

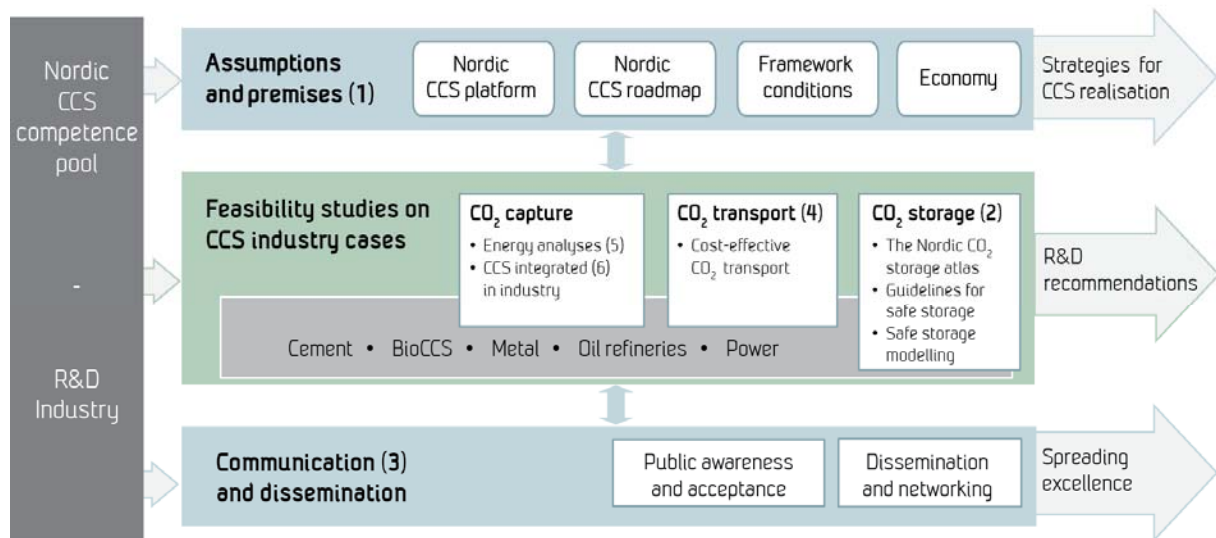
# Nordic point source CO<sub>2</sub> emissions

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**NORDICCS concept:**



**Partners:**



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# Summary

An overview of Nordic point source CO<sub>2</sub> emissions from sources emitting more than 100 000 t CO<sub>2</sub>/a has been made. The table is based on reported emissions from 2010. Both fossil-based and biogenic CO<sub>2</sub> emissions have been included. The table is partly based on annual reports from installations, partly on the European Pollutant Release and Transfer register (E-PRTR) and partly based on calculations.

**Keywords** CO<sub>2</sub> emissions, Nordic countries, fossil, biogenic

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## **About NORDICCS**

*Nordic CCS Competence Centre, NORDICCS, is a networking platform for increased CCS deployment in the Nordic countries. NORDICCS has 10 research partners and six industry partners, is led by SINTEF Energy Research, and is supported by Nordic Innovation through the Top-level Research Initiative.*

