Directive is a legal framework for the management of waste to cope with the challenge of decoupling economic growth from waste generation and promoting strict hierarchy of intervention for waste prevention and management. It has been amended in 2006 and 2008.	1975	CION/MS	NE	NE	40100	NE	NE	Consultancy report See chapter 3.8.1 of the EU's 2nd Biennial Report.
Landfill Directive (1999/31/EC)	Waste, Energy	CH4	Prevent or reduce as far as possible negative effects on the environment resulting from landfilling	regulatory	implemented	The Landfill Directive defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste and inert waste) and applies to all landfills, defined as waste disposal sites for the deposit of waste onto or into land.	1999	CION/MS	48000	NE	44000	NE	NE	2010 impact compared to 1995 levels, 2020 impact compared to 2008 levels (if all MS fully meet the targets: 62000kt in 2020), Source: EEA report See chapter 3.8.2 of the EU's 2nd Biennial Report.
EU policies targeting waste streams	Waste, energy	CO2, CH4	Conservation of resources	regulatory	implemented	These policy group targets different waste streams to promote recycling, re-use and waste recovery.	1994	CION/MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.8.4 of the EU's 2nd Biennial Report.

Management of biodegradable waste (COM/2008/0811 final)	Waste, Energy	CO2, CH4	Make us of bio-waste as energy or material source	Regulatory	planned	The CION published a Green Paper on the Management of biodegradable waste to use the potential of bio-waste. Currently the MS follow different strategies to manage their bio-waste. A binding target is under discussion.		CION/MS	NE	NE	NE	NE	NE	Reduction potential ranges between 1500 and 6000 kt CO2eq in 2020, depending on the target. Source: Feasibility assessment See chapter 3.8.3 of the EU's 2nd Biennial Report.
Urban Waste Water Treatment Directive (91/271/EEC)	Waste	N2O, CH4	Protect the environment from the adverse effects of urban & industrial waste water discharges	Regulatory	implemented	The Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors.	1991	CION/MS	NE	NE	NE	NE	NE	(impact not estimated) See chapter 3.8.5 of the EU's 2nd Biennial Report.

Abbreviations: GHG = greenhouse gas; LULUCF = land use, land-use change and forestry.; NE: not estimated

[a] Parties should use an asterisk (*) to indicate that a mitigation action is included in the 'with measures' projection.

On aggregated EU-level, detailed information on the inclusion of EU-wide PaMs in the 'with measures' projection is not available as this may differ between the 28 Member States. Such detailed information can be sought in the Member states' own Biennial Reports.

[b] To the extent possible, the following sectors should be used: energy, transport, industry/industrial processes, agriculture, forestry/LULUCF, waste management/waste, other sectors, cross-cutting, as appropriate.

[c] To the extent possible, the following types of instrument should be used: economic, fiscal, voluntary agreement, regulatory, information, education, research, other.

[d] To the extent possible, the following descriptive terms should be used to report on the status of implementation: implemented, adopted, planned.

[e] Additional information may be provided on the cost of the mitigation actions and the relevant timescale.

[f] Optional year or years deemed relevant by the Party.

The EU 'with existing measures' projections scenario is aggregated from individual Member States submissions. Thus, the projections include a variety of measures depending on the status of implementation of EU initiated policies in different Member States and programmes of measures developed independently in individual Member States. Measures included in the EU 'with existing measures' and scenarios can therefore not be indicated in CTF Table 3.

Abbreviations for implementing entities: CION: European Commission; EP: European Parliament; MS: Member States

4. CTF TABLE 4: REPORT ON PROGRESS

Table 4: Report on progress [a,b]							
	Unit	Base year (1990)	2010	2011	2012	2013	2014
Total (without LULUCF) ④	kt CO_2 eq	5,749,640.49	4,918,070.52	4,766,280.43	4,696,970.56	4,610,953.15	NA
Contribution from LULUCF [c] ①	kt CO_2 eq						
Market-based mechanisms under the Convention ②	number of units						
	kt CO_2 eq						
Other market-based mechanisms ③	number of units						
	kt CO_2 eq						

Note: Parties may add additional columns for years other than those specified below.

Abbreviation: GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

[a] Reporting by a developed country Party on the information specified in the common tabular format does not prejudge the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

[b] For the base year, information reported on the emission reduction target shall include the following: (a) total GHG emissions, excluding emissions and removals from the LULUCF sector; (b) emissions and/or removals from the LULUCF sector based on the accounting approach applied taking into consideration any relevant decisions of the Conference of the Parties and the activities and/or land that will be accounted for; (c) total GHG emissions, including emissions and removals from the LULUCF sector. For each reported year, information reported on progress made towards the emission reduction targets shall include, in addition to the information noted in paragraphs 9(a–c) of the UNFCCC biennial reporting guidelines for developed country Parties, information on the use of units from market-based mechanisms.

[c] Information in this column should be consistent with the information reported in table 4(a)I or 4(a)II, as appropriate. The Parties for which all relevant information on the LULUCF contribution is reported in table 1 of this common tabular format can refer to table 1.

① Numbersfor LULUCF are not reported because this sector is not included under theConvention target of the EU.

② Market-based mechanismsunder the Convention: Notapplicable: Use of CER and ERU cannot be quantified at the time of reporting.

③ No"other" market-based mechanisms are in use.

④ Total (without LULUCF): Total GHG emissions (except NF3), including domestic and international aviation, but excluding LULUCF, as reported to the UNFCCC in 2015. Thus no data for 2014 is available.

5. CTF TABLE 5: SUMMARY OF KEY VARIABLES AND ASSUMPTIONS USED IN THE PROJECTIONS ANALYSIS

Table 5: Summary of key variables and assumptions used in the projections analysis [a]

Key underlying assumptions	Unit	Historical [b]							Projected		
		1990	1995	2000	2005	2010	2011	2015	2020	2025	2030
Population	Million							508.95	512.83	514.67	516.36
International oil price	EUR (2010) / GJ							13.11	14.04	14.68	16.00
GDP	Bio. Euro (2010)							12.94	14.11	15.41	16.84
EU ETS carbon price	EUR (2010) / t CO2							7.52	10.93	17.08	27.86

Please, specify

[a] Parties should include key underlying assumptions as appropriate.

[b] Parties should include historical data used to develop the greenhouse gas projections reported.

EU-28 key parameters have been derived as weighted averages or sums of the values of projection key parameters as reported by Member States under the Monitoring Mechanism Regulation in 2015.

6. CTF TABLE 6: INFORMATION ON UPDATED GREENHOUSE GAS PROJECTIONS UNDER A 'WITH MEASURES' SCENARIO

	1990	1995	2000	2005	2010	2013	2015	2020	2025	2030
History										
Mt CO_2equivalent										
Total GHG emissions (excl. LULUCF; excl. International aviation)	**5680**	**5322**	**5177**	**5224**	**4786**	**4477**				
By sector										
Energy	3570	3248	3097	3141	2859	2637				
Transport	786	840	921	974	939	887				
Industry/industrial processes	511	491	443	449	376	360				
Agriculture	569	495	481	455	442	441				
Waste management/waste	244	248	235	205	170	152				
By gas										
CH_4 emissions excluding CH_4 from LULUCF	744	673	613	547	489	463				
CO_2 emissions excluding net CO_2 from LULUCF	4460	4201	4162	4286	3934	3650				
N_2O emissions excluding N_2O from LULUCF	405	366	325	304	257	251				
Total F-Gases (excl. NF_3)	71	82	77	87	106	114				
Memo items										
Memo item: international aviation	*70*	*86*	*116*	*132*	*132*	*134*				
Memo item: international navigation	*109*	*110*	*133*	*162*	*157*	*140*				
With existing measures' scenario										
Mt CO_2equivalent										
Total GHG emissions (excl. LULUCF; excl. International aviation)							**4445**	**4228**	**4108**	**4034**
By sector										
Energy							2594	2400	2299	2224
Transport							895	885	878	889
Industry/industrial processes							364	363	356	348
Agriculture							445	449	453	458
Waste management/waste							146	132	121	115
By gas										
CH_4 emissions excluding CH_4 from LULUCF							457	440	427	418
CO_2 emissions excluding net CO_2 from LULUCF							3607	3414	3316	3259
N_2O emissions excluding N_2O from LULUCF							268	270	272	275
Total F-Gases (excl. NF_3)							109	103	90	80
Memo items										
Memo item: international aviation							*139*	*153*	*165*	*176*
Memo item: international navigation							*151*	*153*	*154*	*155*

Note: The EU's greenhouse gas projection is the result of an aggregation of Member States individual GHG projections. Member States had to submit these projections under the MMR in March 2015. The preparation of the projections takes considerable time. It is therefore likely that the F-Gas Regulation which was adopted in 2014 could not be considered within individual greenhouse gas projections. Therefore its anticipated effects are not completely reflected in the EU's greenhouse gas projection

7. CTF TABLE 7. PROVISION OF PUBLIC FINANCIAL SUPPORT: SUMMARY INFORMATION.

Table 7. Provision of public financial support: summary information. [a]

Allocation channels	European euro - EUR					USD [b]				
		Climate-specific [d]					Climate-specific [d]			
	Core/general [c]	Mitigation	Adaptation	Cross-cutting [e]	Other	Core/general [c]	Mitigation	Adaptation	Cross-cutting [e]	Other
2013										
Total contributions through multilateral channels										
Multilateral climate change funds [g]										
Other multilateral climate change funds [h]										
Multilateral financial institutions, including regional development banks										
Specialized United Nations bodies										
Total contributions through bilateral, regional and other channels		2,166,495,503.58	340,596,200.00	503,699,200.00			2,877,106,028.75	452,310,425.60	668,912,537.60	
Total		2,166,495,503.58	340,596,200.00	503,699,200.00			2,877,106,028.75	452,310,425.60	668,912,537.60	
2014										
Total contributions through multilateral channels										
Multilateral climate change funds [g]										
Other multilateral climate change funds [h]										
Multilateral financial institutions, including regional development banks										
Specialized United Nations bodies										
Total contributions through bilateral, regional and other channels		2,200,995,253.08	206,130,496.00	368,335,952.63			2,918,519,705.59	273,329,037.70	488,413,473.19	
Total		2,200,995,253.08	206,130,496.00	368,335,952.63			2,918,519,705.59	273,329,037.70	488,413,473.19	

Each Party shall provide an indication of what new and additional financial resources they have provided, and clarify how they have determined that such resources are new and additional. Please provide this information in relation to table 7(a) and table 7(b).

Documentation box:

The financial resources reported in this Biennial Report are considered to be "new and additional resources" meaning that they were committed after and not included in the previous national communication or biennial report. As per recommendation of the ERT, it is further stated that the EU budgets are determined on an annual basis so that each annual commitment cycle represents new and additional resources.

