COMMISSION OF THE EUROPEAN COMMUNITIES

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Partie 3

COMMISSION STAFF WORKING DOCUMENT

Accompanying the

COMMUNICATION FROM THE COMMISSION

FIFTH NATIONAL COMMUNICATION FROM THE EUROPEAN COMMUNITY UNDER THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

(required under Article 12 of the United Nations Framework Convention on Climate Change)

Part 3

[COM(2009) 667 final]

Appendix B - Summary GHG emissions inventory tables for the EU-27

B1 EU-27 CO_2

EU-27 Gg CO_2 (sheet 1 of 2)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1. Energy	4,082,929	4,055,927	3,916,277	3,864,062	3,824,064	3,859,716	3,972,000	3,874,633	3,868,586	3,811,419
A. Fuel Combustion (Sectoral Approach)	4,063,176	4,036,119	3,896,418	3,843,452	3,802,800	3,837,810	3,949,793	3,853,502	3,848,374	3,792,687
1. Energy Industries	1,671,555	1,647,646	1,570,564	1,509,300	1,507,824	1,505,568	1,533,211	1,481,579	1,496,492	1,455,439
2. Manufacturing Industries and Construction	810,513	766,727	723,789	716,237	719,082	735,444	734,357	728,313	697,240	680,918
3. Transport	767,494	772,167	795,300	802,963	808,259	822,283	846,941	856,932	884,233	900,809
4. Other Sectors	787,890	828,264	788,460	797,435	750,669	759,317	821,368	773,308	757,425	743,208
5. Other	25,723	21,316	18,306	17,517	16,966	15,199	13,916	13,369	12,984	12,313
B. Fugitive Emissions from Fuels	19,753	19,808	19,859	20,610	21,264	21,906	22,207	21,130	20,212	18,732
1. Solid Fuels	2,181	2,011	1,779	1,645	1,943	1,986	2,102	1,987	1,627	1,551
2. Oil and Natural Gas	17,572	17,797	18,080	18,965	19,321	19,919	20,105	19,143	18,584	17,181
2. Industrial Processes	299,959	270,109	258,370	246,868	264,422	276,130	264,784	274,151	269,493	259,621
A. Mineral Products	146,706	134,289	129,649	123,861	131,743	137,258	132,757	136,266	137,293	137,999
B. Chemical Industry	40,530	37,788	35,847	34,312	37,554	40,541	40,751	39,089	38,462	36,959
C. Metal Production	112,368	97,608	92,420	88,307	94,744	97,991	90,902	98,449	93,387	84,300

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
D. Other Production	73	50	54	51	30	23	50	49	42	52
E. Production of Halocarbons and SF_6	0	0	0	0	0	0	0	0	0	0
F. Consumption of Halocarbons and SF_6	0	0	0	0	0	0	0	0	0	0
G. Other	282	375	400	338	352	318	325	299	310	310
3. Solvent and Other Product Use	11,403	11,081	10,471	10,075	9,354	9,441	9,429	9,554	9,687	9,425
4. Agriculture	0	0	0	0	0	0	0	0	0	0
A. Enteric Fermentation	0	0	0	0	0	0	0	0	0	0
B. Manure Management	0	0	0	0	0	0	0	0	0	0
C. Rice Cultivation	0	0	0	0	0	0	0	0	0	0
D. Agricultural Soils	0	0	0	0	0	0	0	0	0	0
E. Prescribed Burning of Savannas	0	0	0	0	0	0	0	0	0	0
F. Field Burning of Agricultural Residues	0	0	0	0	0	0	0	0	0	0
G. Other	0	0	0	0	0	0	0	0	0	0
5. Land-Use, Land-Use Change and Forestry	-342,705	-399,577	-399,635	-388,035	-393,295	-395,658	-412,726	-409,966	-410,638	-415,704
A. Forest Land	-441,468	-496,849	-492,576	-483,634	-487,978	-491,349	-505,082	-503,468	-505,807	-514,138
B. Cropland	89,798	87,176	83,260	83,898	81,637	82,900	82,017	82,847	81,627	83,125
C. Grassland	-14,161	-14,192	-14,197	-11,760	-10,802	-11,077	-14,625	-10,711	-9,050	-7,145

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
D. Wetlands	7,454	7,259	7,311	7,342	7,406	7,431	7,493	7,541	7,582	7,633
E. Settlements	17,900	17,459	17,537	16,473	16,502	16,366	17,556	16,345	16,620	16,827
F. Other Land	-523	-130	-453	-82	24	463	615	-546	193	169
G. Other	-1,704	-300	-517	-272	-84	-392	-700	-1,974	-1,803	-2,174
6. Waste	5,247	5,498	5,565	5,386	5,243	4,901	4,802	4,232	4,139	3,820
A. Solid Waste Disposal on Land	218	267	307	296	240	100	67	54	49	45
B. Waste-water Handling	0	0	0	0	0	0	0	0	0	0
C. Waste Incineration	5,028	5,231	5,258	5,090	5,003	4,802	4,734	4,177	4,090	3,775
D. Other	0	0	0	0	0	0	0	0	0	0
7. Other	0	0	0	0	0	0	0	0	0	0
Total CO_2 Emissions including net CO_2 from LULUCF	4,056,832	3,943,038	3,791,049	3,738,356	3,709,789	3,754,531	3,838,289	3,752,604	3,741,267	3,668,580
Total CO_2 Emissions excluding net CO_2 from LULUCF	4,399,537	4,342,615	4,190,684	4,126,391	4,103,084	4,150,189	4,251,015	4,162,569	4,151,905	4,084,285
Memo Items:										
International Bunkers	174,137	171,357	178,053	184,830	185,803	191,557	202,920	217,201	230,148	231,516
Aviation	65,584	64,992	70,319	74,628	78,735	83,178	87,618	91,631	98,711	106,298

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Marine	108,553	106,365	107,734	110,202	107,068	108,379	115,302	125,570	131,437	125,219
Multilateral Operations	0	0	0	0	0	0	0	0	0	0
CO_2 Emissions from Biomass	176,660	186,721	188,341	205,149	205,848	222,174	233,430	237,156	239,436	246,565

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GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
1. Energy	3,820,926	3,908,315	3,880,763	3,970,140	3,972,165	3,935,159	3,938,439	3,873,568
A. Fuel Combustion (Sectoral Approach)	3,802,244	3,889,522	3,861,881	3,951,177	3,953,428	3,916,321	3,919,489	3,854,724
1. Energy Industries	1,486,559	1,519,837	1,541,206	1,583,085	1,574,246	1,569,881	1,578,083	1,597,434
2. Manufacturing Industries and Construction	684,585	676,866	653,382	667,887	658,697	645,737	644,751	634,491
3. Transport	900,859	914,170	926,892	937,019	955,894	955,343	961,138	966,032
4. Other Sectors	718,765	768,412	730,337	753,192	753,945	734,886	725,933	646,823
5. Other	11,475	10,237	10,063	9,994	10,646	10,474	9,584	9,944
B. Fugitive Emissions from Fuels	18,683	18,793	18,882	18,963	18,737	18,838	18,951	18,844
1. Solid Fuels	1,580	1,528	1,530	1,565	1,855	1,507	1,572	1,583
2. Oil and Natural Gas	17,102	17,265	17,352	17,398	16,882	17,331	17,378	17,260
2. Industrial Processes	271,740	263,340	264,664	269,832	279,997	283,750	291,856	300,904
A. Mineral Products	140,273	137,255	136,745	138,384	144,195	144,732	148,593	153,911
B. Chemical Industry	40,464	39,298	37,823	40,146	41,547	42,561	41,171	43,363
C. Metal Production	90,616	86,410	89,718	90,927	93,875	94,944	100,558	102,328
D. Other Production	49	43	32	47	42	34	20	30
E. Production of Halocarbons and SF_6	0	0	0	0	0	0	0	0

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
F. Consumption of Halocarbons and SF_6	0	0	0	0	0	0	0	0
G. Other	337	334	346	328	339	1,479	1,514	1,272
3. Solvent and Other Product Use	9,318	8,988	8,886	8,717	8,776	8,794	8,637	8,576
4. Agriculture	0	0	0	0	0	0	0	0
A. Enteric Fermentation	0	0	0	0	0	0	0	0
B. Manure Management	0	0	0	0	0	0	0	0
C. Rice Cultivation	0	0	0	0	0	0	0	0
D. Agricultural Soils	0	0	0	0	0	0	0	0
E. Prescribed Burning of Savannas	0	0	0	0	0	0	0	0
F. Field Burning of Agricultural Residues	0	0	0	0	0	0	0	0
G. Other	0	0	0	0	0	0	0	0
5. Land-Use, Land-Use Change and Forestry	-391,687	-426,389	-435,823	-459,227	-445,037	-448,120	-448,781	-415,678
A. Forest Land	-487,147	-528,802	-539,218	-523,139	-543,032	-548,007	-560,823	-515,695
B. Cropland	78,502	80,741	77,925	77,764	76,339	75,519	75,617	71,832
C. Grassland	-5,755	-7,010	-3,507	-43,354	-6,599	-4,618	-110	-7,104
D. Wetlands	7,695	9,010	8,964	9,069	9,062	9,146	8,399	8,496
E. Settlements	17,562	18,478	18,429	18,706	17,644	18,294	26,882	26,910

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
F. Other Land	-1,355	1,005	945	1,299	773	906	1,023	1,264
G. Other	-1,190	189	640	428	777	639	231	-1,381
6. Waste	3,796	3,758	3,746	3,657	3,467	3,847	4,169	3,610
A. Solid Waste Disposal on Land	27	26	14	16	14	14	13	13
B. Waste-water Handling	0	0	0	0	0	0	0	0
C. Waste Incineration	3,770	3,731	3,733	3,641	3,454	3,833	4,155	3,597
D. Other	0	0	0	0	0	0	0	0
7. Other	0	0	0	0	0	0	0	0
Total CO_2 Emissions including net CO_2 from LULUCF	3,714,093	3,758,011	3,722,237	3,793,117	3,819,367	3,783,429	3,794,320	3,770,979
Total CO_2 Emissions excluding net CO_2 from LULUCF	4,105,781	4,184,401	4,158,060	4,252,345	4,264,404	4,231,549	4,243,101	4,186,657
Memo Items:								
International Bunkers	244,150	248,150	252,714	258,907	276,187	289,591	305,566	310,859
Aviation	112,867	111,479	109,420	113,341	121,991	128,073	133,670	137,360
Marine	131,284	136,671	143,293	145,566	154,196	161,518	171,896	173,499
Multilateral Operations	0	1	1	1	1	2	3	2

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
CO_2 Emissions from Biomass	247,727	254,074	260,221	278,092	298,130	310,598	325,710	338,152

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GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Emissions	601,589	587,896	570,665	561,187	548,465	547,120	541,149	525,090	505,049	494,008
1. Energy	158,794	152,117	144,753	143,317	132,386	133,491	131,271	123,509	116,144	112,574
A. Fuel Combustion (Sectoral Approach)	24,313	24,277	23,105	23,529	21,704	22,111	22,781	21,100	20,007	19,510
1. Energy Industries	1,060	1,050	1,007	1,042	1,145	1,238	1,359	1,341	1,396	1,362
2. Manufacturing Industries and Construction	1,803	1,697	1,623	1,628	1,645	1,643	1,685	1,666	1,624	1,588
3. Transport	4,769	4,513	4,454	4,265	4,076	3,938	3,853	3,600	3,438	3,170
4. Other Sectors	16,387	16,805	15,866	16,474	14,751	15,223	15,823	14,432	13,493	13,335
5. Other	294	211	154	119	88	69	62	61	56	54
B. Fugitive Emissions from Fuels	134,482	127,840	121,647	119,788	110,681	111,380	108,490	102,410	96,137	93,064
1. Solid Fuels	75,544	72,087	68,099	66,586	59,093	60,337	57,624	55,288	49,384	48,184
2. Oil and Natural Gas	58,938	55,753	53,549	53,202	51,588	51,043	50,866	47,122	46,753	44,880
2. Industrial Processes	1,333	1,235	1,190	1,185	1,306	1,315	1,264	1,257	1,165	1,083
A. Mineral Products	27	23	21	18	20	21	20	20	21	18
B. Chemical Industry	788	771	769	760	843	836	811	800	741	700
C. Metal Production	465	390	350	357	392	406	382	386	354	318
D. Other Production	0	0	0	0	0	0	0	0	0	0

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
E. Production of Halocarbons and SF_6	0	0	0	0	0	0	0	0	0	0
F. Consumption of Halocarbons and SF_6	0	0	0	0	0	0	0	0	0	0
G. Other	47	45	45	44	45	46	46	45	43	41
3. Solvent and Other Product Use	0	0	0	0	0	0	0	0	0	0
4. Agriculture	241,762	233,133	225,087	218,855	216,800	216,407	216,888	215,487	215,131	213,577
A. Enteric Fermentation	180,770	173,733	167,018	161,834	160,016	159,391	159,828	158,003	157,323	156,234
B. Manure Management	58,353	56,866	55,765	54,901	54,527	54,812	54,687	54,986	55,497	55,149
C. Rice Cultivation	2,376	2,255	2,168	2,114	2,262	2,214	2,403	2,438	2,338	2,256
D. Agricultural Soils	-668	-639	-639	-636	-642	-643	-643	-642	-644	-634
E. Prescribed Burning of Savannas	0	0	0	0	0	0	0	0	0	0
F. Field Burning of Agricultural Residues	931	918	775	641	637	632	613	703	617	573
G. Other	0	0	0	0	0	0	0	0	0	0
5. Land-Use, Land-Use Change and Forestry	4,295	4,304	4,083	4,050	6,142	6,088	5,800	5,649	5,590	5,181
A. Forest Land	1,454	1,411	1,194	1,162	1,492	1,220	1,002	1,171	1,301	1,031
B. Cropland	229	249	241	236	219	220	228	218	223	219
C. Grassland	236	265	257	248	229	228	238	229	236	229
D. Wetlands	2,256	2,263	2,275	2,287	2,301	2,309	2,323	2,336	2,346	2,363
E. Settlements	116	110	110	110	111	111	112	114	116	116

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
F. Other Land	4	6	6	6	6	6	6	6	4	4
G. Other	0	0	0	0	1,785	1,995	1,890	1,575	1,365	1,218
6. Waste	195,406	197,108	195,552	193,780	191,830	189,820	185,926	179,187	167,020	161,593
A. Solid Waste Disposal on Land	174,830	176,862	175,770	174,363	172,490	170,397	166,768	159,931	147,825	142,618
B. Waste-water Handling	19,719	19,116	18,639	18,192	18,027	17,960	17,595	17,646	17,591	17,222
C. Waste Incineration	477	637	559	554	507	524	507	487	468	517
D. Other	380	493	585	671	806	939	1,057	1,123	1,136	1,236
7. Other	0	0	0	0	0	0	0	0	0	0
Memo Items:										
International Bunkers	120	111	113	116	114	119	120	127	135	134
Aviation	33	30	31	31	31	33	34	35	36	37
Marine	87	81	82	85	83	86	86	93	98	97
Multilateral Operations	0	0	0	0	0	0	0	0	0	0
CO_2 Emissions from Biomass	0	0	0	0	0	0	0	0	0	0

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GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
Total Emissions	480,791	466,211	456,782	446,250	433,106	426,204	421,700	416,322
1. Energy	108,825	104,356	101,210	97,524	92,774	90,065	87,685	84,205
A. Fuel Combustion (Sectoral Approach)	18,057	17,795	16,750	16,836	16,801	16,695	16,882	16,510
1. Energy Industries	1,313	1,362	1,390	1,408	1,444	1,443	1,376	1,344
2. Manufacturing Industries and Construction	1,621	1,597	1,558	1,589	1,626	1,602	1,580	1,625
3. Transport	2,862	2,700	2,504	2,341	2,170	1,997	1,901	1,798
4. Other Sectors	12,211	12,088	11,246	11,453	11,508	11,603	11,980	11,700
5. Other	50	48	51	44	52	50	46	43
B. Fugitive Emissions from Fuels	90,768	86,561	84,460	80,689	75,973	73,370	70,803	67,695
1. Solid Fuels	46,179	41,934	40,317	37,076	33,402	30,885	29,734	26,880
2. Oil and Natural Gas	44,589	44,627	44,143	43,612	42,571	42,485	41,069	40,815
2. Industrial Processes	1,163	1,108	1,050	1,187	1,215	1,222	1,228	1,253
A. Mineral Products	19	20	19	19	19	18	24	25
B. Chemical Industry	740	717	673	775	794	783	752	769
C. Metal Production	358	327	314	347	358	378	408	415
D. Other Production	0	0	0	0	0	0	0	0
E. Production of Halocarbons and SF_6	0	0	0	0	0	0	0	0

