ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

National Technical University of Athens
Primes Ver. 2 Energy Model

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Level of Carbon Value (in Eur'90/ton of Carbon)	0	1	2	5	10	20	40	70	110	160	220	290	370	460	560	700	900
DECOMPOSITION OF CO2 EMISSIONS REDUCTION (ktn of CO2 avoided in target year)																	
Industrial Sectors - **Metals**																	
Total CO2 emissions reduction	0	-41	-74	-198	-319	-563	-1003	-1612	-2261	-2896	-3431	-4281	-5878	-6607	-7310	-8114	-8980
Structural change and behavioural effects	0	-11	-24	-63	-123	-246	-482	-809	-1210	-1602	-1762	-1984	-2224	-2264	-2600	-3024	-3558
Technological improvement	0	-2	-4	-12	-22	-42	-77	-123	-181	-269	-440	-928	-1953	-2512	-2793	-2980	-3146
Energy saving in heat uses	0	1	2	5	10	17	28	41	53	56	5	-20	-38	-74	-88	-100	-137
Specific Industrial processes	0	-3	-6	-16	-31	-58	-105	-163	-232	-324	-439	-894	-1888	-2388	-2646	-2816	-2945
Electrical Equipment	0	0	0	0	-1	-1	0	-1	-2	-1	-5	-15	-27	-50	-59	-64	-65
Change of fuel mix	0	-10	-21	-50	-95	-174	-296	-424	-533	-618	-692	-731	-903	-921	-921	-920	-908
Change of emission factor of electricity and steam (supply effect)	0	-17	-25	-74	-78	-102	-148	-256	-337	-406	-538	-637	-799	-909	-997	-1190	-1368
Industrial Sectors - **Chemicals**																	
Total CO2 emissions reduction	0	-21	-61	-147	-361	-415	-528	-811	-1062	-1666	-2074	-2459	-2988	-3433	-3762	-4230	-4661
Structural change and behavioural effects	0	-3	-6	-7	-17	-24	-32	-51	-65	-94	-103	-138	-178	-209	-251	-311	-390
Technological improvement	0	-2	-5	-15	-28	-57	-104	-176	-202	-265	-443	-631	-941	-1228	-1414	-1592	-1717
Energy saving in heat uses	0	0	0	0	0	0	0	-1	-1	-1	-2	-3	-3	-6	-7	-7	-8
Specific Industrial processes	0	-2	-4	-15	-28	-57	-104	-173	-193	-256	-432	-619	-926	-1198	-1379	-1555	-1680
Electrical Equipment	0	0	0	0	0	1	1	-2	-8	-7	-9	-10	-12	-24	-28	-30	-29
Change of fuel mix	0	0	0	0	0	-1	-7	-7	-54	-55	-55	-45	-3	-3	-3	-12	-3
Change of emission factor of electricity and steam (supply effect)	0	-15	-51	-124	-315	-333	-386	-577	-740	-1253	-1473	-1644	-1867	-1993	-2095	-2315	-2551
Industrial Sectors - **Materials**																	
Total CO2 emissions reduction	0	-12	-30	-74	-165	-211	-297	-452	-603	-868	-1065	-1331	-1537	-1729	-1907	-2174	-2651
Structural change and behavioural effects	0	-2	-3	-7	-14	-25	-45	-76	-113	-155	-194	-239	-275	-299	-320	-338	-420
Technological improvement	0	-1	-2	-7	-13	-24	-43	-68	-99	-129	-193	-347	-419	-526	-636	-792	-1014
Energy saving in heat uses	0	0	0	-1	-2	-5	-9	-16	-26	-33	-51	-69	-91	-118	-140	-171	-196
Specific Industrial processes	0	-1	-2	-5	-9	-16	-29	-43	-60	-79	-117	-246	-291	-363	-447	-565	-743
Electrical Equipment	0	0	0	-1	-2	-3	-6	-9	-14	-17	-25	-32	-37	-45	-49	-56	-75
Change of fuel mix	0	-2	-5	-11	-22	-39	-64	-89	-110	-127	-139	-147	-154	-158	-161	-165	-264
Change of emission factor of electricity and steam (supply effect)	0	-7	-20	-49	-117	-124	-145	-219	-281	-458	-538	-598	-690	-746	-790	-879	-953
Industrial Sectors - **Others**																	
Total CO2 emissions reduction	0	-21	-51	-132	-273	-327	-440	-696	-943	-1397	-1763	-2113	-2528	-2892	-3203	-3624	-3991
Structural change and behavioural effects	0	-1	-2	-3	-7	-11	-20	-35	-53	-74	-97	-127	-159	-190	-219	-258	-304
Technological improvement	0	-1	-4	-13	-24	-48	-94	-160	-242	-323	-479	-659	-843	-1048	-1225	-1396	-1506
Energy saving in heat uses	0	0	-1	-11	-19	-45	-94	-151	-219	-285	-382	-478	-580	-749	-904	-1056	-1162
Specific Industrial processes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrical Equipment	0	-2	-2	-2	-5	-4	-1	-9	-23	-38	-97	-181	-263	-299	-321	-340	-344
Change of fuel mix	0	-1	-1	-3	-5	-9	-15	-22	-32	-37	-41	-43	-41	-42	-43	-44	-44
Change of emission factor of electricity and steam (supply effect)	0	-18	-44	-113	-237	-259	-311	-479	-617	-964	-1146	-1283	-1485	-1612	-1716	-1926	-2138
Industrial Sectors - **Total**																	
Total CO2 emissions reduction	0	-95	-216	-551	-1118	-1517	-2268	-3571	-4869	-6827	-8333	-10183	-12932	-14662	-16182	-18143	-20283
Structural change and behavioural effects	0	-18	-35	-80	-160	-305	-578	-971	-1441	-1925	-2157	-2489	-2834	-2963	-3389	-3931	-4672
Technological improvement	0	-7	-15	-46	-88	-171	-319	-527	-724	-985	-1555	-2566	-4156	-5314	-6068	-6761	-7384
Energy saving in heat uses	0	1	1	-7	-12	-33	-75	-127	-193	-263	-430	-570	-713	-947	-1139	-1335	-1503
Specific Industrial processes	0	-6	-12	-35	-68	-132	-238	-379	-485	-659	-989	-1758	-3105	-3949	-4472	-4936	-5368
Electrical Equipment	0	-3	-3	-3	-8	-7	-6	-21	-46	-63	-136	-237	-338	-419	-456	-489	-513
Change of fuel mix	0	-13	-27	-64	-122	-222	-382	-542	-730	-837	-926	-966	-1100	-1124	-1128	-1140	-1219
Change of emission factor of electricity and steam (supply effect)	0	-57	-140	-361	-747	-818	-990	-1531	-1974	-3080	-3695	-4162	-4841	-5260	-5597	-6311	-7009

ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	0	1	2	5	10	20	40	70	110	160	220	290	370	460	560	700	900
DECOMPOSITION OF CO2 EMISSIONS REDUCTION (ktn of CO2 avoided in target year)																	
Services																	
Total CO2 emissions reduction	0	-36	-61	-169	-255	-745	-1134	-1603	-2144	-2814	-3546	-4370	-5334	-6207	-6767	-7316	-7874
Structural change and behavioural effects	0	-6	-12	-36	-73	-148	-336	-519	-818	-1156	-1493	-1855	-2151	-2383	-2546	-2695	-2829
Technological improvement	0	-5	-11	-23	-61	-440	-570	-697	-821	-1044	-1253	-1591	-2093	-2607	-2924	-3103	-3406
Space heating and cooling	0	-3	-8	-16	-48	-169	-226	-326	-413	-538	-663	-798	-1074	-1427	-1706	-1883	-2062
Other heat uses (water heating, cooking, etc.)	0	-2	-4	-8	-22	-67	-101	-151	-195	-289	-364	-495	-580	-636	-671	-707	-746
Electric uses	0	-1	1	1	8	-204	-243	-220	-213	-217	-226	-298	-439	-544	-547	-514	-598
Change of fuel mix	0	-1	-2	-4	-7	-14	-27	-43	-60	-76	-97	-112	-129	-143	-161	-200	-195
Change of emission factor of electricity and steam (supply effect)	0	-25	-36	-106	-114	-142	-201	-345	-446	-537	-704	-812	-962	-1075	-1136	-1318	-1445
Agriculture																	
Total CO2 emissions reduction	0	0	-1	-2	-3	-7	-17	-18	-26	-34	-44	-53	-65	-75	-82	-89	-98
Structural change and behavioural effects	0	0	0	-1	-1	-2	-11	-8	-13	-18	-24	-30	-35	-39	-42	-45	-48
Technological improvement	0	0	0	0	-1	-3	-4	-5	-6	-7	-9	-11	-14	-18	-20	-21	-25
Space heating and cooling	0	0	0	0	0	-1	-1	-2	-3	-4	-5	-6	-8	-10	-12	-13	-15
Other heat uses (water heating, cooking, etc.)	0	0	0	0	0	-1	-1	-1	-2	-3	-3	-4	-4	-5	-5	-6	-7
Electric uses	0	0	0	0	0	-1	-2	-1	-1	-1	0	-1	-2	-3	-3	-3	-3
Change of fuel mix	0	0	0	0	0	0	0	0	0	-1	-1	-1	-2	-2	-2	-2	-3
Change of emission factor of electricity and steam (supply effect)	0	0	-1	-1	-2	-2	-3	-5	-6	-7	-10	-12	-14	-16	-17	-20	-23
Households																	
Total CO2 emissions reduction	0	-63	-100	-282	-358	-562	-981	-1718	-2481	-3362	-4489	-5669	-7297	-8743	-10309	-12023	-13209
Structural change and behavioural effects	0	-6	-15	-42	-85	-172	-355	-617	-941	-1332	-1780	-2249	-2656	-3120	-3536	-3882	-4279
Technological improvement	0	-5	-8	-17	-29	-53	-108	-213	-350	-574	-799	-1159	-1853	-2472	-3371	-4000	-4322
Space heating	0	-2	-3	-7	-12	-20	-44	-94	-156	-259	-404	-706	-1357	-1903	-2716	-2916	-3144
Other heat uses (water heating, cooking, air conditioning)	0	-2	-4	-9	-17	-30	-60	-107	-176	-284	-350	-387	-406	-449	-469	-473	-468
Electric appliances	0	0	-1	-1	-1	-2	-4	-13	-18	-31	-45	-66	-90	-120	-187	-611	-710
Change of fuel mix	0	-3	-6	-15	-30	-58	-112	-186	-273	-366	-464	-560	-675	-736	-805	-1189	-1292
Change of emission factor of electricity and steam (supply effect)	0	-49	-70	-207	-214	-280	-406	-702	-918	-1089	-1446	-1701	-2113	-2415	-2597	-2951	-3316
Passenger Transports																	
Total CO2 emissions reduction	0	-15	-27	-70	-123	-231	-441	-746	-1103	-1631	-2558	-3203	-3900	-4681	-5623	-7557	-9761
Structural change and behavioural effects	0	-3	-7	-16	-33	-63	-124	-211	-327	-467	-911	-1197	-1483	-1808	-2132	-2077	-2551
Technological improvement	0	-8	-15	-37	-74	-146	-286	-480	-703	-1077	-1527	-1862	-2242	-2671	-3267	-4646	-6963
Train transports	0	0	0	-1	-2	-4	-9	-15	-22	-31	-98	-119	-164	-175	-182	-139	-117
Aviation / Navigation	0	-7	-13	-33	-65	-128	-249	-414	-597	-904	-1226	-1432	-1593	-1720	-1814	-1240	-1766
Road transports	0	-1	-1	-3	-7	-13	-27	-50	-85	-142	-204	-311	-485	-775	-1272	-3267	-5081
Change of fuel mix	0	0	0	0	0	-1	-2	-3	-4	-6	-9	-11	-14	-16	-18	-627	-23
Change of emission factor of electricity and steam (supply effect)	0	-4	-5	-16	-16	-21	-31	-53	-69	-81	-110	-132	-162	-187	-205	-207	-224
Goods Transports																	
Total CO2 emissions reduction	0	-4	-8	-20	-36	-69	-141	-260	-428	-659	-928	-1264	-1531	-1828	-2271	-2473	-2995
Structural change and behavioural effects	0	-3	-5	-13	-26	-53	-109	-203	-336	-509	-691	-850	-707	-406	-312	-154	-246
Technological improvement	0	-1	-1	-3	-5	-10	-22	-41	-70	-122	-200	-371	-774	-1367	-1900	-2253	-2674
Train transports	0	0	0	-1	-1	-2	-4	-9	-14	-20	-26	-32	-34	-29	-28	-30	-31
Aviation / Navigation	0	0	0	0	0	0	-1	-1	-2	-4	-6	-9	-11	-13	-26	-26	-33
Road transports	0	0	-1	-2	-4	-8	-16	-31	-54	-99	-169	-331	-729	-1325	-1846	-2198	-2610
Change of fuel mix	0	0	0	0	0	-1	-2	-3	-5	-6	-8	-10	-12	-13	-15	-17	-18
Change of emission factor of electricity and steam (supply effect)	0	-1	-1	-4	-4	-5	-8	-14	-18	-21	-28	-33	-39	-43	-45	-50	-56
Final Energy Demand Sectors - Total																	
Total CO2 emissions reduction	0	-214	-412	-1094	-1893	-3132	-4983	-7918	-11051	-15327	-19897	-24742	-31059	-36196	-41232	-47601	-54220
Structural change and behavioural effects	0	-36	-74	-188	-378	-744	-1514	-2529	-3875	-5407	-7056	-8671	-9866	-10720	-11957	-12784	-14624
Technological improvement	0	-25	-50	-127	-258	-824	-1307	-1962	-2673	-3811	-5344	-7559	-11131	-14448	-17550	-20783	-24775
Change of fuel mix	0	-17	-34	-83	-160	-296	-524	-777	-1072	-1293	-1504	-1661	-1930	-2034	-2128	-3176	-2749
Change of emission factor of electricity and steam (supply effect)	0	-136	-254	-696	-1096	-1269	-1638	-2649	-3431	-4816	-5994	-6852	-8132	-8995	-9597	-10857	-12072

ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	0	1	2	5	10	20	40	70	110	160	220	290	370	460	560	700	900
DECOMPOSITION OF CO2 EMISSIONS REDUCTION (ktn of CO2 avoided in target year)																	
Electricity production																	
Total CO2 emissions reduction	0	-164	-230	-661	-659	-1037	-1424	-2338	-2982	-3482	-4699	-5827	-7747	-9099	-10078	-11820	-12983
Change of demand	0	-2	1	17	33	-146	-142	-125	-101	-89	-196	-530	-1191	-1639	-2056	-2544	-2618
Production from non fossil fuels	0	-13	-1	24	91	-138	-493	-1003	-1197	-1257	-2543	-3621	-5109	-6127	-6940	-8511	-8616
Large hydro	0	0	0	0	1	-1	-4	-7	-8	-9	-17	-23	-32	-38	-43	-52	-53
Small renewables	0	-1	0	1	5	-8	-36	-101	-126	-132	-362	-528	-737	-905	-1041	-1276	-1309
Biomass and waste	0	0	0	0	1	-1	-4	-8	-13	-15	-56	-150	-277	-343	-397	-530	-511
Nuclear energy	0	-12	-1	22	85	-128	-450	-887	-1050	-1102	-2108	-2920	-4062	-4840	-5459	-6653	-6743
Change of fossil fuel mix	0	-126	-211	-558	-582	-599	-607	-1812	-2581	-2928	-671	-698	-700	-676	-590	-561	-753
Technological improvement of fossil fuel plants	0	-22	-19	-144	-201	-154	-182	603	898	792	-1288	-978	-747	-657	-492	-204	-996
Steam production																	
Total CO2 emissions reduction	0	23	-25	-3	-384	-304	-190	-183	-280	-1184	-1224	-1311	-1431	-1530	-1641	-1739	-1943
Change of demand	0	-3	-2	6	8	29	70	98	77	23	-13	-72	-192	-349	-460	-593	-710
Production from non fossil fuels	0	6	6	0	-9	11	5	-75	-115	-111	-110	-64	-46	-17	-26	-14	-81
Technological improvement of fossil fuel plants and change of fuel mix	0	19	-28	-9	-384	-344	-266	-206	-242	-1096	-1101	-1175	-1193	-1163	-1154	-1132	-1152
Other Supply Sectors production																	
Total CO2 emissions reduction	0	-1	-6	-8	-42	-56	-80	-107	-184	-298	-354	-428	-542	-613	-695	-796	-910
Statistical Difference	0	-6	-11	-32	-52	-111	-214	-345	-476	-594	-683	-844	-1136	-1345	-1488	-1635	-1815
Avoided CO2 Emissions - As in Final Report																	
Total CO2 emissions reduction	0	-222	-430	-1134	-1987	-3299	-5277	-8369	-11711	-16219	-20934	-26014	-32737	-38154	-43415	-50031	-56945
In Final Energy Demand	0	-79	-171	-461	-918	-1914	-3585	-5726	-8257	-11279	-14679	-18458	-22987	-26524	-30599	-35260	-40675
In Electricity and Steam Generation	0	-141	-253	-665	-1027	-1329	-1612	-2536	-3270	-4642	-5902	-7129	-9208	-11018	-12121	-13976	-15360
In Other Energy Conversion Sectors	0	-1	-6	-8	-42	-56	-80	-107	-184	-298	-354	-428	-542	-613	-695	-796	-910

ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	0	1	2	5	10	20	40	70	110	160	220	290	370	460	560	700	900
DECOMPOSITION OF CO2 EMISSIONS REDUCTION (% contribution to avoid CO2 emissions in target year)																	
Industrial Sectors - **Metals**																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	27.7	32.2	31.6	38.7	43.6	48.1	50.2	53.5	55.3	51.4	46.4	37.8	34.3	35.6	37.3	39.6
Technological improvement	0	4.8	5.8	5.8	7.0	7.5	7.7	7.6	8.0	9.3	12.8	21.7	33.2	38.0	38.2	36.7	35.0
Energy saving in heat uses	0	*-3.3*	*-3.3*	*-2.4*	*-3.0*	*-3.0*	*-2.8*	*-2.6*	*-2.3*	*-1.9*	*-0.1*	*0.5*	*0.7*	*1.1*	*1.2*	*1.2*	*1.5*
Specific Industrial processes	0	*7.3*	*8.4*	*8.0*	*9.7*	*10.3*	*10.5*	*10.1*	*10.3*	*11.2*	*12.8*	*20.9*	*32.1*	*36.1*	*36.2*	*34.7*	*32.8*
Electrical Equipment	0	*0.9*	*0.6*	*0.2*	*0.3*	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	*0.2*	*0.3*	*0.5*	*0.8*	*0.8*	*0.8*	*0.7*
Change of fuel mix	0	25.4	27.9	25.2	29.9	30.8	29.5	26.3	23.6	21.4	20.2	17.1	15.4	13.9	12.6	11.3	10.1
Change of emission factor of electricity and steam (supply effect)	0	42.1	34.1	37.4	24.5	18.1	14.7	15.9	14.9	14.0	15.7	14.9	13.6	13.8	13.6	14.7	15.2
Industrial Sectors - **Chemicals**																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	16.8	9.1	4.9	4.6	5.7	6.0	6.3	6.2	5.7	5.0	5.6	5.9	6.1	6.7	7.4	8.4
Technological improvement	0	9.9	7.4	10.3	7.9	13.7	19.6	21.7	19.0	15.9	21.4	25.7	31.5	35.8	37.6	37.6	36.8
Energy saving in heat uses	0	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*
Specific Industrial processes	0	*8.4*	*6.8*	*10.2*	*7.7*	*13.8*	*19.8*	*21.3*	*18.2*	*15.4*	*20.8*	*25.2*	*31.0*	*34.9*	*36.7*	*36.8*	*36.1*
Electrical Equipment	0	*1.3*	*0.5*	*0.0*	*0.1*	*-0.1*	*-0.2*	*0.3*	*0.7*	*0.4*	*0.4*	*0.4*	*0.4*	*0.7*	*0.8*	*0.7*	*0.6*
Change of fuel mix	0	0.2	0.1	0.1	0.1	0.2	1.3	0.9	5.1	3.3	2.6	1.8	0.1	0.1	0.1	0.3	0.1
Change of emission factor of electricity and steam (supply effect)	0	73.1	83.4	84.7	87.4	80.4	73.0	71.1	69.7	75.2	71.0	66.9	62.5	58.1	55.7	54.7	54.7
Industrial Sectors - **Materials**																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	15.2	10.9	8.8	8.3	11.6	15.0	16.8	18.8	17.8	18.2	17.9	17.9	17.3	16.8	15.6	15.8
Technological improvement	0	9.8	8.1	9.1	7.8	11.3	14.6	15.1	16.4	14.8	18.1	26.1	27.3	30.4	33.4	36.4	38.3
Energy saving in heat uses	0	*1.3*	*1.2*	*1.7*	*1.4*	*2.2*	*3.1*	*3.6*	*4.2*	*3.8*	*4.8*	*5.2*	*5.9*	*6.8*	*7.3*	*7.9*	*7.4*
Specific Industrial processes	0	*6.6*	*5.7*	*6.2*	*5.3*	*7.7*	*9.6*	*9.5*	*9.9*	*9.1*	*11.0*	*18.5*	*18.9*	*21.0*	*23.5*	*26.0*	*28.0*
Electrical Equipment	0	*1.8*	*1.2*	*1.3*	*1.1*	*1.5*	*1.9*	*2.1*	*2.3*	*1.9*	*2.3*	*2.4*	*2.4*	*2.6*	*2.6*	*2.6*	*2.8*
Change of fuel mix	0	20.0	15.7	15.5	13.1	18.2	21.5	19.7	18.3	14.6	13.1	11.0	10.0	9.1	8.4	7.6	9.9
Change of emission factor of electricity and steam (supply effect)	0	55.0	65.3	66.5	70.8	58.8	48.9	48.4	46.5	52.8	50.6	44.9	44.9	43.1	41.4	40.4	35.9
Industrial Sectors - **Others**																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	5.2	3.6	2.4	2.5	3.5	4.5	5.0	5.6	5.3	5.5	6.0	6.3	6.6	6.8	7.1	7.6
Technological improvement	0	6.8	7.1	9.6	8.9	14.8	21.4	23.0	25.6	23.1	27.2	31.2	33.4	36.2	38.3	38.5	37.7
Energy saving in heat uses	0	*-1.3*	*2.7*	*8.1*	*7.1*	*13.7*	*21.3*	*21.7*	*23.2*	*20.4*	*21.6*	*22.6*	*23.0*	*25.9*	*28.2*	*29.1*	*29.1*
Specific Industrial processes	0	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Electrical Equipment	0	*8.1*	*4.4*	*1.5*	*1.9*	*1.2*	*0.2*	*1.3*	*2.4*	*2.7*	*5.5*	*8.6*	*10.4*	*10.3*	*10.0*	*9.4*	*8.6*
Change of fuel mix	0	2.6	2.1	1.9	1.8	2.7	3.4	3.1	3.4	2.6	2.3	2.0	1.6	1.5	1.3	1.2	1.1
Change of emission factor of electricity and steam (supply effect)	0	85.4	87.2	86.0	86.8	79.0	70.6	68.9	65.4	69.0	65.0	60.7	58.8	55.8	53.6	53.2	53.6
Industrial Sectors - **Total**																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	18.8	16.0	14.4	14.4	20.1	25.5	27.2	29.6	28.2	25.9	24.4	21.9	20.2	20.9	21.7	23.0
Technological improvement	0	7.0	6.9	8.4	7.9	11.3	14.0	14.8	14.9	14.4	18.7	25.2	32.1	36.2	37.5	37.3	36.4
Energy saving in heat uses	0	*-1.5*	*-0.3*	*1.3*	*1.1*	*2.2*	*3.3*	*3.5*	*4.0*	*3.9*	*5.2*	*5.6*	*5.5*	*6.5*	*7.0*	*7.4*	*7.4*
Specific Industrial processes	0	*5.9*	*5.6*	*6.4*	*6.0*	*8.7*	*10.5*	*10.6*	*10.0*	*9.7*	*11.9*	*17.3*	*24.0*	*26.9*	*27.6*	*27.2*	*26.5*
Electrical Equipment	0	*2.6*	*1.5*	*0.6*	*0.7*	*0.5*	*0.2*	*0.6*	*0.9*	*0.9*	*1.6*	*2.3*	*2.6*	*2.9*	*2.8*	*2.7*	*2.5*
Change of fuel mix	0	14.2	12.3	11.6	10.9	14.6	16.8	15.2	15.0	12.3	11.1	9.5	8.5	7.7	7.0	6.3	6.0
Change of emission factor of electricity and steam (supply effect)	0	60.0	64.9	65.6	66.9	53.9	43.6	42.9	40.6	45.1	44.3	40.9	37.4	35.9	34.6	34.8	34.6

ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	0	1	2	5	10	20	40	70	110	160	220	290	370	460	560	700	900
DECOMPOSITION OF CO2 EMISSIONS REDUCTION (% contribution to avoid CO2 emissions in target year)																	
Services																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	16.3	19.9	21.5	28.6	19.9	29.7	32.4	38.2	41.1	42.1	42.5	40.3	38.4	37.6	36.8	35.9
Technological improvement	0	14.0	18.2	13.8	24.0	59.1	50.2	43.5	38.3	37.1	35.3	36.4	39.2	42.0	43.2	42.4	43.3
Space heating and cooling	0	*7.6*	*12.6*	*9.7*	*18.7*	*22.7*	*19.9*	*20.3*	*19.3*	*19.1*	*18.7*	*18.3*	*20.1*	*23.0*	*25.2*	*25.7*	*26.2*
Other heat uses (water heating, cooking, etc.)	0	*4.3*	*6.5*	*5.0*	*8.5*	*8.9*	*8.9*	*9.4*	*9.1*	*10.3*	*10.3*	*11.3*	*10.9*	*10.3*	*9.9*	*9.7*	*9.5*
Electric uses	0	*2.1*	*-0.9*	*-0.8*	*-3.2*	*27.5*	*21.4*	*13.7*	*9.9*	*7.7*	*6.4*	*6.8*	*8.2*	*8.8*	*8.1*	*7.0*	*7.6*
Change of fuel mix	0	2.1	2.5	2.2	2.9	1.9	2.3	2.7	2.8	2.7	2.7	2.6	2.4	2.3	2.4	2.7	2.5
Change of emission factor of electricity and steam (supply effect)	0	67.5	59.4	62.4	44.5	19.1	17.7	21.5	20.8	19.1	19.9	18.6	18.0	17.3	16.8	18.0	18.3
Agriculture																	
Total CO2 emissions reduction	0	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	18.8	23.8	24.9	34.9	30.4	60.3	44.6	50.5	54.5	54.8	56.1	54.3	52.6	52.0	50.5	48.8
Technological improvement	0	8.3	10.9	8.2	16.2	41.5	22.6	26.6	22.7	21.4	20.1	19.8	21.4	23.5	24.1	23.9	25.2
Space heating and cooling	0	*5.1*	*7.9*	*5.8*	*12.1*	*17.0*	*6.6*	*12.7*	*11.6*	*11.6*	*11.7*	*11.5*	*11.9*	*13.6*	*14.4*	*14.8*	*15.0*
Other heat uses (water heating, cooking, etc.)	0	*4.5*	*6.1*	*4.7*	*7.7*	*8.4*	*5.0*	*8.0*	*7.7*	*7.5*	*7.4*	*7.1*	*6.6*	*6.3*	*6.3*	*6.2*	*7.2*
Electric uses	0	*-1.2*	*-3.1*	*-2.2*	*-3.6*	*16.1*	*11.0*	*5.9*	*3.4*	*2.3*	*1.0*	*1.2*	*3.0*	*3.7*	*3.4*	*2.9*	*3.0*
Change of fuel mix	0	1.1	1.4	1.2	1.6	1.3	1.1	1.8	1.9	2.0	2.5	2.4	2.4	2.4	2.5	2.7	2.8
Change of emission factor of electricity and steam (supply effect)	0	71.7	63.8	65.7	47.3	26.7	16.0	26.9	24.9	22.2	22.6	21.7	21.9	21.5	21.4	22.9	23.2
Households																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	10.2	15.2	14.9	23.7	30.5	36.2	35.9	37.9	39.6	39.6	39.7	36.4	35.7	34.3	32.3	32.4
Technological improvement	0	7.8	8.0	6.1	8.2	9.3	11.0	12.4	14.1	17.1	17.8	20.4	25.4	28.3	32.7	33.3	32.7
Space heating	0	*3.5*	*3.3*	*2.4*	*3.2*	*3.6*	*4.5*	*5.5*	*6.3*	*7.7*	*9.0*	*12.4*	*18.6*	*21.8*	*26.3*	*24.3*	*23.8*
Other heat uses (water heating, cooking, air conditioning)	0	*3.8*	*4.1*	*3.3*	*4.6*	*5.4*	*6.1*	*6.2*	*7.1*	*8.5*	*7.8*	*6.8*	*5.6*	*5.1*	*4.5*	*3.9*	*3.5*
Electric appliances	0	*0.6*	*0.6*	*0.4*	*0.4*	*0.3*	*0.4*	*0.7*	*0.7*	*0.9*	*1.0*	*1.2*	*1.2*	*1.4*	*1.8*	*5.1*	*5.4*
Change of fuel mix	0	4.7	6.0	5.3	8.3	10.3	11.4	10.8	11.0	10.9	10.3	9.9	9.2	8.4	7.8	9.9	9.8
Change of emission factor of electricity and steam (supply effect)	0	77.3	70.8	73.6	59.8	49.8	41.4	40.9	37.0	32.4	32.2	30.0	29.0	27.6	25.2	24.5	25.1
Passenger Transports																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	23.1	24.7	23.6	26.4	27.3	28.0	28.3	29.6	28.6	35.6	37.4	38.0	38.6	37.9	27.5	26.1
Technological improvement	0	51.0	55.1	53.4	60.1	63.2	64.7	64.3	63.7	66.1	59.7	58.1	57.5	57.0	58.1	61.5	71.3
Train transports	0	*1.3*	*1.6*	*1.6*	*1.9*	*1.9*	*2.0*	*2.0*	*2.0*	*1.9*	*3.8*	*3.7*	*4.2*	*3.7*	*3.2*	*1.8*	*1.2*
Aviation / Navigation	0	*44.9*	*48.6*	*47.0*	*52.9*	*55.5*	*56.5*	*55.5*	*54.1*	*55.4*	*47.9*	*44.7*	*40.8*	*36.7*	*32.3*	*16.4*	*18.1*
Road transports	0	*4.7*	*5.0*	*4.7*	*5.4*	*5.8*	*6.2*	*6.7*	*7.7*	*8.7*	*8.0*	*9.7*	*12.4*	*16.6*	*22.6*	*43.2*	*52.0*
Change of fuel mix	0	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	8.3	0.2
Change of emission factor of electricity and steam (supply effect)	0	25.6	19.9	22.8	13.1	9.2	7.0	7.1	6.2	4.9	4.3	4.1	4.1	4.0	3.6	2.7	2.3
Goods Transports																	
Total CO2 emissions reduction	0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Structural change and behavioural effects	0	63.6	67.8	65.3	72.8	75.9	77.7	78.0	78.5	77.3	74.5	67.3	46.1	22.2	13.7	6.2	8.2
Technological improvement	0	12.3	13.0	12.8	14.2	14.9	15.3	15.6	16.3	18.6	21.6	29.4	50.5	74.7	83.7	91.1	89.3
Train transports	0	*2.7*	*2.7*	*2.6*	*2.9*	*3.0*	*3.1*	*3.3*	*3.2*	*3.0*	*2.8*	*2.5*	*2.2*	*1.6*	*1.2*	*1.2*	*1.1*
Aviation / Navigation	0	*0.4*	*0.4*	*0.4*	*0.5*	*0.5*	*0.5*	*0.5*	*0.6*	*0.6*	*0.7*	*0.7*	*0.7*	*0.7*	*1.1*	*1.0*	*1.1*
Road transports	0	*9.1*	*9.9*	*9.7*	*10.8*	*11.4*	*11.7*	*11.8*	*12.6*	*15.0*	*18.2*	*26.2*	*47.6*	*72.5*	*81.3*	*88.8*	*87.2*
Change of fuel mix	0	1.1	1.2	1.2	1.3	1.3	1.3	1.2	1.1	1.0	0.9	0.8	0.8	0.7	0.6	0.7	0.6
Change of emission factor of electricity and steam (supply effect)	0	23.1	17.9	20.7	11.6	7.9	5.7	5.3	4.2	3.2	3.0	2.6	2.6	2.3	2.0	2.0	1.9
Final Energy Demand Sectors - Total																	
Total CO2 emissions reduction	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Structural change and behavioural effects	0	17.0	17.9	17.2	20.0	23.7	30.4	31.9	35.1	35.3	35.5	35.0	31.8	29.6	29.0	26.9	27.0
Technological improvement	0	11.6	12.1	11.6	13.6	26.3	26.2	24.8	24.2	24.9	26.9	30.6	35.8	39.9	42.6	43.7	45.7
Change of fuel mix	0	8.1	8.3	7.6	8.5	9.4	10.5	9.8	9.7	8.4	7.6	6.7	6.2	5.6	5.2	6.7	5.1
Change of emission factor of electricity and steam (supply effect)	0	63.3	61.6	63.6	57.9	40.5	32.9	33.5	31.0	31.4	30.1	27.7	26.2	24.9	23.3	22.8	22.3

ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	**0**	**1**	**2**	**5**	**10**	**20**	**40**	**70**	**110**	**160**	**220**	**290**	**370**	**460**	**560**	**700**	**900**
DECOMPOSITION OF CO2 EMISSIONS REDUCTION (% contribution to avoid CO2 emissions in target year)																	
Electricity production																	
Total CO2 emissions reduction	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Change of demand	0	1.5	-0.4	-2.5	-5.0	14.1	10.0	5.4	3.4	2.5	4.2	9.1	15.4	18.0	20.4	21.5	20.2
Production from non fossil fuels	0	8.2	0.3	-3.6	-13.9	13.3	34.6	42.9	40.1	36.1	54.1	62.1	65.9	67.3	68.9	72.0	66.4
Large hydro	0	*0.1*	*0.0*	*0.0*	*-0.1*	*0.1*	*0.2*	*0.3*	*0.3*	*0.2*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*
Small renewables	0	*0.5*	*0.0*	*-0.2*	*-0.8*	*0.8*	*2.5*	*4.3*	*4.2*	*3.8*	*7.7*	*9.1*	*9.5*	*9.9*	*10.3*	*10.8*	*10.1*
Biomass and waste	0	*0.1*	*0.0*	*0.0*	*-0.1*	*0.1*	*0.3*	*0.3*	*0.4*	*0.4*	*1.2*	*2.6*	*3.6*	*3.8*	*3.9*	*4.5*	*3.9*
Nuclear energy	0	*7.6*	*0.3*	*-3.3*	*-12.9*	*12.3*	*31.6*	*37.9*	*35.2*	*31.6*	*44.9*	*50.1*	*52.4*	*53.2*	*54.2*	*56.3*	*51.9*
Change of fossil fuel mix	0	77.0	91.7	84.4	88.3	57.7	42.6	77.5	86.6	84.1	14.3	12.0	9.0	7.4	5.9	4.7	5.8
Technological improvement of fossil fuel plants	0	13.3	8.3	21.7	30.5	14.9	12.8	-25.8	-30.1	-22.8	27.4	16.8	9.6	7.2	4.9	1.7	7.7
Steam production																	
Total CO2 emissions reduction	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Change of demand	0	-11.5	9.3	-238.6	-2.1	-9.6	-36.9	-53.7	-27.3	-2.0	1.0	5.5	13.4	22.8	28.1	34.1	36.6
Production from non fossil fuels	0	27.3	-24.0	-14.9	2.2	-3.6	-2.8	41.2	40.9	9.4	9.0	4.9	3.2	1.1	1.6	0.8	4.2
Technological improvement of fossil fuel plants and change of fuel mix	0	84.1	114.7	353.5	99.9	113.2	139.7	112.5	86.4	92.6	90.0	89.6	83.4	76.0	70.3	65.1	59.3
Other Supply Sectors production																	
Total CO2 emissions reduction	0	0.7	1.4	0.7	2.1	1.7	1.5	1.3	1.6	1.8	1.7	1.6	1.7	1.6	1.6	1.6	1.6
Statistical Difference	0	2.7	2.6	2.8	2.6	3.4	4.1	4.1	4.1	3.7	3.3	3.2	3.5	3.5	3.4	3.3	3.2
Avoided CO2 Emissions - As in Final Report																	
Total CO2 emissions reduction	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
In Final Energy Demand	0	35.9	39.8	40.6	46.2	58.0	67.9	68.4	70.5	69.5	70.1	71.0	70.2	69.5	70.5	70.5	71.4
In Electricity and Steam Generation	0	63.5	58.8	58.7	51.7	40.3	30.5	30.3	27.9	28.6	28.2	27.4	28.1	28.9	27.9	27.9	27.0
In Other Energy Conversion Sectors	0	0.7	1.4	0.7	2.1	1.7	1.5	1.3	1.6	1.8	1.7	1.6	1.7	1.6	1.6	1.6	1.6

ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	0	1	2	5	10	20	40	70	110	160	220	290	370	460	560	700	900
Heavy Industry																	
Specific energy Consumption of Process Technology (toe per tn of output)																	
Iron and Steel	0.339	0.339	0.339	0.339	0.339	0.338	0.337	0.335	0.333	0.330	0.327	0.314	0.280	0.264	0.254	0.246	0.238
Basic aluminium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other processing of non ferrous	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.030	0.030	0.030	0.030	0.029	0.028	0.028	0.028	0.027
Chemicals	0.242	0.242	0.241	0.241	0.240	0.239	0.237	0.234	0.231	0.229	0.223	0.216	0.206	0.196	0.188	0.180	0.174
Cement Production	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.056	0.056	0.056	0.055	0.053	0.052	0.052	0.051	0.051	0.047
Glass basic processing	0.208	0.208	0.208	0.208	0.208	0.208	0.208	0.207	0.206	0.205	0.202	0.197	0.195	0.184	0.181	0.160	0.000
Pulp and Paper	0.058	0.058	0.058	0.058	0.058	0.058	0.057	0.057	0.057	0.057	0.056	0.055	0.054	0.053	0.052	0.050	0.048
Structural Change in basic processing (%)																	
Electric steelworks	14.8	14.8	14.9	15.0	15.3	15.9	17.1	18.8	21.2	23.5	23.8	25.5	28.8	29.5	33.6	38.8	45.4
Aluminium recycling	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Glass recycling	66.0	66.0	66.0	66.1	66.1	66.2	66.3	66.6	66.9	67.2	67.1	65.9	65.9	66.1	66.6	67.3	100.0
Paper recycling	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.7	77.7	77.7	77.7	77.8	77.9	77.9	78.0	78.1	78.3
Fuel Mix																	
electrotechnologies																	
% of mechanical processing in chemistry	57.2	57.1	57.2	57.6	57.9	59.1	61.3	63.2	64.2	65.4	70.2	74.5	77.0	79.0	80.5	81.6	83.3
% of electric furnaces non ferrous	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
% of mechanical processing glass production	15.6	15.6	15.6	15.7	15.7	15.8	16.0	16.3	16.6	17.0	17.4	17.4	17.5	18.0	18.5	19.3	27.9
% of mechanical processing in paper and pulp	75.0	75.0	75.0	74.9	74.9	74.7	74.5	74.1	73.6	73.2	72.6	72.3	72.4	72.5	72.7	72.9	73.3
% of heat pumps in specific heat uses	3.3	3.3	3.4	3.5	3.7	4.1	4.8	6.1	8.3	10.6	18.9	33.0	52.0	59.6	64.1	68.2	71.0
natural gas directly substituting other fossil fuels (% in specific uses)	44.6	44.8	44.9	45.2	45.8	46.6	47.9	49.5	51.2	52.7	52.8	53.2	54.4	54.5	54.9	54.9	55.0
market share of steam (% in industrial demand)	13.7	13.7	13.8	13.8	13.9	14.0	14.3	14.7	14.9	15.1	15.4	15.8	16.3	16.3	16.5	16.7	17.1
Contribution of CHP for industrial Steam Production (%)	59.3	60.2	60.2	60.1	60.0	59.8	58.4	57.8	57.6	57.4	57.5	57.5	57.8	58.2	58.3	58.6	58.3
Equipment efficiency of electrical and cross-cutting technologies (index)																	
Industrial Furnaces																	
Process Furnaces	100	100.0	100.0	100.1	100.2	100.3	100.6	101.0	101.6	101.9	102.8	103.5	104.0	105.2	105.9	107.4	108.5
Electric Furnaces	100	100.0	100.0	100.1	100.1	100.2	100.4	100.7	101.2	102.0	102.7	103.7	110.0	113.5	115.8	117.5	122.0
Industrial Motors, Air Compressors, Lighting, etc.																	
Motor Drives	100	100.0	100.0	100.1	100.1	100.2	100.3	100.5	100.8	100.9	101.5	102.0	102.5	103.5	104.5	105.3	106.0
Air Compressors	100	100.0	100.1	100.1	100.3	100.5	100.8	101.4	102.1	102.6	103.7	104.7	105.9	108.0	109.0	110.0	110.8
Lighting	100	100.1	100.1	100.3	100.6	101.0	102.0	103.3	105.0	106.1	109.5	114.6	122.8	136.7	143.0	147.6	150.2
Electric Equipment in Households																	
Refrigerators	100	100.0	100.0	100.0	100.1	100.1	100.2	100.7	100.9	101.4	102.0	102.7	103.3	104.0	104.6	110.6	119.1
Washing machines	100	100.0	100.0	100.1	100.1	100.2	100.5	101.3	101.7	102.6	103.6	104.7	105.5	106.4	107.1	107.8	111.6
Lighting	100	100.0	100.0	100.1	100.1	100.1	100.1	100.5	100.8	101.6	102.6	104.5	107.2	111.2	122.2	331.5	477.5
TV and similar	100	100.0	100.0	100.0	100.0	100.0	100.1	100.2	100.3	100.5	100.8	101.1	101.3	101.6	101.8	102.1	105.0
Water heating	100	100.1	100.1	100.3	100.5	100.9	101.9	103.4	105.7	110.0	112.7	114.5	116.3	117.0	117.2	116.9	116.2
Air Conditioning	100	100.0	100.0	100.0	100.0	100.0	100.0	100.5	100.6	101.3	102.2	103.7	105.3	117.7	139.3	160.2	164.7
Electric Equipment in Tertiary																	
Offices	100	100.1	100.5	100.8	104.5	144.9	148.5	150.6	151.0	152.2	155.1	165.3	192.0	221.5	229.2	233.9	269.8
Agriculture	100	100.0	100.0	100.1	100.4	105.3	107.0	106.5	106.8	107.6	108.7	110.7	116.4	121.1	122.9	124.3	127.3

ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	**0**	**1**	**2**	**5**	**10**	**20**	**40**	**70**	**110**	**160**	**220**	**290**	**370**	**460**	**560**	**700**	**900**
Low enthalpy heat uses (index)																	
Industrial heat uses	100	100.0	100.0	100.1	100.2	100.4	100.8	101.4	102.4	103.9	106.0	108.1	113.3	119.9	122.9	125.6	129.8
Buildings (thermal integrity, efficiency of heat generation)																	
Houses																	
efficiency of heat generation	100	100.0	100.0	100.1	100.1	100.2	100.5	100.9	101.5	102.4	103.6	105.9	110.4	115.7	124.0	129.7	133.7
thermal integrity	100	100.0	100.0	100.1	100.2	100.3	100.6	101.1	101.7	102.5	103.3	104.4	105.4	106.4	107.3	108.2	109.2
Offices																	
efficiency of heat generation	100	100.0	100.0	100.1	100.2	100.3	100.6	101.2	101.8	102.7	103.5	104.2	105.5	109.6	111.3	112.7	114.1
thermal integrity	100	100.0	100.0	100.1	100.2	100.4	101.0	101.6	102.5	103.7	104.8	106.2	107.5	108.6	109.4	110.1	110.9
Agriculture																	
efficiency of heat generation	100	100.0	100.0	100.0	100.1	100.1	100.2	100.5	100.7	101.0	101.5	101.9	102.7	104.2	105.1	105.8	106.4
thermal integrity	100	100.0	100.0	100.1	100.2	100.4	102.0	101.6	102.5	103.6	104.8	106.2	107.4	108.5	109.3	110.1	110.9
Transports																	
Passenger Cars (efficiency index)	100	100.0	100.0	100.0	100.0	100.1	100.2	100.3	100.5	100.8	101.1	101.8	102.8	104.6	107.8	125.6	145.6
Trucks (efficiency index)	100	100.0	100.0	100.0	100.0	100.1	100.2	100.3	100.5	100.9	101.6	103.2	107.2	113.7	120.1	124.7	130.9
Transport modes for passengers (% of transport activity)																	
Passenger Cars	75.2	75.2	75.2	75.2	75.1	75.1	75.1	75.1	75.1	75.1	73.8	73.2	72.7	72.0	71.5	78.9	81.3
Train transport	7.6	7.6	7.6	7.6	7.6	7.7	7.7	7.8	7.9	8.1	9.8	10.5	11.1	11.5	11.8	8.7	7.8
Transport modes for goods (% of transport activity)																	
Train transport	19.0	19.1	19.1	19.1	19.1	19.2	19.4	19.7	20.2	20.9	21.5	22.0	21.1	19.4	18.1	16.6	16.4
Renewables in Final Energy (%)																	
Biomass	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8	0.8
Solar energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Generation																	
Fuel Mix in Thermal (electricity from gas over thermal production)	91.5	91.9	92.1	92.9	93.0	93.0	93.0	93.9	97.2	98.4	98.3	98.5	98.6	98.4	98.0	97.8	98.7
Contribution of Nuclear (% over total production)	48.5	48.5	48.5	48.4	48.3	48.6	48.6	48.1	48.2	48.3	48.3	49.1	51.5	53.2	54.7	57.6	58.5
Renewables (as % over total production)	3.7	3.7	3.7	3.7	3.7	3.8	4.7	6.3	6.7	6.8	10.0	11.8	13.3	14.2	14.8	16.1	16.3
hydro of utilities (as % over total production)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
hydro of other generators (as % over total production)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
biomass (as % over total production)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	1.3	2.5	3.5	3.8	4.0	4.6	4.4
wind energy and other renewables (as % over total production)	2.9	2.9	2.9	2.9	2.9	3.0	3.9	5.5	5.8	5.8	8.3	8.9	9.3	9.9	10.4	11.0	11.3
CHP indicators																	
Steam/electricity ratio from CHP	1.68	1.62	1.63	1.61	1.65	1.65	1.62	1.60	1.60	1.63	1.54	1.54	1.40	1.30	1.28	1.18	0.94
% of electricity from CHP	8.3	8.6	8.6	8.7	8.5	8.6	8.8	9.0	9.0	8.7	9.2	9.3	10.3	11.1	11.4	12.4	15.4
% of steam from chp	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
Implications for other policies																	
Import dependency (percent)	88.5	88.5	88.5	88.4	88.4	88.4	88.1	87.8	87.5	87.1	86.2	85.4	84.4	83.6	82.9	81.7	80.6
Market Liberalisation (% of utilities production)	76.6	76.7	77.1	77.4	79.5	78.8	78.0	78.3	78.0	78.1	75.2	74.8	72.8	71.5	71.2	70.5	66.8

ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

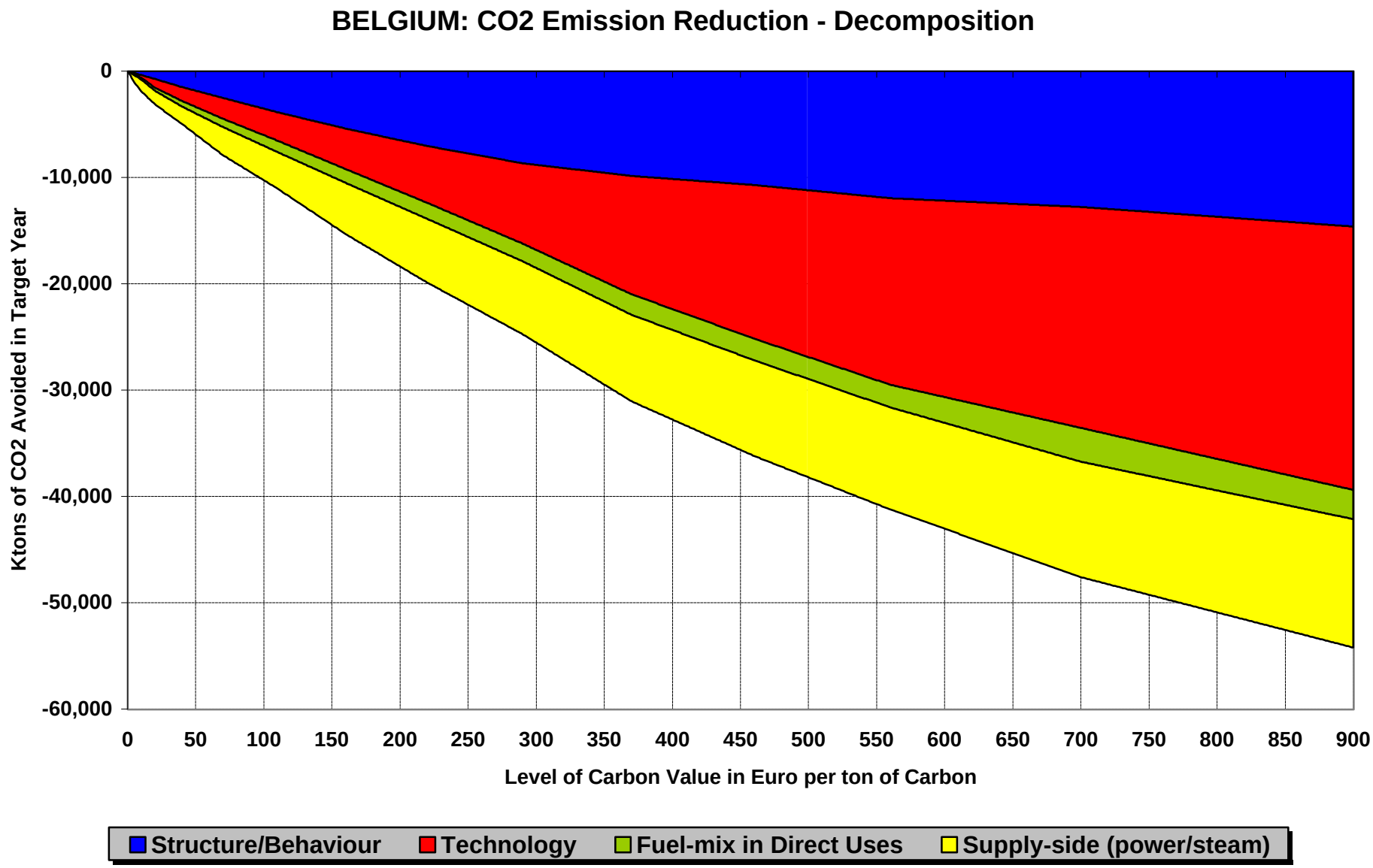
Level of Carbon Value (in Eur'90/ton of Carbon)	**0**	**1**	**2**	**5**	**10**	**20**	**40**	**70**	**110**	**160**	**220**	**290**	**370**	**460**	**560**	**700**	**900**
ADDITIONAL SYSTEM COSTS INCLUDING CARBON VALUE (mio Eur'90)																	
Total area in the marginal cost abatement curve	0	0	0	3	7	20	59	152	286	511	794	1150	1688	2175	2701	3628	5010
as % of GDP	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	0.07%	0.12%	0.22%	0.34%	0.50%	0.73%	0.94%	1.17%	1.57%	2.17%
COST ANALYSIS BY SECTOR																	
Industrial Sectors - **Metals**																	
Average cost of Sectoral Production excluding Carbon Value																	
Eur'90 per tn of output	489	489	489	490	490	491	493	496	499	502	503	504	506	505	508	514	524
% change from Baseline	*0.0*	*0.0*	*0.1*	*0.1*	*0.3*	*0.5*	*0.8*	*1.4*	*2.0*	*2.6*	*2.8*	*3.1*	*3.4*	*3.3*	*3.9*	*5.1*	*7.1*
Average cost of Sectoral Production including Carbon Value																	
Eur'90 per tn of output	489	490	490	491	493	497	504	514	527	541	554	568	576	587	600	618	643
% change from Baseline	*0.0*	*0.1*	*0.2*	*0.4*	*0.8*	*1.6*	*3.0*	*5.1*	*7.7*	*10.5*	*13.4*	*16.2*	*17.8*	*19.9*	*22.6*	*26.4*	*31.4*
Structure of costs (%)																	
Non energy costs	84.3	84.3	84.2	84.1	83.8	83.3	82.5	81.3	79.9	78.3	76.5	74.9	74.1	72.7	71.4	69.7	67.6
Technology and fuel costs	15.7	15.7	15.7	15.7	15.7	15.6	15.4	15.2	14.9	14.6	14.2	13.9	13.7	13.4	13.3	13.5	13.9
Carbon value cost	0.0	0.1	0.1	0.3	0.6	1.1	2.1	3.5	5.2	7.2	9.3	11.2	12.2	13.9	15.3	16.8	18.5
Industrial Sectors - **Chemicals**																	
Average cost of Sectoral Production excluding Carbon Value																	
Eur'90 per tn of output	595	595	595	595	596	596	595	595	595	596	596	599	602	603	605	611	620
% change from Baseline	*0.0*	*0.0*	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	*0.1*	*-0.1*	*0.1*	*0.2*	*0.6*	*1.2*	*1.4*	*1.7*	*2.7*	*4.2*
Average cost of Sectoral Production including Carbon Value																	
Eur'90 per tn of output	595	595	596	596	597	599	601	605	609	615	621	630	638	644	652	664	681
% change from Baseline	*0.0*	*0.1*	*0.1*	*0.2*	*0.4*	*0.6*	*1.0*	*1.6*	*2.4*	*3.3*	*4.4*	*5.8*	*7.2*	*8.3*	*9.5*	*11.6*	*14.5*
Structure of costs (%)																	
Non energy costs	78.8	78.8	78.7	78.7	78.5	78.4	78.1	77.6	77.1	76.4	75.6	74.6	73.7	73.0	72.2	71.0	69.3
Technology and fuel costs	21.2	21.2	21.2	21.2	21.2	21.2	21.0	20.9	20.6	20.5	20.4	20.5	20.7	20.7	20.6	21.1	21.7
Carbon value cost	0.0	0.0	0.0	0.1	0.2	0.5	0.9	1.6	2.4	3.1	4.0	4.9	5.6	6.4	7.2	7.9	9.0
Industrial Sectors - **Materials**																	
Average cost of Sectoral Production excluding Carbon Value																	
Eur'90 per tn of output	396	396	396	397	397	397	398	400	401	404	405	400	401	402	403	406	418
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.3*	*0.5*	*0.8*	*1.3*	*1.8*	*2.3*	*1.0*	*1.1*	*1.4*	*1.7*	*2.4*	*5.4*
Average cost of Sectoral Production including Carbon Value																	
Eur'90 per tn of output	396	396	397	397	398	399	401	405	410	415	421	420	425	430	437	446	464
% change from Baseline	*0.0*	*0.0*	*0.1*	*0.2*	*0.4*	*0.7*	*1.3*	*2.2*	*3.4*	*4.8*	*6.2*	*5.9*	*7.2*	*8.6*	*10.3*	*12.5*	*17.2*
Structure of costs (%)																	
Non energy costs	89.8	89.8	89.7	89.7	89.6	89.4	89.2	88.7	88.2	87.5	86.8	85.8	84.8	83.9	82.9	81.7	80.8
Technology and fuel costs	10.2	10.2	10.2	10.2	10.2	10.2	10.1	10.0	9.8	9.7	9.5	9.5	9.5	9.4	9.3	9.4	9.1
Carbon value cost	0.0	0.0	0.0	0.1	0.2	0.4	0.8	1.3	2.0	2.8	3.7	4.6	5.6	6.7	7.7	8.9	10.1
Industrial Sectors - **Others**																	
Average cost of Sectoral Production excluding Carbon Value																	
Eur'90 per tn of output	2815	2815	2815	2815	2815	2815	2815	2815	2816	2816	2816	2817	2819	2820	2821	2824	2828
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.3*	*0.5*
Average cost of Sectoral Production including Carbon Value																	
Eur'90 per tn of output	2815	2815	2815	2815	2816	2817	2818	2821	2824	2828	2831	2836	2842	2847	2853	2862	2874
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.2*	*0.3*	*0.5*	*0.6*	*0.8*	*1.0*	*1.2*	*1.4*	*1.7*	*2.1*
Structure of costs (%)																	
Non energy costs	98.5	98.5	98.4	98.4	98.4	98.4	98.3	98.3	98.1	98.0	97.9	97.7	97.6	97.4	97.2	96.9	96.5
Technology and fuel costs	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.9
Carbon value cost	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.5	0.7	0.8	1.0	1.1	1.3	1.6

