



Emission inventory scope 1 - 2

D-ENV-GR-021
27/04/2016

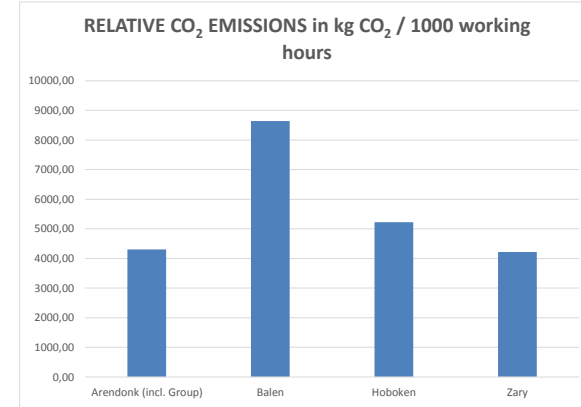
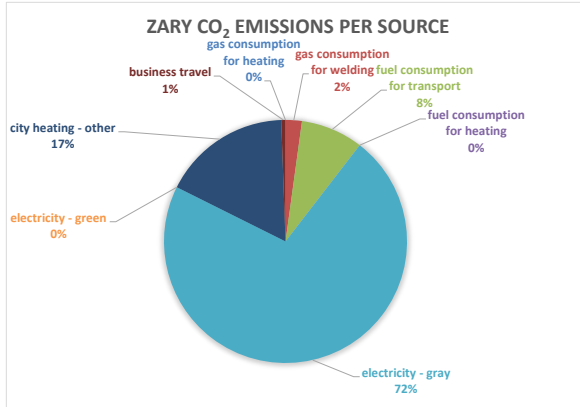
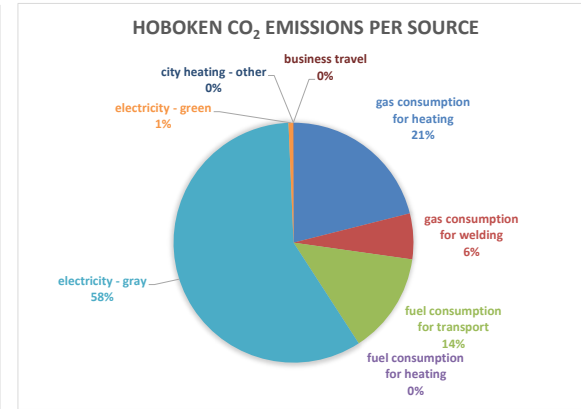
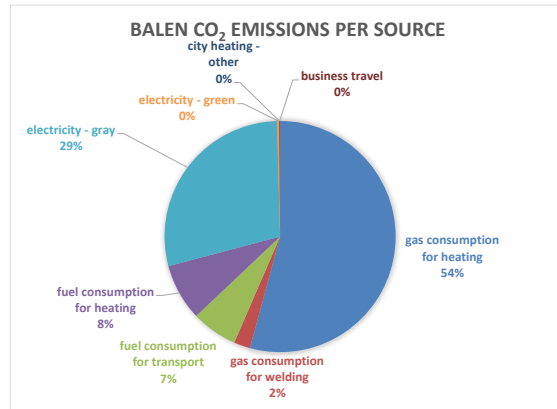
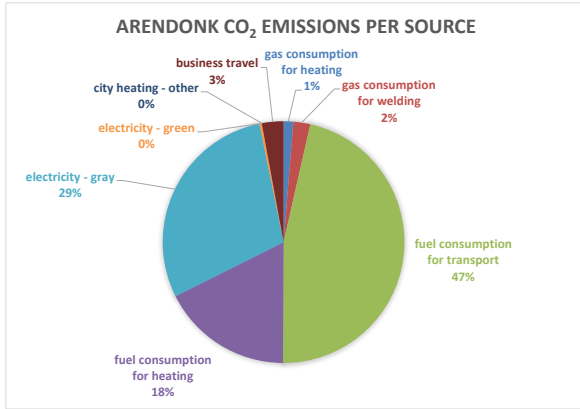
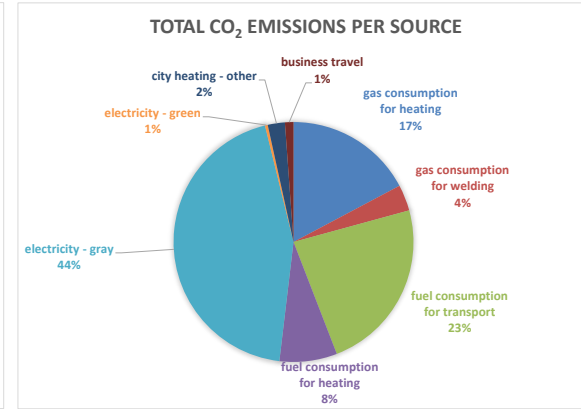
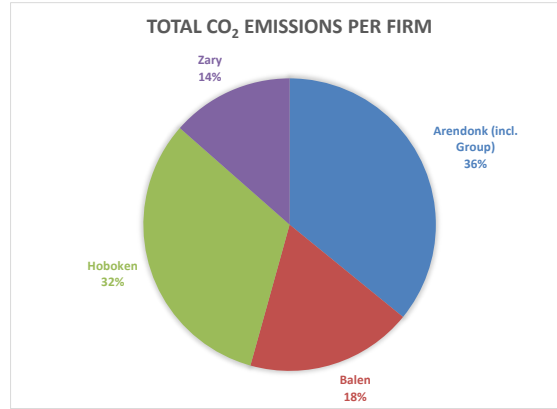
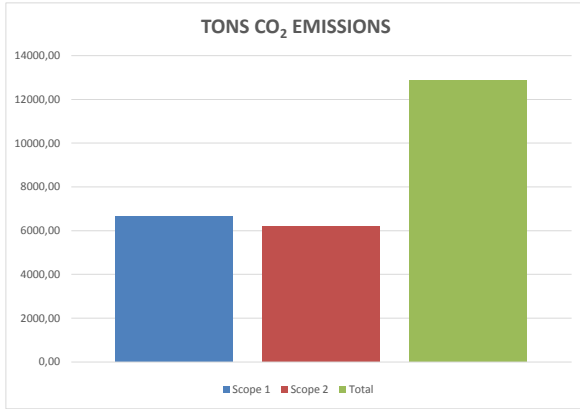
2014 million manhours worked : 2,549781				1,071370			0,274769			0,791333			0,412309			1		
scope	item	unit	conversionfactor unit to kg CO ₂ -eq.	Arendonk + Group			Balén			Hoboken			Zary			Newcastle-Upon-Tyne		
				data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour
1	gas consumption for heating <i>natural gas</i>	m ³	1,89	31605,76	59,73	55,76	497915,28	941,06	3424,91	461063,8	871,41	1101,19		0,00	0,00		0,00	0,00
1	gas consumption for heating <i>propane</i>	L	1,725			0,00	200060	345,10	1255,98		0,00	0,00		0,00	0,00		0,00	0,00
1	gas consumption for welding <i>propane</i>	kg	2,974	5462,5	16,25	15,16	5835	17,35	63,16	56358	167,61	211,81	10989	32,68	79,26		0,00	0,00
1	gas consumption for welding <i>acetylene</i>	kg	3,385	19095	64,64	60,33	1995	6,75	24,58	20425	69,14	87,37	1488	5,04	12,22		0,00	0,00
1	gas consumption for welding <i>CO₂ + Euromix (15% CO₂)</i>	kg	1	23472,5	23,47	21,91	30153	30,15	109,74	18275	18,28	23,09	0	0,00	0,00		0,00	0,00
1	fuel consumption for transport of passenger <i>diesel</i>	L	3,2	307826	985,04	919,42	23050,83	73,76	268,45	28100	89,92	113,63	45000	144,00	349,25		0,00	0,00
1	fuel consumption for transport of goods <i>diesel + fuel oil</i>	L	3,2	363001	1161,60	1084,22	24743	79,18	288,16	147866	473,17	597,94	0	0,00	0,00		0,00	0,00
1	fuel consumption for heating <i>fuel oil</i>	L	3,185	254151	809,47	755,55	59068	188,13	684,69		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity <i>gray</i>	kWh	0,526	2559184,0	1346,13	1256,46	1294624,0	680,97	2478,34	4599174,5	2419,17	3057,08	2376819	1250,21	3032,21		0,00	0,00
2	electricity <i>wind</i>	kWh	0	1582790,2	0,00	0,00	800692,0	0,00	0,00	2844472,5	0,00	0,00		0,00	0,00		0,00	0,00
2	electricity <i>water</i>	kWh	0		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity <i>biomass</i>	kWh	0,075	195625,8	14,67	13,69	98961,9	7,42	27,01	351564,0	26,37	33,32		0,00	0,00		0,00	0,00
2	electricity <i>thermal</i>	kWh	0		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity <i>solar</i>	kWh	0	17465,0	0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	city heating <i>browncoal</i>	Gj	64,3		0,00	0,00		0,00	0,00		0,00	0,00	4616	296,81	719,87		0,00	0,00
2	business travel - plane <i><700km</i>	km	0,297	180568	53,63	50,06	5384	1,60	5,82	3620	1,08	1,36	28266	8,40	20,36		0,00	0,00
2	business travel - plane <i>700-2500km</i>	km	0,2	84524	16,90	15,78	5336	1,07	3,88	1530	0,31	0,39	7200	1,44	3,49		0,00	0,00
2	business travel - plane <i>>2500km</i>	km	0,147	410880	60,40	56,38	0	0,00	0,00	0	0,00	0,00	0	0,00	0,00		0,00	0,00
2	business travel - train <i>intercity</i>	km	0,024	8088	0,19	0,18		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	business travel - train <i>high-speed</i>	km	0,026	86608	2,25	2,10		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00