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
F. Consumption of Halocarbons and SF_6	0	0	0	0	0	0	0	0
G. Other	39	39	38	39	37	37	38	37
3. Solvent and Other Product Use	0	0	0	0	0	0	0	0
4. Agriculture	210,019	208,136	205,993	204,744	202,295	201,443	201,454	201,981
A. Enteric Fermentation	153,326	151,444	149,116	148,133	145,991	145,371	144,722	145,182
B. Manure Management	54,583	54,497	54,801	54,316	53,958	53,967	54,523	54,498
C. Rice Cultivation	2,177	2,203	2,268	2,350	2,460	2,332	2,357	2,457
D. Agricultural Soils	-630	-629	-627	-628	-628	-629	-625	-625
E. Prescribed Burning of Savannas	0	0	0	0	0	0	0	0
F. Field Burning of Agricultural Residues	562	621	435	574	514	401	477	469
G. Other	0	0	0	0	0	0	0	0
5. Land-Use, Land-Use Change and Forestry	5,503	5,022	5,069	5,552	4,967	5,193	5,329	5,079
A. Forest Land	1,394	1,017	1,121	1,616	1,079	1,331	1,467	1,233
B. Cropland	214	207	200	208	209	210	207	204
C. Grassland	233	226	210	222	217	218	216	216
D. Wetlands	2,386	2,402	2,410	2,438	2,466	2,481	2,506	2,513
E. Settlements	116	117	117	117	110	110	111	111
F. Other Land	5	4	3	6	4	4	4	4

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
G. Other	1,155	1,050	1,008	945	882	840	819	798
6. Waste	155,281	147,589	143,459	137,243	131,857	128,280	126,003	123,803
A. Solid Waste Disposal on Land	138,090	131,059	126,689	119,706	114,109	111,158	108,886	106,628
B. Waste-water Handling	15,376	14,678	14,817	15,588	15,671	15,105	15,067	15,095
C. Waste Incineration	455	457	471	446	553	498	472	453
D. Other	1,359	1,394	1,482	1,503	1,524	1,519	1,578	1,627
7. Other	0	0	0	0	0	0	0	0
Memo Items:								
International Bunkers	141	147	147	151	157	162	169	170
Aviation	37	38	37	38	42	41	42	42
Marine	104	109	110	113	116	120	127	128
Multilateral Operations	0	0	0	0	0	0	0	0
CO_2 Emissions from Biomass	0	0	0	0	0	0	0	0

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GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Emissions	512,591	484,828	466,169	447,393	453,804	454,829	459,533	457,628	434,318	411,497
1. Energy	35,683	36,029	35,684	35,958	36,804	38,305	38,999	38,922	39,604	39,573
A. Fuel Combustion (Sectoral Approach)	35,581	35,928	35,579	35,846	36,693	38,199	38,891	38,817	39,500	39,448
1. Energy Industries	11,647	11,855	11,591	11,117	11,162	11,152	11,569	11,043	11,328	10,843
2. Manufacturing Industries and Construction	7,936	7,609	7,373	7,118	7,179	7,294	7,130	7,216	6,972	6,837
3. Transport	7,459	7,825	8,332	9,150	10,226	11,646	11,770	12,485	13,322	13,903
4. Other Sectors	7,826	7,968	7,643	7,824	7,507	7,547	7,872	7,528	7,364	7,371
5. Other	713	669	639	637	620	560	550	545	514	494
B. Fugitive Emissions from Fuels	102	102	105	112	111	106	109	105	103	124
1. Solid Fuels	4	3	3	3	4	4	3	3	3	3
2. Oil and Natural Gas	98	98	102	109	107	102	105	102	100	122
2. Industrial Processes	117,916	112,004	108,763	102,814	108,093	107,901	110,547	106,020	83,403	63,189
A. Mineral Products	0	0	0	0	0	0	0	0	0	0
B. Chemical Industry	117,834	111,920	108,678	102,727	108,006	107,813	110,459	105,926	83,311	63,095
C. Metal Production	13	10	10	10	11	11	11	12	11	10
D. Other Production	0	0	0	0	0	0	0	0	0	0

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
E. Production of Halocarbons and SF_6	0	0	0	0	0	0	0	0	0	0
F. Consumption of Halocarbons and SF_6	0	0	0	0	0	0	0	0	0	0
G. Other	3	3	5	4	5	5	6	6	6	8
3. Solvent and Other Product Use	4,839	4,682	4,648	4,581	4,435	4,440	4,507	4,417	4,462	4,303
4. Agriculture	337,714	315,642	300,671	287,597	287,748	287,669	289,128	291,826	289,909	287,453
A. Enteric Fermentation	0	0	0	0	0	0	0	0	0	0
B. Manure Management	43,438	42,138	39,949	37,851	37,508	37,313	36,901	36,938	36,863	36,271
C. Rice Cultivation	0	0	0	0	0	0	0	0	0	0
D. Agricultural Soils	293,964	273,205	260,469	249,533	250,027	250,143	252,017	254,660	252,839	250,985
E. Prescribed Burning of Savannas	0	0	0	0	0	0	0	0	0	0
F. Field Burning of Agricultural Residues	312	299	253	213	212	213	210	228	207	198
G. Other	0	0	0	0	0	0	0	0	0	0
5. Land-Use, Land-Use Change and Forestry	4,186	4,112	4,029	4,076	4,220	4,076	3,818	3,842	4,191	4,134
A. Forest Land	304	241	203	187	229	199	173	194	208	180
B. Cropland	3,769	3,756	3,709	3,772	3,875	3,761	3,524	3,528	3,860	3,831
C. Grassland	24	27	26	25	23	23	24	23	24	23
D. Wetlands	69	70	72	73	74	75	77	79	80	81
E. Settlements	11	11	11	11	11	11	11	11	11	11

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
F. Other Land	0	1	1	1	1	1	1	1	0	0
G. Other	7	7	7	7	7	7	7	7	7	7
6. Waste	12,254	12,358	12,375	12,367	12,504	12,439	12,533	12,601	12,749	12,846
A. Solid Waste Disposal on Land	0	0	0	0	0	0	0	0	0	0
B. Waste-water Handling	11,783	11,792	11,804	11,765	11,854	11,701	11,738	11,859	11,928	11,936
C. Waste Incineration	320	382	356	361	352	382	372	317	339	366
D. Other	135	165	192	220	280	348	418	421	478	540
7. Other	0	0	0	0	0	0	0	0	0	0
Memo Items:										
International Bunkers	1,954	1,888	1,942	2,036	2,114	2,081	2,302	2,477	2,622	2,459
Aviation	577	565	611	645	686	718	756	790	850	917
Marine	1,377	1,323	1,331	1,391	1,428	1,364	1,546	1,687	1,772	1,542
Multilateral Operations	0	0	0	0	0	0	0	0	0	0
CO_2 Emissions from Biomass	0	0	0	0	0	0	0	0	0	0

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GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
Total Emissions	409,013	402,951	391,660	390,664	394,348	389,031	375,323	373,866
1. Energy	39,882	40,671	40,544	41,208	41,443	41,197	41,586	41,309
A. Fuel Combustion (Sectoral Approach)	39,759	40,550	40,426	41,097	41,328	41,079	41,475	41,204
1. Energy Industries	11,094	11,463	11,547	11,790	11,706	11,715	11,850	11,884
2. Manufacturing Industries and Construction	6,865	6,917	6,829	6,908	6,954	7,008	7,158	7,122
3. Transport	14,057	14,251	14,366	14,475	14,644	14,392	14,550	14,689
4. Other Sectors	7,270	7,485	7,259	7,462	7,532	7,515	7,464	7,073
5. Other	474	433	425	463	491	449	453	437
B. Fugitive Emissions from Fuels	123	121	118	111	115	118	112	105
1. Solid Fuels	3	3	3	3	4	3	3	3
2. Oil and Natural Gas	120	118	115	108	111	116	109	102
2. Industrial Processes	65,214	64,612	56,786	59,667	61,203	61,908	50,345	51,355
A. Mineral Products	0	0	0	0	0	0	0	0
B. Chemical Industry	65,114	64,514	56,691	59,565	61,102	61,783	50,216	51,226
C. Metal Production	10	8	6	8	9	32	36	37
D. Other Production	0	0	0	0	0	0	0	0
E. Production of Halocarbons and SF_6	0	0	0	0	0	0	0	0

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
F. Consumption of Halocarbons and SF_6	0	0	0	0	0	0	0	0
G. Other	6	6	6	6	6	6	6	6
3. Solvent and Other Product Use	4,184	3,967	3,937	3,857	3,848	3,610	3,876	3,786
4. Agriculture	283,177	276,675	273,410	268,810	270,551	264,995	262,025	260,235
A. Enteric Fermentation	0	0	0	0	0	0	0	0
B. Manure Management	35,096	34,964	34,511	33,707	33,191	33,179	33,051	33,116
C. Rice Cultivation	0	0	0	0	0	0	0	0
D. Agricultural Soils	247,916	241,544	238,785	234,963	237,231	231,711	228,854	227,003
E. Prescribed Burning of Savannas	0	0	0	0	0	0	0	0
F. Field Burning of Agricultural Residues	165	167	115	140	128	105	119	116
G. Other	0	0	0	0	0	0	0	0
5. Land-Use, Land-Use Change and Forestry	3,447	3,909	3,697	3,859	3,746	3,741	3,865	3,441
A. Forest Land	221	177	194	260	182	221	236	221
B. Cropland	3,102	3,551	3,324	3,420	3,375	3,338	3,449	3,042
C. Grassland	24	23	22	23	27	22	22	22
D. Wetlands	82	82	81	81	86	85	85	83
E. Settlements	11	12	12	12	11	11	11	11
F. Other Land	0	0	0	1	0	0	0	0

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
G. Other	7	64	64	64	64	64	61	61
6. Waste	13,109	13,117	13,286	13,262	13,557	13,579	13,625	13,739
A. Solid Waste Disposal on Land	0	0	0	0	0	0	0	0
B. Waste-water Handling	12,048	12,111	12,133	12,164	12,284	12,329	12,391	12,465
C. Waste Incineration	455	365	458	366	472	379	365	363
D. Other	603	639	694	731	799	869	868	909
7. Other	0	0	0	0	0	0	0	0
Memo Items:								
International Bunkers	2,774	2,817	3,126	3,208	3,407	3,537	3,786	4,025
Aviation	1,142	1,128	1,115	1,144	1,242	1,301	1,356	1,406
Marine	1,632	1,689	2,011	2,064	2,165	2,236	2,429	2,619
Multilateral Operations	0	0	0	0	0	0	0	0
CO_2 Emissions from Biomass	0	0	0	0	0	0	0	0

B4 EU-27 F-gases

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GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Emissions of HFCs - CO_2 equivalent (Gg)	**28,014**	**27,699**	**29,146**	**31,468**	**35,729**	**41,394**	**47,510**	**53,907**	**55,421**	**48,218**
2 B Chemical Industry	0	0	0	0	0	0	0	0	0	0
2 C Metal Production	0	0	0	0	0	0	0	0	0	0
2 E Production of Halocarbons and SF_6	27,459	27,116	28,370	28,223	30,838	32,864	34,073	36,630	33,376	23,062
2 F Consumption of Halocarbons and SF_6	555	584	776	3,244	4,892	8,530	13,437	17,277	22,045	25,155
Emissions of PFCs - CO_2 equivalent (Gg)	**19,740**	**18,156**	**15,196**	**14,259**	**13,638**	**13,542**	**12,947**	**10,546**	**9,901**	**9,669**
2 B Chemical Industry	0	0	0	0	0	0	0	0	0	0
2 C Metal Production	16,257	14,690	11,656	10,462	9,508	9,652	9,111	7,507	7,434	7,184
2 E Production of Halocarbons and SF_6	2,898	2,831	2,850	3,019	3,328	2,814	2,574	1,552	1,034	698
2 F Consumption of Halocarbons and SF_6	585	636	689	778	803	1,076	1,262	1,487	1,433	1,787
Emissions of SF_6 - CO_2 equivalent (Gg)	**11,035**	**11,477**	**12,302**	**13,219**	**14,584**	**15,660**	**15,490**	**13,860**	**13,061**	**11,029**
2 B Chemical Industry	0	0	0	0	0	0	0	0	0	0
2 C Metal Production	72	74	74	76	81	85	93	84	88	93

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
2 E Production of Halocarbons and SF_6	1,815	1,729	1,896	1,829	2,188	2,358	2,198	599	339	136
2 F Consumption of Halocarbons and SF_6	7,224	7,705	8,359	9,291	9,856	10,652	10,399	10,565	9,876	7,917

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GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2000	2001	2002	2003	2004	2005	2006	2007
Emissions of HFCs - CO_2 equivalent (Gg)	**47,556**	**46,415**	**49,033**	**53,306**	**54,438**	**58,521**	**59,816**	**63,111**
2 B Chemical Industry	0	0	0	0	0	0	0	0
2 C Metal Production	0	0	0	0	1	3	3	10
2 E Production of Halocarbons and SF_6	17,369	10,908	8,995	7,894	5,350	4,715	2,577	1,832
2 F Consumption of Halocarbons and SF_6	30,187	35,507	40,037	45,412	49,087	53,802	57,235	61,269
Emissions of PFCs - CO_2 equivalent (Gg)	**8,278**	**7,522**	**9,309**	**7,748**	**6,376**	**5,246**	**4,669**	**4,391**
2 B Chemical Industry	0	0	0	0	0	0	0	0
2 C Metal Production	5,553	4,912	6,952	5,024	3,724	2,999	2,583	2,433
2 E Production of Halocarbons and SF_6	678	662	489	748	785	475	345	322
2 F Consumption of Halocarbons and SF_6	2,047	1,948	1,869	1,983	1,873	1,775	1,748	1,644
Emissions of SF_6 - CO_2 equivalent (Gg)	**11,108**	**10,547**	**9,580**	**9,252**	**9,299**	**9,336**	**9,751**	**9,543**
2 B Chemical Industry	0	0	0	0	0	0	0	0
2 C Metal Production	117	125	122	114	114	120	136	125
2 E Production of Halocarbons and SF_6	143	100	120	155	117	117	125	0

B5 EU-27 Total GHGs

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GREENHOUSE GAS EMISSIONS	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CO_2 emissions including net CO2 from LULUCF	4,056,832	3,943,038	3,791,049	3,738,356	3,709,789	3,754,531	3,838,289	3,752,604	3,741,267	3,668,580
CO_2 emissions excluding net CO2 from LULUCF	4,399,537	4,342,615	4,190,684	4,126,391	4,103,084	4,150,189	4,251,015	4,162,569	4,151,905	4,084,285
CH_4	601,589	587,896	570,665	561,187	548,465	547,120	541,149	525,090	505,049	494,008
CH_4 (without LUCF)	597,294	583,593	566,582	557,137	542,323	541,032	535,349	519,441	499,459	488,827
N_2O	512,591	484,828	466,169	447,393	453,804	454,829	459,533	457,628	434,318	411,497
N_2O (without LUCF)	508,406	480,716	462,140	443,317	449,584	450,753	455,715	453,786	430,127	407,363
HFCs	28,014	27,699	29,146	31,468	35,729	41,394	47,510	53,907	55,421	48,218
PFCs	19,740	18,156	15,196	14,259	13,638	13,542	12,947	10,546	9,901	9,669
SF_6	11,035	11,477	12,302	13,219	14,584	15,660	15,490	13,860	13,061	11,029
Total (including net CO_2 from LULUCF)	5,229,801	5,073,095	4,884,527	4,805,882	4,776,009	4,827,077	4,914,786	4,813,446	4,758,434	4,642,876
Total (excluding net CO_2 from LULUCF)	5,572,506	5,472,672	5,284,162	5,193,917	5,169,304	5,222,735	5,327,511	5,223,411	5,169,072	5,058,580
Total (without LULUCF)	**5,564,025**	**5,464,256**	**5,276,050**	**5,185,790**	**5,158,942**	**5,212,571**	**5,318,026**	**5,214,109**	**5,159,874**	**5,049,390**