8. CTF TABLE 7B: PROVISION OF PUBLIC FINANCIAL SUPPORT: CONTRIBUTION THROUGH BILATERAL, REGIONAL AND OTHER CHANNELS IN 2013

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
Bilateral, non allocated	53 320 000,00	70 808 960,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Multisector aid EU Budget contribution to the NIF (2011-2013) - ENPI South Region
South Africa	40 000 000,00	53 120 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Multisector aid Infrastructure Investment Programme for South Africa (IIPSA)
Europe	30 880 000,00	41 008 640,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Multisector aid EU Budget contribution to the NIF (2011-2013) - ENPI East Region
Morocco	24 000 000,00	31 872 000,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural policy and administrative management Support programme for agricultural policy in Morocco, phase 2 (AGRI II)
Africa - South Sahara, regional	60 000 000,00	79 680 000,00	Committed	ODA	Grant	Adaptation	cross-cutting	Disaster prevention and preparedness Building Resilience of African Nations and Communities to Disasters
Bilateral, non allocated	23 260 000,00	30 889 280,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural research Global Public Goods for Food and Nutrition Security: Support to International Agricultural Research for Development
Africa - South Sahara, regional	22 400 000,00	29 747 200,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural policy and administrative management « Stock CEDEAO », covering the first 3 components of the support project for storing food security in West Africa between the EU and the Economic Community of West African States (CEDEAO) (ROC/FED/24-947)
Bilateral, non allocated	22 000 000,00	29 216 000,00	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources Second global committment for the energy Facility Call for Proposals
Ethiopia	20 000 000,00	26 560 000,00	Committed	ODA	Grant	Adaptation	cross-cutting	Rural development SHARE Ethiopia - Accelerating Resilience Capacity (ARC)
America	19 800 000,00	26 294 400,00	Committed	ODA	Grant	Mitigation	cross-cutting	Multisector aid Latin America Investment Facility 2009 - LAIF
Kenya	16 000 000,00	21 248 000,00	Committed	ODA	Grant	Adaptation	cross-cutting	Rural development SHARE Kenya
Oceania	35 500 000,00	47 144 000,00	Committed	ODA	Grant	Cross-cutting	energy	Energy policy and administrative management Adapting to Climate Change and Sustainable Energy (ACSE)
Kenya	31 000 000,00	41 168 000,00	Committed	ODA	Grant	Cross-cutting	water and sanitation	Water resources policy and administrative management Water Tower Protection and Climate Change Mitigation and Adaptation Programme
Guyana	12 080 000,00	16 042 240,00	Committed	ODA	Grant	Adaptation	cross-cutting	Multisector aid 10th EDF Contribution to the Caribbean Facility (CIF), earmarked for Guyana
Bilateral, non allocated	12 000 000,00	15 936 000,00	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources Action fiche for budget increase and re-allocation of the 10th EDF ACP-EU Energy Facility
Africa - South Sahara, regional	12 000 000,00	15 936 000,00	Committed	ODA	Grant	Mitigation	energy	Electrical transmission/ distribution Western African Power Pool Information and Coordination Centre
Asia	12 000 000,00	15 936 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Multisector aid Asian Investment facility
Bilateral, non allocated	29 000 000,00	38 512 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Urban development and management Regional Programme in the Neighbourhood East for Sustainable Urban Demonstration Projects (SUDeP)
Nigeria	10 800 000,00	14 342 400,00	Committed	ODA	Grant	Cross-cutting	energy	Energy policy and administrative management Access to Sustainable Energy in Nigeria
Bilateral, non allocated	10 120 000,00	13 439 360,00	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management ACP-EU Energy Facility under the 10th EDF - replenishment 2012
Bilateral, non allocated	10 000 000,00	13 280 000,00	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources ACP-EU Energy Facility under the 10th EDF - replenishment 2012
Burkina Faso	25 000 000,00	33 200 000,00	Committed	ODA	Grant	Mitigation	energy	Solar energy Producing photovoltaic solar for Zagtouli
Central Asia	8 226 800,00	10 925 190,40	Committed	ODA	Grant	Mitigation	cross-cutting	Multisector aid Investment Facility for Central Asia 2013 (IFCA)
West Bank and Gaza Strip	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Adaptation	water and sanitation	Sanitation - large systems Sewerage Nablus East
Egypt	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Mitigation	water and sanitation	Waste management/disposal

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
								National Solid Waste Management Programme
Africa - South Sahara, regional	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural land resources Action Against Desertification
Africa - South Sahara, regional	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Adaptation	agriculture	Food crop production Addressing food security for the poor and vulnerable in fragile situations: Call for proposals for Central African Republic, Sudan, South Sudan
Madagascar	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Adaptation	forestry	Fuelwood/charcoal Support programme for agroforestry around 'Antananarivo
Bilateral, non allocated	20 000 000,00	26 560 000,00	Committed	ODA	Grant	Adaptation	other	Disaster prevention and preparedness ACP-EU Natural Disaster Risk Reduction Programme
West Indies	20 000 000,00	26 560 000,00	Committed	ODA	Grant	Adaptation	other	Disaster prevention and preparedness ACP-EU Natural Disaster Risk Management in the CARIFORUM
Africa - South Sahara, regional	7 800 000,00	10 358 400,00	Committed	ODA	Grant	Mitigation	cross-cutting	Site preservation Public-Private Partnership: a mechanism to fulfill the mandates for conservation, development and poverty reduction in and around protected priority areas in Central Africa
Africa - South Sahara, regional	7 600 000,00	10 092 800,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management SWITCH AFRICA GREEN
Solomon Islands	6 960 000,00	9 242 880,00	Committed	ODA	Grant	Adaptation	water and sanitation	Basic drinking water supply and basic sanitation Improving governance and access to Water, Sanitation and Hygiene promotion (WASH) for rural people
Senegal	6 960 000,00	9 242 880,00	Committed	ODA	Grant	Adaptation	cross-cutting	Urban development and management Sanitation and urban restructuring in Hann and Petit Mbao
Bilateral, non allocated	6 800 000,00	9 030 400,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management Switch MED demonstration projects and networking component
Macedonia (Former Yugoslav Republic of)	6 200 000,00	8 233 600,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Rural development Improvement and development of rural infrastructure (with WB)
Benin	6 000 000,00	7 968 000,00	Committed	ODA	Grant	Mitigation	transport	Rail transport Strengthening transport services on the axis Benin/Niger - Part of institutional strengthening
Bilateral, non allocated	6 000 000,00	7 968 000,00	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management Support to rural electrification in the context of EU Sustainable Energy for All (SE4All) funded initiatives
Guyana	14 800 000,00	19 654 400,00	Committed	ODA	Grant	Adaptation	cross-cutting	Flood prevention/control Sea and River Defence Sector Budget Support Programme
Serbia	5 707 600,00	7 579 692,80	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management
Africa - South Sahara, regional	5 600 000,00	7 436 800,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural research FSTP AAP 2013 first batch - Support to Forum for Agricultural Research in Africa –FARA (Medium Term Operational Plan 2014/2018)(CRIS/2013/318-401)
Turkey	13 950 000,00	18 525 600,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Capacity Building in the Field of Climate Change in Turkey
Ukraine	5 200 000,00	6 905 600,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management Non-substantial increase of Ukraine 2013 Annual Action Programme
Saint Kitts et Nevis	5 105 200,00	6 779 705,60	Committed	ODA	Grant	Cross-cutting	cross-cutting	Multisector aid National Social and Economic Transformation Programme - AAP 2012
Serbia	5 060 000,00	6 719 680,00	Committed	ODA	Grant	Adaptation	cross-cutting	Environmental policy and administrative management Environment and Climate Change Sector
Africa - South Sahara, regional	12 324 341,38	16 366 725,35	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources ACP EU Energy facility under the 10 th EDF
Serbia	4 452 000,00	5 912 256,00	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management
Africa - North Sahara, regional	10 500 000,00	13 944 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Urban development and management Regional Programme in the Neighbourhood for Sustainable Urban Demonstration Projects (SUDeP) -Southern Part
Moldova, Republic of	4 000 000,00	5 312 000,00	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management EaPIC Moldova – Scale-up of Support to the Reform of the Energy Sector
Bilateral, non allocated	10 000 000,00	13 280 000,00	Committed	ODA	Grant	Cross-cutting	energy	Environmental policy and administrative management Supporting more ambitious Low-Emission Development pathways in key developing countries by promoting international cooperative initiatives to reduce greenhouse gas emissions through improvements in energy efficiency

Recipient country/ region/project/programme	Total amount Climate-specific		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	European euro - EUR	USD						
								policies and reforming energy subs
Moldova, Republic of	3 784 000,00	5 025 152,00	Committed	ODA	Grant	Mitigation	energy	Biomass EaPIC Moldova – Scale-up of Support to the use of biomass for energy
Haiti	3 720 000,00	4 940 160,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Urban development and management Rehabilitation of neigbourhoods to facilitate the return of people displaced by the quake and support for reparing/constructing damaged/destroyed houses
Kazakhstan	3 520 000,00	4 674 560,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Supporting Kazakhstan's Green Economy Strategy
Djibouti	3 200 000,00	4 249 600,00	Committed	ODA	Grant	Adaptation	water and sanitation	Water supply - large systems Initiative Supporting Horn of Africa's Resilience - Improving access to clean water in peri-urban areas in Djibouti and three main regional places and preparatory studiy for an intervention in the rural area
Bolivia	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Cross-cutting	water and sanitation	River development Sectoral support for the National Basin Plan II
Albania	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Sector Programme on Environment and Climate Change
Malawi	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Global Climate Change Alliance - Malawi
Tanzania	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Integrated Approaches for Climate Change Adaptation
Tchad	8 000 000,00	10 624 000,00	Committed	ODA	Grant	Cross-cutting	energy	Environmental policy and administrative management GCCA in Tchad; adaptation to the effects of climate change and renewable energy development
Africa - South Sahara, regional	3 000 000,00	3 984 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Phase II: Support Programme for the Implementation of the Mauritius Strategy for Small Island Developing States of the Eastern and Southern Africa - Indian Ocean region
Namibia	7 100 000,00	9 428 800,00	Committed	ODA	Grant	Cross-cutting	water and sanitation	Rural development Local Call for Proposals: Climate Change Adaptation and Mitigation, including renewable energy
America	7 000 000,00	9 296 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Water resources policy and administrative management Regional Project of Watershed and Coastal Management in the context of Climate Change in Latin America and Caribbean (WATERCLIMA-LAC)
Bilateral, non allocated	2 800 000,00	3 718 400,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	2012-2013 ENRTP: The projects under this title concentrate on challenges associated with rapidly degrading key ecosystems, the links between forests and climate change and efforts to improve forest governance and combat illegal logging and associated trade. Priorities include REDD+ Actions and good governance in forest and climate policies. Geographical scope: Africa
Ghana	2 800 000,00	3 718 400,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management Ghana - Natural Resource and Environmental Governance (NREG) SPSP
Africa	6 750 000,00	8 964 000,00	Committed	ODA	Grant	Adaptation	cross-cutting	Environmental policy and administrative management Project FLEUVE: Local Environmental Front for a Green Union
Bilateral, non allocated	6 500 000,00	8 632 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management Capacity building for CO2 mitigation from international aviation.
Lebanon	2 400 000,00	3 187 200,00	Committed	ODA	Grant	Mitigation	water and sanitation	Basic drinking water supply and basic sanitation Stimulating Sustainable Growth and Job Opportunities in Lebanon
Africa - North Sahara, regional	6 000 000,00	7 968 000,00	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management Sustainable Electricity for the Mediterranean
Madagascar	2 400 000,00	3 187 200,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural development Improved Food Security and increase in agricultural revenue (ASARA)
Djibouti	2 400 000,00	3 187 200,00	Committed	ODA	Grant	Adaptation	agriculture	Livestock Supporting Horn of Africa's Resilience - Securing Pastoral Systems (PSSP) in Djibouti
Haiti	6 000 000,00	7 968 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management GCCA –- Support for the consideration of climate change in the national development of Haiti
Asia	2 200 000,00	2 921 600,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management SWITCH-Asia Policy Support Component
Europe	2 200 000,00	2 921 600,00	Committed	ODA	Grant	Adaptation	other	Disaster prevention and preparedness Prevention Preparedness and Response to natural and man-made Disasters in