white applicable, OK
 yellow applicable, no data or doubtful
 gray not applicable

		TOTAL		Arendonk (incl. Group)			Balén			Hoboken			Zary			Newcastle Upon Tyne		
		% CO ₂ -eq.	ton CO ₂ -eq.	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour
S C O P E 1	gas consumption for heating	17,24%	2217,31	59,73	1,29%	55,76	1286,16	54,21%	4680,89	871,41	21,07%	1101,19	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00
	gas consumption for welding	3,51%	451,35	104,35	2,26%	97,40	54,26	2,29%	197,47	255,02	6,17%	322,27	37,72	2,17%	91,48	0,00	#DEEL/0!	0,00
	fuel consumption for transport	23,38%	3006,68	2146,65	46,52%	2003,65	152,94	6,45%	556,61	563,09	13,61%	711,57	144,00	8,28%	349,25	0,00	#DEEL/0!	0,00
	fuel consumption for heating	7,76%	997,60	809,47	17,54%	755,55	188,13	7,93%	684,69	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00
	SUM SCOPE 1	51,88%	6672,94	3120,21	67,62%	2912,35	1681,49	70,87%	6119,67	1689,52	40,84%	2135,04	181,72	10,45%	440,73	0,00	#DEEL/0!	0,00
percentage of total scope 1			46,76%			25,20%			25,32%			2,72%			0,00%			
S C O P E 2	electricity - gray	44,29%	5696,48	1346,13	29,17%	1256,46	680,97	28,70%	2478,34	2419,17	58,48%	3057,08	1250,21	71,91%	3032,21	0,00	#DEEL/0!	0,00
	electricity - green	0,38%	48,46	14,67	0,32%	13,69	7,42	0,31%	27,01	26,37	0,64%	33,32	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00
	city heating - other	2,31%	296,81	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	0,00%	0,00	296,81	17,07%	719,87	0,00	#DEEL/0!	0,00
	business travel	1,14%	147,26	133,38	2,89%	124,49	2,67	0,11%	9,70	1,38	0,03%	1,75	9,84	0,57%	23,85	0,00	#DEEL/0!	0,00
	SUM SCOPE 2	48,12%	6189,01	1494,18	32,38%	1394,65	691,06	29,13%	2515,06	2446,91	59,16%	3092,14	1556,85	89,55%	3775,93	0,00	#DEEL/0!	0,00
percentage of total scope 2			24,14%			11,17%			39,54%			25,16%			0,00%			
SUM TOTAL		12861,95	4614,39			4307,00	2372,56		8634,73	4136,44		5227,18			4216,66	0,00		0,00
percentage of total			35,88%			18,45%			32,16%			13,52%			0,00%			