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## FINLAND

No	Facility	Sector	Activity	Country	LAT	LONG	Total CO2 (t/a)	Fossil CO2 (t/a)	Bio CO2 (t/a)
1	Rautaruukki Oyj, Raahen terästehdas	Iron and steel production	2.(b)	FI	64,65	24,44	3 970 000	3 970 000	
2	Neste Oil Oyj, Porvoon jalostamo	Oil and gas refineries	1.(a)	FI	60,31	25,52	2 930 000	2 930 000	
3	Stora Enso Oyj, Imatran tehtaas	Pulp and paper production	6.(a)	FI	61,22	28,82	2 620 000	177 000	2 443 000
4	Fortum Power and Heat Oy, Meri-Porin voimalaitos	Power & heat production	1.(c)	FI	61,63	21,39	2 814 000	2 814 000	
5	UPM-Kymmene Oyj, Pietarsaaren tehtaas	Pulp and paper production	6.(a)	FI	63,67	22,7	1 660 000	11 400	1 648 600
6	Oy Alholmens Kraft Ab, Pietarsaaren voimalaitos	Power & heat production	1.(c)	FI	63,7	22,7	1 570 000	874 000	696 000
7	UPM-Kymmene Oyj, Kaukaan tehtaas	Pulp and paper production	6.(a)	FI	61,09	28,25	1 490 000	127 000	1 363 000
8	Helsingin Energia, Vuosaaren voimalaitokset	Power & heat production	1.(c)	FI	60,22	25,17	1 790 000	1 790 000	
9	Stora Enso Oyj, Oulun tehdas	Pulp and paper production	6.(b)	FI	65	25,43	1 624 963	355 314	1 269 649
10	Metsä-Botnia Oy, Kemin tehdas	Pulp and paper production	6.(a)	FI	65,75	24,52	1 560 000	74 900	1 485 100
11	Fortum Power and Heat Oy, Naantalin voimalaitos	Power & heat production	1.(c)	FI	60,46	22,05	1 640 000	1 640 000	
12	Stora Enso Oyj, Veitsiluodon tehtaas (massa + voimalaitos)	Pulp and paper production	6.(b)	FI	65,69	24,62	1 481 352	369 534	1 111 818
13	Metsä-Botnia Oy, Joutsenon tehdas	Pulp and paper production	6.(a)	FI	61,13	28,45	1 390 000	79 800	1 310 200
14	Metsä-Botnia Oy, Rauman tehtaas	Pulp and paper production	6.(a)	FI	61,11	21,47	1 200 000	127 000	1 073 000
15	Oulun Energia, Toppilan voimalaitokset	Power & heat production	1.(c)	FI	65,03	25,43	1 170 000	867 000	303 000
16	Vaskiluodon Voima Oy, Vaskiluoto 2-voimalaitos	Power & heat production	1.(c)	FI	63,04	21,78	1 330 000	1 330 000	
17	Helsingin Energia, Hanasaari B-voimalaitos	Power & heat production	1.(c)	FI	60,18	24,97	1 050 000	1 050 000	
18	UPM-Kymmene Oyj, Kymi	Pulp and paper production	6.(a)	FI	60,91	26,66	1 330 000	86 200	1 243 800
19	PVO-Lämpövoima Oy, Kristiinan voimalaitos	Power & heat production	1.(c)	FI	62,28	21,38	1 240 000	1 240 000	
20	Kanteleen Voima Oy, Haapaveden voimalaitos	Power & heat production	1.(c)	FI	64,12	25,41	794 000	742 000	52 000
21	Helsingin Energia, Salmisaaren voimalaitokset	Power & heat production	1.(c)	FI	60,16	24,9	750 000	750 000	
22	PVO-Lämpövoima Oy, Tahkoluodon voimalaitos	Power & heat production	1.(c)	FI	61,63	21,39	1 230 000	1 230 000	
23	Vaskiluodon Voima Oy, Seinäjoen turvevoimalaitos	Power & heat production	1.(c)	FI	62,74	22,82	913 000	782 000	131 000
24	Fortum Power and Heat, Inkoon voimalaitos	Power & heat production	1.(c)	FI	60,01	23,91	986 000	986 000	
25	FNsteel Oy Ab, Koverharin terästehdas	Iron and steel production	2.(b)	FI	59,88	23,2	825 000	825 000	
26	UPM-Kymmene Oyj, Tervasaaren tehtaas	Pulp and paper production	6.(a)	FI	61,26	24,02	384 000	268 000	116 000
27	Metsä-Botnia Oy, Äänekosken tehtaas	Pulp and paper production	6.(a)	FI	62,59	25,71	966 000	49 200	916 800
28	Fortum Power and Heat Oy, Suomenojan voimalaitos	Power & heat production	1.(c)	FI	60,15	24,71	1 016 000	1 016 000	
29	Stora Enso Oyj, Varkauden tehtaas	Pulp and paper production	6.(b)	FI	62,31	27,89	796 100	92 100	704 000
30	Jyväskylän Energiantuotanto Oy, Rauhalahden voimalaitos	Power & heat production	1.(c)	FI	62,24	25,81	326 000	326 000	
31	Vantaan Energia Oy, Martinlaakson voimalaitos	Power & heat production	1.(c)	FI	60,28	24,83	799 000	799 000	
32	Tampereen Energiantuotanto Oy, Naistenlahden voimalaitos	Power & heat production	1.(c)	FI	61,51	23,77	773 000	602 000	171 000
33	Lahti Energia Oy, Kymijärven voimalaitos	Power & heat production	1.(c)	FI	60,99	25,72	757 000	757 000	
34	Outokumpu Stainless Oy, Tornion tehtaas	Iron and steel production	2.(b)	FI	65,76	24,19	606 000	606 000	