GREENHOUSE GAS SOURCE AND SINK	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1. Energy	4,277,406	4,244,074	4,096,713	4,043,337	3,993,254	4,031,512	4,142,270	4,037,064	4,024,333	3,963,565
2. Industrial Processes	477,995	440,681	424,968	409,812	437,774	455,942	452,542	459,742	432,444	392,808
3. Solvent and Other Product Use	16,242	15,763	15,119	14,656	13,788	13,881	13,937	13,970	14,149	13,728
4. Agriculture	579,476	548,775	525,757	506,452	504,548	504,075	506,016	507,313	505,040	501,030
5. Land-Use Change and Forestry	-334,225	-391,161	-391,523	-379,909	-382,933	-385,494	-403,108	-400,474	-400,857	-406,390
6. Waste	212,906	214,964	213,492	211,533	209,577	207,160	203,261	196,020	183,907	178,259
7. Other	0	0	0	0	0	0	0	0	0	0
Total (with LUCF)	5,229,801	5,073,095	4,884,527	4,805,882	4,776,009	4,827,077	4,914,918	4,813,635	4,759,017	4,643,001
Total (without LUCF)	5,564,025	5,464,256	5,276,050	5,185,790	5,158,942	5,212,571	5,318,026	5,214,109	5,159,874	5,049,390

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GREENHOUSE GAS EMISSIONS	2000	2001	2002	2003	2004	2005	2006	2007
CO_2 emissions including net CO2 from LULUCF	3,714,093	3,758,011	3,722,237	3,793,117	3,819,367	3,783,429	3,794,320	3,770,979
CO_2 emissions excluding net CO2 from LULUCF	4,105,781	4,184,401	4,158,060	4,252,345	4,264,404	4,231,549	4,243,101	4,186,657
CH_4	480,791	466,211	456,782	446,250	433,106	426,204	421,700	416,322
CH_4 (without LUCF)	475,288	461,189	451,713	440,698	428,140	421,010	416,371	411,243
N_2O	409,013	402,951	391,660	390,664	394,348	389,031	375,323	373,866
N_2O (without LUCF)	405,566	399,042	387,963	386,805	390,601	385,289	371,457	370,425
HFCs	47,556	46,415	49,033	53,306	54,438	58,521	59,816	63,111
PFCs	8,278	7,522	9,309	7,748	6,376	5,246	4,669	4,391
SF_6	11,108	10,547	9,580	9,252	9,299	9,336	9,751	9,543
Total (including net CO_2 from LULUCF)	4,670,838	4,691,658	4,638,600	4,700,337	4,716,935	4,671,767	4,665,579	4,638,213
Total (excluding net CO_2 from LULUCF)	5,062,526	5,118,048	5,074,423	5,159,565	5,161,972	5,119,887	5,114,359	5,053,891
Total (without LULUCF)	**5,053,576**	**5,109,116**	**5,065,657**	**5,150,154**	**5,153,259**	**5,110,952**	**5,105,165**	**5,045,371**

GREENHOUSE GAS SOURCE AND SINK	2000	2001	2002	2003	2004	2005	2006	2007
1. Energy	3,969,634	4,053,342	4,022,517	4,108,873	4,106,381	4,066,421	4,067,711	3,999,083
2. Industrial Processes	405,059	393,545	390,423	400,991	412,528	419,983	417,664	430,558
3. Solvent and Other Product Use	13,502	12,955	12,823	12,574	12,624	12,405	12,513	12,362
4. Agriculture	493,196	484,810	479,403	473,554	472,846	466,438	463,479	462,217
5. Land-Use Change and Forestry	-382,737	-417,458	-427,058	-449,817	-436,324	-439,186	-439,586	-407,158
6. Waste	172,186	164,464	160,492	154,161	148,881	145,706	143,797	141,152
7. Other	0	0	0	0	0	0	0	0
Total (with LUCF)	4,670,838	4,691,658	4,638,600	4,700,337	4,716,935	4,671,767	4,665,579	4,638,213
Total (without LUCF)	5,053,576	5,109,116	5,065,657	5,150,154	5,153,259	5,110,952	5,105,165	5,045,371

Appendix C - Further information: Policies and measures

C1 Summary of Rural Development Policy Actions

RD Measures	**Actions**	**Potential**
Axis 1:		
Modernisation of agricultural holdings	Investments in energy-efficient equipment and buildings Investments for on-farm use of renewable energies	Potential for energy savings and reduction of CO_2 emissions
	Plantation of multi-annual energy crops (e.g., miscanthus, short rotation coppice)	Contribution to biomass-based energies that can replace GHG emission-intensive fossil fuels
	Support to investments in biogas plants (using animal manure)	Potential for reductions of CH_4 emissions
	Investments in manure management storage facilities Investments in equipment for better application of fertiliser (spreader, precision farming)	Potential for reductions of CH_4 and N_2O emissions

RD Measures	Actions	Potential
Axis 1:		
Training	Targeted training to climate change issues or inclusion in the training programmes	Better farmers' knowledge about main flows of GHG emissions of farm activities and mitigation measures
Improvement in the economic value of forests	Improving the wood production (e.g.: thinning, changes in the tree species composition)	Substitution of fossil fuels or high energy content material as steal or concrete
Adding value of forestry products	Development of new products, processes and technologies to use wood	Increasing of the use of low-value timber, small-sized wood and wood residues for energy production.

RD Measures	**Actions**	**Potential**
Axis 2:		
Agri-environmental measures	Reduction of fertilisers use Conversion of arable land to permanent pastures Maintenance of permanent fallows areas Extensification of livestock (such as reduction stocking density) Soil conservation techniques (minimum, no-tillage) maintenance of green cover Organic farming	Agri-environmental measures hold an important potential to stimulate adoption of targeted or climate-relevant measures to reduce CH_4 and N_2O emissions, reduce carbon losses and enhance carbon sinks
Non-productive investments	Planting of hedgerows (under measure)	
First afforestation of agricultural land	Support to the establishments of forests on lands in other uses	Promote carbon sequestration in afforested land and provide renewable energy and materials in the future
First afforestation of non agricultural land		

RD Measures	Actions	Potential
Axis 2:		
Forest-environment	Forest management enhancing carbon sink pool of forests: continuous forest cover, special regeneration systems, Tree species composition	Promote carbon sinks in and enhance adaptation of forests
Restoring forestry potential and prevention actions	Forest fire prevention actions	Recover potential for carbon sequestration / avoid CO_2 emissions (in case of forest fires)
Non-productive investments	Changing the tree species composition for environmental reason	Promote the transformation to more resilient forest stand type

RD Measures	**Actions**	**Potential**
Axis 3:		
Diversification into non-agricultural activities	Support to biogas plants on farm Support to biomass plants for local production of renewable energy (electricity and heating)	These measures contribute to reduction of CO_2 emissions by the provision of biomass-based energies that replace CO_2 emission-intensive energies
Support for business creation and development (micro-enterprises)	Building renewable energy infrastructure	
Basic services for the economy and rural population	Installations of renewable energies for local energy provision	

Appendix D - Projection data tables

Table 1- Summary of GHG emission projections for EU 15 countries by sector, excluding LULUCF (Mt CO_2 eq)

SECTOR	BY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Energy (excluding transport)	NA	2558	2577	2479	2423	2399	2418	2486	2409	2428	2383	2397	2459
Transport	NA	699	713	738	746	750	760	777	786	810	830	831	840
Industrial Processes	NA	372	361	349	339	361	371	369	378	357	325	330	321
Agriculture	NA	419	410	405	398	400	402	406	407	407	406	403	394
Waste	NA	171	173	172	170	168	165	161	153	148	141	136	129
Other	NA	14	13	13	13	12	12	12	12	12	12	12	11
Total	**4266**	**4233**	**4247**	**4157**	**4089**	**4089**	**4128**	**4210**	**4146**	**4163**	**4098**	**4108**	**4154**
Marine	NA	104	103	104	108	105	107	114	124	130	124	130	135
Aviation	NA	62	62	67	71	75	80	84	89	96	104	110	109

SECTOR	2002	2003	2004	2005	2006	2007	2010		2015		2020	
							WEM	WAM	WEM	WAM	WEM	WAM
Energy (excluding transport)	2434	2487	2477	2452	2438	2369	2309	2256	2363	2186	2342	2027
Transport	850	856	867	862	863	864	861	843	882	839	894	827
Industrial Processes	320	325	331	332	325	332	308	307	314	309	318	311
Agriculture	389	385	383	377	373	371	364	364	360	361	356	356
Waste	123	117	112	109	107	105	92	92	85	82	80	77
Other	11	11	10	10	10	10	10	10	10	10	10	10
Total	**4127**	**4180**	**4180**	**4141**	**4116**	**4052**	**3946**	**3873**	**4015**	**3789**	**4002**	**3610**
Marine	140	142	150	158	168	170	138	138	145	145	154	154
Aviation	106	110	119	124	129	133	93	91	109	107	127	125

Table - 2 Summary of GHG emission projections for EU 27 countries by sector (Mt CO2 eq)

SECTOR	BY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Energy (excluding transport)	3498	3460	3289	3227	3171	3194	3280	3164	3123	3046	3052	3122	3498
Transport	780	785	808	816	823	838	863	873	901	918	918	931	780
Industrial Processes	478	441	425	410	438	456	453	460	432	393	405	394	478
Agriculture	579	549	526	506	505	504	506	507	505	501	493	485	579
Waste	213	215	213	212	210	207	203	196	184	178	172	164	213
Other	16	16	15	15	14	14	14	14	14	14	14	13	16
Total	**5564**	**5464**	**5276**	**5186**	**5159**	**5213**	**5318**	**5214**	**5160**	**5049**	**5054**	**5109**	**5564**
Marine	75	75	77	80	78	80	84	91	95	92	96	102	75
Aviation	42	42	46	49	52	56	58	62	67	71	76	75	42

SECTOR	2002	2003	2004	2005	2006	2007	2010		2015		2020	
							WEM	WAM	WEM	WAM	WEM	WAM
Energy (excluding transport)	3079	3155	3134	3095	3090	3017	3020	2951	3113	2910	3128	2784
Transport	944	954	973	972	978	983	992	971	1024	975	1045	970
Industrial Processes	390	401	413	420	418	431	403	399	420	412	432	422
Agriculture	479	474	473	466	463	462	461	459	462	459	462	459
Waste	160	154	149	146	144	141	135	135	130	127	128	124
Other	13	13	13	12	13	12	12	12	11	11	12	12
Total	**5066**	**5150**	**5153**	**5111**	**5105**	**5045**	**5024**	**4929**	**5161**	**4896**	**5208**	**4771**
Marine	102	102	108	115	122	121	141	141	149	149	157	157
Aviation	74	76	83	88	91	92	1	92	110	109	128	126

Table - 3 Summary of GHG emission projections for EU 15 countries by gas (Mt CO_2 eq)

GAS	BY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
CO2	NA	3360	3383	3306	3252	3252	3286	3363	3308	3355	3328	3354	3422
CH4	NA	436	432	426	423	414	411	406	394	385	376	366	354
N2O	NA	387	383	376	363	370	371	375	374	354	334	331	323
F-gases	NA	56	54	55	57	62	68	73	76	76	67	64	61
Total	**4266**	**4239**	**4253**	**4162**	**4095**	**4097**	**4136**	**4218**	**4153**	**4170**	**4104**	**4114**	**4160**
GAS	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2010**		**2015**		**2020**		
							WEM	**WAM**	**WEM**	**WAM**	**WEM**	**WAM**	
CO2	3411	3477	3488	3459	3452	3391	3306	3235	3393	3176	3391	3013	
CH4	344	331	320	314	309	305	279	279	266	262	255	249	
N2O	315	313	314	309	295	292	289	288	280	278	279	276	
F-gases	64	65	65	66	67	69	72	71	77	73	77	71	
Total	**4134**	**4187**	**4187**	**4148**	**4122**	**4058**	**3946**	**3873**	**4015**	**3789**	**4002**	**3610**	

Table - 4 Summary of GHG emission projections for EU 27 countries by gas (Mt CO_2 eq)

GAS	BY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
CO2	NA	4400	4343	4191	4126	4103	4150	4251	4163	4152	4084	4106	4184
CH4	NA	602	588	571	561	548	547	541	525	505	494	481	466
N2O	NA	513	485	466	447	454	455	460	458	434	411	409	403
F-gases	NA	59	57	57	59	64	71	76	78	78	69	67	64
Total	**NA**	**5573**	**5473**	**5284**	**5194**	**5169**	**5223**	**5328**	**5224**	**5170**	**5059**	**5063**	**5118**
GAS	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2010**		**2015**		**2020**		
							WEM	**WAM**	**WEM**	**WAM**	**WEM**	**WAM**	
CO2	4158	4252	4264	4232	4243	4187	4176	4086	4322	4072	4373	3956	
CH4	457	446	433	426	422	416	395	393	383	376	375	366	
N2O	392	391	394	389	375	374	374	373	372	368	376	370	
F-gases	68	70	70	73	74	77	79	77	84	80	85	79	
Total	**5074**	**5160**	**5162**	**5120**	**5114**	**5054**	**5024**	**4929**	**5161**	**4896**	**5208**	**4771**	

Table - 5 Summary of GHG emission projections for EU 15 countries by sector and by gas for the "with existing measures" scenario (Mt CO_2 eq)

Sector	CO2			CH4			N2O			F-gases		
	2010	**2015**	**2020**	**2010**	**2015**	**2020**	**2010**	**2015**	**2020**	**2010**	**2015**	**2020**
Energy (excl. transport)	2243	2300	2281	41	38	34	23	23	23	0	0	0
Transport	846	867	881	1	1	1	16	15	15	0	0	0
Industrial processes	209	217	220	0	0	0	27	19	20	72	77	77
Waste	3	3	3	77	70	65	11	12	12	0	0	0
Agriculture	0	0	0	157	155	153	206	205	203	0	0	0
Other	5	5	5	1	1	1	6	6	6	0	0	0
Total	**3306**	**3393**	**3391**	**279**	**266**	**255**	**289**	**280**	**279**	**72**	**77**	**77**

Table - 6 Summary of GHG emission projections for EU 15 countries by sector and by gas for the "with additional measures" scenario (Mt CO_2 eq)

Sector	CO2			CH4			N2O			F-gases		
	2010	**2015**	**2020**	**2010**	**2015**	**2020**	**2010**	**2015**	**2020**	**2010**	**2015**	**2020**
Energy (excl. transport)	2192	2128	1974	41	37	32	22	22	21	0	0	0
Transport	826	823	811	1	1	1	15	15	15	0	0	0
Industrial processes	209	217	220	0	0	0	27	19	20	71	73	71
Waste	3	3	3	77	67	62	11	12	12	0	0	0
Agriculture	0	0	0	157	155	153	207	205	203	0	0	0
Other	5	5	5	1	1	1	6	6	6	0	0	0
Total	**3235**	**3176**	**3013**	**279**	**262**	**249**	**288**	**278**	**276**	**71**	**73**	**71**

Table 7 - Summary of GHG emission projections for EU 27 countries by sector and by gas for the "with existing measures" scenario (Mt CO_2 eq)

Sector	CO2			CH4			N2O			F-gases		
	2010	2015	2020	2010	2015	2020	2010	2015	2020	2010	2015	2020
Energy (excl. transport)	2910	3005	3023	81	79	76	27	28	28	0	0	0
Transport	974	1006	1027	2	2	1	19	18	18	0	0	0
Industrial processes	282	299	308	1	1	1	41	36	38	79	84	85
Waste	5	6	8	117	110	105	14	14	15	0	0	0
Agriculture	0	0	0	193	192	190	267	270	271	0	0	0
Other	6	6	6	1	1	1	6	6	6	0	0	0
Total	**4176**	**4322**	**4373**	**395**	**383**	**375**	**374**	**372**	**376**	**79**	**84**	**85**