Recipient country/ region/project/programme	Total amount Climate-specific		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	European euro - EUR	USD						
								EaP East - PPRD East II
Ethiopia	2 120 000,00	2 815 360,00	Committed	ODA	Grant	Adaptation	cross-cutting	Food aid/food security programmes Support to the productive safety net programme of Ethiopia (PSNP)
Jordan	5 000 000,00	6 640 000,00	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources Renewable Energy and Energy Efficiency Programme in Jordan
Congo (Democratic Republic of the)	2 000 000,00	2 656 000,00	Committed	ODA	Grant	Mitigation	energy	Electrical transmission/ distribution Electrification Project Goma, DRC
Liberia	2 000 000,00	2 656 000,00	Committed	ODA	Grant	Cross-cutting	forestry	Forestry policy and administrative management Support to VPA implementation in Liberia
Europe	5 000 000,00	6 640 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Environment and Climate Regional Accession Network (ECRAN)
Tunisia	2 000 000,00	2 656 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management Support to local environmental governance of industrial activity in Gabes.
South America	2 000 000,00	2 656 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Bio-diversity Support to the implementation of the Amazon Conservation Vision
Bhutan	1 840 000,00	2 443 520,00	Committed	ODA	Grant	Adaptation	cross-cutting	Agricultural policy and administrative management Technical Cooperation Project in support of the Renewable Natural Resources Sector Bhutan
Africa - South Sahara, regional	1 600 000,00	2 124 800,00	Committed	ODA	Grant	Adaptation	agriculture	Water resources policy and administrative management Water for growth and poverty reduction in the Mekrou transboundary river basin
Oceania	1 600 000,00	2 124 800,00	Committed	ODA	Grant	Adaptation	cross-cutting	Democratic participation and civil society Strenghtening Non State Actor Engagement in Regional Policy Development
Jordan	4 000 000,00	5 312 000,00	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources Capacity-Building in Wind Energy and Concentrating Solar Power (CSP) in Jordan
Bilateral, non allocated	1 600 000,00	2 124 800,00	Committed	ODA	Grant	Mitigation	forestry	Forestry policy and administrative management Independent timber Market Monitoring: analysis of the reception of FLEGT licensed timber on the EU market as framed by FLEGT Voluntary Partnership Agreements
Maldives	4 000 000,00	5 312 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Good Governance in the areas of Climate Change and Drugs in the Maldives 2011 - 2013
Mauritania	4 000 000,00	5 312 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management GCCA - Mauritanie
Myanmar	4 000 000,00	5 312 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Myanmar Climate Change Alliance
Haiti	1 450 000,00	1 925 600,00	Committed	ODA	Grant	Mitigation	cross-cutting	Trade facilitation Binational cooperation programme: support for binational cooperation in the areas of trade, environment and local cross-border development
Europe	1 425 902,80	1 893 598,92	Committed	ODA	Grant	Mitigation	cross-cutting	Multisector aid CBC - Black Sea Basin - Tranche 2008
Congo (Democratic Republic of the)	1 344 000,00	1 784 832,00	Committed	ODA	Grant	Mitigation	forestry	Bio-diversity Support national conservation policy and forest and biodiversity management
Kiribati	1 320 000,00	1 752 960,00	Committed	ODA	Grant	Adaptation	water and sanitation	Basic drinking water supply and basic sanitation Water and sanitation in Kiribati Outer Islands - Phase II
Bilateral, non allocated	1 300 000,00	1 726 400,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural financial services Platform for Agricultural Risk Management - PARM
Asia	1 280 000,00	1 699 840,00	Committed	ODA	Grant	Mitigation	industry	Industrial development SWITCH Asia – Access to Finance for Sustainable Consumption and Production
Tanzania	1 200 000,00	1 593 600,00	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources Zanzibar Renewable Energies and Ennergy Efficiency
Bilateral, non allocated	3 000 000,00	3 984 000,00	Committed	ODA	Grant	Cross-cutting	industry	Environmental policy and administrative management Maximising the climate benefits of the HCFC phase-out
Comoros	3 000 000,00	3 984 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management GCCA - Support programme to the Union of Comoros to strengthen resilience to climate change
Djibouti	3 000 000,00	3 984 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management GCCA Djibouti

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
Sao Tome and Principe	3 000 000,00	3 984 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management GCCA - Reduction of climate vulnerability in São Tomé et Príncipe
Cook Islands	1 020 000,00	1 354 560,00	Committed	ODA	Grant	Cross-cutting	water and sanitation	Water supply and sanitation - large systems Cook Islands Sanitation Sector Reform Contract
Macedonia (Former Yugoslav Republic of)	2 185 000,00	2 901 680,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management SF - Environment and Climate Change
Samoa (Occidental)	865 200,00	1 148 985,60	Committed	ODA	Grant	Adaptation	water and sanitation	Water resources policy and administrative management Fiji-Samoa-Water and Sanitation Sector Policy Support Programme Phase II & MDG Initiative
Turkey	2 149 000,00	2 853 872,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Capacity Building on the European Pollutant Release and Transfer Register (E_PRTR) in Turkey
Central Asia	2 000 000,00	2 656 000,00	Committed	ODA	Grant	Cross-cutting	water and sanitation	Water resources policy and administrative management Regional coordination and support for the EU-CA enhanced regional coopeartion on Environment and Water: WECOOP II
Bolivia	800 000,00	1 062 400,00	Committed	ODA	Grant	Adaptation	water and sanitation	Basic drinking water supply and basic sanitation Support programme for the sector development plan for the basic sanitation of rural areas
Bilateral, non allocated	800 000,00	1 062 400,00	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management Support to Sustainable Energy for all activities via the Investment Facility for Central Asia, the Neighbourhood Investment Facility, the Asia Investment Facility, the Latin America Investment Facility and the Technical Assistance Facility
Macedonia (Former Yugoslav Republic of)	800 000,00	1 062 400,00	Committed	ODA	Grant	Cross-cutting	water and sanitation	Agricultural water resources Development of small-scale irrigation
Albania	800 000,00	1 062 400,00	Committed	ODA	Grant	Mitigation	cross-cutting	Small and medium-sized enterprises (sme) development EBRD small business instruments - Enterprise Growth Programme and Business Advisory Services
Europe	800 000,00	1 062 400,00	Committed	ODA	Grant	Cross-cutting	other	Flood prevention/control Prevention, preparedness and response to floods in the Western Balkans and Turkey
Guinea-Bissau	600 000,00	796 800,00	Committed	ODA	Grant	Mitigation	water and sanitation	Basic drinking water supply and basic sanitation Support project for the water sector and solar village water PAE-HVS 10EME FED
America	1 450 000,00	1 925 600,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management EUROCLIMA - Second phase
Marshall Islands	420 000,00	557 760,00	Committed	ODA	Grant	Mitigation	energy	Solar energy North Pacific ACP Renewable Energy and Energy Efficiency Programme (North Rep)
Albania	340 000,00	451 520,00	Committed	ODA	Grant	Adaptation	cross-cutting	Democratic participation and civil society Cross-border co-operation programme Albania - Montenegro (2013 - AL part)
Central African Republic	320 000,00	424 960,00	Committed	ODA	Grant	Mitigation	cross-cutting	Bio-diversity Support the national policy for security reform and support to ZCV
Albania	240 000,00	318 720,00	Committed	ODA	Grant	Adaptation	cross-cutting	Democratic participation and civil society Cross-border Co-operation Programme Albania - Kosovo (2013 - AL part)
Malaysia	200 000,00	265 600,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Switch Asia - Policy support component Malaysia
Niue	120 000,00	159 360,00	Committed	ODA	Grant	Mitigation	energy	Solar energy Renewable Energy and Energy Efficiency for Niue
Bilateral, non allocated	93 060,40	123 584,21	Committed	ODA	Grant	Mitigation	forestry	Forestry policy and administrative management Establishment of a forestry research network for ACP countries
Tanzania / EIB	2 600 000,00	3 452 800,00	Committed	other	other	Mitigation	forestry	Fund targeting forestry assets mainly in Europe
Indonesia / EIB	3 400 000,00	4 515 200,00	Committed	other	other	Mitigation	forestry	Fund targeting forestry assets mainly in Europe
Brazil / EIB	3 000 000,00	3 984 000,00	Committed	other	other	Mitigation	forestry	Fund targeting forestry assets mainly in Europe
Ukraine / EIB	3 000 000,00	3 984 000,00	Committed	other	other	Mitigation	forestry	Fund targeting forestry assets mainly in Europe
India / EIB	150 000 000,00	199 200 000,00	Committed	other	other	Mitigation	energy	Framework Loan supporting renewable energy and energy efficiency investment projects that contribute to climate change mitigation.
Nepal / EIB	62 293 881,00	82 726 273,97	Committed	other	other	Mitigation	energy	The project comprises the construction and operation of a 140 MW storage hydroelectric power scheme and its interconnection to the national grid. It is designed to help meet peak electricity demand in Nepal during the dry winter