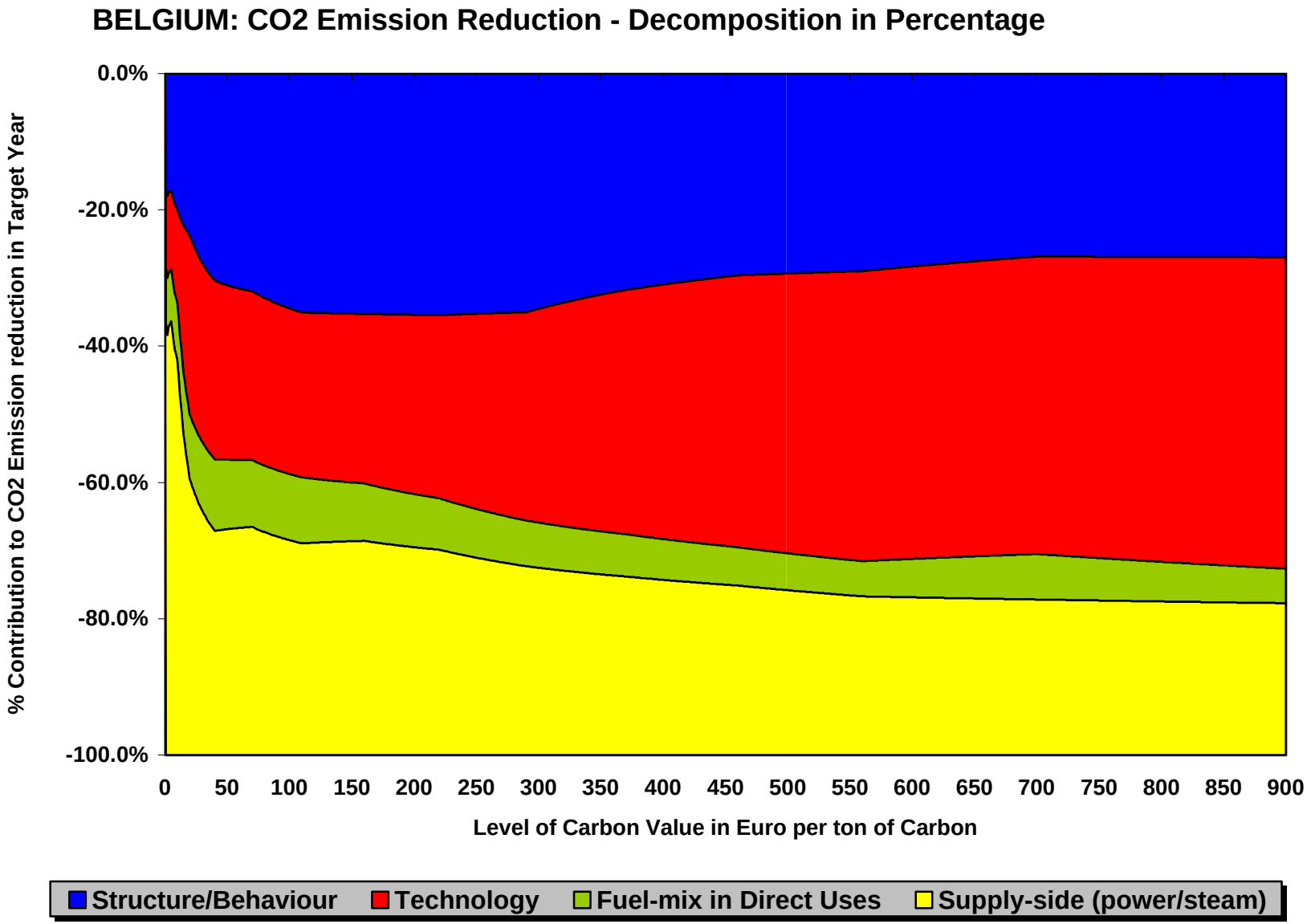
ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	0	1	2	5	10	20	40	70	110	160	220	290	370	460	560	700	900
Services																	
Average cost of Energy Service excluding Carbon Value																	
Eur'90 per unit of energy service	3860	3860	3859	3860	3859	3841	3836	3840	3845	3847	3849	3853	3863	3880	3890	3922	4005
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.5*	*-0.6*	*-0.5*	*-0.4*	*-0.3*	*-0.3*	*-0.2*	*0.1*	*0.5*	*0.8*	*1.6*	*3.8*
Average cost of Energy Service including Carbon Value																	
Eur'90 per unit of energy service	3860	3861	3861	3864	3869	3859	3873	3903	3942	3986	4034	4089	4149	4217	4286	4398	4593
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.0*	*0.3*	*1.1*	*2.1*	*3.3*	*4.5*	*5.9*	*7.5*	*9.3*	*11.0*	*13.9*	*19.0*
Structure of costs (%)																	
Non energy costs	75.0	74.9	74.9	74.9	74.8	75.0	74.7	74.1	73.3	72.5	71.5	70.5	69.4	68.2	67.1	65.3	62.4
Technology and fuel costs	25.0	25.0	25.0	25.0	25.0	24.5	24.4	24.3	24.2	24.1	23.9	23.7	23.7	23.8	23.7	23.9	24.8
Carbon value cost	0.0	0.0	0.0	0.1	0.2	0.5	0.9	1.6	2.5	3.5	4.6	5.8	6.9	8.0	9.2	10.8	12.8
Agriculture																	
Average cost of Energy Service excluding Carbon Value																	
Eur'90 per unit of energy service	4761	4761	4760	4761	4760	4749	4749	4755	4762	4771	4779	4795	4817	4842	4867	4914	5009
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.2*	*-0.3*	*-0.1*	*0.0*	*0.2*	*0.4*	*0.7*	*1.2*	*1.7*	*2.2*	*3.2*	*5.2*
Average cost of Energy Service including Carbon Value																	
Eur'90 per unit of energy service	4761	4762	4763	4766	4771	4771	4792	4830	4880	4940	5007	5090	5183	5284	5396	5558	5811
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.2*	*0.7*	*1.5*	*2.5*	*3.8*	*5.2*	*6.9*	*8.9*	*11.0*	*13.3*	*16.7*	*22.1*
Structure of costs (%)																	
Non energy costs	84.7	84.7	84.7	84.6	84.5	84.5	84.2	83.5	82.8	81.8	80.8	79.6	78.3	76.9	75.4	73.4	70.4
Technology and fuel costs	15.3	15.3	15.3	15.3	15.2	15.0	14.9	14.9	14.8	14.7	14.6	14.6	14.6	14.7	14.8	15.1	15.8
Carbon value cost	0.0	0.0	0.0	0.1	0.2	0.5	0.9	1.6	2.4	3.4	4.6	5.8	7.1	8.4	9.8	11.6	13.8
Households																	
Average cost of Energy Service excluding Carbon Value																	
Eur'90 per unit of energy service	342	342	342	342	342	342	342	343	343	342	342	342	342	343	344	349	360
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.4*	*0.7*	*1.9*	*5.2*
Average cost of Energy Service including Carbon Value																	
Eur'90 per unit of energy service	342	342	342	343	344	346	350	355	362	370	378	387	395	404	413	425	450
% change from Baseline	*0.0*	*0.0*	*0.1*	*0.3*	*0.6*	*1.1*	*2.3*	*3.9*	*5.9*	*8.1*	*10.6*	*13.3*	*15.6*	*18.3*	*20.6*	*24.2*	*31.7*
Structure of costs (%)																	
Non energy costs	29.2	29.1	29.1	29.1	29.0	28.9	28.6	28.2	27.7	27.3	26.6	25.9	25.3	24.9	24.7	24.3	23.2
Technology and fuel costs	70.8	70.8	70.8	70.6	70.4	70.0	69.3	68.2	66.9	65.4	63.9	62.5	61.3	60.0	58.8	57.8	56.8
Carbon value cost	0.0	0.1	0.1	0.3	0.6	1.1	2.1	3.6	5.4	7.4	9.5	11.6	13.4	15.1	16.5	18.0	20.1
Passenger Transports																	
Average cost of Energy Service excluding Carbon Value																	
Eur'90 per 1000 passenger-km	209	209	209	209	209	209	209	209	209	209	208	207	207	206	207	228	239
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.6*	*-0.9*	*-1.0*	*-1.3*	*-1.2*	*8.9*	*14.4*
Average cost of Energy Service including Carbon Value																	
Eur'90 per 1000 passenger-km	209	209	209	209	209	210	211	212	213	215	216	217	220	222	224	247	261
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.4*	*0.8*	*1.3*	*2.1*	*3.0*	*3.2*	*4.1*	*5.1*	*6.1*	*7.3*	*18.4*	*24.9*
Structure of costs (%)																	
Non energy costs	9.7	9.7	9.6	9.6	9.6	9.6	9.6	9.5	9.5	9.4	9.5	9.5	9.5	9.4	9.3	7.8	7.2
Technology and fuel costs	90.3	90.3	90.3	90.3	90.2	90.0	89.7	89.2	88.5	87.8	86.7	85.7	84.7	83.7	82.7	84.2	84.4
Carbon value cost	0.0	0.0	0.0	0.1	0.2	0.4	0.8	1.3	2.0	2.8	3.7	4.8	5.8	6.9	7.9	8.0	8.4
Goods Transports																	
Average cost of Energy Service excluding Carbon Value																	
Eur'90 per 1000 tonne-km	175	175	175	175	175	175	174	174	173	171	170	168	169	170	169	169	168
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.2*	*-0.4*	*-0.8*	*-1.3*	*-2.1*	*-2.9*	*-3.8*	*-3.5*	*-2.8*	*-3.5*	*-3.3*	*-4.1*
Average cost of Energy Service including Carbon Value																	
Eur'90 per 1000 tonne-km	175	175	175	175	175	175	176	177	177	178	179	180	183	187	189	194	199
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.3*	*0.6*	*0.9*	*1.3*	*1.6*	*2.1*	*2.7*	*4.7*	*7.1*	*8.2*	*11.1*	*13.6*
Structure of costs (%)																	
Non energy costs	23.4	23.4	23.4	23.4	23.4	23.4	23.3	23.3	23.3	23.3	23.2	23.2	22.6	21.7	21.4	20.6	20.1
Technology and fuel costs	76.6	76.6	76.5	76.5	76.4	76.1	75.7	75.1	74.2	73.1	71.8	70.5	69.7	69.0	67.8	66.4	64.3
Carbon value cost	0.0	0.0	0.0	0.1	0.2	0.5	1.0	1.7	2.6	3.7	4.9	6.3	7.8	9.2	10.7	12.9	15.6