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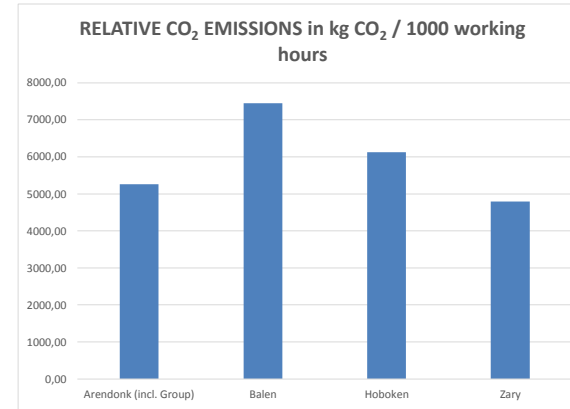
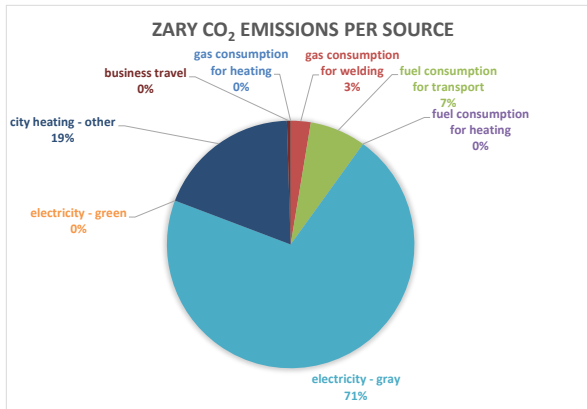
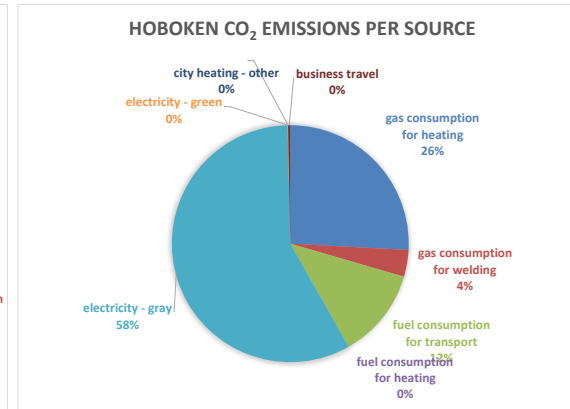
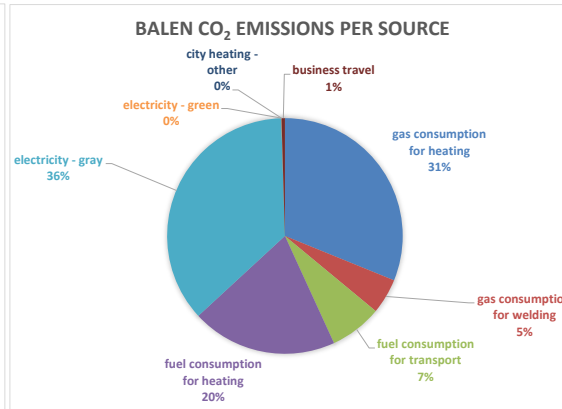
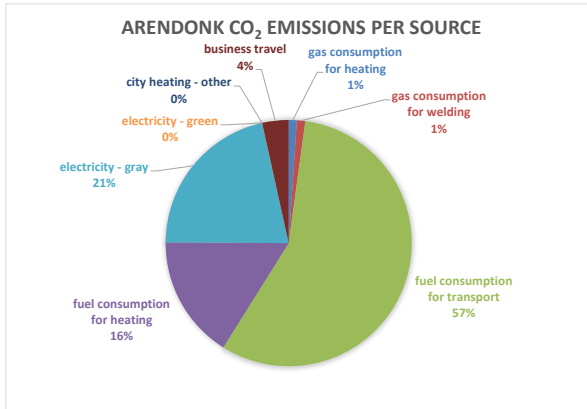
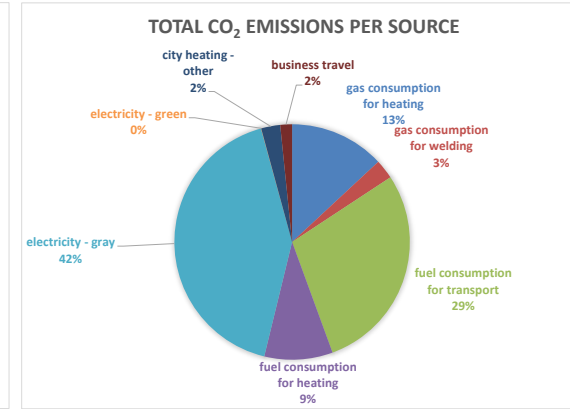
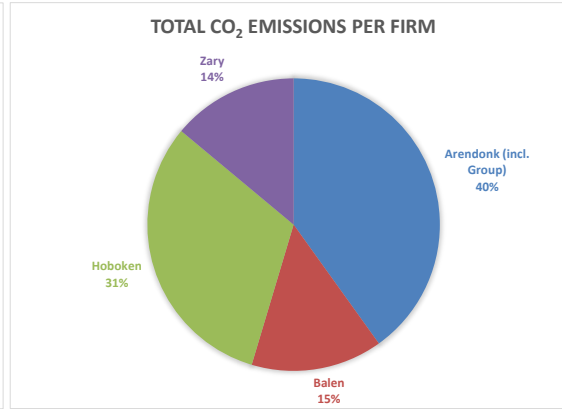
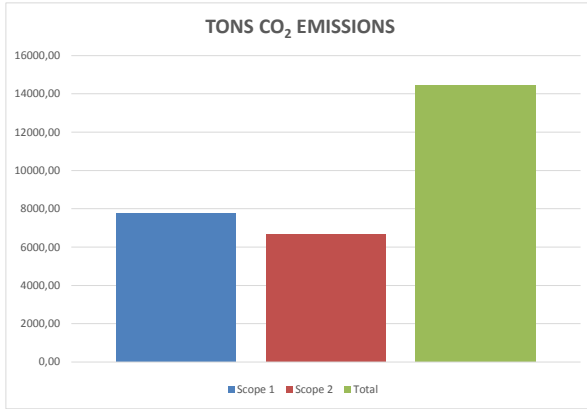
2015 million manhours worked : 2,545897				1,101579			0,28203			0,741729			0,420559			1		
scope	item	unit	conversionfactor unit to kg CO ₂ -eq.	Arendonk + Group			Balén			Hoboken			Zary			Newcastle-Upon-Tyne		
				data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour
1	gas consumption for heating <i>natural gas</i>	m ³	1,89	32182	60,82	55,22	61742	116,69	413,76	620936	1173,57	1582,21		0,00	0,00		0,00	0,00
1	gas consumption for heating <i>propane</i>	L	1,725	192	0,33	0,30	311623	537,55	1906,00		0,00	0,00		0,00	0,00		0,00	0,00
1	gas consumption for welding <i>propane</i>	kg	2,974	0	0,00	0,00	8106	24,11	85,48	49716	147,86	199,34	10428	31,01	73,74		0,00	0,00
1	gas consumption for welding <i>acetylene</i>	kg	3,385	12070	40,86	37,09	15650	52,98	187,84	851	2,88	3,88	2160	7,31	17,39		0,00	0,00
1	gas consumption for welding <i>CO₂ + Euromix (15% CO₂)</i>	kg	1	23313	23,31	21,16	24904	24,90	88,30	15147,5	15,15	20,42	14400	14,40	34,24		0,00	0,00
1	fuel consumption for transport of passenger <i>diesel</i>	L	3,2	287386	919,64	834,83	22668	72,54	257,20	28544	91,34	123,15	46200	147,84	351,53		0,00	0,00
1	fuel consumption for transport of goods <i>diesel + fuel oil</i>	L	3,2	740005	2368,02	2149,66	24332	77,86	276,08	145873	466,79	629,33		0,00	0,00		0,00	0,00
1	fuel consumption for heating <i>fuel oil</i>	L	3,185	294193	937,00	850,60	131780	419,72	1488,21		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity <i>gray</i>	kWh	0,526	2359218,9	1240,95	1126,52	1451947,6	763,72	2707,95	4992379,3	2625,99	3540,37	2713277	1427,18	3393,54		0,00	0,00
2	electricity <i>wind</i>	kWh	0	1638630,2	0,00	0,00	1008471,6	0,00	0,00	3467530,5	0,00	0,00		0,00	0,00		0,00	0,00
2	electricity <i>water</i>	kWh	0		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity <i>biomass</i>	kWh	0,075	18329,2	1,37	1,25	11280,4	0,85	3,00	38786,7	2,91	3,92		0,00	0,00		0,00	0,00
2	electricity <i>thermal</i>	kWh	0	7331,7	0,00	0,00	4512,2	0,00	0,00	15514,7	0,00	0,00		0,00	0,00		0,00	0,00
2	electricity <i>solar</i>	kWh	0	109895,0	0,0	0,0	56402,2	0,0	0,0	193933,5	0,00	0,00		0,00	0,00		0,00	0,00
2	city heating <i>browncoal</i>	Gj	64,3		0,00	0,00		0,00	0,00		0,00	0,00	5876	377,83	898,39		0,00	0,00
2	business travel - plane <i><700km</i>	km	0,297	265770	78,93	71,66	0	0,00	0,00	0	0,00	0,00	28266	8,40	19,96		0,00	0,00
2	business travel - plane <i>700-2500km</i>	km	0,2	509940	101,99	92,58	48208	9,64	34,19	66896	13,38	18,04	7200	1,44	3,42		0,00	0,00
2	business travel - plane <i>>2500km</i>	km	0,147	108028	15,88	14,42	0	0,00	0,00	0	0,00	0,00	0	0,00	0,00		0,00	0,00
2	business travel - train <i>intercity</i>	km	0,024	364	0,01	0,01		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	business travel - train <i>high-speed</i>	km	0,026	148889	3,87	3,51		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00

white applicable, OK
 yellow applicable, no data or doubtful
 grey not applicable
 orange incomplete
 ➔ 100% of baseyear