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
								months and to operate as a baseload plant during the remainder of the year. In addition, it will provide an alternative to expensive fossil-fuel based power generation with cleaner energy, help stabilise Nepal's power supply system and reduce transmission losses.
Armenia / EIB	5 000 000,00	6 640 000,00	Committed	other	other	Mitigation	transport	Emergency investments in Yerevan Metro, covering immediate rehabilitation needs, including security upgrades.
Turkey / EIB	200 000 000,00	265 600 000,00	Committed	other	other	Mitigation	transport	Construction of 478 km of double track electrified railway high speed line for passenger traffic between Gebze (44 km east of Istanbul) and Ankara– Tranche B
Africa - Regional / EIB	1 000 000,00	1 328 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Africa - Regional / EIB	1 000 000,00	1 328 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Africa - Regional / EIB	1 000 000,00	1 328 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Africa - Regional / EIB	1 000 000,00	1 328 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Africa - Regional / EIB	6 000 000,00	7 968 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Asia - Regional / EIB	500 000,00	664 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Asia - Regional / EIB	500 000,00	664 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Asia - Regional / EIB	500 000,00	664 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Asia - Regional / EIB	500 000,00	664 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Asia - Regional / EIB	3 000 000,00	3 984 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Latin America - Regional / EIB	1 000 000,00	1 328 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Latin America - Regional / EIB	1 000 000,00	1 328 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Latin America - Regional / EIB	1 000 000,00	1 328 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Latin America - Regional / EIB	1 000 000,00	1 328 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Latin America - Regional / EIB	6 000 000,00	7 968 000,00	Committed	other	other	Mitigation	forestry	Innovative pilot fund for forest based carbon and other environmentally certified credits, aiming to protect the environment and reduce carbon emissions through sustainable land use and conservation of primary forest.
Turkey / EIB	50 000 000,00	66 400 000,00	Committed	other	other	Mitigation	energy	Framework loan to support Energy Efficiency projects, and to a lesser extent, Renewable Energy projects, across Turkey in co-financing with EBRD.
India / EIB	12 000 000,00	15 936 000,00	Committed	other	other	Mitigation	energy	Framework Loan supporting renewable energy and energy efficiency investments that contribute to climate change mitigation. The operation is expected to finance mainly wind, solar, hydropower and high efficiency cogeneration projects.

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
India / EIB	12 000 000,00	15 936 000,00	Committed	other	other	Mitigation	energy	Framework Loan supporting renewable energy and energy efficiency investments that contribute to climate change mitigation. The operation is expected to finance mainly wind, solar, hydropower and high efficiency cogeneration projects.
India / EIB	12 000 000,00	15 936 000,00	Committed	other	other	Mitigation	energy	Framework Loan supporting renewable energy and energy efficiency investments that contribute to climate change mitigation. The operation is expected to finance mainly wind, solar, hydropower and high efficiency cogeneration projects.
India / EIB	4 000 000,00	5 312 000,00	Committed	other	other	Mitigation	energy	Framework Loan supporting renewable energy and energy efficiency investments that contribute to climate change mitigation. The operation is expected to finance mainly wind, solar, hydropower and high efficiency cogeneration projects.
Turkey / EIB	99 388 379,00	131 987 767,31	Committed	other	other	Mitigation	energy	The proposed facility is a Framework Loan to finance renewable energy and energy efficiency projects in Turkey.
Central America - Regional / EIB	148 793 750,00	197 598 100,00	Committed	other	other	Mitigation	energy	The Framework Loan will support renewable energy and energy efficiency projects in Honduras, Nicaragua, El Salvador, Guatemala, Costa Rica and Panama. The majority of the projects are expected to be hydropower, wind, geothermal and photovoltaic.
Central America - Regional / EIB	17 456 250,00	23 181 900,00	Committed	other	other	Mitigation	energy	The Framework Loan will support renewable energy and energy efficiency projects in Honduras, Nicaragua, El Salvador, Guatemala, Costa Rica and Panama. The majority of the projects are expected to be hydropower, wind, geothermal and photovoltaic.
Central America - Regional / EIB	8 750 000,00	11 620 000,00	Committed	other	other	Mitigation	energy	The Framework Loan will support renewable energy and energy efficiency projects in Honduras, Nicaragua, El Salvador, Guatemala, Costa Rica and Panama. The majority of the projects are expected to be hydropower, wind, geothermal and photovoltaic.
Ukraine / EIB	152 000 000,00	201 856 000,00	Committed	other	other	Mitigation	transport	The project consist of extending the existing metro line in Dnipropetrovsk by 4.0 kilometres and adding 3 stations. This would bring the metro service to the city centre to serve areas of high urban density and activity.
South Africa / EIB	110 000 000,00	146 080 000,00	Committed	other	other	Mitigation	energy	The project concerns the construction and operation of a greenfield concentrated solar power (CSP) plant with 100 MW of installed power generating capacity.
South Africa / EIB	120 000 000,00	159 360 000,00	Committed	other	other	Mitigation	energy	Framework loan to be made available to several financial intermediaries for the funding of affordable and social housing projects and associated urban infrastructure, including social amenities, throughout South Africa.
Sri Lanka / EIB	8 100 000,00	10 756 800,00	Committed	other	other	Mitigation	energy	Global loan to finance SMEs (about 70% of the GL) and renewable energy and energy efficiency investments (about 30% of the total) in Sri Lanka
Sri Lanka / EIB	18 900 000,00	25 099 200,00	Committed	other	other	Mitigation	energy	Global loan to finance SMEs (about 70% of the GL) and renewable energy and energy efficiency investments (about 30% of the total) in Sri Lanka
Bangladesh / EIB	82 000 000,00	108 896 000,00	Committed	other	other	Mitigation	energy	The project consists of the conversion of 3 natural gas fired open cycle power units to combined cycle mode of operation by the addition of heat recovery boilers and steam turbines. The conversion will result in efficiency improvements of the order of 75% and capacity increase of a 50% order, without any increase in the amount of fuel used.
Pakistan / EIB	100 000 000,00	132 800 000,00	Committed	other	other	Mitigation	energy	Keyal Khwar Hydropower comprises a medium-sized (122 MW) run-of-river hydropower plant with a small 1.5 ha reservoir for daily regulation (dam height of 38m). It is located on a tributary of the Indus River in northern Pakistan. This operation is proposed for co-financing with KfW as Lead Financier under the Mutual Reliance Initiative (MRI).
Jordan / EIB	52 958 900,00	70 329 419,20	Committed	other	other	Mitigation	energy	The project concerns the development, construction and operation of a 117 MW wind farm as well as the associated electrical facilities in the Tafila Governorate in Jordan. This is the first large on-shore wind farm in Jordan and thus it will contribute defining the framework for the future development of this sector in Jordan.
Costa Rica / EIB	51 786 639,00	68 772 656,59	Committed	other	other	Mitigation	energy	The project consists of the extension of a geothermal power plant in Costa Rica.
Turkey / EIB	75 000 000,00	99 600 000,00	Committed	other	other	Cross-cutting	forestry	Supporting forest rehabilitation, afforestation and erosion control activities in Turkey during the period 2014-15 through the Ministry of Forestry and Water Works.

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
Turkey / EIB	75 000 000,00	99 600 000,00	Committed	other	other	Cross-cutting	forestry	Supporting forest rehabilitation, afforestation and erosion control activities in Turkey during the period 2014-15 through the Ministry of Forestry and Water Works.
Albania / EIB	1 875 000,00	2 490 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Macedonia (Former Yugoslav Republic of) / EIB	625 000,00	830 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Montenegro / EIB	1 250 000,00	1 660 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Serbia / EIB	2 500 000,00	3 320 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Turkey / EIB	2 500 000,00	3 320 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Bosnia and Herzegovina / EIB	1 250 000,00	1 660 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Armenia / EIB	3 750 000,00	4 980 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Azerbaijan / EIB	1 250 000,00	1 660 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Georgia / EIB	3 750 000,00	4 980 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Moldova, Republic of / EIB	1 250 000,00	1 660 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Ukraine / EIB	2 500 000,00	3 320 000,00	Committed	other	other	Mitigation	energy	Increase of EIB investment in the Green for Growth Fund, targeting energy efficiency and smaller renewable energy investments within the South-Eastern Europe region and in the Eastern Neighbourhood region.
Africa - Regional / EIB	3 030 000,00	4 023 840,00	Committed	other	other	Mitigation	energy	The Global Energy Efficiency and Renewable Energy Fund ("GEEREF") is an emerging market infrastructure fund-of-funds. GEEREF invests in funds that target projects and companies involved in energy efficiency and renewable energy which enhance access to clean energy in developing countries and economies in transition. Geographical focus is Sub-Saharan Africa; East and South Asia as well as the Pacific; non-EU Eastern Europe, Russia and Central Asia; Latin America and the Caribbean; Middle East and North Africa. GEEREF is advised by EIF with EIB acting as sub-adviser.
Asia - Regional / EIB	3 030 000,00	4 023 840,00	Committed	other	other	Mitigation	energy	The Global Energy Efficiency and Renewable Energy Fund ("GEEREF") is an emerging market infrastructure fund-of-funds. GEEREF invests in funds that target projects and companies involved in energy efficiency and renewable energy which enhance access to clean energy in developing countries and economies in transition. Geographical focus is Sub-Saharan Africa; East and South Asia as well as the Pacific; non-EU Eastern Europe, Russia and Central Asia; Latin America and the Caribbean; Middle East and North Africa. GEEREF is advised by EIF with EIB acting as sub-adviser.
Latin America - Regional / EIB	3 030 000,00	4 023 840,00	Committed	other	other	Mitigation	energy	The Global Energy Efficiency and Renewable Energy Fund ("GEEREF") is an emerging market infrastructure fund-of-funds. GEEREF invests in funds that target projects and companies involved in energy efficiency and renewable energy which enhance access to clean energy in developing countries and economies in transition. Geographical focus is Sub-Saharan Africa; East and South Asia as well as the Pacific; non-EU Eastern Europe, Russia and Central Asia; Latin America and the Caribbean; Middle East and North Africa. GEEREF is advised by EIF with EIB acting as sub-adviser.
Eastern Europe, Russia, South	1 010 000,00	1 341 280,00	Committed	other	other	Mitigation	energy	The Global Energy Efficiency and Renewable Energy Fund ("GEEREF") is an