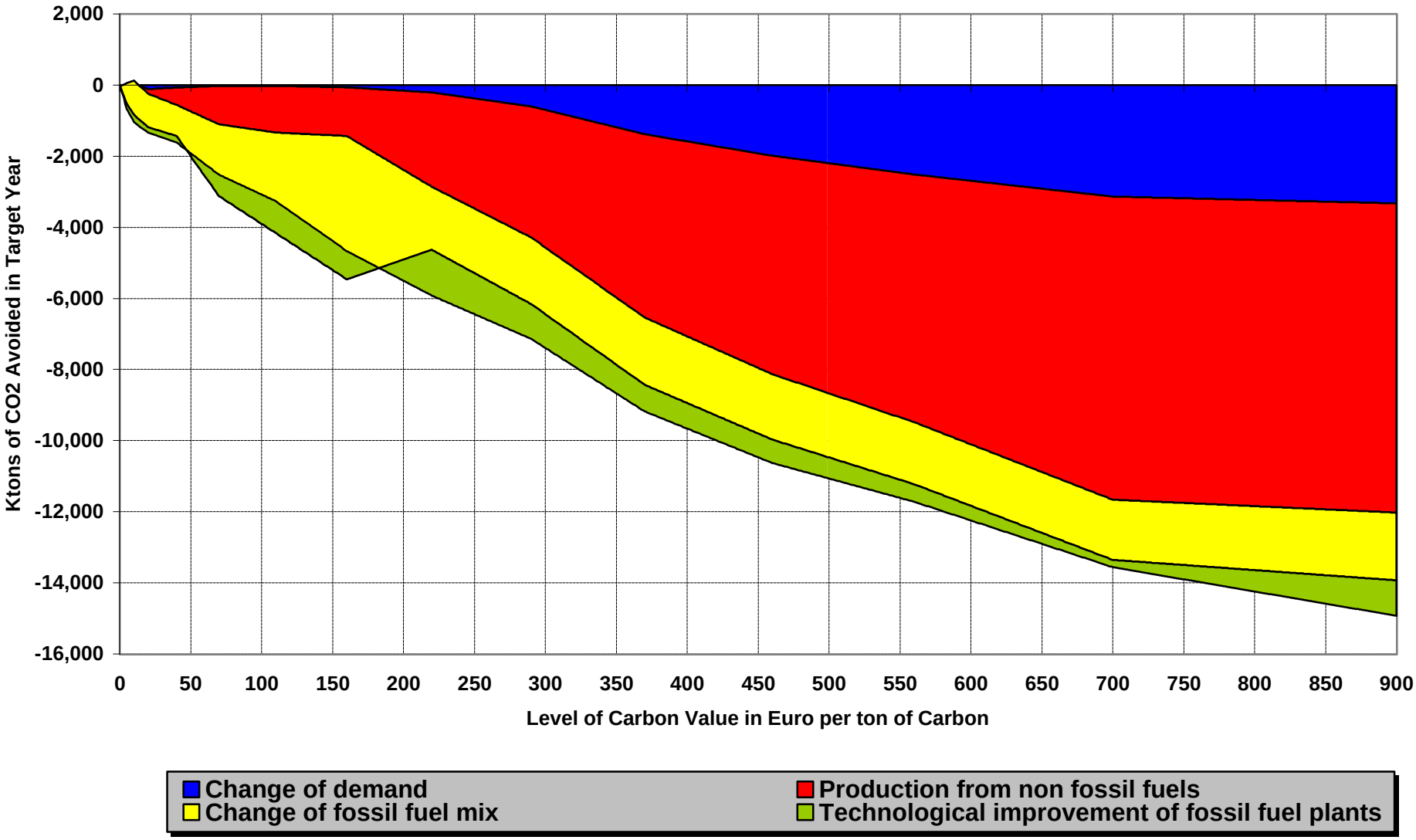
ANALYSIS OF ENERGY SYSTEM CHANGES TO REDUCE CO2 EMISSIONS IN 2010 FOR BELGIUM

Level of Carbon Value (in Eur'90/ton of Carbon)	**0**	**1**	**2**	**5**	**10**	**20**	**40**	**70**	**110**	**160**	**220**	**290**	**370**	**460**	**560**	**700**	**900**
Electricity and Steam production																	
Average cost of production excluding Carbon Value																	
mEur'90 per kWhe+kWhth	39	39	39	39	39	39	39	40	40	41	41	42	42	43	44	45	48
% change from Baseline	*0.0*	*-0.3*	*-0.3*	*-0.3*	*0.3*	*0.0*	*0.0*	*0.8*	*1.5*	*3.1*	*4.8*	*6.1*	*7.9*	*10.2*	*11.5*	*14.5*	*20.9*
Average cost of production including Carbon Value																	
mEur'90 per kWhe+kWhth	39	39	39	40	40	40	41	43	45	48	51	54	57	60	64	68	74
% change from Baseline	*0.0*	*0.0*	*0.0*	*0.5*	*1.5*	*2.8*	*5.3*	*9.7*	*15.3*	*21.6*	*29.3*	*36.9*	*44.5*	*53.4*	*62.1*	*72.3*	*88.8*
Structure of costs (%)																	
Annual Capital cost	29.5	29.5	29.5	29.4	28.8	28.5	28.3	28.1	26.9	25.5	25.6	24.9	24.3	23.9	23.1	23.0	23.6
O & M costs	19.3	19.3	19.3	19.2	18.8	18.6	18.1	17.4	16.6	15.9	15.0	14.1	13.9	13.4	12.9	12.6	12.1
Transm. $ Distr. Costs	28.0	28.2	28.2	28.1	28.1	27.5	26.8	25.5	24.5	23.4	21.9	20.4	19.4	18.2	17.1	15.7	14.3
Fuel Costs	22.9	22.9	22.9	22.8	22.8	22.5	21.7	20.9	20.1	20.1	18.7	17.8	17.1	16.3	15.7	14.9	14.0
Carbon value costs	0.0	0.3	0.3	0.8	1.3	2.7	5.1	8.1	11.9	15.3	18.9	22.5	25.4	28.2	31.2	33.5	36.0
Investment expenditure for Electricity and Steam production																	
000mio Eur'90 spent in 1995 to 2010	7509	7477	7468	7461	7406	7346	7590	7991	8094	8106	8672	8741	8598	8554	8344	8690	10134
% change from Baseline	*0.0*	*-0.4*	*-0.5*	*-0.6*	*-1.4*	*-2.2*	*1.1*	*6.4*	*7.8*	*8.0*	*15.5*	*16.4*	*14.5*	*13.9*	*11.1*	*15.7*	*35.0*
Investment expenditure for Electricity and Steam production per KWh produced in 2010																	
mEur'90 per kWhe+kWhth	56.4	56.3	56.2	56.3	56.1	56.5	59.4	64.3	67.5	70.8	80.2	87.0	94.3	103.2	110.7	130.6	173.4
% change from Baseline	*0.0*	*-0.3*	*-0.3*	*-0.2*	*-0.5*	*0.2*	*5.3*	*13.9*	*19.7*	*25.5*	*42.1*	*54.1*	*67.1*	*82.8*	*96.1*	*131.4*	*207.3*
Electricity tarifs (mEur'90 per kWh - includes effect of carbon value for electricity production)																	
Sectoral Average	51	51	51	51	52	52	53	54	56	59	61	66	71	76	82	90	102
Industry	42	42	43	43	43	44	45	47	49	52	55	60	66	72	78	87	100
Tertiary	55	55	55	55	55	55	55	56	58	60	61	64	69	74	80	88	101
Households	64	64	64	64	65	65	66	67	68	69	71	76	81	86	91	98	108
Transports	45	45	45	46	46	46	47	50	52	55	58	62	67	72	77	84	94
Others	45	45	45	46	46	46	47	49	51	53	55	59	64	68	73	80	91
Electricity tarifs (% change from Baseline)																	
Sectoral Average	*0.0*	*0.2*	*0.3*	*0.5*	*1.3*	*2.0*	*3.5*	*6.9*	*10.6*	*15.1*	*20.3*	*29.1*	*40.1*	*50.2*	*61.4*	*77.6*	*101.1*
Industry	*0.0*	*0.5*	*1.0*	*1.2*	*2.9*	*4.3*	*6.4*	*11.6*	*17.3*	*24.2*	*31.6*	*43.2*	*57.5*	*70.3*	*84.3*	*106.7*	*137.3*
Tertiary	*0.0*	*0.0*	*-0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*2.0*	*4.9*	*8.5*	*10.5*	*16.7*	*25.4*	*34.8*	*44.2*	*59.2*	*82.8*
Households	*0.0*	*-0.2*	*-0.2*	*0.0*	*0.2*	*0.3*	*1.9*	*3.4*	*4.8*	*6.8*	*10.7*	*17.4*	*25.6*	*32.8*	*41.8*	*52.3*	*67.7*
Transports	*0.0*	*0.0*	*0.0*	*0.4*	*0.7*	*1.8*	*3.8*	*9.5*	*14.6*	*20.5*	*27.8*	*37.3*	*48.3*	*58.7*	*70.4*	*84.8*	*107.5*
Others	*0.0*	*0.0*	*0.0*	*0.4*	*0.9*	*2.0*	*4.4*	*8.8*	*12.8*	*17.4*	*21.9*	*30.7*	*41.5*	*50.3*	*62.0*	*77.5*	*100.7*