Table - 8 Summary of GHG emission projections for EU 27 countries by sector and by gas for the "with additional measures" scenario (Mt CO_2 eq)

Sector	CO2			CH4			N2O			F-gases		
	2010	2015	2020	2010	2015	2020	2010	2015	2020	2010	2015	2020
Energy (excl. transport)	2844	2808	2687	80	76	73	26	26	25	0	0	0
Transport	951	956	951	2	1	1	18	18	18	0	0	0
Industrial processes	279	295	304	1	1	1	41	35	37	77	80	79
Waste	5	6	8	117	106	101	14	15	15	0	0	0
Agriculture	0	0	0	193	190	189	267	268	269	0	0	0
Other	6	6	6	1	1	1	6	6	6	0	0	0
Total	**4086**	**4072**	**3956**	**393**	**376**	**366**	**373**	**368**	**370**	**77**	**80**	**79**

Appendix E - Summary of Member State projections methodologies

MS	Description Projections Methodology	QA/QC Activities
Austria	Projections are calculated based on models, sectoral forecasts (mainly activity data) and other projected parameters. Emission projections are generally calculated applying the same methodologies as for the national GHG inventory. These are reported in Austria's National Inventory Report 2009. The emission projections are based on the following sectoral forecasts: • Energy Forecast, based on the National Energy Balance of Statistics Austria and on a macro-economic model of the Austrian Institute of Economic Research (WIFO 2007a), supported by calculations with the bottom-up models BALMOREL, LEAP (AEA) and ERNSTL (EEG). • Transport Forecast, based on a bottom-up, national transport model GLOBEMI (Technical University of Graz). • Forecast of emissions from industrial processes, of solvent emissions and emissions of fluorinated gases are based on expert judgements of the Umweltbundesamt. • Agricultural Forecast, based on the PASMA model of the Austrian Institute of Economical Research (SINABELL & SCHMID 2005) and expert consultations with the Agricultural Research and Education Centre, Gumpenstein (PÖLLINGER 2005, 2008). • Waste Forecast, based on the forecast of quantity of waste deposited and wastewater handled of the Umweltbundesamt.	A questionnaire has been used for checking input data regarding the most important data quality requirements. The project strategy includes several data consistency checks. A fixed input form has been used for each sector. In general, data quality checks similar to the management system of the Austrian Air Emission Inventory have been performed in each sector. Often the person who is responsible for the sectoral emission is identical to the person who is responsible for the Inventory, and some sectors use emission methods based on the verified inventory methods. An output data check has been carried out by comparing the results of the sectors in detail and checking the plausibility of the emission trends. The report also presents sensitivity assessments for specific sectors, analysing increase and decrease of key factors such as gas price, electricity demand etc or combination of key factors. The variation of the chosen input parameters in the sensitivity analysis can be seen as an indicator of the overall uncertainty caused by changed input data.

MS	Description Projections Methodology	QA/QC Activities
Belgium	Projections are the sum of regional bottom-up projections which are calibrated on the regional energy balances. The bottom-up approach starts from the demand side and the consumption needs of different sectors. The calculations of the projections are based on the following models: • MARKAL aims to supply energy services at minimum loss of surplus by making decisions on equipment investment and operation energy supply and trade. The model can take into account price effects, policies, supply curves and different technologies to transform primary resources into energy services. • EPM explains energy consumptions and GHG emissions from activity variables and containing a detailed representation of emission sources and the main factors of the evolution of energy demand. • EBEEPM studies energy demand and atmospheric emissions from stationary sources (residential, tertiary, industry and energy sector). • TREMOVE studies the effects of different transport and environmental policies on the emissions of the transport sector (maritime not included).	As a first sensitivity analysis (of the WEM scenario) the compiled regional projections are compared with national projections calculated with the econometric model HERMES. In other words this is a comparison of the technological bottom-up approach with the macro-economic top-down approach. Furthermore sensitivity analyses are performed for some other important parameters such as number of degree-days, nuclear phase out, etc. without however taking indirect effects into account.
Bulgaria	The projections were made using the ETS verified electricity emissions from 2005 to 2008 in relation to the projections for the electricity production of the Electricity Authority of Cyprus to project the GHG emissions up-to 2020. Since the 2008 ETS verified report for electricity production shows a difference of approximately 30% when compared without the set-aside.	Information not available
Cyprus	The projections were made using the ETS verified electricity emissions from 2005 to 2008 in relation to the projections for the electricity production of the Electricity Authority of Cyprus to project the GHG emissions up-to 2020. Since the 2008 ETS verified report for electricity production shows a difference of approximately 30% when compared without the set-aside.	Information not available

MS	Description Projections Methodology	QA/QC Activities
Czech Republic	The largest source of greenhouse gas emissions in the Czech Republic are energy processes. Therefore, the projections of emissions were largely calculated using a complex EFOM/ENV energy management model. This model requires as input the technological database, database of fuels, energies and demand for energy. The projection of the population number is based on the CSO publication “Projection of the Population of the Czech Republic until 2050 (publication code No. 4020-03)“. In terms of Economic Growth, there exists no official long-term prospect prediction of GDP trend. In view of current economic crisis, this projection holds a lot of uncertainties. Economic development is a dominant factor influencing results of the projection. In this situation, a sensitivity analysis of the projections would be most beneficial in terms of economic development as the influence of other factor will be significantly lower.	In view of current economic crisis, this projection holds a lot of uncertainties. Economic development is a dominant factor influencing results of the projection. Possible development varies from fast recovery from crisis to further crash and economic recession over several years. In this situation, a sensitivity analysis of the projections would be most beneficial in terms of economic development as the influence of other factor will be significantly lower.
Denmark	The emissions are projected to 2025 using basic scenarios together with the expected results of individual policy measures. Official Danish forecasts of activity rates are used in the models for those sectors for which the forecasts are available, i.e. the latest official forecast from the Danish Energy Agency.	The projections models are based on the same structure and methodology as the Danish emission inventories in order to ensure consistency. In the referenced Technical Report No. 703, 2009 "Projection of Greenhouse Gas Emissions 2007 to 2025" consistency checks of sums etc. have been performed by NERI. With NERI also being responsible for providing Denmark's annual GHG inventories, consistency with historic emissions is obtained. Other institutions being responsible for some of the activity data projection (in particular the Danish Energy Agency providing the energy projections) have many years of experience with projection work and fine tuning and validation of models etc. Occasionally historic trends have been compared with projections from the past. Taking into account unpredictable inter annual variations in temperature, net electricity imports (primarily due to unpredictable variations in precipitation in Norway and Sweden) and inventory time series recalculations due new knowledge about emission factors etc., the trends projected in the past coincide pretty well with historic trends.

MS	Description Projections Methodology	QA/QC Activities
Estonia	These projections are based on the use on energy supply development model NEEDS (or NEEDS/TIMES). The development work was carried out as an Integrated Project under the EU 6th Framework Programme addresses Priority 6.1: Sustainable Energy Systems and, more specifically, Sub-priority 6.1.3.2.5: Socio-economic tools and concepts for energy strategy. The main objective of the elaboration of the NEEDS was to evaluate the full costs and benefits of energy policies and of future energy systems, both at the level of individual countries and for the enlarged EU as a whole. This huge amount of work, related to the development of the model of a large region and a numbers of countries inside it had to give a tool for projection of and planning of the energy supply development as in the EU as whole so in each member country as well. The tool selected for this modelling is the Integrated MARKAL-EFOM System (TIMES). A long-term time horizon (2050, by 5-year step) is used to support the definition of long term strategies, taking into account different standards of energy devices and technologies development. The main source for the base-year of all countries of the model is the Eurostat database. The section "Energy and Environment" of this database provides all the energy flows for the base- year (2006), as well as the installed capacities for power plants and import/export figures. Methodological consistency with other important global energy modelling efforts (US-EIA) is maintained using the VEDA database system for the NEEDS/TIMES national and Pan-European models.	At the given state of the development of the NEEDS/TIMES model of the pan EU energy supply development model one of possible ways for the sensitivity analysis of a country model is to compare the differences of the electricity production and the CO2 emission in 2020 depending on the electricity generated by different renewable energy sources.
Finland	The projections reported are based on the background calculations of the long-term climate and energy strategy for Finland. The baseline scenario is the basis for WM projections and the objective scenario for WAM projections. The key starting points for the projections are the development of national economy and its structure, population, energy prices in the world markets, the price of emission allowances in the baseline scenario and the development of the technology as well as various sector-specific issues.	The P&M-report has been prepared by an inter-ministerial working group including members from all relevant ministries and Statistics Finland. The projections were prepared for the long-term climate and energy strategy. More information on the strategy preparation can be found in p.8 of the report.
France	References 1 to 4 describe the energy scenario and economical parameters. The methodology is described in the report made by CITEPA for the MEEDDAT; WEM includes all measures decided before 1st January 2008 and WAM includes all WEM and measures decide	QA/DC activities have been carried out in all the process of development of projections. Our reference year is 2006. the methodology used for projection does not take into account all the detailed activities considered in the yearly emission inventory.

MS	Description Projections Methodology	QA/QC Activities
Germany	For the scenario development, an energy system model is deployed, with the help of which the results of detailed (and in part, model-based) sectoral analyses are consolidated to a consistent and comprehensive data set for the energy-economic development.	Inventory data is subject to quality controls as prescribed in article 12 as well as to documentation and archiving. Several ministries and agencies are involved.
Greece	The two main models used are TIMES / MARKAL in combination with WASP IV and COSTPLUS for the energy sector simulates the energy market, and spreadsheet models for the non-energy sectors in which future changes in activity data are derived from statistical analysis and emissions factors based on the IPCC guidelines.	Information not available
Ireland	The projections for Ireland are, underpinned by SEI's energy forecasts which are based on the Credit Crunch scenario from the ESRI's 2008 Medium-Term Review. This assumes a recession in the short term (2008-2009) but that the economy reverts back to where it otherwise would have been by 2020. Since these energy forecasts were prepared the economic outlook has deteriorated even further than anticipated. As a result an Economic Shock has been discussed as part of a sensitivity analysis. The Economic Shock was applied to two scenarios used to develop the Emissions projections. • With Measures is based on the Baseline energy forecast and includes existing policies and measures. • With Additional Measures includes existing measures and planned policies and measures and is based on the White Paper energy forecast. For Agriculture The methodology used to develop emissions projections for both CH4 and N2O are consistent with those employed in compiling the greenhouse gas inventory.	It is most likely that the actual out-turn for future emissions of greenhouse gas emissions is best reflected in the Economic Shock analysis given the deterioration in the economic outlook in recent months. It is unlikely that the extent of the economic down-turn will be limited to a 0.5% contraction in GDP in 2008 and 2009 (which is the basis for ESRI's Credit Crunch scenario and hence the With Measures and With Additional Measures scenarios) but that a deeper recession is now underway. As more up-to-date economic analysis and energy forecasts become available, the EPA will update emissions projections accordingly.
Italy	The scenarios of greenhouse gas emissions from the combustion of energy sources are drawn from the Markal model. MARKAL provides energy services at minimum loss of surplus by making decisions on equipment investment and operation energy supply and trade. The evolution trend is based on a continuation of recent trends in the Italian economy and energy. The update consist in the use of 2007 final data and 2008 preliminary energy consumption data as an additional input to the model, with the objective to improve reliability of its results.	MS provided an uncertainty analysis. It is stated that QC procedures are also undertaken on the calculations of uncertainties in order to confirm the correctness of the estimates and that there is sufficient documentation to duplicate the analysis. The assumptions on which uncertainty estimations are based are documented for each category.

MS	Description Projections Methodology	QA/QC Activities
Latvia	Projections are based on a long-term macroeconomic projection for the time period 2000 – 2020. This projection is the basis for modelling of further development, GHG emissions and CO2 removals in the main economic sectors. The long-term macroeconomic projection is drawn up on the basis of long-term macroeconomic projections developed by the Ministry of Economics. MARKAL is a generic model used to estimate projections in the energy sector and COPERT III model is used in the transport sector.	Information provided in Latvian
Lithuania	GHG emission projections are based on the basic economic growth and forecast of basic energy demand scenarios.	The data used for projections of GHG emissions and corresponding calculations were checked and verified in accordance with the QA/QC plan aimed at improving transparency, consistency, comparability, completeness, and confidence in the national inventory of emissions estimates (see National GHG emissions inventory report 2008)
Luxembourg	The method for estimating GHG emission levels up to 2020 is making use of information on demographic, transport and housing developments in Luxembourg. Assumptions on future physical production in the various energy and industrial sectors is another input for the modelling tool used EPM (Energy/Emissions Projection Model) developed by the company ECONOTEC. However, neither GDP growth nor carbon or energy prices have been taken into account while preparing the projections.	Consequently, without explicit use of either GDP or energy and carbon prices, no sensitivity analysis could have been performed so far on the projections.
Malta	The projections for Energy industries have been developed in collaboration with the state-owned utility Enemalta Corporation and take 2007 as the starting point. Projections on transport have been developed on the basis of historic trends in the period 1990 to 2007 using regression analysis. Qualitative and quantitative information on the different policies and measures was obtained directly from the entities responsible for implementing the measures and from a number of public documents which have been duly referenced.	To validate the GHG emissions projection thus obtained, it was compared to a projected trend based on a linear extrapolation of historic emissions for this sub-sector (1990 –2000). The deviation between the two projections was found to be minimal.

MS	Description Projections Methodology	QA/QC Activities
Netherlands	Emissions associated with two socio-economic scenarios ('Strong Europe' and 'Global Economy') are projected by the Netherlands for three different policy variants ('without measures' (WOM), 'with measures' (WM) and 'with additional measures' (WAM)) and years. However, the 2010 WAM projections had to be equalised with the WM values since both of them showed higher emissions levels than in the WM variant. While both scenarios reflect a world with broad international cooperation, they differ in their orientations. In the 'Strong Europe' scenario, international cooperation is coupled to public responsibility. European institutions are reformed and the EU grows into a stronger economic and political block. The United States becomes part of a worldwide climate coalition pursuing successful policies which make extensive use of the Kyoto mechanisms. The public responsibility orientation is expressed through relatively even income distribution, greater social security and investments in education and research. A reasonable rate of economic growth is achieved mainly due to the larger markets. Annual average growth in GDP between 2002 and 2020 is at 1.7 %. 'Global Economy' is oriented sharply towards international trade but little political cooperation. A strong emphasis on the personal responsibility of citizens and corporations results in relatively high economic growth and material welfare. Population growth is highest in the 'Global Economy' scenario. Environmental awareness is not translated into strong regulations and international climate policies fail over the longer term, although in Western Europe climate policy remains strong until 2020. GDP grows by 2.7 % per year between 2002 and 2020.	Information not available
Portugal	The projections for energy consumption and other sources of GHG for 2005-2020 are built on national macroeconomic scenarios with the evolution of the global and sectoral growth, GDP and Gross Value Added (GVA) respectively, housing, services and the needs of passengers and products mobility expansion. These prospective scenarios, developed by the Department of Prospective, Planning and International Relations (DPP), originate needs for goods and energy that will be supported towards the energy and industrial systems that simultaneously generate GHG emissions. These projections are coherent with the methodology used in the Portuguese National Inventory (APA, 2007) and, therefore, with the IPCC guidelines.	In order to consider the main sources of uncertainty associated with the modelling the sensitivity analysis was focused on the factors that have more impact in the energy sector: hydro potential for the production of electricity and primary energy prices. In the case of the primary energy prices, for the sensitivity analysis, the high scenario was based on the work of the International and of the USA Energy Agencies, which was validated by national experts. The prices for natural gas and coal assuming the relation among crude oil and other fossil fuels' prices equivalent to the scenario Hugh Growth defines in World Energy Outlook 2007 from International Energy Agency.