		TOTAL		Arendonk (incl. Group)			Balén			Hoboken			Zary			Newcastle Upon Tyne			
		% CO ₂ -eq.	ton CO ₂ -eq.	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	
S C O P E 1	gas consumption for heating	13,07%	1888,97	61,16	1,06%	55,52	654,24	31,15%	2319,76	1173,57	25,85%	1582,21	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00	
	gas consumption for welding	2,66%	384,76	64,17	1,11%	58,25	101,99	4,86%	361,62	165,88	3,65%	223,64	52,72	2,62%	125,37	0,00	#DEEL/0!	0,00	
	fuel consumption for transport	28,68%	4144,02	3287,65	56,75%	2984,49	150,40	7,16%	533,27	558,13	12,29%	752,48	147,84	7,34%	351,53	0,00	#DEEL/0!	0,00	
	fuel consumption for heating	9,39%	1356,72	937,00	16,17%	850,60	419,72	19,98%	1488,21	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00	
	SUM SCOPE 1	53,81%	7774,48	4349,98	75,09%	3948,86	1326,35	63,14%	4702,86	1897,59	41,80%	2558,33	200,56	9,95%	476,90	0,00	#DEEL/0!	0,00	
				55,95%					24,41%				2,58%					0,00%	
S C O P E 2	electricity - gray	41,93%	6057,85	1240,95	21,42%	1126,52	763,72	36,36%	2707,95	2625,99	57,84%	3540,37	1427,18	70,81%	3393,54	0,00	#DEEL/0!	0,00	
	electricity - green	0,04%	5,13	1,37	0,02%	1,25	0,85	0,04%	3,00	2,91	0,06%	3,92	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00	
	city heating - other	2,61%	377,83	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	0,00%	0,00	377,83	18,75%	898,39	0,00	#DEEL/0!	0,00	
	business travel	1,62%	233,54	200,68	3,46%	182,18	9,64	0,46%	34,19	13,38	0,29%	18,04	9,84	0,49%	23,39	0,00	#DEEL/0!	0,00	
	SUM SCOPE 2	46,19%	6674,34	1443,01	24,91%	1309,94	774,21	36,86%	2745,14	2642,28	58,20%	3562,32	1814,85	90,05%	4315,32	0,00	#DEEL/0!	0,00	
					21,62%					39,59%				27,19%					0,00%
	SUM TOTAL		14448,82	5792,99		5258,80	2100,56		7448,00	4539,87		6120,65	2015,41		4792,22	0,00		0,00	
percentage of total				40,09%				14,54%					13,95%					0,00%	



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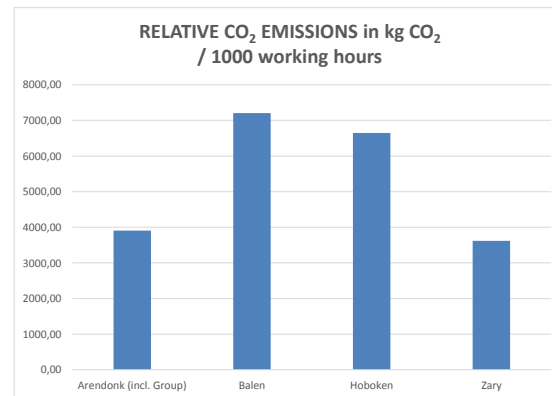
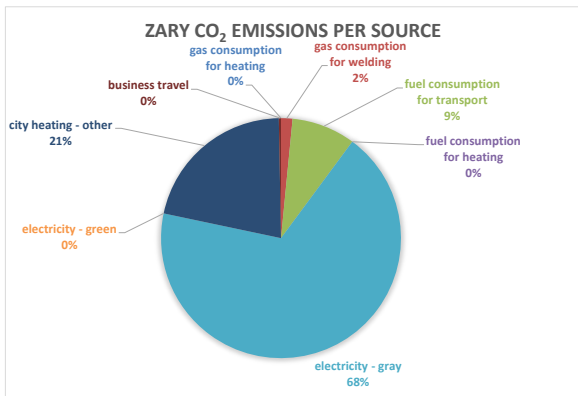
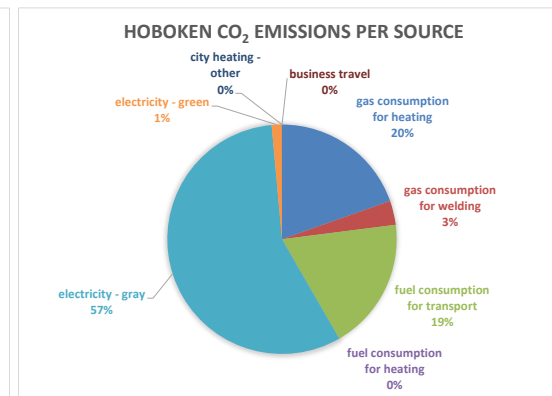
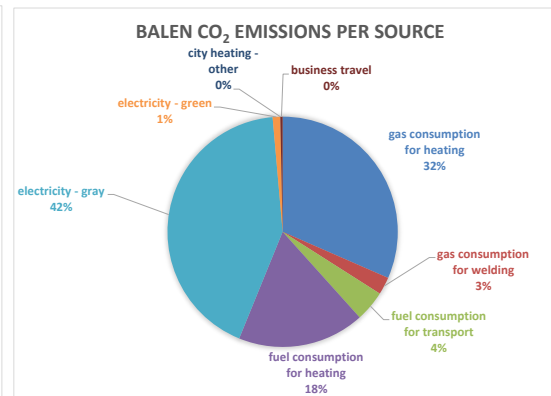
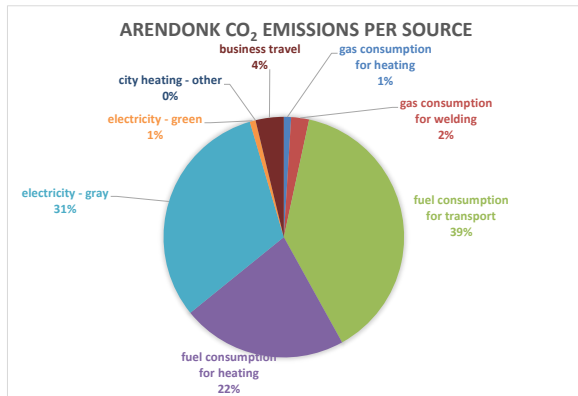
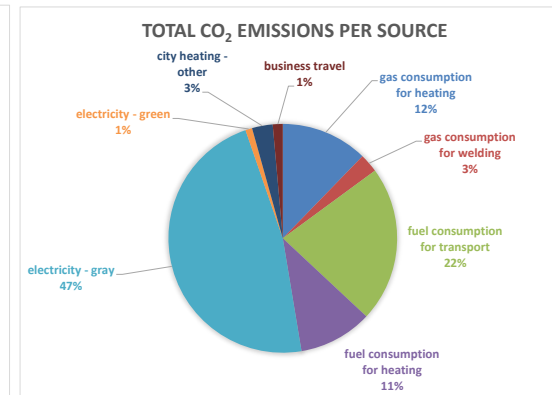
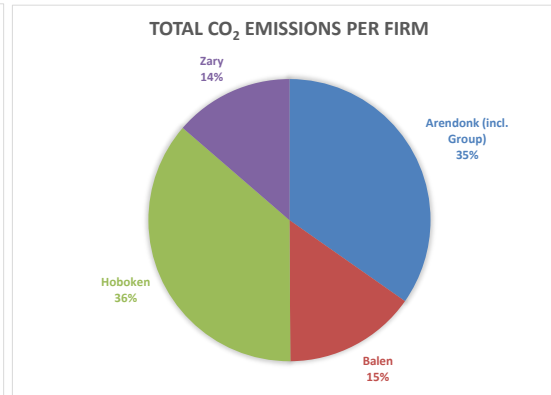
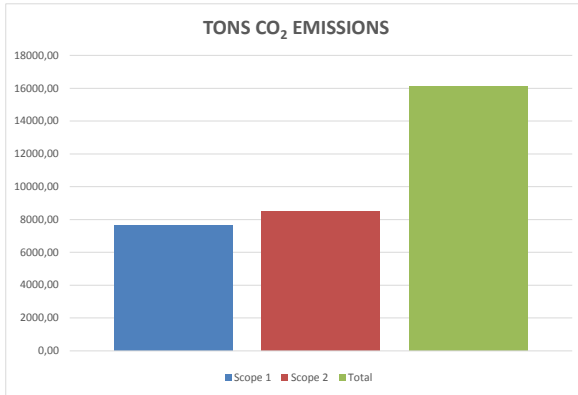
2016			million manhours worked : 3,265867	1,433826			0,339546			0,883458			0,609037			1		
scope	item	unit	conversionfactor unit to kg CO2-eq.	Arendonk + Group			Balen			Hoboken			Zary			Newcastle-Upon-Tyne		
				data	ton CO2-eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO2-eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO2-eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO2-eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO2-eq.	kg CO ₂ -eq. / 1000 manhour
1	gas consumption for heating natural gas	m ³	1,89	29012	54,83	38,24	74432	140,68	414,31	609166,5	1151,32	1303,20		0,00	0,00		0,00	0,00
1	gas consumption for heating propane	L	1,725	0	0,00	0,00	365873	631,13	1858,75		0,00	0,00		0,00	0,00		0,00	0,00
1	gas consumption for welding propane	kg	2,974	6210	18,47	12,88	6107	18,16	53,49	50220	149,36	169,06	5808	17,27	28,36		0,00	0,00
1	gas consumption for welding acetylene	kg	3,385	24339	82,39	57,46	750,0	2,54	7,48	9604	32,51	36,80	2364	8,00	13,14		0,00	0,00
	gas consumption for welding propylene (Apachi)	kg	3,356	139	0,47	0,33	1302,0	4,37	12,87		0,00	0,00		0,00	0,00		0,00	0,00
1	gas consumption for welding CO ₂ + Euromix (15% CO ₂)	kg	1	33340	33,34	23,25	35144	35,14	103,50	17587,8	17,59	19,91	8730	8,73	14,33		0,00	0,00
1	fuel consumption for transport of passenger diesel	L	3,2	249482	798,34	556,79	15625	50,00	147,26	24902,7	79,69	90,20	59150	189,28	310,79		0,00	0,00
1	fuel consumption for transport of goods diesel + fuel oil	L	3,2	425511	1361,64	949,65	17407	55,70	164,05	318228	1018,33	1152,66		0,00	0,00		0,00	0,00
1	fuel consumption for heating fuel oil	L	3,185	390832	1244,80	868,17	136828	435,80	1283,47		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity gray	kWh	0,526	3328634,4	1750,86	1221,11	1973910,1	1038,28	3057,84	6354479,3	3342,46	3783,38	2855220	1501,85	2465,94		0,00	0,00
2	electricity wind	kWh	0	397328,9	0,00	0,00	235619,6	0,00	0,00	758523,3	0,00	0,00		0,00	0,00		0,00	0,00
2	electricity water	kWh	0		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity biomass	kWh	0,075	587993,5	44,10	30,76	348685,4	26,15	77,02	1122500,1	84,19	95,29		0,00	0,00		0,00	0,00
2	electricity thermal	kWh	0	0,0	0,00	0,00	0,0	0,00	0,00	0,0	0,00	0,00		0,00	0,00		0,00	0,00
2	electricity solar	kWh	0	365713,1	0,0	0,0	206364,8	0,0	0,0	664336,8	0,00	0,00		0,00	0,00		0,00	0,00
2	city heating browncoal	Gj	64,3		0,00	0,00		0,00	0,00		0,00	0,00	7331,4	471,41	774,02		0,00	0,00
2	business travel - plane <700km	km	0,297	111723	33,18	23,14	0	0,00	0,00	0	0,00	0,00	1400	0,42	0,68		0,00	0,00
2	business travel - plane 700-2500km	km	0,2	493718	98,74	68,87	12253	2,45	7,22	3714	0,74	0,84	30200	6,04	9,92		0,00	0,00
2	business travel - plane >2500km	km	0,147	522211	76,77	53,54	37134	5,46	16,08	0	0,00	0,00	0	0,00	0,00		0,00	0,00
2	business travel - train intercity	km	0,024	2278	0,05	0,04		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	business travel - train high-speed	km	0,026	116685	3,03	2,12		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00