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
Caucasus - Regional / EIB								emerging market infrastructure fund-of-funds. GEEREF invests in funds that target projects and companies involved in energy efficiency and renewable energy which enhance access to clean energy in developing countries and economies in transition. Geographical focus is Sub-Saharan Africa; East and South Asia as well as the Pacific; non-EU Eastern Europe, Russia and Central Asia; Latin America and the Caribbean; Middle East and North Africa. GEEREF is advised by EIF with EIB acting as sub-adviser.
Tanzania / EIB	22 500 000,00	29 880 000,00	Committed	other	other	Adaptation	water and sanitation	The project consists of the extension and upgrading of water supply and sanitation in Mwanza and satellite towns, including peri-urban sanitation, as well as sanitation in the towns of Musoma and Bukoba.
Kazakhstan / EIB	14 250 000,00	18 924 000,00	Committed	other	other	Mitigation	energy	A dedicated EIB loan to finance projects promoted by SMEs and Mid-Caps in Kazakhstan. Projects in fields considered as priority under the Mandate (i.e. local private sector development, development of social and economic infrastructure, and climate change mitigation and adaptation) carried out by eligible promoters of any size can also be funded, provided that financing thereto does not exceed 30% of the overall EIB loan amount.
Kazakhstan / EIB	14 250 000,00	18 924 000,00	Committed	other	other	Mitigation	energy	A dedicated EIB loan to finance projects promoted by SMEs and Mid-Caps in Kazakhstan. Projects in fields considered as priority under the Mandate (i.e. local private sector development, development of social and economic infrastructure, and climate change mitigation and adaptation) carried out by eligible promoters of any size can also be funded, provided that financing thereto does not exceed 30% of the overall EIB loan amount.
Kazakhstan / EIB	35 000 000,00	46 480 000,00	Committed	other	other	Mitigation	energy	A dedicated EIB loan to finance projects promoted by SMEs and Mid-Caps in Kazakhstan. Projects in fields considered as priority under the Mandate (i.e. local private sector development, development of social and economic infrastructure, and climate change mitigation and adaptation) carried out by eligible promoters of any size can also be funded, provided that financing thereto does not exceed 30% of the overall EIB loan amount.
Kazakhstan / EIB	14 250 000,00	18 924 000,00	Committed	other	other	Mitigation	energy	A dedicated EIB loan to finance projects promoted by SMEs and Mid-Caps in Kazakhstan. Projects in fields considered as priority under the Mandate (i.e. local private sector development, development of social and economic infrastructure, and climate change mitigation and adaptation) carried out by eligible promoters of any size can also be funded, provided that financing thereto does not exceed 30% of the overall EIB loan amount.
Kazakhstan / EIB	35 000 000,00	46 480 000,00	Committed	other	other	Mitigation	energy	A dedicated EIB loan to finance projects promoted by SMEs and Mid-Caps in Kazakhstan. Projects in fields considered as priority under the Mandate (i.e. local private sector development, development of social and economic infrastructure, and climate change mitigation and adaptation) carried out by eligible promoters of any size can also be funded, provided that financing thereto does not exceed 30% of the overall EIB loan amount.
Kazakhstan / EIB	14 250 000,00	18 924 000,00	Committed	other	other	Mitigation	energy	A dedicated EIB loan to finance projects promoted by SMEs and Mid-Caps in Kazakhstan. Projects in fields considered as priority under the Mandate (i.e. local private sector development, development of social and economic infrastructure, and climate change mitigation and adaptation) carried out by eligible promoters of any size can also be funded, provided that financing thereto does not exceed 30% of the overall EIB loan amount.
Morocco / EIB	200 000 000,00	265 600 000,00	Committed	other	other	Mitigation	energy	Development of three wind farms as part of Phase II of the Integrated Wind Turbine Programme of the national office for electricity and portable water (ONEE) on the sites of Tanger II (150 MW), Midelt (100 MW) and Jbel Lahdid (Essaouira - 200 MW)

9. CTF TABLE 7B: PROVISION OF PUBLIC FINANCIAL SUPPORT: CONTRIBUTION THROUGH BILATERAL, REGIONAL AND OTHER CHANNELS IN 2014

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
Bilateral, non allocated	106 120 000,00	140 715 120,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Multisector aid Contribution from the 2014 General EU Budget to the NIF (Neighbourhood Investment Facility) SOUTH
Bilateral, non allocated	41 634 360,63	55 207 162,20	Committed	ODA	Grant	Cross-cutting	cross-cutting	Multisector aid Contribution 2014 to the NIF (Neighbourhood Investment Facility) for the EAST
Turkey	26 160 000,00	34 688 160,00	Committed	ODA	Grant	Mitigation	transport	Transport policy and administrative management Sustainable and safe transport
West Bank and Gaza Strip	15 000 000,00	19 890 000,00	Committed	ODA	Grant	Adaptation	water and sanitation	Sanitation - large systems Hebron Wastewater Treatment Plant (HWWTP)
Jordan	5 000 000,00	6 630 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Public sector policy and administrative management Support to the response to the Syria crisis in Jordan
Georgia	4 800 000,00	6 364 800,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural development ENPARD Georgia Topup
Europe	2 800 000,00	3 712 800,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Implementation of the Shared Environmental Information System principles and practices in the Eastern Partnership countries (SEIS East)
Africa	29 940 696,80	39 701 363,96	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources GPGC – Delivering access to modern, affordable and sustainable energy/renewable energy to 6 million people
Bilateral, non allocated	2 099 457,08	2 783 880,09	Committed	ODA	Grant	Mitigation	cross-cutting	Urban development and management Non-substantial modifications of Commission Implementing Decision C(2013)5300 on the ENPI East Regional Action Programme 2013
Serbia	24 800 000,00	32 884 800,00	Committed	ODA	Grant	Cross-cutting	other	Flood prevention/control Flood recovery and prevention
Turkey	12 548 000,00	16 638 648,00	Committed	ODA	Grant	Adaptation	water and sanitation	Water supply and sanitation - large systems
Bilateral, non allocated	65 000 000,00	86 190 000,00	Committed	ODA	Grant	Adaptation	cross-cutting	Food aid/food security programmes Pro-Resilience Action (PRO-ACT): building resilience through crisis prevention and post-crisis response strategy
Zambia	25 600 000,00	33 945 600,00	Committed	ODA	Grant	Mitigation	energy	Hydro-electric power plants Kariba Dam Rehabilitation
Africa - North Sahara, regional	1 866 250,00	2 474 647,50	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management Additional contribution to the project Energy Efficiency in the Construction Sector (MED ENEC II)
Philippines	60 000 000,00	79 560 000,00	Committed	ODA	Grant	Cross-cutting	energy	Energy policy and administrative management Access to Sustainable Energy in the Philippines
Europe	1 200 000,00	1 591 200,00	Committed	ODA	Grant	Mitigation	cross-cutting	Energy policy and administrative management Regional energy technical assistance project, working in the domains of electricity and gas, energy efficiency and sustainable energy, as well as energy statistics. Action location is Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.
Europe	1 200 000,00	1 591 200,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Sectors not specified CLIMA East: Supporting Climate Change Mitigation and Adaptation in ENP East countries and Russia
Serbia	4 000 000,00	5 304 000,00	Committed	ODA	Grant	Cross-cutting	other	Flood prevention/control Regional reconstruction and improvement of flood protection infrastructure in the Sava River Basin- Serbia part
Tajikistan	14 000 000,00	18 564 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Rural development Rural Development Programme I to Tajikistan
Montenegro	1 656 000,00	2 195 856,00	Committed	ODA	Grant	Mitigation	transport	Rail transport Rehabilitation of the rilway section Kos-trebesica
Burundi	12 200 000,00	16 177 200,00	Committed	ODA	Grant	Mitigation	energy	Power generation/renewable sources Amenagements hydroelectriques de Jiji et Mulembwe
Honduras	12 000 000,00	15 912 000,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural development