MS	Description Projections Methodology	QA/QC Activities
Romania	The projections are based on calculations carried out using the ENPEP (Energy and Power Evaluation Program) programs package, developed by Argonne National laboratory of US Department of Energy (DOE) and distributed to Romania by the International Atomic Energy Agency (IAEA). The main modules used for the GHG projections preparation are: • MAED (Model for Analyses of Energy Demand) – forecasts the energy demand considering the information on the macroeconomic indicators trend, etc. • ELECTRIC – determines the electricity power plants development programme considering the Romanian Government's adopted policies on renewable energy resources use, on ensuring the energy security, on technological evolution and on international market fuel prices. • BALANCE – determines the demand-supply energy equilibrium for each analyzed year. • IMPACTS – estimates, for the energetic system determined using the BALANCE module and for the electro-energetic system determined using the ELECTRIC module, the impact on atmosphere, water, soil, the impact of the specific waste, the impact on materials and labour needed for the installations construction and exploitation, the impact on related employees risk and health. In order to allow the use of the modules package, a national energy balance has been prepared considering the available or imported primary energy resources.	A sensitivity analysis has been conducted for a complete characterisation of the solution for the development of the energy sector and the GHG emission projections. The analysis evaluated the effects of variation of different key parameters (technical or economic) on the adopted solution: electricity consumption, fuel prices, price of un-delivered energy, value of safety indicator and value of new groups investments.
Slovakia	The optimization model MESSAGE was used to develop projections, in all three options (WOM, WEM and WAM), of CO2 emissions from the energy sector, combustion and transformation of fossil fuels. Emission projections in other sectors (e.g. agriculture, transport, etc.) were prepared based on development of macro-economic parameters and available expert analysis on production. We have also used specific forecasts and GHG emission projections as prepared directly by some of the major emitting companies.	Results of sensitivity analysis indicate possible impact of the EU ETS (the price of allowances) and increasing share of renewable energy sources in the energy balance of the SR have been followed by modelling the WEM and WAM scenarios. There is urgent need to diversify import of primary energy sources and to decrease our dependency on their imports by higher share of domestic RES (namely biomass).

MS	Description Projections Methodology	QA/QC Activities
Spain	The projections are based on the methodology developed by AEMA and the EPA.	To verify and store results they have developed a tool called EmiPro. The employed model shows improvements compared to the versions used for the calculation of projections for the 4th NC to the UN as well as submissions to the EC in previous years. Internally there are better quality controls and adjustments of input data with other national organisations. Beyond, a sectoral sensitivity analysis and an uncertainty analysis related to the WEM scenario based on the sensitivity analysis have been performed.
Sweden	Projections of greenhouse gas emissions in Sweden have been produces for the years 2010, 2015 and 2020. The projections are based on the policies and measures approved by the Swedish parliament up to the year 2008, which means that it is a projection "with existing measures". When producing the projections, model-based calculations and to some extent expert evaluations are used. The projections can be mainly regarded as a consequential analysis of the assumptions that have been made, all of which are characterised by uncertainty. The method for estimating the projections is mainly developed for a medium-term or a long-term projections, which means that the projection for 2010 does not take into consideration variations on a short-term basis. The decision on the premises and assumptions used in the projection was made in June 2008, therefore before the economic downturn that occurred in the autumn of 2008.	In addition to the projections, two sensitivity scenarios have been estimated for the energy and transport sector, and one scenario has been estimated for the agricultural sector. A projection with "additional measures" is also reported, although the measures are probably not needed to reach Sweden's commitment according to the Kyoto Protocol.

MS	Description Projections Methodology	QA/QC Activities
United Kingdom	The projections are based on the following models and assumptions: • The DECC Energy Model is a partial equilibrium model linked to a linear optimizing model of the electricity generating sector. It is primarily a top down model based around econometrically estimated relationships between energy demand, economic activity (income) and energy prices, and an optimizing model for the electricity supply industry. The projections provide a view of possible future levels of CO2 emissions and composition of energy demand based on different scenarios for economic growth and world energy prices. The updated energy projections provide a with measures central baseline projection. • Non-CO2 greenhouse gas projections have been calculated using a bespoke projections system which complements the national inventory system. The projections system includes spreadsheets to pre-process data, and to feed the projections database which is linked to the national GHG emissions database. This projections system calculates emissions based on forecast activity statistics, emissions factors and various other sector specific assumptions for each of the main sources of emissions. Greenhouse gas emission projections are disaggregated by sector and are calculated for each year from 2005 to 2050. These are then aggregated to provide an estimate of total projected emissions. • Land use change emission estimates are from a model developed by the Centre for Ecology and Hydrology under contract to DECC. The model uses land use data derived from periodic surveys, supplemented by an annual census of agricultural land uses. The model is based on continuation of current patterns of land use change taking account of plans to expand the residential sector. It is combined with information on soil carbon density and dynamics to estimate annual gains and losses associated with the transitions involved. • Key assumptions for the projections are economic growth and a range of fossil fuel prices. Economic growth is consistent with the latest UK Treasury forecasts published in the Budget and fossil fuel price assumptions are provided through analysis by government. Other assumptions such as population and household forecasts are provided by National Statistical Office and Government Actuarial Service.	Information not available

Appendix F - Further information: Vulnerability Assessment, Climate Change Impacts And Adaptation Measures

F1 Sample of impacts, vulnerability and adaptation research funded under the EC Framework Programme since the 4th National Communication[1]

	6th Framework Programme (2002 – 2006)	**7th Framework Programme (2007 – 2013)**
Assessment of Impacts	Future climate projections - **ENSEMBLES.** This UK-led project brings together 70 partners from the EU, Switzerland, Australia and the US, with EC funding of €15 million. The project aims to develop and test a prediction system for climate change, simultaneously using several models, and to quantify and reduce uncertainty in the representation of feedbacks in the Earth system. Work packages are divided into sections including ones on impacts and vulnerability. Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies – **DAMOCLES.** This project aims to carry out an observation and assessment of Arctic sea ice cover and its reduction due to global warming. In studying key interactions between	**CIRCE** focuses on the prediction of climate change impacts in the Mediterranean basin and evaluates the consequences of such impacts for the society and economy. The **CIRCLE-ERANET** provides climate impact analysis by networking and aligning national research programs in 19 European countries, with the final aim to implement a European Research Area in the field of climate change. The **EDEN** research project is studying how changes in European environment and ecosystems, whether caused by altered human activity patterns or changes in climate, can influence the spatial and temporal

[1] This table is a sample of the impacts, vulnerability and adaptation research funded by the EC Framework Programme. For more information on the past and current activities of the Joint Research Centre (JRC) see: http://ccu.jrc.ec.europa.eu/home.php#. For more information on the support provided by JRC to EU climate change policy see: http://ccu.jrc.ec.europa.eu/doc/2287_07-EUR21855en.pdf. For more information on the European Research Framework Programme see: http://ec.europa.eu/research/environment/pdf/cop-15.pdf. Details can be found at http://cordis.europa.eu/fp6/dc/index.cfm?fuseaction=UserSite.FP6HomePage for projects funded under the 6th Framework Programmeand http://cordis.europa.eu/fp7/ for projects funded under the 7th Framework Programme.

	6th Framework Programme (2002 – 2006)	7th Framework Programme (2007 – 2013)
	the Arctic's ocean, atmosphere and ice cover. The EC is providing funding of €16.5 million for the Project, which will analyse model predictions on sea-ice cover and explore the timing of these changes, and the regional and global effects of such changes. DAMOCLES represents the integrated efforts of 45 European research institutions including 10 SMEs (Small and Medium Enterprises) distributed among 12 European countries, and coordinated with the USA, Russia, Canada and Japan. The **PESETA** project was designed to make a multi-sectoral assessment of the impacts of climate change in Europe for the 2011-2040 and 2071-2100 time horizons and focused on the impacts of climate change on the following sectors: Coastal systems, Energy demand, Human health, Agriculture, Tourism, and Floods. For each of these sectoral categories, a corresponding sectoral-based study was developed. It provided estimates of the cost of climate change impacts in a range of economic sectors in Europe. It was based on a consistent set of climate change scenarios linked to appropriate impact models.	distribution and dynamics of pathogenic agents. The project contributed to the establishment of the European Centre for Disease Prevention and Control, with the aim to create a European Environment and Epidemiology network to monitor environmental change and its effects on infectious diseases. The **MICRODIS** integrated project addresses health and socio-economic impacts of extreme events in order to strengthen prevention, mitigation and preparedness strategies. **ClimateCost**. The objectives of this study are to advance knowledge on the full economic costs of climate change, through the following tasks: • To identify and develop consistent climate change and socio-economic scenarios; • To quantify in physical terms, and economic costs, the costs of inaction for these scenarios; • To asses the physical effects and economic damages of a number of the most important major catastrophic events and major socially contingent effects. • To update the mitigation costs of GHG emission reductions for medium and long-term reduction targets/ stabilisation goals.

	6th Framework Programme (2002 – 2006)	7th Framework Programme (2007 – 2013)
Vulnerability	Water and global change – **WATCH.** The WATCH project aims to analyse, quantify and predict the components of the current and future global water cycles and the state of related water resources. It will also clarify the overall vulnerability of global water resources related to the main societal and economic sectors. With EC funding of €10 million, WATCH brings together the hydrological, water resources and climate communities and involves 25 partners from 14 European countries as well as from India, China, South Africa, Brazil and Israel.	**EURO-LIMPACS** focuses on pressures and drivers of aquatic ecosystem change such as land-use, nutrients, pollution, and examines their interaction with climate change in order to better understand and manage the ecological consequences of these interactions.
Adaptation	Adaptation and mitigation strategies – **ADAM.** ADAM aims to assess the costs and effectiveness of impact mitigation and adaptation policies to achieve a tolerable transition to a world that is no more than 2ºC warmer than in the pre-industrial era. The project will provide a better understanding of the complementarities, trade-offs and distinctions that exist between adaptation and mitigation policies in the EC and internationally and assess emerging adaptation strategies for Europe. With EC funding of €12.9 million, the project is also drawing up a portfolio of longer term strategy options to adapt to and mitigate climate change. Some 26 partners from 12 European countries, China and India are participating. It runs from 2006 to 2009.	**Climate change impacts and adaptation strategies in water policies**. The aim is to study European and international adaptation measures and strategies related to climate change impacts and how these are taken into account in water policies. The project should bring together scientific and policy experiences on the existing and/or missing links between climate change and water management. Forecasting societies adaptive capacities to *climate change* (**FUTURESOC**). This interdisciplinary project addresses a key gap in the knowledge of global assessments concerning the likely consequences of future *climate change* on future human wellbeing. More information about the determinants of future

	6th Framework Programme (2002 – 2006)	7th Framework Programme (2007 – 2013)
		adaptive capacity is necessary for setting policy priorities today: Should the significant funds allocated for *adaptation* be invested in enhancing existing infrastructure or currently practiced agricultural strategies (some of which may not be tenable under future climates), or should they invest alternatively in enhancing human empowerment through education and health which in consequence will enable affected societies to better cope with whatever challenges the future will bring?
Cooperation	The **NOAH** project. Also known as the International Flood Warning and Information System (FLIWAS), the NOAH project sets up an innovative mechanism for management and transmission of vital reliable information rapidly, before and during crisis situations caused by flooding. This German-Dutch experiment, focused on the Rhine, could be reproduced in all regions subject to flooding.	The **CLARIS** project strengthens the collaboration between Europe and South America in assessing climate change impacts and developing common research strategies in the subtropical region of South America at different scales (local-regional-continental).

Appendix G - Further information: Financial Resources and Transfer Of Technology

G1 Bilateral contributions related to the implementation of the Convention (€ million)

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
2004	Dem. Rep. Congo	2.8	2			**x**		**x**				
	Ghana	6.5	1							**x**	**x**	
	Guinea Bissau	0.3	1			**x**						
	Kenya	0.2	1	**x**						**x**		
	Malawi	9.7	2			**x**	**x**			**x**		
	Mali	0.2	1			**x**						
	Mauritania	0.5	1					**x**	**x**			
	Reg - Africa	1.7	1				**x**			**x**		
	Reg – West Africa	1.8	1				**x**			**x**		x
	Somalia	0.1	2				**x**					
	Reg - Pacific	2.3	3					**x**		**x**	**x**	
2005	Angola	1.0	2			**x**						

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	Burkina Faso	0.5	2				**x**			**x**		
	Burundi	0.7	1				**x**					
	Cameroon	2.1	2			**x**	**x**					
	Congo	1.7	1			**x**				**x**		
	Dem. Rep. Congo	6.2	2			**x**						
	Eritrea	1.0	1	**x**								
	Ethiopia	2.7	1			**x**						
	Kenya	6.1	3							**x**	**x**	**x**
	Liberia	1.8	1			**x**						
	Mali	0.9	2			**x**	**x**			**x**		
	Madagascar	3.4	3			**x**	**x**			**x**		**x**
	Mauritanie	0.6	1				**x**					
	Malawi	0.5	1			**x**						
	Mozambique	0.1	1									**x**
	Namibia	0.3	1							**x**	**x**	

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	Nigeria	0.2	1									x
	Reg - Africa	6.0	3			x	x					
	Reg - Central Africa	42.7	6			x		x				x
	Reg - West. Africa	3.0	2			x						x
	Rwanda	0.2	1	x								
	Senegal	0.2	1				x					
	Seychelles	0.3	1									x
	Somalia	0.1	1				x			x		
	Tanzania	1.8	3	x								x
	Dominican Rep.	0.5	1	x								
	Jamaica	0.4	1	x								
	Haiti	0.5	1				x			x		x
	Fiji	1.0	1									x
	Reg - Pacific	11.4	1	x								
	All ACP	1.0	1									x

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
2006	Angola	5.0	2			**x**						
	Benin	2.3	2			**x**				**x**		
	Burkina Faso	3.1	7				**x**	**x**				
	Cameroon	1.0	1			**x**						
	Central African Rep.	2.6	2	**x**						**x**		
	Chad	7.1	2			**x**						
	Congo	1.2	1			**x**						
	Eritrea	0.7	1	**x**								
	Guinea Bissau	1.0	1							**x**		
	Kenya	11.4	5				**x**					**x**
	Madagascar	0.5	1			**x**						
	Mauritius	2.6	1	**x**								
	Mozambique	0.3	1			**x**				**x**		
	Namibia	0.7	2									**x**

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	Reg - Africa	35.1	7			x	x			x		x
	Reg - West. Africa	5.5	1	x								
	Senegal	0.3	1					x				
	Sierra Leone	4.2	2			x						
	Sudan	1.0	4			x					x	
	Tanzania	1.1	3			x					x	x
	Zambia	0.5	2				x					
	Zimbabwe	2.1	3				x					
	Haiti	0.7	1				x					
	Jamaica	2.1	1	x								
	Reg - Caribbean	4.3	3			x					x	x
	St. Vincent & the Grenadines	0.3	2	x								x
	Suriname	0.6	1							x		
	Micronesia	0.3	1							x	x	
	Palau	0.3	1	x								

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	All ACP	8.8	2	**x**		**x**						
2007	Benin	0.8	1	**x**						**x**		
	Burkina Faso	2.5	2	**x**								
	Burundi	0.7	2				**x**					**x**
	Cameroon	2.7	1	**x**								
	Cape Verde	6.2	2	**x**				**x**				
	Chad	0.1	2				**x**			**x**		
	Dem. Rep. Congo	6.9	5	**x**		**x**	**x**			**x**		
	Ethiopia	1.7	2	**x**								
	Ghana	1.5	1	**x**								
	Guinea (Conakry)	0.4	1	**x**								
	Guinea Bissau	1.5	1								**x**	
	Kenya	5.1	5	**x**								**x**
	Madagascar	14.0	7	**x**								

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	Malawi	1.8	1	**x**								
	Mauritania	1.8	3	**x**								
	Mauritius	3.5	1	**x**								
	Mozambique	5.5	4	**x**						**x**		
	Namibia	0.9	1	**x**								
	Nigeria	0.2	1	**x**								
	Reg - Africa	0.1	1	**x**								
	Reg - South. Africa	1.6	1	**x**								
	Reg - West. Africa	6.6	4	**x**								**x**
	Rwanda	9.8	2	**x**								
	Senegal	2.6	1	**x**								
	Sierra Leone	1.0	1							**x**		
	Somalia	5.2	2	**x**								**x**
	Sudan	0.4	1				**x**			**x**		**x**
	Swaziland	0.5	2									