white applicable, OK
 yellow applicable, no data or doubtful
 grey not applicable
 orange incomplete
 → transposed data of 2015

		TOTAL		Arendonk (incl. Group)			Balen			Hoboken			Zary			Newcastle Upon Tyne		
		% CO ₂ -eq.	ton CO ₂ -eq.	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour
S C O P E 1	gas consumption for heating	12,27%	1977,97	54,83	0,98%	38,24	771,81	31,56%	2273,06	1151,32	19,59%	1303,20	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00
	gas consumption for welding	2,66%	428,34	134,66	2,40%	93,92	60,21	2,46%	177,34	199,46	3,39%	225,77	34,01	1,54%	55,84	0,00	#DEEL/0!	0,00
	fuel consumption for transport	22,03%	3552,98	2159,98	38,56%	1506,44	105,70	4,32%	311,31	1098,02	18,69%	1242,86	189,28	8,59%	310,79	0,00	#DEEL/0!	0,00
	fuel consumption for heating	10,42%	1680,60	1244,80	22,22%	868,17	435,80	17,82%	1283,47	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00
	SUM SCOPE 1	47,38%	7639,88	3594,27	64,17%	2506,77	1373,52	56,16%	4045,17	2448,80	41,67%	2771,84	223,29	10,14%	366,62	0,00	#DEEL/0!	0,00
percentage of total scope 1				47,05%		17,98%			32,05%		2,92%			0,00%				
S C O P E 2	electricity - gray	47,34%	7633,44	1750,86	31,26%	1221,11	1038,28	42,45%	3057,84	3342,46	56,88%	3783,38	1501,85	68,17%	2465,94	0,00	#DEEL/0!	0,00
	electricity - green	0,96%	154,44	44,10	0,79%	30,76	26,15	1,07%	77,02	84,19	1,43%	95,29	0,00	0,00%	0,00	0,00	#DEEL/0!	0,00
	city heating - other	2,92%	471,41	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	0,00%	0,00	471,41	21,40%	774,02	0,00	#DEEL/0!	0,00
	business travel	1,41%	226,89	211,78	3,78%	147,70	7,91	0,32%	23,29	0,74	0,01%	0,84	6,46	0,29%	10,60	0,00	#DEEL/0!	0,00
	SUM SCOPE 2	52,62%	8486,17	2006,74	35,83%	1399,57	1072,34	43,84%	3158,15	3427,39	58,33%	3879,51	1979,71	89,86%	3250,56	0,00	#DEEL/0!	0,00
percentage of total scope 2				23,65%				12,64%		40,39%		23,33%			0,00%			
SUM TOTAL			16126,06	5601,01		3906,34	2445,86		7203,32	5876,19		6651,35	2203,00		3617,18	0,00		0,00
percentage of total				34,73%			15,17%			36,44%		13,66%			0,00%			