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
								Food Security, Nutrition and Resilience in the Dry Corridor (EUROSAN)
America	12 000 000,00	15 912 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Multisector aid Latin American Investment Facility 2014 - LAIF
Montenegro	760 000,00	1 007 760,00	Committed	ODA	Grant	Adaptation	cross-cutting	Environmental policy and administrative management Implementation of the Water Framework Directive and optimisation of the water supply
Turkey	596 000,00	790 296,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Environmental management for sustainable development
Asia	10 400 000,00	13 790 400,00	Committed	ODA	Grant	Mitigation	cross-cutting	Multisector aid Asian Investment Facility
Europe	560 000,00	742 560,00	Committed	ODA	Grant	Adaptation	cross-cutting	Multisector aid Cross-Border Cooperation Programme Serbia-Bosnia and Herzegovina
Bilateral, non allocated	10 000 000,00	13 260 000,00	Committed	ODA	Grant	Adaptation	cross-cutting	Food aid/food security programmes Resilience oriented information systems for improved decision making
Europe	476 000,00	631 176,00	Committed	ODA	Grant	Adaptation	cross-cutting	Multisector aid IPA II Cross-Border Co-operation Action Programme Montenegro-Albania for the year 2014
Asia	9 082 849,20	12 043 858,04	Committed	ODA	Grant	Mitigation	industry	Industrial development Switch Asia II - Promoting sustainable Consumption and Production
Bilateral, non allocated	8 441 196,00	11 193 025,90	Committed	ODA	Grant	Adaptation	agriculture	Agricultural policy and administrative management FIRST : Food security Impact, Resilience, Sustainability, Transformation
Uzbekistan	8 000 000,00	10 608 000,00	Committed	ODA	Grant	Adaptation	water and sanitation	Water resources policy and administrative management Integrated Management of Water Resources in rural areas in Uzbekistan
Bilateral, non allocated	8 000 000,00	10 608 000,00	Committed	ODA	Grant	Adaptation	agriculture	Agricultural research Putting Research into Use for Nutrition, Sustainability and Resilience (PRUNSAR)
East Asia	8 000 000,00	10 608 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Multisector aid Enhanced Regional EU-ASEAN Dialogue Initiative
Europe	336 000,00	445 536,00	Committed	ODA	Grant	Adaptation	cross-cutting	Multisector aid Cross-Border Cooperation Programme Serbia-Montenegro
Bilateral, non allocated	15 000 000,00	19 890 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management Support to the NAMA Facility
Bilateral, non allocated	5 200 000,00	6 895 200,00	Committed	ODA	Grant	Mitigation	forestry	Forestry policy and administrative management FAO Forest Law Enforcement, Governance, and Trade Trust Fund
Bolivia	4 800 000,00	6 364 800,00	Committed	ODA	Grant	Adaptation	water and sanitation	Basic drinking water supply and basic sanitation Avenant au programme PASAP
Bilateral, non allocated	12 000 000,00	15 912 000,00	Committed	ODA	Grant	Mitigation	forestry	Forestry policy and administrative management Additional contribution to the Forest Carbon Partnership Facility - Readiness Fund
Niger	11 000 000,00	14 586 000,00	Committed	ODA	Grant	Adaptation	agriculture	Rural development Climate resilience for a sustainable agricultural development / PARC-DAD
Bilateral, non allocated	10 000 000,00	13 260 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management Capacity Building for Climate Mitigation in the Maritime Shipping Industry
South Asia	10 000 000,00	13 260 000,00	Committed	ODA	Grant	Adaptation	cross-cutting	Disaster prevention and preparedness EU-South Asia Capacity building for Disaster Risk Management
Africa	3 200 000,00	4 243 200,00	Committed	ODA	Grant	Mitigation	transport	Transport policy and administrative management EU-Africa Partnership on Infrastructure Support to Africa Transport Policy Programme (SSATP) - Development Plan 2014-2018 (SSATP DP3)
Africa	8 000 000,00	10 608 000,00	Committed	ODA	Grant	Mitigation	energy	Energy policy and administrative management Global Public Goods And Challenges 2014-2020 – Sustainable Energy - Building Partnerships
Nicaragua	3 200 000,00	4 243 200,00	Committed	ODA	Grant	Adaptation	cross-cutting	Multisector aid Nicaragua Technical Assistance Support (NITA-SUPPORT)
Bilateral, non allocated	6 330 000,00	8 393 580,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Multisector aid Global Climate Change Alliance+ Support Facility
Cambodia	6 000 000,00	7 956 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
								Cambodia Climate Change Alliance (CCCA)
Bilateral, non allocated	2 000 000,00	2 652 000,00	Committed	ODA	Grant	Adaptation	cross-cutting	Population policy and administrative management Migrants in Countries in Crisis: Supporting an evidence based approach for effective and cooperative state action
Peru	5 000 000,00	6 630 000,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Strengthening climate governance – support for COP 20 Lima
Africa - South Sahara, regional	2 000 000,00	2 652 000,00	Committed	ODA	Grant	Mitigation	forestry	Bio-diversity Central Africa World Heritage Forest Initiative - CAWHFI (phase II)
Rwanda	1 600 000,00	2 121 600,00	Committed	ODA	Grant	Adaptation	cross-cutting	Environmental policy and administrative management Sector Reform Contract (SRC) to promote climate-proof investments by farmers through improved land administration and land use monitoring capacities at central and local government level
Guinea-Bissau	1 600 000,00	2 121 600,00	Committed	ODA	Grant	Adaptation	agriculture	Rural development Actions Collectives et Territoriales Intégrées pour la Valorisation de l'Agriculture
Europe	4 000 000,00	5 304 000,00	Committed	ODA	Grant	Mitigation	cross-cutting	Disaster prevention and preparedness Special measure for flood recovery and flood risk management - Multi-country part
Uganda	1 200 000,00	1 591 200,00	Committed	ODA	Grant	Mitigation	forestry	Forestry development Sawlog Production Grant Scheme III
Bilateral, non allocated	800 000,00	1 060 800,00	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Technical assistance for the mainstreaming of environmental sustainability, climate change, biodiversity and disaster risk reduction
Oceania	1 900 000,00	2 519 400,00	Committed	ODA	Grant	Adaptation	cross-cutting	Environmental policy and administrative management EU Support to the Global Climate Change Alliance (GCCA) through capacity building, community engagement and applied research in the Pacific - Phase II
Republic of South Sudan	609 300,00	807 931,80	Committed	ODA	Grant	Adaptation	agriculture	Agricultural development South Sudan Rural Development Programme (SORUDEV)
America	420 000,00	556 920,00	Committed	ODA	Grant	Mitigation	cross-cutting	Multisector aid Latin America Investment Facility 2009 - LAIF
Tonga	400 000,00	530 400,00	Committed	ODA	Grant	Cross-cutting	energy	Power generation/renewable sources Sector Reform Contract Energy
Bilateral, non allocated	205 592,00	272 614,99	Committed	ODA	Grant	Cross-cutting	cross-cutting	Environmental policy and administrative management Support measures under GPGC environment and climate change
Mali	270 000,00	358 020,00	Committed	ODA	Grant	Mitigation	cross-cutting	Environmental policy and administrative management Global Climate Change Alliance - Mali
Africa	2 000 000,00	2 652 000,00	Committed	DG CLIMA	Grant	Mitigation	other	MRV project in 2-3 African countries (countries not identified yet)
UNFCCC	3 000 000,00	3 978 000,00	Committed	DG CLIMA	Grant	Cross-cutting	other	Supporting participation of developing countries at UNFCCC
Peru	5 000 000,00	6 630 000,00	Committed	DG CLIMA	Grant	Cross-cutting	other	UNDP trust fund to help government of Peru organise the Lima COP
UNEP	2 000 000,00	2 652 000,00	Committed	DG CLIMA	Grant	Mitigation	other	Development of the climate and clean air coalition working towards the global phase-down of HFCs
UNIDO	1 550 000,00	2 055 300,00	Committed	DG CLIMA	Grant	Mitigation	water and sanitation	Emission reductions in the municipal drinking water and sanitation sectors
OECD	450 000,00	596 700,00	Committed	DG CLIMA	Grant	Cross-cutting	other	OECD climate development research focusing on developing countries
India / EIB	60 000 000,00	79 560 000,00	Committed	other	other	Mitigation	energy	Framework Loan to fund small and medium-scale capital investments in renewable energy and energy efficiency in India
India / EIB	20 000 000,00	26 520 000,00	Committed	other	other	Mitigation	energy	Framework Loan to fund small and medium-scale capital investments in renewable energy and energy efficiency in India
India / EIB	60 000 000,00	79 560 000,00	Committed	other	other	Mitigation	energy	Framework Loan to fund small and medium-scale capital investments in renewable energy and energy efficiency in India
India / EIB	60 000 000,00	79 560 000,00	Committed	other	other	Mitigation	energy	Framework Loan to fund small and medium-scale capital investments in renewable energy and energy efficiency in India
Kenya / EIB	50 000 000,00	66 300 000,00	Committed	oof	non-concessional loan	Mitigation	energy	Construction and operation of a 310 MW wind power plant near Lake Turkana, Kenya

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
Kenya / EIB	100 000 000,00	132 600 000,00	Committed	oof	non-concessional loan	Mitigation	energy	Construction and operation of a 310 MW wind power plant near Lake Turkana, Kenya
Kenya / EIB	50 000 000,00	66 300 000,00	Committed	oda	concessional loan	Mitigation	energy	Construction and operation of a 310 MW wind power plant near Lake Turkana, Kenya
Kenya / EIB	25 000 000,00	33 150 000,00	Committed	oda	concessional loan	Mitigation	energy	Construction and operation of a 310 MW wind power plant near Lake Turkana, Kenya
India / EIB	200 000 000,00	265 200 000,00	Committed	other	other	Mitigation	energy	Framework loan to support renewable energy and energy efficiency investment projects that contribute to climate change mitigation.
Ukraine / EIB	55 000 000,00	72 930 000,00	Committed	other	other	Mitigation	transport	Construction of a new 1.8km double-track tunnel on the pan-European corridor V in South-West Ukraine.
Turkey / EIB	200 000 000,00	265 200 000,00	Committed	other	other	Mitigation	transport	The Project involves the additional financing of the Bosphorus Tunnel Project which consists of a rail tunnel crossing underneath the Bosphorus Strait to link the existing commuter lines on the European and Asian side of Istanbul, a city of 13 m inhabitants. It also includes the upgrading of these existing lines and the procurement of new rolling stock. Once completed, this flagship investment will constitue the first seamless mass transit system in Istanbul to cross the Bosphorus and link the two sides of the city along 76 kms of its southern shores. It will also enable high-speed intercity trains to cross the Bosphorus and reach the heart of the city.
Turkey / EIB	5 000 000,00	6 630 000,00	Committed	other	other	Mitigation	energy	The proposed framework loan would be dedicated to earthquake safety improvements in residential buildings as defined in the Turkish Law on Urban Transformation, and related energy efficiency projects aimed at improving the energy and environmental performance of those buildings."
Turkey / EIB	5 000 000,00	6 630 000,00	Committed	other	other	Mitigation	energy	The proposed framework loan would be dedicated to earthquake safety improvements in residential buildings as defined in the Turkish Law on Urban Transformation, and related energy efficiency projects aimed at improving the energy and environmental performance of those buildings."
South Africa / EIB	75 000 000,00	99 450 000,00	Committed	other	other	Mitigation	energy	Implementation and operation of a 100 MW power plant based on an innovative Concentrated Solar thermal Power (CSP) technology.
South Africa / EIB	100 000 000,00	132 600 000,00	Committed	oda	concessional loan	Mitigation	energy	The project concerns the construction and operation of a greenfield concentrated solar power (CSP) plant with 100 MW of installed power generating capacity.
India / EIB	16 500 000,00	21 879 000,00	Committed	other	other	Mitigation	cross-cutting	A dedicated EIB loan to finance investments promoted by SMEs and Mid-Caps in India contributing to private sector development and other priorities under the Mandate such as social and economic infrastructure, and climate change mitigation and adaptation.
Bangladesh / EIB	13 500 000,00	17 901 000,00	Committed	other	other	Adaptation	water and sanitation	The project will develop a new sustainable surface water resource that will contribute to meeting an increasing water demand in Dhaka and enable a reduction in extraction from over-exploited groundwater resources. The project will increase the security of water supply and improve the resilience to adverse impacts from climate change.
Bangladesh / EIB	1 500 000,00	1 989 000,00	Committed	other	other	Adaptation	water and sanitation	The project will develop a new sustainable surface water resource that will contribute to meeting an increasing water demand in Dhaka and enable a reduction in extraction from over-exploited groundwater resources. The project will increase the security of water supply and improve the resilience to adverse impacts from climate change.
Chile / EIB	150 000 000,00	198 900 000,00	Committed	oda	concessional loan	Mitigation	energy	The Framework Loan will support renewable energy projects in Chile.
Bosnia and Herzegovina / EIB	37 500 000,00	49 725 000,00	Committed	other	other	Mitigation	energy	Construction of a 20 MW hydro power plant
Moldova, Republic of / EIB	48 000 000,00	63 648 000,00	Committed	other	other	Cross-cutting	agriculture	Loan to the Republic of Moldova for the upgrading of the horticultural sector.
Burkina Faso / EIB	23 000 000,00	30 498 000,00	Committed	other	other	Mitigation	energy	SONABEL, Burkina's public electricity company wants to install a 30MW solar plant to supply the interconnected network to increase the share of renewable energy in national electricity production and reduce the country's dependence on electricity imports by neighbouring countries
Turkey / EIB	35 000 000,00	46 410 000,00	Committed	other	other	Mitigation	agriculture	The proposed loan aims to co-finance investments in the Turkish