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	Tanzania	7.0	3	**x**		**x**	**x**					
	Uganda	2.4	1	**x**								
	Zambia	4.0	1	**x**								
	Zimbabwe	0.5	1	**x**		**x**	**x**			**x**		
	Belize	0.1	1	**x**								
	Dominica	1.5	1	**x**								
	Dominican Rep.	7.6	3	**x**								**x**
	Guyana	6.8	1									**x**
	Jamaica	11.2	2	**x**				**x**				
	Reg - Caribbean	1.4	2	**x**								
	St. Vincent & the Grenadines	0.2	1	**x**								
	Cook Islands	0.4	1									**x**
	Kiribati	0.9	1								**x**	**x**
	Reg - Pacific	5	2	**x**								**x**
	Tonga	0.8	1							**x**		**x**

Africa, Caribbean and Pacific				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	Vanuatu	2.2	4	**x**								
	All ACP	24.8	4			**x**				**x**		**x**

Asia				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
2004	Afghanistan	1.7	2									**x**
	Bangladesh	0.3	1									**x**
	Cambodia	1.3	1			**x**						
	China	40.6	5				**x**	**x**		**x**	**x**	
	India	0.8	3	**x**				**x**				**x**
	Indonesia	17.6	2			**x**						
	Malaysia	0.4	2	**x**						**x**		
	Nepal	0.4	3	**x**		**x**						**x**
	Pakistan	0.6	2									**x**
	Philippines	1.7	2			**x**		**x**				
	Reg - Asia	9.7	5			**x**				**x**	**x**	
	Sri Lanka	0.4	1				**x**					
	Thailand	0.4	1							**x**		
	Vietnam	3.0	2			**x**						

Asia				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
2005	Afghanistan	0.8	1			**x**						
	Bangladesh	3.6	1									**X**
	China	2.3	1							**x**		
	India	1.0	5			**x**		**x**				**X**
	Indonesia	2.1	3			**x**		**x**				
	Laos	0.3	1		**x**	**x**						
	Maldives	5.6	1									**X**
	Philippines	0.5	2			**x**				**x**		
	Reg - Asia	1.0	3	**x**						**x**		**X**
	Reg - Central Asia	0.6	1							**x**		
	Sri Lanka	1.5	4			**x**						**X**
	Thailand	2.2	4	**x**				**x**				**X**
	Takikistan	1.3	2	**X**		**X**		**x**				
	Vietnam	0.1	1									**X**

Asia				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
2006	China	0.3	1	**x**								
	India	2.6	7	**x**					**x**	**x**		**x**
	Indonesia	0.8	1			**x**						
	Kazakhstan	2.2	2					**x**				
	Mongolia	0.3	1				**x**			**x**		
	Pakistan	0.3	1									**x**
	Reg - Asia	2.5	2			**x**						**x**
	Sri Lanka	4.0	1									**x**
	Tajikistan	0.3	1				**x**					
	Vietnam	0.6	2					**x**		**x**		
2007	Afghanistan	2.0	2							**x**		
	Mongolia	4.0	1				**x**					
	Nepal	0.8	2									**x**

Asia				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	North Korea	0.8	2			**x**	**x**					
	Reg - Asia	10.6	2	**x**						**x**		
	Thailand	0.2	2	**x**						**x**		

OCT				Mitigation						Adaptation		
Year	**Country**	**Total Project Value (million €)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
2004	Aruba	2.8	1		**x**						**x**	
2005	Reg - British OCT	0.8	1								**x**	
	St Pierre & Miquelon	2.1	1					**x**			**x**	
2006	Reg - French OCT	5.2	1	**x**					**x**			
2007	Mayotte	8.2	1			**x**						**x**
	Netherlands Antilles	7.8	1								**x**	**x**
	Reg - British OCT	1.0	1								**x**	

Latin America				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million) ***	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
2004	Argentina	1.5	1			**x**						
	Brazil	6.1	6			**x**						
	Ecuador	0.3	1									**x**
	El Salvador	1.1	1			**x**						
	Honduras	1.6	1			**x**				**x**		
	Nicaragua	1.3	5				**x**			**x**		**x**
	Peru	4.6	3			**x**						**x**
	Reg - Latin America	3.2	3			**x**						**x**
	Venezuela	0.3	1			**x**						**x**
2005	Brazil	6.9	2			**x**						
	Colombia	0.3	1	**x**								
	Nicaragua	0.3	1				**x**					
	Paraguay	0.1	1			**x**				**x**		

Latin America				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million) ***	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	Peru	1.1	1			**x**				**x**		
	Reg - Central America	10.2	2			**x**						**x**
	Reg - Latin America	0.3	1	**x**								
2006	Argentina	0.3	1			**x**						
	Brazil	3.1	2			**x**				**x**		
	Chile	3.8	2	**x**			**x**					
	Colombia	6.0	3			**x**						
	Ecuador	0.5	1			**x**				**x**		
	Honduras	11.1	2			**x**				**x**	**x**	
	Mexico	0.4	1			**x**						
	Nicaragua	2.9	6			**x**	**x**			**x**		**x**
	Paraguay	0.1	1							**x**		
	Peru	3.0	3			**x**						
	Reg - Latin America	34.0	7	**x**		**x**	**x**		**x**	**x**		

Latin America				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million) ***	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
	Reg - South America	0.7	1			**x**						
2007	Bolivia	8.5	2				**x**					
	Chile	1.1	1			**x**						
	Reg - Latin America	2.8	1			**x**						

Neighbourhood[2]				Mitigation						Adaptation		
Year	**Country**	**Total value of projects (€ million)**	**Number of projects**	**Energy**	**Transport**	**Forestry**	**Agriculture**	**Waste management**	**Industry**	**Capacity building**	**Coastal zone management**	**Other vulnerability assessments**
2004	Armenia	0.4	1	**x**								
	Georgia	0.0	1			**x**						
	Jordan	0.5	1			**x**						
	Lebanon	0.0	1			**x**						
	Morocco	12.4	4	**x**				**x**		**x**		
	Reg - ENPI South / MEDA	0.4	2	**x**						**x**	**x**	
	Russia	2.6	2	**x**						**x**		
	Ukraine	1.4	1	**x**								
2005	Belarus	0.6	1							**x**		**x**
	Georgia	1.6	1	**x**								
	Russia	0.1	1			**x**				**x**		

[2] Russia and Ukraine are Annex I countries

	Ukraine	2.7	2	**x**			**x**					
2006	Algeria	0.6	1			**x**	**x**					
	Egypt	5.5	7	**x**	**x**			**x**	**x**	**x**		
	Morocco	0.7	1					**x**				
	Reg - ENPI East	10.8	3	**x**			**x**			**x**		
	Russia	4.3	2	**x**		**x**						
2007	Azerbaijan	14.0	1	**x**					**x**			
	Belarus	2.0	1	**x**								
	Morocco	1.2	1				**x**					
	Reg - ENPI East	8.4	2	**x**		**x**				**x**		
	Reg - ENPI South / MEDA	5.4	3	**x**							**x**	**x**
	Tunisia	13.2	1	**x**								
	Ukraine	22.0	1	**x**					**x**			

G2 Promoting international cooperation in the private sector

ACP

Project title	**Development Support for a new fuel, substituting charcoal, based on biomass from household waste collected in the Rugenge sector in Kigali, 2005[3].**
Project duration	36 months (2006-2009)
EC contribution to Project budget	€0.15 million
Main proposer	Ingénieurs Sans Frontières and Ingénieurs Assistance Internationale Belgium
Main objectives and brief project description	• Contribute to socio-economic improvements in the town of Kigali, by means of improved waste management and waste value attribution • Develop and distribute simple and appropriate technologies which can easily be replicated • Avoid deforestation • Make available to the wider population more affordable cooking and heating fuels.

[3] Original Project Title: Appui au développement d'une filière de production d'un nouveau combustible, substitut de qualité au charbon de bois, à partir de la fraction biomasse issue des résidus ménagers collectés dans le secteur de Rugenge à Kigali - 2005

Project title	**Development Support for a new fuel, substituting charcoal, based on biomass from household waste collected in the Rugenge sector in Kigali, 2005[3].**
	Technology Transfer Element: During this project, private sector parties will be able to increase their revenue streams as well as improve their management and organisational capacities. This initiative aims to build the local capacity for the development and production of alternative fuel based on biomass collected from household organic waste. This new fuel would contribute towards reducing charcoal use, bringing significant improvements in the areas of health, gender equality and sanitation. This project also provides financial and specific technological knowledge support for local engineering and mechanical companies.

Project title	**Community-based Natural Resource Management (CBNRM) Enterprise Support - 2005**
Project duration	48 months (2007-2011)
EC contribution to Project budget	€0.75 million
Main proposer	Consortium of Namibian governmental agencies
Main objectives and brief project description	Namibia's CBNRM Programme seeks to improve the quality of life of rural Namibians by empowering people to care for their natural resources and to derive benefits from these resources. The CBNRM Programme is: A natural resource management and conservation programme - it promotes wise and sustainable management of natural resources, and encourages biodiversity conservation by creating the necessary conditions for sustainable use. A rural development programme - it seeks to devolve rights and responsibilities over wildlife and tourism to rural communities, thereby creating opportunities for enterprise development and income generation. **Technology Transfer Element**: An empowerment and capacity-building programme- it encourages and assists communities and their local institutions to develop the skills and experience to sustainable develop and pro-actively pilot their own futures.

Project title	**Village Tree Enterprise project, Region West Africa – 2005**
Project duration	60 months
EC contribution to Project budget	€2.4 million
Main proposer	UN Food and Agriculture Organisation
Main objectives and brief project description	**Technology Transfer Element**: This project helps villagers analyse and develop options for income generation sustainable management of forest resources, building on their existing knowledge of resources and markets. It puts the local people at the centre of this process, facilitating strategic alliances and forging market linkages, bringing together local organisations rooted in the community and key government agencies with mandates covering natural resources, rural development, private sector activation and promotion of gender equality. Community owned enterprise development plans are an intermediate output, and the project will provide support to implement these plans, to optimise the long term 'survival rate' for small-scale community-based enterprises.

Project title	**Mobilisation and reinforcement of the capacity of SME's involved in forest related products in Central Africa, 2005[4].**
Project duration	36 months
EC contribution to Project budget	€3 million
Main proposer	The food and agriculture organization of the United Nations
Main objectives and brief project description	This project aims to build the private sector capacity if small and medium enterprises that are active in the forestry sector and forest related products and services. **Technology Transfer Element**: The project specifically aims to strengthen companies along six thematic lines: • Improved knowledge sharing to allow better decision making for investments. This especially relates to local resource knowledge and evaluation. • Improved packaging techniques to improve exportability of products, which in turn is likely to benefit the local employment opportunities. • Increased productivity and associated reduced production costs to enable companies to provide a

[4] Original Project Title: Mobilisation et renforcement des capacités des petites et moyennes entreprises impliquées dans les filières des produits forestiers non ligneux en Afrique Centrale - 2005

Project title	**Mobilisation and reinforcement of the capacity of SME's involved in forest related products in Central Africa, 2005[4].**
	continuous supply of products of good quality, which is important for private sector development. • Improved management and organisational skills to lead to better market analysis and interpretation. Further benefits to be achieved with increased use of certification process for forest products. • Additional institutional support to be provided to both the public and private sector on topics such as certifications, permits, law in order to avoid possible obstacles for commercial development. • Facilitated access to credit, capital and machinery.

Project title	**Installation of a steam engine powered generation set at Charter Sawmill - Zimbabwe**
Project duration	24 months
EC contribution to Project budget	€0.5 million
Main proposer	Borders Timbers Limited
Main objectives and brief project description	The project proposes to purchase and install a suitable steam engine powered generator to run off of the existing boilers installed at Charter Sawmill. The heat source for the boilers is waste wood and sawdust that is produced within the sawmill itself. There is a surplus quantity of wood waste produced in the process that is currently incinerated to waste. This wood waste is a renewable resource. The steam engine aims to harness this renewable waste heat and produce electricity from it that can be utilised by the surrounding rural community through an interconnection with the grid.

ASIA

Project title	**Capacity building on business opportunities for CDM projects in China - 2004**
Project duration	20 months
EC contribution to Project budget	€0.18 million
Main proposer	CIRPS - University Of Rome "La Sapienza" – Italy In partnership with: GEI - Global Environmental Institute – China IST - Instituto Superior Tecnico – Portugal HELIO International – France
Main objectives and brief project description	**Technology Transfer Element**: This project aims to deliver local level capacity building activities in carbon trading for private stakeholders in China. It aims to meet the objectives of the Pro Eco programme with the achievement of high environmental standards and the facilitation of local implementation of international environmental agreements in the context of GHG. Through the exchange of good practices, policies, systems and technologies for GHG emissions reduction, the co-operation between countries of the EU and China can be strengthened. The thematic priority of this capacity building programme is addressing GHG, developing awareness of the private sector, local institutions and NGO's dealing with environmental issues, particularly in urban areas and in carbon trading system (Project Purpose). The project aims to

Project title	Capacity building on business opportunities for CDM projects in China - 2004
	improve access to know-how and international assistance of Chinese stakeholders. The project aims to gather information into an accessible medium including a database and handbook, combining the DNA (national Chinese authority) data, Chinese experience and EU know-how, experience and expertise. A series of training/workshop/seminars aimed at capacity building of interested private sector and conducted in full cooperation with the DNA are planned for promotion of CDM and using the carbon trading system.

Project title	**EU-China CDM Facilitation Project - 2005**
Project duration	36 months
EC contribution to Project budget	€23.5 million
Main proposer	The Project Partners Swedish Environmental Research Institute (IVL), Sweden; Policy Research Centre for Environment and Economy (PRCEE) of the Ministry of Environmental Protection (MEP), China; DEVELOPMENT Solutions, China; TÜV Rheinland, Germany; CDM Project Management Centre (CDM-PMC) of the National Development and Reform Commission (NDRC), China; Research Centre of Urban Development and Environment of the China Academy of Social Sciences (CASS), China.
Main objectives and brief	The project will strengthen the Clean Development Mechanism (CDM) as a central pillar within

Project title	**EU-China CDM Facilitation Project - 2005**
project description	China's path to sustainable development. Until January 2010, the focus will be on China's policy and regulatory regime and quality management for CDM development. It will bring together a wide range of stakeholders at public and private sector levels involved in CDM projects. On the national level, the project will assess effectiveness of technology transfer through CDM, and analyse CDM market development. The consortium implementing the project has finished a needs assessment and also established an inventory of all CDM capacity building projects in China. This project implements one of the seven first joint activities of the EU-China Rolling Work Plan on Climate Change agreed in October 2006. The EU-China CDM Facilitation Project is being implemented by Chinese and European partners and associates with grants from the European Commission and is the largest European-funded project addressing CDM-related activities in China. **Technology Transfer Element**: Specific objectives include: • Strengthening the capacity of China's Designated National Authority (DNA), the National and Regional CDM Centres, and Chinese Organisations applying for Designated Operational Entity (DOE) status; • Introduction of European and International Standard in Quality Management of the CDM development process; • Increasing awareness of CDM opportunities and enhance the CDM framework conditions in the Chinese CDM market.

Project title	**EU-China CDM Facilitation Project - 2005**
Project title	**Microfinance & Renewable Energy: Using microfinance to increase access to Renewable Energy in rural areas - China 2006**
Project duration	24 months
EC contribution to Project budget	€0.27 million
Main proposer	Chinese government
Main objectives and brief project description	The project's main objective is to speed up the adoption of these RES technologies by providing local farmers with access to the financing necessary for biogas installations and household modifications. This financing will reach a total of 8 villages. In the case of the 3 sponsored-villages, the financing will supplement the un-subsidized costs. In the 5 other villages, it will cover the entire amount. In those 8 villages, it is expected that a total of 400 households will benefit from this financing. Another 32 villages will be involved as part of a road show where waste management will be the focus point. The following results will be met: • Rural households' revenues will increase and their living conditions will improve. • Farmers have access to a financing scheme to invest in biogas installations.