Emission inventory scope 1 - 2





Emission inventory scope 1 - 2

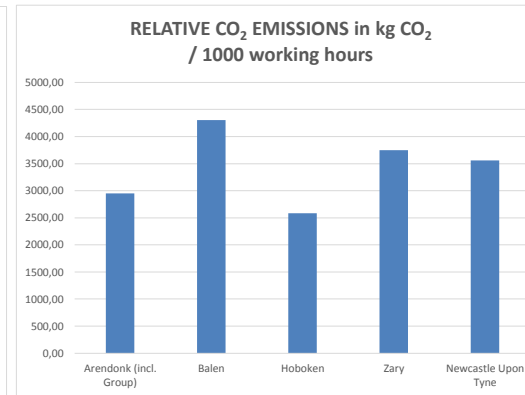
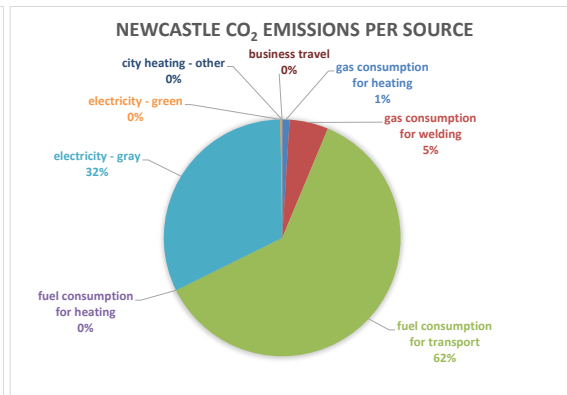
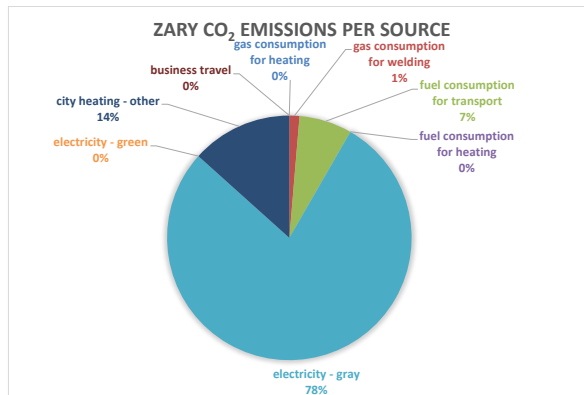
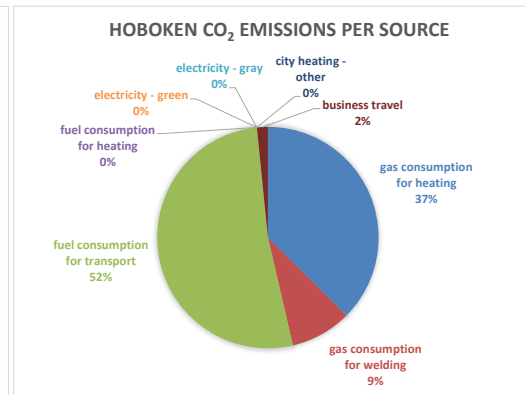
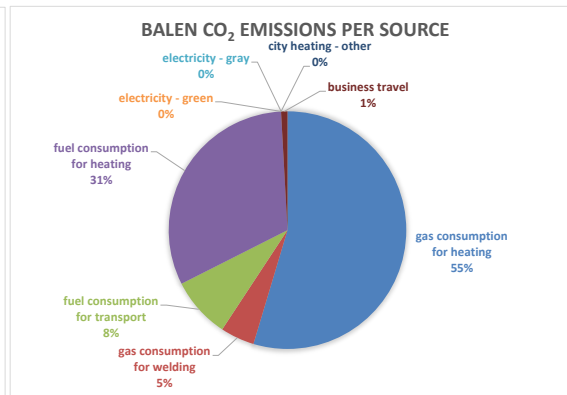
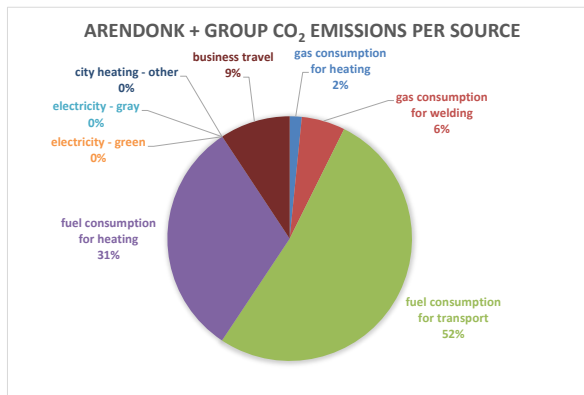
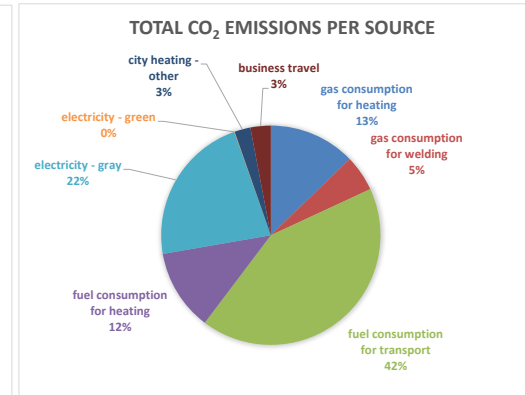
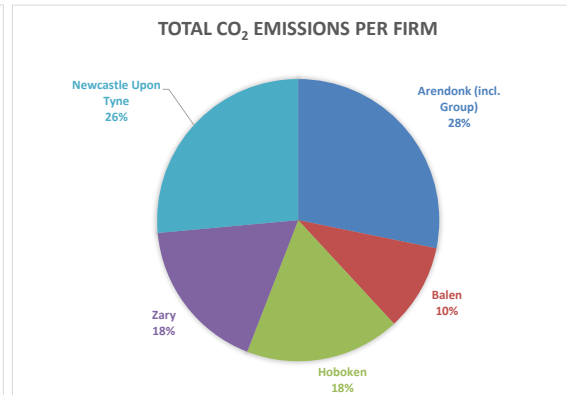
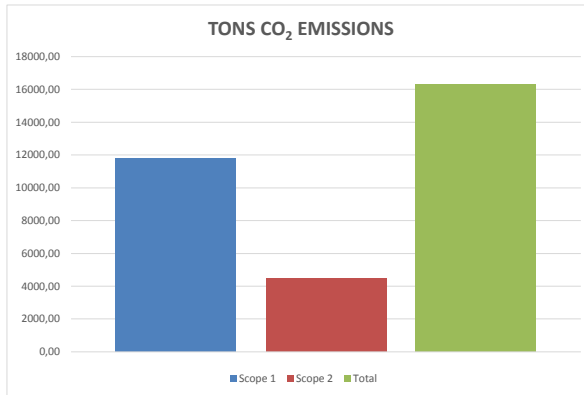
2017 million manhours worked : 5,038455				1,559898			0,376119			1,121572			0,769226			1,21164		
scope	item	unit	conversionfactor unit to kg CO ₂ -eq.	Arendonk + Group			Balen			Hoboken			Zary			Newcastle-Upon-Tyne		
				data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	data	ton CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour
1	gas consumption for heating natural gas	m ³	1,89	38771	73,28	46,98	90349	170,76	454,01	574622	1086,04	968,32		0,00	0,00	22703	42,91	35,41
1	gas consumption for heating propane	L	1,725	0	0,00	0,00	413687	713,61	1897,30		0,00	0,00		0,00	0,00		0,00	0,00
1	gas consumption for welding propane	kg	2,974	20334	60,48	38,77	11043	32,84	87,32	72447	215,47	192,11	4983	14,82	19,27	39795	118,36	97,68
1	gas consumption for welding acetylene	kg	3,385	34255	115,95	74,33	500,0	1,69	4,50	3894	13,18	11,75	4662	15,78	20,52		0,00	0,00
	gas consumption for welding propylene (Apachi)	kg	3,356	11306	37,94	24,32	1212,0	4,07	10,81		0,00	0,00		0,00	0,00		0,00	0,00
1	gas consumption for welding CO ₂ + Euromix (15% CO ₂)	kg	1	50473	50,47	32,36	36416	36,42	96,82	29769	29,77	26,54	7831	7,83	10,18	110853	110,85	91,49
1	fuel consumption for transport of passenger diesel	L	3,2	279632	894,82	573,64	18380	58,82	156,38	25055,21	80,18	71,49	62950	201,44	261,87		0,00	0,00
1	fuel consumption for transport of goods diesel + fuel oil	L	3,2	468062,1	1497,80	960,19	23562	75,40	200,46	446372	1428,39	1273,56		0,00	0,00	827934	2649,39	2186,61
1	fuel consumption for heating fuel oil	L	3,185	453166	1443,33	925,27	160493	511,17	1359,07		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity gray	kWh	0,649		0,00	0,00		0,00	0,00		0,00	0,00	3478000	2257,22	2934,41	2132784	1384,18	1142,40
2	electricity wind	kWh	0		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00	1347021	0,00	0,00
2	electricity water	kWh	0		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity biomass	kWh	0,075		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00	141220	10,59	8,74
2	electricity thermal	kWh	0		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	electricity solar	kWh	0	5552820	0,0	0,0	3549367	0,0	0,0	8227874	0,00	0,00		0,00	0,00		0,00	0,00
2	city heating browncoal	Gj	64,3		0,00	0,00		0,00	0,00		0,00	0,00	5978	384,39	499,70		0,00	0,00
2	business travel - plane <700km	km	0,297	173925	51,66	33,11	702	0,21	0,55	22314	6,63	5,91	0	0,00	0,00		0,00	0,00
2	business travel - plane 700-2500km	km	0,2	1128436	225,69	144,68	34278	6,86	18,23	117725	23,55	20,99	2576	0,52	0,67		0,00	0,00
2	business travel - plane >2500km	km	0,147	999147	146,87	94,16	47576	6,99	18,59	108002	15,88	14,16	0	0,00	0,00		0,00	0,00
2	business travel - train stoptrain / intercity	km	0,024	5675	0,14	0,09		0,00	0,00		0,00	0,00		0,00	0,00		0,00	0,00
2	business travel - train high-speed	km	0,026	139120	3,62	2,32		0,00	0,00	7242	0,19	0,17		0,00	0,00		0,00	0,00

white applicable, OK
 yellow applicable, no data or doubtful
 grey not applicable
 orange incomplete
 → transposed data of 2016