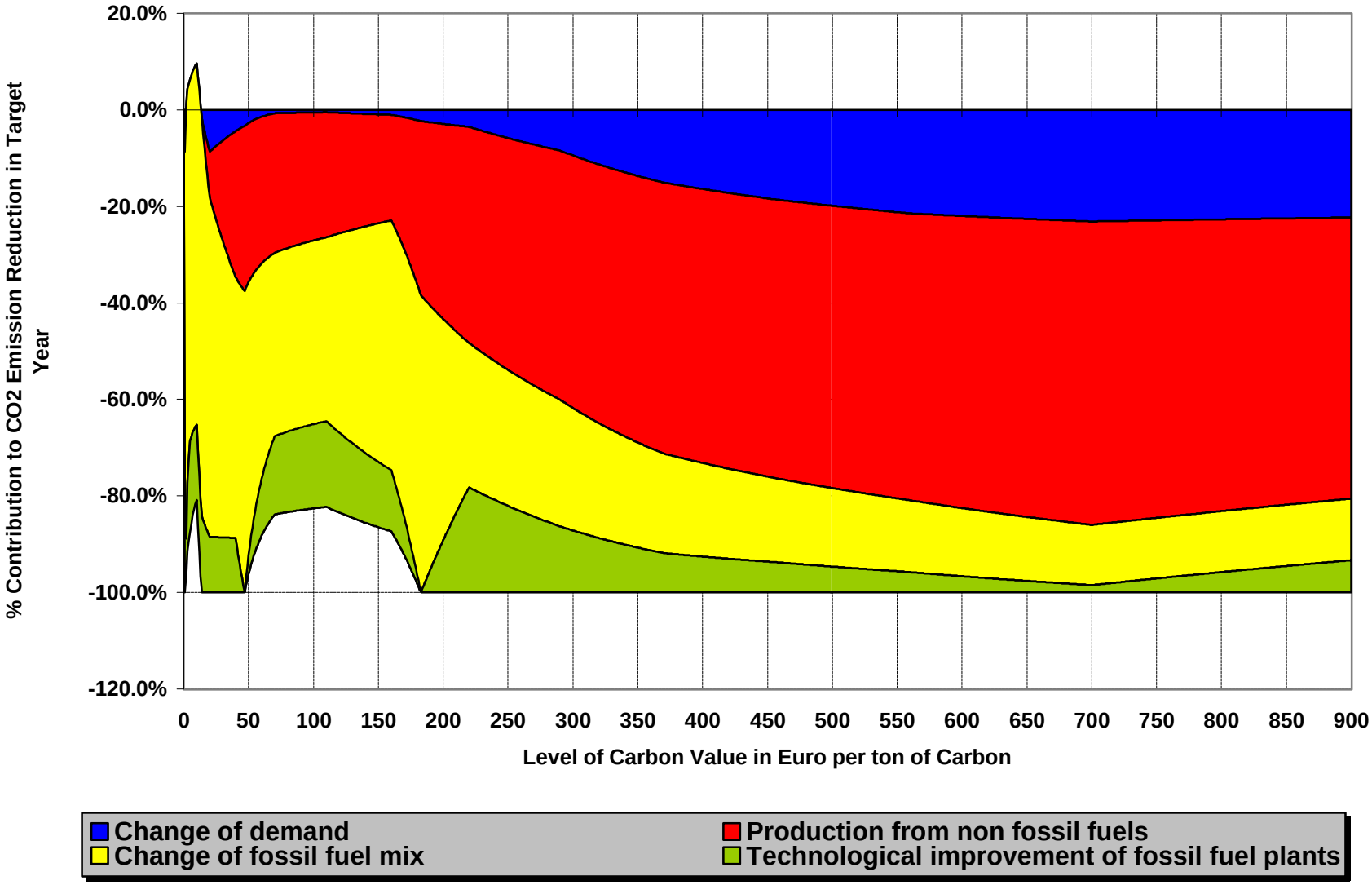

BELGIUM: CO2 Emission Reduction - Decomposition
0
-10,000
-20,000
-30,000
-40,000
-50,000
-60,000
Ktons of CO2 Avoided in Target Year
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
Level of Carbon Value in Euro per ton of Carbon
Structure/Behaviour
Technology
Fuel-mix in Direct Uses
Supply-side (power/steam)


BELGIUM: CO2 Emission Reduction - Decomposition in Percentage
% Contribution to CO2 Emission reduction in Target Year
0.0%
-20.0%
-40.0%
-60.0%
-80.0%
-100.0%
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
Level of Carbon Value in Euro per ton of Carbon
Structure/Behaviour
Technology
Fuel-mix in Direct Uses
Supply-side (power/steam)

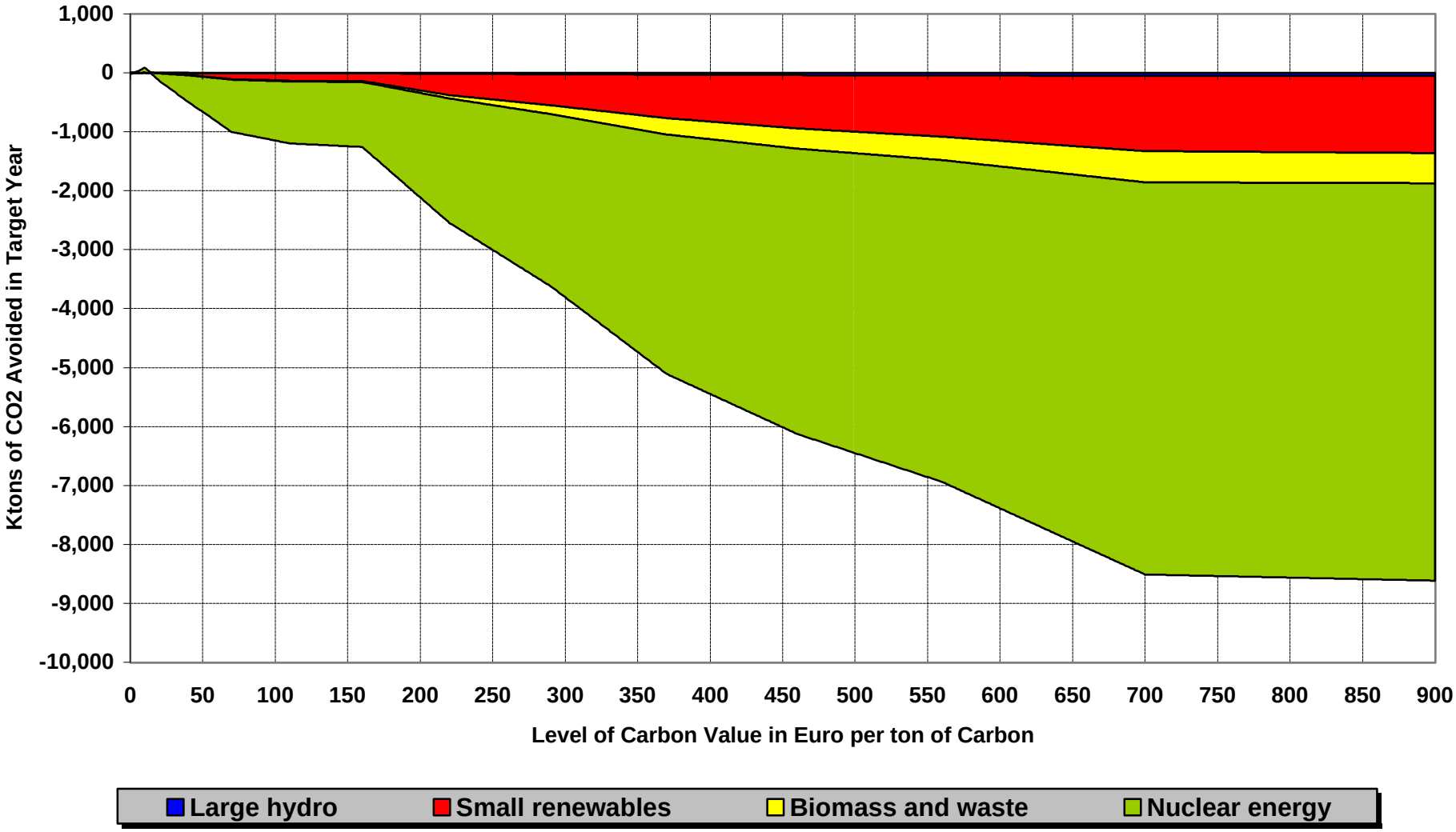
BELGIUM: CO2 Emission Reduction in Power and Steam Generation - Decomposition



BELGIUM: CO2 Emission Reduction in Power and Steam Generation - Decomposition in %



BELGIUM: CO2 Emission Reduction - Contribution of Non-Fossil Fuel in Power and Steam



BELGIUM: CO2 Emission Reduction - Contribution of Non-Fossil Fuel in Power and Steam - in %