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
								agricultural and agribusiness sectors carried out by micro-enterprises, SMEs, Mid-Caps and eligible promoters of any size. The project follows a request of DG AGRI to the Bank to contribute to the implementation of the Instrument for Pre-Accession Instrument for Rural Development (IPARD) in Turkey. The project will be intermediated by Ziraat Bank, a state owned financial intermediary specialized in the agriculture and agribusiness sectors. The project is expected to raise access to credit in rural regions and will complement the absorption of IPARD funds.
Ukraine / EIB	3 000 000,00	3 978 000,00	Committed	other	other	Cross-cutting	agriculture	The proposed investment programme comprises the construction and operation of eight grain elevators, one of which one is integrated to a soya bean crushing and oil extraction plant of 700 t/d of soybeans. The integrated elevator crushing plant and the self standing grain elevators are located on eight different locations in Poltava, Vynnitsia and Khmelnitskiy regions in Ukraine. The total grain storage capacity built is 514,000 t.
Ukraine / EIB	12 000 000,00	15 912 000,00	Committed	other	other	Cross-cutting	agriculture	The proposed investment programme comprises the construction and operation of eight grain elevators, one of which one is integrated to a soya bean crushing and oil extraction plant of 700 t/d of soybeans. The integrated elevator crushing plant and the self standing grain elevators are located on eight different locations in Poltava, Vynnitsia and Khmelnitskiy regions in Ukraine. The total grain storage capacity built is 514,000 t.
Ukraine / EIB	2 000 000,00	2 652 000,00	Committed	other	other	Cross-cutting	agriculture	The proposed investment programme comprises the construction and operation of eight grain elevators, one of which one is integrated to a soya bean crushing and oil extraction plant of 700 t/d of soybeans. The integrated elevator crushing plant and the self standing grain elevators are located on eight different locations in Poltava, Vynnitsia and Khmelnitskiy regions in Ukraine. The total grain storage capacity built is 514,000 t.
Ukraine / EIB	8 000 000,00	10 608 000,00	Committed	other	other	Cross-cutting	agriculture	The proposed investment programme comprises the construction and operation of eight grain elevators, one of which one is integrated to a soya bean crushing and oil extraction plant of 700 t/d of soybeans. The integrated elevator crushing plant and the self standing grain elevators are located on eight different locations in Poltava, Vynnitsia and Khmelnitskiy regions in Ukraine. The total grain storage capacity built is 514,000 t.
Brazil / EIB	200 000 000,00	265 200 000,00	Committed	other	other	Mitigation	transport	The project consists of the acquisition of 73 passenger train sets (EMUs) of eight cars each to increase the performance and capacity of São Paulo's commuter railway lines operated by CPTM (Companhia Paulista de Trens Metropolitanos).
Turkey / EIB	32 450 000,00	43 028 700,00	Committed	oof	non-concessional loan	Mitigation	transport	The project concerns a selection of the promoter's RDI investments aiming at the improvement of fuel efficiency and safety characteristics of motor vehicles, including the development of a new B-plus segment passenger car platform, the development of technology and components for an electric vehicle and of an onboard storage system for gas fuelled vehicles, for longer-term applications.
Turkey / EIB	21 675 000,00	28 741 050,00	Committed	other	other	Mitigation	energy	The loan will finance small to medium sized investments in Turkey in the fields of Renewable Energy, Energy Efficiency and projects that substantially increase the environmental performance of industrial processes.
Tukey / EIB	50 575 000,00	67 062 450,00	Committed	other	other	Mitigation	energy	The loan will finance small to medium sized investments in Turkey in the fields of Renewable Energy, Energy Efficiency and projects that substantially increase the environmental performance of industrial processes.
Turkey / EIB	12 750 000,00	16 906 500,00	Committed	other	other	Mitigation	energy	The loan will finance small to medium sized investments in Turkey in the fields of Renewable Energy, Energy Efficiency and projects that substantially increase the environmental performance of industrial processes.
India / EIB	13 500 000,00	17 901 000,00	Committed	other	other	Mitigation	cross-cutting	A dedicated EIB loan to finance investments promoted by SMEs and Mid-Caps in India contributing to private sector development and other

Recipient country/ region/project/programme	Total amount		Status	Funding source	Financial instrument	Type of support	Sector	Additional information
	Climate-specific							
	European euro - EUR	USD						
								priorities under the Mandate such as social and economic infrastructure, and climate change mitigation and adaptation.
Ukraine / EIB	5 500 000,00	7 293 000,00	Committed	other	other	Adaptation	agriculture	The project involves the construction and operation of an integrated chicken fodder production complex with an annual output capacity of 1300000 t/year. The project will integrate oil seed crushing and grain and sunflower storage with the fodder production. The total capacity of the new grain elevators will be 400,000 m3.
Ukraine / EIB	3 000 000,00	3 978 000,00	Committed	other	other	Adaptation	agriculture	The project involves the construction and operation of an integrated chicken fodder production complex with an annual output capacity of 1300000 t/year. The project will integrate oil seed crushing and grain and sunflower storage with the fodder production. The total capacity of the new grain elevators will be 400,000 m3.
Guinea / EIB	9 600 000,00	12 729 600,00	Committed	other	other	Mitigation	energy	The project scope subject to the Bank's financing is a programme of investments comprising rehabilitation of four hydropower plants (in total 122 MW currently operating at maximum of 75 MW), and rehabilitation and extension of the distribution network in Conakry.
Guinea / EIB	14 400 000,00	19 094 400,00	Committed	other	other	Mitigation	energy	The project scope subject to the Bank's financing is a programme of investments comprising rehabilitation of four hydropower plants (in total 122 MW currently operating at maximum of 75 MW), and rehabilitation and extension of the distribution network in Conakry.
Turkey / EIB	10 000 000,00	13 260 000,00	Committed	other	other	Mitigation	energy	The loan will finance small to medium sized investments in Turkey in the fields of Renewable Energy, Energy Efficiency and projects that substantially increase the environmental performance of industrial processes.
Turkey / EIB	25 500 000,00	33 813 000,00	Committed	other	other	Mitigation	energy	The loan will finance small to medium sized investments in Turkey in the fields of Renewable Energy, Energy Efficiency and projects that substantially increase the environmental performance of industrial processes.
Turkey / EIB	59 500 000,00	78 897 000,00	Committed	other	other	Mitigation	energy	The loan will finance small to medium sized investments in Turkey in the fields of Renewable Energy, Energy Efficiency and projects that substantially increase the environmental performance of industrial processes.
Turkey / EIB	5 000 000,00	6 630 000,00	Committed	other	other	Mitigation	energy	The loan will finance small to medium sized investments in Turkey in the fields of Renewable Energy, Energy Efficiency and projects that substantially increase the environmental performance of industrial processes.
Burundi / EIB	56 700 000,00	75 184 200,00	Committed	other	other	Mitigation	energy	The Jiji and Mulembwe Hydropower Project consists of the construction of two run-of-the-river hydropower plants Jiji (31.5 MW) and Mulembwe (16.5 MW) in southern Burundi as well as an 80 km 110 kV transmission line to evacuate the power to the capital, Bujumbura, which is interconnected at a national and regional level. The project will increase the supply of clean and affordable electricity to the national grid. The project also includes the electrification of rural communities in the vicinity of the power plants.
Burundi / EIB	13 300 000,00	17 635 800,00	Committed	other	other	Mitigation	energy	The Jiji and Mulembwe Hydropower Project consists of the construction of two run-of-the-river hydropower plants Jiji (31.5 MW) and Mulembwe (16.5 MW) in southern Burundi as well as an 80 km 110 kV transmission line to evacuate the power to the capital, Bujumbura, which is interconnected at a national and regional level. The project will increase the supply of clean and affordable electricity to the national grid. The project also includes the electrification of rural communities in the vicinity of the power plants.
Morocco / EIB	50 000 000,00	66 300 000,00	Committed	other	other	Mitigation	energy	Construction and operation of a 150 MW CSP Tower plant under the third phase of the Ouarzazate solar power complex.
Morocco / EIB	100 000 000,00	132 600 000,00	Committed	other	other	Mitigation	energy	Construction and operation of a 200 MW CSP Parabolic trough plant under the second phase of the Ouarzazate solar power complex.

10. CTF TABLE 8: PROVISION OF TECHNOLOGY DEVELOPMENT AND TRANSFER SUPPORT

Measures and activities related to technology transfer	Recipient country and/or region	Targeted area	Sector	Source of the funding for technology transfer	Activities undertaken by	Status	Additional information
REELCOOP - REnewable ELectricity COOPeration	Mediterranean Countries	Mitigation	Energy	Public	Private and Public	Implemented	REELCOOP (REnewable ELectricity COOPeration) is a EU/FP7 funded project aiming to develop renewable electricity generation technologies and promoting cooperation between EU Partner Countries and Mediterranean Partner Countries, which started in 1 September 2013, with a duration of 4 years. What is REELCOOP (in a nutshell) - Development, construction, testing and demonstration of 3 different renewable electricity systems: a building integrated PV system (ventilated façade), a hybrid (solar/biomass) micro-cogeneration ORC system, and a hybrid concentrating solar / biomass mini-power plant - Organisation of Workshops on Renewable Electricity technologies, open to junior researchers and outside public - Technology transfer and dissemination regarding the developed technologies
EUROSUNMED - EURO-MEDITERRANEAN COOPERATION ON RESEARCH & TRAINING IN SUN BASED RENEWABLE ENERGIES	Egypt and Morroco	Mitigation	Energy	Public	Private and Public	Implemented	EUROSUNMED is a 4-year collaborative project supported by the FP7 Programme of the European Commission. This innovative project is targeting the following objectives: - Developing new technologies in 3 energy field areas, namely photovoltaics, concentrated solar power and grid integration, at the EU research centres, national agencies and SMEs in strong collaboration with MPC universities, research organizations and SMEs from Morocco and Egypt. - Testing innovative components (PV cells/modules, heliostats…) under specific conditions of MPCs (irradiation, hot climate, dust…). - Establishing a strong network between EU and MPCs through exchange of students, senior researchers/engineers for transferring knowledge and technologies. - Disseminating the results of the project through the organization of scientific events open to a large public from universities, engineering schools and stakeholders.
CLUVA - CLimate change and Urban Vulnerability in Africa	Africa	Adaptation	Other (Cross Cutting)	Public	Private and Public	Implemented	The overall objective of the project is to develop methods and knowledge to be applied to African cities to manage climate risks, to reduce vulnerabilities and to improve their coping capacity and resilience towards climate changes. The project will explore the issues of climate change vulnerability, resilience, risk management and adaptation in selected cities in Africa with local case study partners. Activities include: – New downscaled models of climate change – Hazards as a cascade effect of climate changes – Innovative approach to vulnerability assessment and disaster reduction – Innovative multi-risk modelling – Urban planning and governance – Knowledge transfer and capacity building – Merging different approaches
WAHARA - Water Harvesting for Rainfed Africa	Africa	Adaptation	Water and sanitation	Public	Private	Implemented	The main objective of the project is to develop innovative appropriate water harvesting technologies for different geographical regions of rainfed Africa. At least 10 designs of WH technologies adapted to local conditions will be tested. Guidelines will be developed to facilitate stakeholder learning and action about WH technologies in different (biophysical and socioeconomic) conditions.
QWECI - Quantifying Weather and Climate Impacts on Health in Developing Countries	Senegal, Ghana and Malawi	Adaptation	Other (Health)	Public	Private	Implemented	The research aims at giving decision makers the necessary time to deploy intervention methods to help prevent large scale spread of diseases such as Rift Valley Fever and malaria. QWeCI will develop and test the methods and technology required for an integrated decision support framework for health impacts of climate and weather.
GPGC – Delivering access to modern, affordable and sustainable energy/renewable energy to 6 million people	Global	Mitigation	Energy	Public	Private	Implemented	All activities financed under this initiative (such as Building/Improving access by installing distribution networks (including mini-/micro-grids); A3. Hybridisation of existing fossil fuel-based generation systems with Renewable Energy Systems and A5. Incorporating Renewable Energy Systems into production methods) will be accompanied by capacity building/training activities (when applicable) to ensure the transfer of know-how to the local business sector and enhance the element of ownership
ClimAfrica - CLIMATE CHANGE PREDICTIONS IN SUB-SAHARAN AFRICA: IMPACTS AND ADAPTATIONS	Africa	Adaptation	Other (Cross Cutting)	Public	Private	Implemented	ClimAfrica is an international project funded (3.5 M€) by European Commission under the 7th Framework Programme for the period 2010-2014. The ClimAfrica consortium is formed by 18 institutions, 9 from Europe, 8 from Africa, and the Food and Agriculture Organization of United Nations (FAO). Project coordinator is the Euro-Mediterranean Centre for Climate Change (Italy). The project's focus is, among others, on the following specific objectives: - Develop improved climate predictions on seasonal to decadal climatic scales, especially relevant to SSA; - Develop a new concept of 10 years monitoring and forecasting warning system, useful for food security, risk management and civil protection in SSA;
MENFRI - Mediterranean Network of Forestry Research and Innovation	Mediterranean countries	Adaptation	Other (Forestry)	Public	Private	Implemented	MENFRI is a discussion and action platform in forestry encouraging scientific and technological collaboration within the Mediterranean. To manage to create a favourable environment for the development of an organized, innovative and job creating business sector in