Project title	EU-China CDM Facilitation Project - 2005
	• Farmers will have significantly decreased their commercial energy and kerosene budget. • Health risks linked to breathing in wood and coal smoke will be reduced in Tong Wei County. • Tong Wei rural households are more aware of environmental protection issues and the environmental and economic potential of RE. • Tong Wei farmers develop new crops with higher market prices and increase crop yield through the application of treated biogas waste fertilizer. • A microfinance delivery network in Tong Wei rural villages has been developed in an area not previously served. • Capacities are strengthened (including partner, microfinance human, financial, and institutional capacities) through the transfer of competences.

Project title	**Capacity building of Thai food industries on ''Carbon footprint labelling'' to promote the development of low-carbon trade between EU and Thailand for climate change mitigation – 2007**
Project duration	5 months
EC contribution to Project budget	€0.2 million
Main proposer	Kasetsart University, Thailand King Mongkut's University of Technology Thonburi, Thailand Institut National de la Recherche Agronomique, France University of Santiago de Compostela, Spain University of Surrey, United Kingdom
Main objectives and brief project description	The food sector is of a particular interest in this project because it is one of the key strategic industries contributing significantly to foreign revenue and providing numerous job opportunities, both directly and indirectly to the food sector to Thailand. Having recognized the importance of maintaining the exporting markets of Thai foods in EU as well as other countries that may require products with carbon label in the near future, it is critical for the Thai food industry to acquire the knowledge on carbon labels both in principle, methodology and practice. The carbon footprint can be used as an environmental management tool to evaluate the carbon profile of food products so as to derive management strategies to reduce the carbon footprint (i.e. reduction of energy use

Project title	**Capacity building of Thai food industries on ''Carbon footprint labelling'' to promote the development of low-carbon trade between EU and Thailand for climate change mitigation – 2007**
	as well as cost savings). **<u>Technology Transfer Element</u>**: Specific objectives include: • To transfer the knowledge on carbon footprint measurement standards as well as their applications in food products from EU to Thailand to enhance the knowledge and practical experiences of local experts as well as to build up the local capacity in competiveness of Thai food industry • To provide technical supports to three demonstration projects to conduct the carbon footprint analysis and management of 3 food products. This will build capacity to anticipate the demand of products with carbon label to facilitate the development of low-carbon economy between Thailand and EU • To disseminate the knowledge and practical experiences on Carbon Footprint & Carbon Label to wider audiences by writing and distributing a guidebook on *"Carbon footprinting & labelling*".

Latin America

Project title	**Forest livelihoods for the poor : certification, market development and an enabling economic and policy environment for sustainable forestry in Central America – Region Central America - 2005**
Project duration	36 months
EC contribution to Project budget	€2.2 million
Main proposer	Just World Partners (JWP)
Main objectives and brief project description	Overall objective: improved livelihoods and reduces vulnerability in participating countries through the sustainable use of forest resource. Project purpose: improved structures and processes relating to the socially, economically and environmentally sound use of forest resources. The following results are expected: • 15 forests Enterprises per country strengthened • National and regional structures strengthened • improved and diversified production of forest products by rural communities

	• a more enabling economic and policy environment for small forest enterprise development • market entry facilitated

Project title	**Improving the productivity of SME's in the industrial forestry sector, 2004 Argentina[5].**
Project duration	48 months
EC contribution to Project budget	€3.8 million
Main proposer	Secretaria de Agricultura, Ganadería, Pesca y Alimentos. (SAGPyA)
Main objectives and brief project description	**Technology Transfer Element**: This Project aims to provide the technical assistance, capacity building and equipment needed to improve the competitiveness, environmental performance and skills base of companies operating in the forestry sector. These objectives are all targeting an improvement of the standing of Argentinean companies in the international market and are complemented by a certification scheme. In order to achieve these objectives, the following measures were put in place: • Improve the competitiveness of the small and medium enterprises. • Strengthening of relevant institutions and technological centers.

[5] Original Project Title: Mejora de la Productividad de las PMEs del Sector Forestal Industrial – 2004 Argentina

Project title	**Improving the productivity of SME's in the industrial forestry sector, 2004 Argentina[5].**
	• Developing the professional bodies and associations. • Implementation of a certification system for forest products and the encouragement of sustainable practices.

Neighbourhood

Project title	**Pro-diversity Business in the steppe zones of the Eurasia region – 2006**
Project duration	30 months
EC contribution to Project budget	€0.6 million
Main proposer	The European Community, represented by the Commission of the European Communities, is the Contracting Authority
Main objectives and brief project description	During the initial project phase, an assessment of the biodiversity and small business environment in each country will be carried out. The aim will be to identify regions of high natural value land where SMEs show the potential and interest in creating a so-called "Pro-Biodiversity Business". The relevant national sectors and designated sites will be defined, and a list of potential pro-biodiversity SMEs created through consulting the relevant commercial registers. In the first six months of 2009, a pro-biodiversity integrated investment platform for all project steppe areas will be elaborated to devise the most effective way to channel investments towards SMEs. The project will develop indicators of net ecological benefit to help measure and track potential investments that could be made in steppe ecosystem based SMEs. Towards the second half of 2009, two to three integrated investment studies will be carried out from two or three of the six project sites resulting in the production of SME and upstream secondary and tertiary business plans. The end goal of the project will be to put in place a structure and procedures through which SMEs can be engaged in delivering economically viable biodiversity conservation activities in the Eurasian Steppes. **Technology Transfer Element**: The project seeks to put in place a structure and procedures

Project title	Pro-diversity Business in the steppe zones of the Eurasia region – 2006
	through which SMEs can be engaged in delivering economically viable biodiversity conservation activities in the Eurasian Steppes. Working in close collaboration with the EC TACIS EuroSteppe project "Sustainable Integrated Land-use of the Eurasian Steppes", the aim is to identify financial structures and instruments that will provide the market mechanism necessary for long-term sustainability of the selected SMEs in the steppe ecosystem.

G3 Technology Transfer Success Stories

Asia

Project/ programme title: China-EU Biodiversity Programme, 2004			
Purpose: Focusing on balancing economic development and environmental protection and biodiversity conservation.			
Recipient country	Sector	Total funding	Years in operation
China	Biodiversity and Protected Areas	€30 million	2005-2010
Description: The EU-China Biodiversity Programme is a joint initiative between the EU, United Nations Development Programme (UNDP) the Chinese Ministry of Commerce (MOFCOM) and the Chinese State Environmental Protection Administration (SEPA) that combines policy dialogue and development, institutional strengthening and awareness raising with a set of field projects focusing on site-specific activities. EU contributes €30 million, of which €21 is earmarked for field projects. Field projects will require a minimum of 50% matching funds and will involve consortiums including at least one international and one domestic organization.			

Project/ programme title: China-EU Biodiversity Programme, 2004
Indicate factors which led to project's success: • The approach of EU-China Biodiversity Programme has: • Addressed "upstream" drivers of biodiversity loss, where potential impact is highest, such as through policy development and implementation and awareness raising; • Strengthened linkages and feedback mechanisms between national level initiatives and local implementation; • Built partnerships and cooperation, e.g. among sectoral agencies, between national and international organizations; • Improved the monitoring of biodiversity impacts. • Made the protection of carbon sinks a priority
Technology transferred: Protected areas management, sustainable management of natural resources, development of participative approaches
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable
Project/ programme title: Euro-Asian Research and Training in Climate Change Management (CLIMA), 2005
Purpose: To enhance the capabilities of professors and researchers to create an international thematic network on Climate Change and Sustainable Development, to relate scientists, policy makers and stakeholders from the EU and Asia on the issues of global

Project/ programme title: China-EU Biodiversity Programme, 2004			
impacts determined by local development practices.			
Recipient country	Sector	Total funding	Years in operation
Regional Asia	Research, capacity building	€0.73 million	2006-2009
Description: The overall objective of the project is to create a knowledge system on climate change and sustainable development linking Asia and Europe as well as to contribute towards the Millennium Development Goals.			
Indicate factors which led to project's success: The project intends to achieve this objective by • implementing a modular training programme for scientists, • initiating joint and interdisciplinary research groups on different topics, • elaborating a curriculum for a prospective online master course on climate change and sustainable development, • disseminating of promotional material to a wider community.			
Technology transferred: Capacity building, research			
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable			

Latin America

Project/ programme title: EURO-SOLAR, solar systems and ICT for remote regions, 2006			
Purpose: The objective of the Programme is to contribute to the sustainable development of isolated communities through the use of renewable energies. Furthermore, it will help generate income and, by strengthening local organisations, promote education and skills development as well as communication with the outside world. The rural communities identified will be supplied with the necessary infrastructure to generate electrical energy.			
Recipient country	Sector	Total funding	Years in operation
Latin America (Guatemala, El Salvador, Honduras, Nicaragua, Ecuador, Peru, Bolivia and Paraguay)	Renewable Energy Technology	€27.8 million	2006-2010
Description: The Euro-Solar Programme will supply communities, identified and selected on the basis of objective criteria, with 600 electrification systems. These systems, combining solar and wind energy, are also composed of a charger of batteries, a refrigerator for the conservation of vaccines, a water cleaning system, computers, a projector to disseminate information at the local community level and a Internet connection for educational and productive use. These systems will be used by the communities in a broad range of applications; in telephony, education, health and in accessing information to promote the sustainable development of these rural communities.			
Indicate factors which led to project's success:			

Project/ programme title: EURO-SOLAR, solar systems and ICT for remote regions, 2006
Technology transferred: Renewable energy technology, capacity building, communications
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

Project/ programme title: Leña, renewable energy for the conservation of native forests in the south of Chile, 2006[6].			
Purpose: To promote a sustainable exploitation of the existing primary/native forest in the south of Chile.			
Recipient country	Sector	Total funding	Years in operation
Chile	Renewable Energy Technology	€3.4 million	2006-2011
Description: 93% of the wood exploited from primary forest in the south of Chile is used as firewood. This situation is causing fast degradation and loss of native forests (both in area and biodiversity). The project aims to tackle the problem through four activities: • Consolidation of a national system for firewood certification, • Promotion of sustainable management practices for the native forest (providing specialized training to farmers and arranging logistical networks to distribute the firewood), • Regulation to encourage the access to the certification system and to formal markets to small producers.			
Indicate factors which led to project's success:			

[6] Original Project Title: Leña, energía renovable para la conservación de los bosques nativos del sur de Chile, 2006

Project/ programme title: Leña, renewable energy for the conservation of native forests in the south of Chile, 2006[6].
Technology transferred: Capacity building, best certification practices
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

Project/ programme title: Regional Programme for the reduction of environmental degradation and vulnerability[7] (PREVDA)			
Purpose: To contribute to the integration of institutions and policies of the Central American region regarding water and environmental risk management.			
Recipient country	Sector	Total funding	Years in operation
Central America	Adaptation	€20 million	2006-2011
Description: The target of the project is to strengthen the capacity of existing regional institutions to plan and to link territorial planning and basin management as tools for environmental management. The project aims to create synergies to increase risk identification and mitigation capabilities to diminish the impact of socio economic impacts threats on vital resources.			
Indicate factors which led to project's success:			
Technology transferred: Capacity building, best practices in basin planning and protection			

[7] Original Project Title: PREVDA-Programa Regional para la Reducción de la Vulnerabilidad y Degradación Ambiental

Project/ programme title: Regional Programme for the reduction of environmental degradation and vulnerability[7] (PREVDA)
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

ACP

Project/ programme title: Hydro-Biopower in Ethiopia			
Purpose: Livelihood improvement in rural areas through collaborative development of renewable energy sources in Oromia and Southern Nation Regional States of Ethiopia.			
Recipient country	Sector	Total funding	Years in operation
Ethiopia	Renewable Energy Technology	€0.74 million	2007-2010
Description: The aim of the action is to improve the living conditions of the people living in the above un-served areas through the implementation of renewable energy schemes, i.e. pico-hydropower plants and low cost biogas systems at household level. An important component of the project is devoted to capacity building targeting regional and district offices (WEREDA), as well as local cooperatives and associations. The involvement of local communities in the implementation and management of the energy schemes contributes to increase local ownership and empowerment.			
Indicate factors which led to project's success: This project is still in progress so all project aims have yet to be achieved, but include: • Construction of 5 pico-hydro and 5 micro hydro schemes at the village level			

Project/ programme title: Hydro-Biopower in Ethiopia
• Installation of 1400 household-based biogas schemes • Capacity building for users, maintenance operators and local construction firms • Dissemination of information on Biogas and Hydropower technologies • Development of standards and good practices
Technology transferred: Renewable energy technology, capacity building,
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

Project/ programme title: Regional Weather Radar Warning System			
Purpose: Building a network of early warning radar systems in the Caribbean			
Recipient country	Sector	Total funding	Years in operation
Caribbean Region	Disaster Risk Reduction	€13.2 million	2006-2011
Description: The weather radar which is under installation in Trinidad & Tobago is part of a €13.2 million Caribbean weather radar network project funded by the EU and implemented by the Port of Spain-based Caribbean Meteorological Organization (CMO). The weather radar at Brasso Venado is a sophisticated state-of-the-art system built by the Selex-Gematronix company of Germany, which has been placed on a five-storey 20-metre reinforced concrete tower that will house the related equipment. The CMO is also installing similar new weather radars in Guyana, Barbados and Belize. These four radars will be linked with other existing radars in the Caribbean to form a modern network of nine radars that will be a key component in the Caribbean Early Warning System for predicting and monitoring severe weather conditions.			
Indicate factors which led to project's success: This project is still in progress so all project aims have yet to be achieved, but include the following: The weather radar will provide complete coverage of both islands and out to a distance of 400 km, enabling meteorologists to provide more accurate and timely information on all kinds of severe weather, such as approaching tropical storm and hurricanes, heavy rainfall events, etc. Information from the radar will be made available by the Meteorological Services to the public, national			

Project/ programme title: Regional Weather Radar Warning System
disaster preparedness and emergency agencies and other users in Trinidad & Tobago and throughout the Caribbean via the Internet and the media.
Technology transferred: Weather monitoring technology, disaster risk reduction
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

Project/ programme title: Regional Solar Programme[8]			
Purpose: Reduction in environmental deterioration in the Sahel Region by increased used of solar energy.			
Recipient country	Sector	Total funding	Years in operation
Region West Africa	Renewable Energy Technology and Water/Sanitation	€65 million (PRS1+2)	PRS1:2006-2006 PRS2:2006-2010
Description: **A. Principal objective** Contributing towards reduced environmental degradation by promoting the use of renewable energy **B. Specific Objectives** • Improved quality of life and sanitation of rural populations as well as improved water resource management. • Improved water distribution infrastructure.			