		TOTAL		Arendonk (incl. Group)			Balen			Hoboken			Zary			Newcastle Upon Tyne		
		% CO ₂ -eq.	ton CO ₂ -eq.	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour	ton CO ₂ -eq.	% CO ₂ -eq.	kg CO ₂ -eq. / 1000 manhour
S C O P E 1	gas consumption for heating	12,79%	2086,59	73,28	1,59%	46,98	884,37	54,63%	2351,31	1086,04	37,46%	968,32	0,00	0,00%	0,00	42,91	0,99%	35,41
	gas consumption for welding	5,31%	865,92	264,85	5,75%	169,78	75,02	4,63%	199,46	258,42	8,91%	230,41	38,43	1,33%	49,96	229,21	5,31%	189,17
	fuel consumption for transport	42,20%	6886,23	2392,62	51,99%	1533,83	134,21	8,29%	356,84	1508,57	52,03%	1345,05	201,44	6,99%	261,87	2649,39	61,38%	2186,61
	fuel consumption for heating	11,98%	1954,50	1443,33	31,36%	925,27	511,17	31,58%	1359,07	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	0,00%	0,00
	SUM SCOPE 1	72,27%	11793,25	4174,08	90,70%	2675,87	1604,77	99,13%	4266,67	2853,02	98,41%	2543,77	239,87	8,32%	311,84	2921,51	67,69%	2411,20
	percentage of total scope 1			35,39%			13,61%			24,19%			2,03%			24,77%		
S C O P E 2	electricity - gray	22,31%	3641,40	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	0,00%	0,00	2257,22	78,32%	2934,41	1384,18	32,07%	1142,40
	electricity - green	0,06%	10,59	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	0,00%	0,00	10,59	0,25%	8,74
	city heating - other	2,36%	384,39	0,00	0,00%	0,00	0,00	0,00%	0,00	0,00	0,00%	0,00	384,39	13,34%	499,70	0,00	0,00%	0,00
	business travel	3,00%	488,78	427,97	9,30%	274,36	14,06	0,87%	37,38	46,24	1,59%	41,23	0,52	0,02%	0,67	0,00	0,00%	0,00
	SUM SCOPE 2	27,73%	4525,16	427,97	9,30%	274,36	14,06	0,87%	37,38	46,24	1,59%	41,23	2642,12	91,68%	3434,78	1394,77	32,31%	1151,14
	percentage of total scope 2			9,46%			0,31%			1,02%			58,39%			30,82%		
	SUM TOTAL		16318,41	4602,05		2950,22	1618,83		4304,04	2899,26		2584,99	2881,99		3746,62	4316,27		3562,34
	percentage of total			28,20%			9,92%			17,77%			17,66%			26,45%		



Emission inventory scope 1 - 2

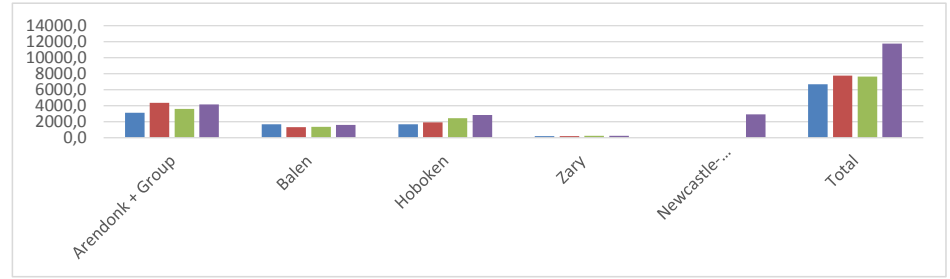


COMPARISON SCOPE 1-2 EMISSION ACROSS THE YEARS

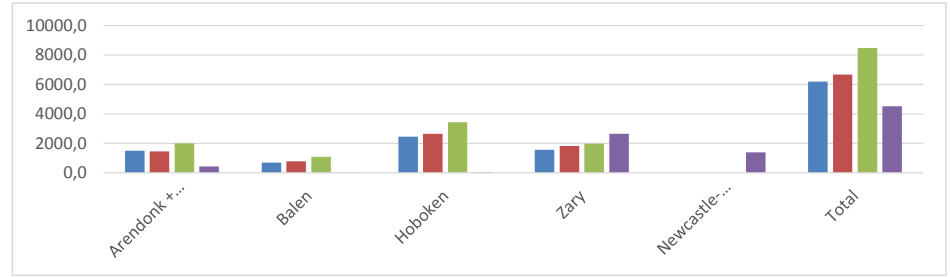
ABSOLUTE (ton CO₂)

2014	2015	2016	2017	2018	2019
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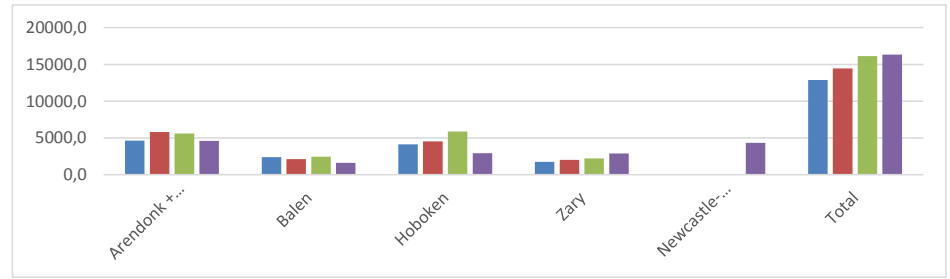
s c o p e 1	Arendonk + Group	3120,2	4350,0	3594,27	4174,08		
	Balen	1681,5	1326,3	1373,52	1604,77		
	Hoboken	1689,5	1897,6	2448,80	2853,02		
	Zary	181,7	200,6	223,29	239,87		
	Newcastle-Upon-Tyne	0,0	0,0	0,00	2921,51		
	Total	6672,9	7774,5	7639,88	11793,25		



s c o p e 2	Arendonk + Group	1494,2	1443,0	2006,74	427,97		
	Balen	691,1	774,2	1072,34	14,06		
	Hoboken	2446,9	2642,3	3427,39	46,24		
	Zary	1556,9	1814,8	1979,71	2642,12		
	Newcastle-Upon-Tyne	0,0	0,0	0,00	1394,77		
	Total	6189,0	6674,3	8486,17	4525,16		



t o t a l	Arendonk + Group	4614,4	5793,0	5601,01	4602,05		
	Balen	2372,6	2100,6	2445,86	1618,83		
	Hoboken	4136,4	4539,9	5876,19	2899,26		
	Zary	1738,6	2015,4	2203,00	2881,99		
	Newcastle-Upon-Tyne	0,0	0,0	0,00	4316,27		
	Total	12862,0	14448,8	16126,06	16318,41		