Measures and activities related to technology transfer	Recipient country and/or region	Targeted area	Sector	Source of the funding for technology transfer	Activities undertaken by	Status	Additional information
							this region while facing climate change, MENFRI will work on the base of three main pillars: - To gather a group of multisectorial stakeholders, experts on their respective domains, as a think tank with the objective of understanding the current situation of the Mediterranean forestry sector and the possibilities and existing barriers to innovation. - To favour the interchange of knowledge through the implementation of training activities on forest management (from traditional techniques to GIS), association, business creation and H2020 on both sides of the Mediterranean - To create a network of Mediterranean forestry related research centres, forest owners, NGOs, SMEs, investors and any other stakeholder in the needing of support, ideas or knowledge to carry out initiatives of sustainable development.

Footnote: This table includes details of a non-exhaustive list of selected initiatives implemented in cooperation with developing country partners, with an important technology development and transfer component, which the EU believes are fairly representative of the overall technology development and transfer support provided by the EU.

11. CTF TABLE 9: PROVISION OF CAPACITY-BUILDING SUPPORT

Programme or project title	Recipient country / region	Targeted area	Description of programme or project
Environmentally sound collection, management and destruction of ODS banks in developing countries	Asia-Pacific	Mitigation	This project will foster environmentally sustainable growth in developing countries by providing assistance to collect, transport and destroy ODS. The project will stimulate developing countries to undertake additional actions beyond the requirements of the Montreal Protocol that will achieve additional ozone protection benefits and significant climate change mitigation by collection and destruction of those high-GWP gases.
Regional Project of Watershed and Coastal Management in the context of Climate Change in Latin America and Caribbean (WATERCLIMA-LAC)	Latin America and Caribbean	Adaptation	The specific objective of the project is to contribute to improving watersheds and coastal management,by boosting resilience to the consequences of climate change of LA and Caribbean countries. Training and capacity building activities include: Training and Capacity building: − Strengthen technical capacities to ensure beneficiaries' greater ownership and the empowerment of national and regional expertise and skills − Identify stakeholders selected by national focal points for training. − Identify training programmes and capacity building needs and organise training programmes. − Propose capacity building recommendations for water management organisations.
Capacity building for CO2 mitigation from International Aviation	African and Caribbean Countries	Mitigation	This contribution would entail providing support to less developed States in the development of State action plans and assisting specific States to address aviation emissions by implementing capacity building activities that support the development of low carbon air transport. Overall objective: To assist selected States to address aviation emissions by implementing capacity building activities that will support the development of low carbon air transport. Specific objectives: To support less developed countries' (see 2.5 Country Selection Criteria) ability to track, manage and reduce their aviation emissions. Through the support provided, partner countries will be able to develop and submit meaningful State action plans on CO2 emissions reduction activities, as invited by the 2010 ICAO Assembly, establish CO2 emissions inventories, and pilot the implementation of measures to reduce fuel consumption, toward reducing greenhouse gas emissions.
Helix - High-end Climate Impacts and Extremes	Kenya, Senegal, India and Bangladesh	Adaptation	HELIX aims at assisting decision-makers and the research community in making adaptation to our changing climate more understandable and manageable by providing a set of credible, coherent, global and regional views of different worlds at 2, 4 and 6°C, with further focus on delivering the knowledge needs of Northern Sub-Saharan Africa, South Asia and Europe.
Capacity-Building in Wind Energy and Concentrating Solar Power in Jordan - WECSP Project	Jordan	Mitigation	The overall objective of this project is to support the rational and sustainable use of alternative energy resources in Jordan. The specific objective of the project is to support the National Energy Research Centre (NERC) to steer and facilitate the implementation of the Jordanian Government Renewable Energy Strategy 2007-2020 by installing and testing a wind testing facility and a Concentrating Solar Power (CSP) pilot plant and by helping the country build up local and regional expertise in the field.
Maximising the climate benefits of HCFC phaseout	West Africa and Pacific Island Countries	Mitigation	The project will assist eight selected developing countries in two sub-regions: West Africa and Pacific Island Countries to assess technology needs, through national surveys and 'technology gap' assessments. This will facilitate obtaining quantifiable emission reductions through technology transfer demonstrations in local refrigeration and air-conditioning enterprises. The project will also provide technical training on the available climate friendly alternative technologies. Country-specific roadmaps to adopt low GWP and non-ozone depleting alternatives will be developed to provide a powerful decision support tool for the participating countries.
Access to Sustainable Energy Programme	Philippines	Mitigation	The specific objective is to generate more electricity from renewable energy, increase efficiency of energy use, and increase access for the poor to affordable, disaster resilient energy. The Programme has a Technical assistance component that will provide: a. Policy advice and administrative streamlining to make the rural electrification more effective. b. Studies and project development support for remote areas, new technologies and business models. c. Capacity building of stakeholders for pro poor electrification through renewable energy.
Impact2C - Objected Impacts under 2C Warming	Maldives, Bangladesh, Sri Lanka, Niger	Adaptation	IMPACT2C enhances knowledge, quantifies climate change impacts, and adopts a clear and logical structure, with climate and impacts modelling, vulnerabilities, risks and economic costs, as well as potential responses, within a pan-European sector based analysis. The project also assesses climate change impacts in some of the world's most vulnerable regions: Bangladesh, Africa (Nile and Niger basins), and the Maldives. IMPACT2C integrates the expertise of top climate scientists, sectoral impact specialists with both physical and economical backgrounds, and local specialists from the regions addressed. The team is made up of 17 nationalities, who have the shared ambition to achieve maximum support to the development of sectoral and cross-sectoral, pan-European strategies aimed at coping with a 2°C global warming, and to support the coping strategies for the three particularly vulnerable world regions.
AU-EU Africa Cluster	Africa	Adaptation	The objective of this cluster are to facilitate exchange of information and knowledge between African and European scientists, stimulate synergies and increase the impact of the projects through coordinated

Programme or project title	Recipient country / region	Targeted area	Description of programme or project
			dissemination actions. The water related issues addressed in this cluster are: - Water and irrigated farming systems - Water harvesting - Natural resource management - Drought monitoring, forecasting and adaptation - Waste water treatment by means of biotechnology - Water-related vector-borne diseases
Supporting more ambitious Low-Emission Development pathways in key developing countries by promoting international cooperative initiatives to reduce greenhouse gas emissions through improvements in energy efficiency policies and reforming energy subsidies	Emerging economies and middle income countries	Mitigation	The specific objective of the project is to contribute to improving watersheds and coastal management,by boosting resilience to the consequences of climate change of LA and Caribbean countries. Training and capacity building activities include: Training and Capacity building: − Strengthen technical capacities to ensure beneficiaries' greater ownership and the empowerment of national and regional expertise and skills − Identify stakeholders selected by national focal points for training. − Identify training programmes and capacity building needs and organise training programmes. − Propose capacity building recommendations for water management organisations.
Sustainable Electricity for the Mediterranean	Magrebe Countries	Mitigation	The purpose of the project is to facilitate smooth progress on the Mediterranean Solar Plan in the region, by providing regional support to partner countries that do not benefit from bilateral support to implement the Mediterranean Solar Master Plan
EU-South Asia Capacity building for Disaster Risk Management	South Asia	Adaptation	The main objective of this initiative is to help build resilience of South Asia to risks from hydrological climate-related disasters and to strengthen Disaster Risk Management capacities mainly at regional and national level. 1) Regional and national disaster risk management institutional capacity development Capacity-building will be provided to organisations with a regional mandate, in particular SAARC Disaster Management Centre (SDMC). Capacity building for collaboration and coordination between the SDMC and national agencies will also be provided. This component will also build the capacity of national disaster risk management agencies to enhance their preparedness, contingency planning, and service delivery. In addition this component will, where possible, support the integration of DRR into broader policy and development planning activities, with the potential to leverage larger investments in DRR. 2) Regional and national hydromet institutional capacity development The main objective of this component is to strengthen capacity of (i) regional and national level institutions for weather/flood forecasting/climate prediction and (ii) scale up existing cooperation between national hydrological and meteorological services of the South Asia countries with respect to management of hydro-meteorological risks. Specifically, activities carried out under this component will strengthen the capacity of participating countries and institutions to respond to cross-border water related hazards and climate risks through improved regional cooperation and understanding of actions needed to modernize hydrometeorological monitoring, improve accuracy and lead time for weather and flood forecasting and enhance links with disaster risk management agencies and early warning systems.

Footnote: This table includes details of a non-exhaustive list of selected support initiatives with an important capacity building component, which the EU believes are fairly representative of the overall capacity building support provided by the EU.