[8] Original Project Title: Programme Regional Solaire

Project/ programme title: Regional Solar Programme[8]
Indicate factors which led to project's success: This project has contributed to poverty reduction by improving economic, financial and social conditions of the community. Approximately 2 million people have been affected, focusing on women and children. • Improved access to drinking water and energy : 30 % of all households benefited from solar equipment. • Income generated from water sales is estimated at €1.52 million. Mechanisms have been put in place to increase returns on savings and thereby leading to more general quality of life improvements. • Renewable energy technologies have led to considerable savings on conventional fossil fuel consumption. • Protection and restoration of the natural environment as well as biodiversity protection. • **Institutional improvements**: increased intervention capacity ; improved water access policies ; identification of barriers to water access • **Private sector strengthening**: Organised via the Association Africaine des Industriels et Installateurs Solaires (AFRIISOL) and leading to increased and improved information and knowledge sharing. • **Technology development**: Improved skill base focusing on solar technology and installation. • **Income generation**: Price of water varying between €0.25 and €0.3 per m^3.
Technology transferred: Renewable energy technology (solar); water access and water purification
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

OCT

Project/ programme title: (TEP) Adding value to renewable energy technologies as well as knowledge and experience transfer, 2006[9].			
Purpose: The main objective of improving livelihood opportunities of the rural and isolated areas of New Caledonia, French Polynesia and Wallis and Futuna, through the promotion of renewable energy sources.			
Recipient country	Sector	Total funding	Years in operation
French Polynesia, Wallis, New Caledonia, Futuna	Renewable Energy Technology	€10.3 million	2006-2009
Description: This initiative focuses on solar and wind energy. Several wind farm projects have been implemented in the past few years in New Caledonia. One of these is located in the North of New Caledonia's main island, with some 22 windmills already erected. The farm eventually aims to provide some 11 Megawatt to the three main towns of the area, Koné, Voh and Pouembout. The wind-generating units span 32 metres and reach a height of 55 metres on a mast. They start producing power when winds reach 10 knots, but can also easily be dismantled in case of cyclone. They are also equipped with a self-orienting device, which allow the two rotors to maximize wind production, according to the winds direction and strength. The longer term plan is to install a total of 42 units on the same site, called Kafeate. However, for the whole of New Caledonia, the plan is to build wind-generated			

[9] Original Project Title: Tonnes équivalent Pétrole - Valorisation des énergies renouvelables et transfert d'expérience et de savoir-faire, 2006

Project/ programme title: (TEP) Adding value to renewable energy technologies as well as knowledge and experience transfer, 2006[9].
electricity to 60 Megawatts (an estimated 15 % of all of New Caledonia's electricity consumption) by 2010. Wind-generated production is directly connected to the existing power distribution network, which is operated by French company Enercal.
Indicate factors which led to project's success: • Improved rural electrification in order to improve quality of life. • Improved electrification of public services such as schools, hospitals as well as commercial properties. • Increased energy independence and security for island inhabitants. • Encourage co-operation and solidarity between islands concerned. • Transfer of acquired knowledge and skills between the islands.
Technology transferred: Renewable energy technologies
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

Neighbourhood

Project/ programme title: Renewable Energy Policy and the Rehabilitation of Small Scale Hydropower Plants
Purpose: To support the Russian Federal Government and regional administrations in the development of legal and regulatory framework to

Project/ programme title: Renewable Energy Policy and the Rehabilitation of Small Scale Hydropower Plants			
facilitate and encourage the use of renewable energy in the Russian Federation.			
Recipient country	Sector	Total funding	Years in operation
Russia[10]	Renewable Energy Technology	€2 million	2005-2009
Description: To develop justifiable and attainable national and regional RES/RES-E targets and national and regional policies and action plans, in 3 selected regions, to reach these targets, which then become integral part of national and regional RES/RES-E programs.			
Indicate factors which led to project's success: Result 1: A proposal for a Federal policy framework to promote RES and RES-E. (Federal RES/RES-E Policy Proposal). Result 2: National RES/RES-E Action Plan, including the formation and monitoring mechanism of RES/RES-E federal targets to be achieved within an established time. (National Action Plan to Set, Monitor and Achieve RES-E Targets) Result 3: Technical and economic feasibility studies of using RES as a primary energy source in each of the three regions. (Regional RES Feasibility Studies). Result 4: RES/RES-E Action Plans in Three Regions, including proposals for a policy framework permitting the implementation of RES and RES-E in these regions. (Regional RES/RES-E Action Plans)			

[10] Russia is an Annex 1 country

Project/ programme title: Renewable Energy Policy and the Rehabilitation of Small Scale Hydropower Plants
Technology transferred: Renewable energy technologies, capacity building
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

Project/ programme title: Energy Efficiency in the Construction Sector in the Mediterranean (MED-ENEC)			
Purpose: To enhance the establishment of cost effective energy efficiency measures by the countries and the application of renewable energy solutions by the respective service providers.			
Recipient country	Sector	Total funding	Years in operation
All Mediterranean countries	Renewable Energy Technology, Energy Efficiency	€4 million	2005-2008
Description: The objective of this project is to develop or improve: • Regional and sub-regional information, communication and cooperation networks among the MEDA countries and with the EU-member countries are established; • Policy measures, regulations, standards and incentive instruments are available for adoption by policy makers; • New services and business and technology cooperation between European and MEDA countries to support communities, real state developers and building owners with comprehensive cost effective services, are established; • Best practices and new technologies as well as integrative approaches are demonstrated and documented through pilot projects.			

Project/ programme title: Energy Efficiency in the Construction Sector in the Mediterranean (MED-ENEC)
• Increased public awareness and civil society participation.
Indicate factors which led to project's success: The proposed project design is very flexible: it entails the elaboration of national work-plans, which will address the local needs and priorities, as they derive from the national baseline studies, the national consultation days, and the national market and capacity assessment studies. Business development is a project key issue. In Tunisia the PP is consistent with the Government's policies and project activities are in line with on-going projects financed by other donors as well as a good knowledge of the region.
Technology transferred: Renewable energy technologies, capacity building
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

Project/ programme title: Sustainable Integrated Land Use of the Eurasian Steppes			
Purpose: The project is designed to provide viable responses to the current pressures on steppe ecosystems and their biodiversity by addressing the key threats and negative trends hampering the sustainable development in the steppe zone of Moldova, Russia and Ukraine.			
Recipient country	Sector	Total funding	Years in operation
Moldova, Russia, Ukraine	Forestry, biodiversity	€2.5 million	30 months (2007-2009)
Description: The project will develop and test a regional approach at trans-boundary level to both protect existing steppe areas and restore steppes for fauna and flora conservation as well as to provide more sustainable livelihoods. Since the project cannot solve all problems, TACIS inputs are meant to provide "seed-money" with which good initiatives can be funded and best international practices demonstrated, in pilot manner, in trans-boundary pilot demonstration areas. Replications of successful examples will be invited as a follow-up by new and additional funding. The specific objectives of this project are: • to increase sustainable land use in wetland, steppe and forest steppe ecosystems; • to restore and use abandoned land, and improve management of privatised areas; • to mobilize financial resources through, e.g., carbon sequestration and greenhouse gas emission reduction through			

Project/ programme title: Sustainable Integrated Land Use of the Eurasian Steppes
the provision of alternative energy; • to mainstream biodiversity concerns into rural land use policy and practice at the regional, national and local levels; and • to encourage cross border cooperation between states.
Indicate factors which led to project's success: The overall results of the project are twofold: 1. The sustainable use of biodiversity assets that contribute to rural poverty reduction and increase economic growth is in place. This result will have the following outcomes: i) holistically managed steppe landscape; ii) local economic benefits, linked to sustainable steppe use and rural poor livelihood generation; iii) appropriate alternative agricultural practices, based on increased land productivity; iv) viable rural populations; v) sustainable, ecologically friendly community business activities; vi) harmonised policy development; vii) increased uptake of opportunities at government level; viii) a shift towards commercial pro-biodiversity business taking out loans. 2. The conservation and restoration of a globally significant ecosystem at a regional level is taken up. This result will have the following outcomes: i) restored and managed natural wetland, steppe and forest-steppe complexes; ii) maintenance of key species; iii) increased biodiversity and reconnected migratory species routes; iv) a regional ecological network at strategic level; v) reduced threat of desertification; vi) less biodiversity-destructive practices; vii) harmonised policy development; and viii) increased financial incentives for steppe maintenance and restoration.
Technology transferred: Renewable energy technologies
Impacts on greenhouse gas emissions/sinks: A positive impact has been made through this project but it is currently not measurable

Appendix H - Further information: Education, Training and Public Awareness

H1 Examples of education and training projects on climate change supported by the Lifelong Learning Programme

Project	Focus	Target	Description
CO_2nnect: CO_2 on the way to school[11] - 2007-2010	Education	Any school in any country	Education and awareness raising activities on transport and climate change. Supported by the Comenius Programme.
Compass Project[12] - 2003-2006	Education	Schools with pupils with learning difficulties	School partnership on comparison and analysis all aspects of school life, environment, culture and climate. Supported by the Comenius Programme.
Our living environment: Today – Yesterday - Tomorrow[13] - 2004-2007	Education	Schools from 3 EU-15 Member States and 2 EU-12 Member States	School partnership around different thematic areas including environment. Supported by the Comenius Programme.
Education for change – 2005-2007	Training	Educators from kindergarten to upper secondary school, school leaders and teacher trainers	Cooperation between skilled educators in schools, NGOs and teacher trainers at universities to develop a method for in-service training for school educators. Develop training materials, website, design a curriculum for sustainable development and publish a brochure on in-service training. Contribution from Comenius programme 337.134€ out of a

11 www.CO_2nnect.org

12 www.compassproject.ik.org

13 http://ole.mok.lt/

Project	Focus	Target	Description
			budget of 449.513€.
SEE EU Tool – 2005-2007	Training	High school teachers, educational authorities, in-service training	Production of training tools and materials enabling teachers to raise pupils' interest in science and technology in a field directly related to their life and future by promoting sustainable energy. Contribution from Comenius programme €340.777 out of a budget of €454.370.
Training for the Future – 2004-2007	Training	Managers of SMEs, young graduates	The project develops practice-oriented training for students and company managers on the topic of corporate 'sustainability' with respect to both economic and environmental considerations. It produces training packages on 'sustainability'. Supported by the Leonardo da Vinci programme. Contribution from Leonardo da Vinci programme €243.326 out of a total budget of €324.435.
Sustainable Cities – 2006-2008	Training	Local authorities	Create an e-training tool and supporting material, directed towards town municipalities functionaries and policy makers, which will include information, examples and case studies on urban sustainable development. Contribution from Leonardo da Vinci programme €346.470 out of a total budget of €479.294.
EMTEU – 2006-2008	Training	Energy management professionals	Define the content of Energy Management Technician studies. This is a cross-training along other professions: electric installers, heater installers, technicians in refrigeration, renewable energies, etc. The project intends to contribute to the establishment of a European model that allows to carry out a

Project	Focus	Target	Description
			standardised training to facilitate the recognition of credits and professional mobility. Contribution from Leonardo da Vinci programme €363.340 out of a total budget of €506.745.
Qualification and advanced training for teachers and instructors of vocational education in biogenic raw materials and renewable energies – 2008-2010	Training	Teachers, instructors of vocational training	Development of programme for advanced training and further qualification of teachers, instructors, and tutors of vocational education in the topic "Biogenic Raw Materials and Renewable Energies". Establishment of working groups and a transnational education network. Contribution from Leonardo da Vinci programme €299.916 out of a total budget of €399.890.

H2 Examples of education and training projects on climate change supported by the Intelligent Energy Europe Programme

Project	Focus	Target	Description
Video "Europe's children learn to fight climate change"	Education	Children and teachers	Video feature available on the ManagEnergy KidsCorner website that presents a selection of grass root projects using a range of creative energy education activities both within and outside the classroom.
FEEDU project[14]	Education and Training	Children (10-12), teachers, parents, public authorities on primary school level	Educational tools on energy and mobility issues including: information cards and books, science fair projects, games and activity books. One part of the project is the Teachers Courses.
Fourth International Pupils' Conference 2007 – "Renewable Energy in Theory and Practice"	Education	Students from Europe and beyond	Conference for students covering energy saving, renewable energy, hydrogen and fuel cell technology as well as CO_2 and climate change issues.
European Young Energy Manager Championship – 2008-2011	Education and Training	Students and teachers	International competition involving international teams of students facing the problem of energy management of their schools and homes. It starts with an energy training of the teachers and the students that leads to the EYE Manager competition and the EYE Manager Award. The last step is a peer to peer transfer of knowledge from students to

14 http://www.feedu.org/index.php

Project	Focus	Target	Description
			students and from teachers to teachers. Total budget of 898.677€ with EC contribution of 75%.
Kids4Future Project – 2007-2009[15]	Education	Children aged 6-12	A common platform, consisting of a universal energy story and one brand are at the core of the concept. Pillars representing children's own arenas; school, internet, TV and event will support the platform. The project will provide high quality pedagogic tools and engaging energy activities to make energy more interesting and learning more fun. Total budget of 1.539.643 € with EC contribution of 50%.
CONNECT – 2007-2010[16]	Education	Primary and secondary schools	CONNECT is a dissemination, implementation and learning by doing project that encourages school children, students and their parents to use more sustainable modes when travelling to and from school. Two different campaigns target the primary and secondary schools. Educational materials for teachers are available in several languages. Creation of a close network and dissemination via www.schoolway.net. Total budget of €1.438.224 with EC contribution of 50%. CONNECT won the Sustainable Energy Europe Campaign award in 2009 in the category 'Promotional, Communication and Educational Actions'.
RES COMPASS – 2008-2010	Education / Training	High schools and higher education	Development of training tools and training offers on renewable energy sources to withdraw the barrier of non-availability of trained and skilled personnel in this area. Total budget of €798.111 with EC

15 www.kids4future.eu

16 www.schoolway.net

Project	Focus	Target	Description
			contribution of 75%.
Energy Intelligent Education[17] – 2006-2007	Training	Social housing companies and municipalities	Development of training tools and organization of training courses to help social housing companies practice energy intelligent retrofitting. Total budget of €919.465 with EC contribution of 50%.
EEBD action[18] – 2005-2007	Training	Building professionals and owners	Produce a web-based training tool to help implement the training requirements for the building certification market arising from the new European legislation. Total budget of €1.402.076 with EC contribution of 50%.

17 www.ei-education.aarch.dk

18 www.eebd.org

H3 Examples of EC support to international cooperation on education and training projects

Project	Focus	Target	Description
Energy Efficiency Training of Trainers (EETT) project[19] – 2006-2007	Training	Sub-Saharan Africa – energy management professionals	Set up a sustainable training system providing structured training and training materials to facilitate a training system in energy management in both the public and private sectors. The courses focus on transfer of know-how through a training the trainers programme in each target country. Total budget of €581.219 with EC contribution of 50% via the Intelligent Energy Europe programme.
ENABLE[20] – 2005-2007	Training	Sub-Saharan Africa – central and local government staff	Builds policy and planning capacity amongst ministry and local government staff regarding the role that renewable energy technologies can play in meeting sector goals. Organisation of workshops and training activities. Total budget of €1.159.686 with EC contribution of 50% via the Intelligent Energy Europe programme.
BEPITA – 2005-2007	Training / Education	Sub-Saharan Africa – public, private sector, professional organizations, high schools and universities	Establish specialized training platforms for biomass technologies covering two wide regions in Sub-Saharan Africa: the dry zone and the wetland zone. Organisation of targeted training sessions and workshops for policymakers and private sector representatives; and training courses for students/teachers in high schools, university and technical

19 www.eett.info

20 www.enable.nu

Project	Focus	Target	Description
			institutes. Total budget of €530.755 with EC contribution of 46% via the Intelligent Energy Europe programme.

H4 Examples of public awareness projects on climate change supported by DG RELEX

Project	Target	Budget € million
2005 - Climate Change and Poverty Reduction: Building Awareness and Promoting Action.	Global	0.36
2006 - L'information Environnementale corporative au service des grands défis régionaux d'Afrique	Reg - Africa	0.37
2006 - Challenges for sustainable development in the South - News reporting, opinion building and media training regarding climate change, biodiversity, food security and the extractive industries	Global	0.67
2007 - National Environmental Visibility Event in Afghanistan	Afghanistan	0.10
2008 - The Climate Change Media Partnership (CCMP): Developing World Media Capacity- Building on the Post 2012 Climate Change Negotiations and the Clean Development Mechanism,	Global	0.77
2008 - IPCC Dissemination of results / Understanding the findings of the IPCC Fourth Assessment Report “Climate Change 2007” - Integrating climate change adaptation and mitigation in development planning	Global	1..00
2008 - Climate Change Awareness Programme	India	8.50

Appendix I Summary of reporting of supplementary information under Article 7, paragraph 2 of the Kyoto protocol

Information reported under Article 7 paragraph 2	National Communication section(s)
National systems in accordance with Article 5, paragraph 1	3.3
National registries	3.4
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	4.2.1, 4.2.2, 5.7
Policies and measures in accordance with Article 2	4.2, 4.5.12
Domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures	4.2.6
Information under Article 10	
Art 10, para a (efforts to improve emissions inventories)	3.3
Art 10, para b (policy action on mitigation AND adaptation measures)	4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 6.3
Art 10, para c (Activities related to transfer of technology)	7.6
Art 10, para d (Activities related to systematic observation)	8.1, 8.3
Art 10e (Activities related to international education and training, and national level public awareness)	9.2.10, 9.3
Financial Resources	7.1, 7.2, 7.5