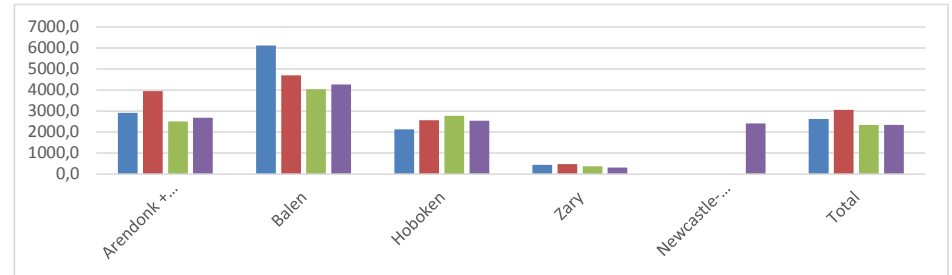


COMPARISON SCOPE 1-2 EMISSION ACROSS THE YEARS

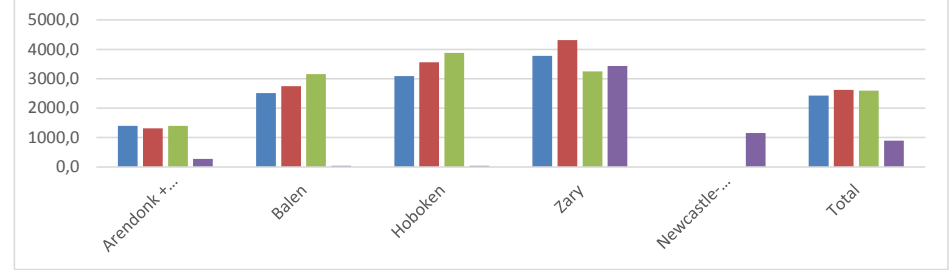
RELATIVE (kg CO₂/1000h)

2014	2015	2016	2017	2018	2019
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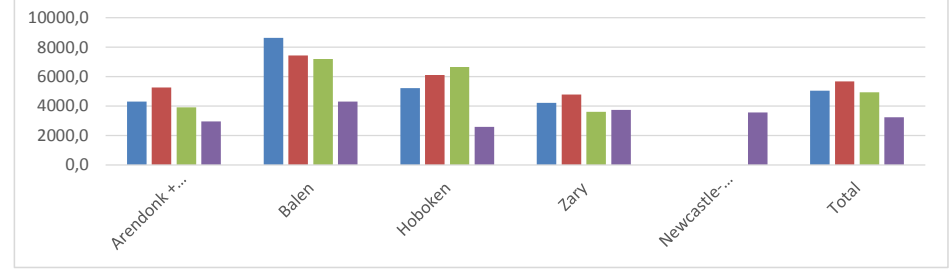
s c o p e 1	Arendonk + Group	2912,4	3948,9	2506,8	2675,9		
	Balen	6119,7	4702,9	4045,2	4266,7		
	Hoboken	2135,0	2558,3	2771,8	2543,8		
	Zary	440,7	476,9	366,6	311,8		
	Newcastle-Upon-Tyne	0,0	0,0	0,0	2411,2		
	Total	2617,1	3053,7	2339,3	2340,6		



s c o p e 2	Arendonk + Group	1394,6	1309,9	1399,6	274,4		
	Balen	2515,1	2745,1	3158,2	37,4		
	Hoboken	3092,1	3562,3	3879,5	41,2		
	Zary	3775,9	4315,3	3250,6	3434,8		
	Newcastle-Upon-Tyne	0,0	0,0	0,0	1151,1		
	Total	2427,3	2621,6	2598,4	898,1		



t o t a l	Arendonk + Group	4307,0	5258,8	3906,3	2950,2		
	Balen	8634,7	7448,0	7203,3	4304,0		
	Hoboken	5227,2	6120,7	6651,3	2585,0		
	Zary	4216,7	4792,2	3617,2	3746,6		
	Newcastle-Upon-Tyne	0,0	0,0	0,0	3562,3		
	Total	5044,3	5675,3	4937,8	3238,8		



compared to previous year : 12,51% -13,00% -34,41%
 compared to base year 2014 : 12,51% -2,11% -35,79%

Reporting organization :	Smulders Group
Responsible :	Carla Wellens
Reporting period :	see tabs
Organizational boundary :	lemants, scope 1&2 according to SKAO CO ₂ -Performanceladder 3 cfr. D-GR-ENV-001 - Organizational boundaries CO ₂ -p
Direct GHG emissions :	= scope 1
Combustion of biomass :	no supplier-specific conversion factor, general factor co2emissiefactoren.nl
GHG removals :	not applicable
Exclusion of sources or sinks :	not applicable
Indirect GHG emissions :	= scope 2
Base year :	2014
Changes or recalculations :	2015: new conversion factors according to http://co2emissiefactoren.nl/ 2015: added: CO ₂ related to working hours 2015: added: weldinggas Euromix 15% CO ₂ 2015: added: city heating Spomasz 2015: removed: refrigerants, according to SKAO CO ₂ -Performanceladder 3 2015: baseyear 2014: Scholt Stroometiket 2014 in stead of Eneco 2013 2015: better registration of travel data = significant rise compared to baseyear 2014 2016: new responsible, Carla Wellens 2016: new conversion factors according to http://co2emissiefactoren.nl/ <i>(natural gas, city heating)</i> 2016: update: new data gasoline on yards, added to "transport of goods" 2016: site Abu Dhabi 2017: new conversion factors according to http://co2emissiefactoren.nl/ <i>(natural gas for heating, gray electricity, biomass, train IC)</i> 2017: as gray energy conversion factor is adjusted to reality (<i>rising do to more coal</i>) it is not correct to adjust the factor in previous years. Earlier factors are kept. Additional argument is that the factor <i>coal</i> is bigger in the Netherlands than Belgium. 2017: train IC Netherlands conversion factor to 0 because switch to 100% green energy, Not applicable for Belgium. Conversion factor stop train is used. 2017: the small sites of Angus India, Qatar and Abu Dhabi are removed, as together they represent less than 50 tons of CO ₂ emissions. Yearly evaluation based on site activity. Air travel to these sites is now included in Arendonk overhead. They represent +50%. 2017: site Smulders Newcastle-Upon-Tyne, added to previous years as an equal percentage. Both calculations (with/without Newcastle) are going to be kept to compare historic data.
Methodologies :	according to SKAO CO ₂ -Performanceladder 3
Changes of methodologies :	not applicable
Emission or removal factors :	according to http://co2emissiefactoren.nl/
Uncertainties :	cfr. P-ENV-GR-xxx - Identification and analysis of energy sources
ISO 14064 statement :	This report is in accordance with chapter 7.3 of ISO 14064:2006
Annex :	VREG Scholt Stroometiket 2014 VREG Scholt Stroometiket 2015 VREG Scholt Stroometiket 2016 Scholt contract WaarborgZon 2017 - 2019

TRAIN

from	to	km single
antwerpen	paris	343
antwerpen	rotterdam	98
antwerpen	amsterdam	158
brussel	avignon	953
brussel	paris	306
liege	paris	368
rotterdam	schiphol	58
toulouse	paris	679
brussel	turnhout	79
rotterdam	paris	459
amsterdam	paris	530
antwerpen	schiphol	149
antwerpen	brussel	48
brussel	london	384
hamburg	berlijn	256
london	paris	460
rennes	paris	309
antwerpen	turnhout	44
brussel	gent	64
brussel	mechelen	40
antwerpen	mol	60
brussel	mol	100
rijssel	paris	218
brussel	turnhout	100

PLAIN

from	to	km single
amsterdam	aalborg	623
amsterdam	aberdeen	703
amsterdam	manchester	486
amsterdam	newcastle	521
antwerpen	london	309
brussel	abu dhabi	5170
brussel	barcelona	1080
brussel	berlijn	673
brussel	billund	621
brussel	birmingham	462
brussel	hamburg	483
brussel	kopenhagen	755
brussel	london	349
brussel	lyon	577
brussel	manchester	536
brussel	marseille	838
brussel	newcastle	618
brussel	toulouse	840
brussel	thessaloniki	1830
dusseldorf	berlijn	470
dusseldorf	billund	520
dusseldorf	hamburg	341
dusseldorf	kopenhagen	621
glasgow	berlijn	2000
helsinki	berlijn	1600
lille	lyon	562
lille	marseille	821
london	las vegas	7870
lyon	marseille	261
lyon	rennes	579
paris	cayenne	7080
paris	hamburg	761
paris	munich	628
paris	bangalore	8000
sibiu	munich	989