35	Finnsementti Oy, Paraisten sementtitehdas	Cement and lime production	3.(c)	FI	60,28	22,28	531 000	518 000	13 000
36	Stora Enso Enocell Oy, Enocell Oy:n sellutehdas	Pulp and paper production	6.(a)	FI	62,8	30,14	1 592 104	64 600	1 527 504
37	Kuopion Energia Oy, Haapaniemen voimalaitos	Power & heat production	1.(c)	FI	62,88	27,67	624 000	594 000	30 000
38	Etelä-Savon Energia Oy, Pursialan lämmitysvoimalaitos, Mikkeli	Power & heat production	1.(c)	FI	61,67	27,29	415 000	149 000	266 000
39	Kymin Voima Oy, Kuusankosken voimalaitos	Power & heat production	1.(c)	FI	60,9	26,66	416 000	64 500	351 500
40	Rauman Voima Oy, Rauman Voima	Power & heat production	1.(c)	FI	61,12	21,48	492 000	70 200	421 800
41	Fortum Power and Heat Oy, Kontiosuon voimalaitos, Joensuu	Power & heat production	1.(c)	FI	62,59	29,82	452 000	156 000	296 000
42	Kotkamills Oy	Pulp and paper production	6.(b)	FI	60,46	26,96	549 000	269 000	280 000
43	Pori Energia Oy, Aittaluodon voimalaitos	Power & heat production	1.(c)	FI	61,48	21,81	164 000	164 000	
44	Stora Enso Oyj, Anjalankosken tehtaas	Pulp and paper production	6.(b)	FI	60,72	26,84	400 581	336 240	64 341
45	Neste Oil Oyj, Naantalin erikoistuotejalostamo	Oil and gas refineries	1.(a)	FI	60,45	22,06	397 000	397 000	
46	Kainuun Voima Oy, Kajaanin höyry- ja lämpövoimalaitos	Power & heat production	1.(c)	FI	64,23	27,69	446 000	172 000	274 000
47	Borealis Polymers Oy, Olefiiniutuotanto	Production of chemicals	4.(a)	FI	60,3	25,52	490 000	490 000	
48	Finnsementti Oy, Lappeenrannan sementtitehdas	Cement and lime production	3.(c)	FI	61,03	28,17	113 000	113 000	
49	Stora Enso Oyj, Heinolan Flutingtehdas	Pulp and paper production	6.(a)	FI	61,18	26,08	404 180	209 585	194 595
50	Äänevoima Oy, Äänekosken voimalaitos	Power & heat production	1.(c)	FI	62,6	25,72	280 000	64 900	215 100
51	UPM-Kymmene Oyj, Jämsänkosken voimalaitos	Pulp and paper production	6.(b)	FI	61,91	25,16	367 000	115 000	252 000
52	UPM-Kymmene Oyj, Kaipolan tehtaas	Pulp and paper production	6.(b)	FI	61,81	25,23	273 000	77 300	195 700
53	Pohjolan Voima, Laanila, Oulun voimalaitos	Power & heat production	1.(c)	FI	65,03	25,52	318 000	287 000	31 000
54	Fortum Power and Heat Oy, Kirkniemen voimalaitos	Power & heat production	1.(c)	FI	60,19	23,94	352 000	222 000	130 000
55	Tampereen Energiantuotanto Oy, Lielahden voimalaitos	Power & heat production	1.(c)	FI	61,51	23,67	303 000	303 000	
56	Vamy Oy, Myllykosken paperitehdas ja voimalaitos, Vamy Oy	Pulp and paper production	6.(b)	FI	60,77	26,77	373 000	98 900	274 100
57	Fortum Power and Heat Oy, Uimaharjun voimalaitos	Power & heat production	1.(c)	FI	62,8	30,14	167 670	1 270	166 400
58	Stora Enso Oyj, Sunila Oy:n sellutehdas	Pulp and paper production	6.(a)	FI	60,49	26,95	910 919	50 105	860 814
59	Porin Prosessivoima Oy, Kaanaan voimalaitos	Power & heat production	1.(c)	FI	61,57	21,55	436 000	436 000	
60	Rovaniemen Energia Oy, Suosiolan voimalaitos	Power & heat production	1.(c)	FI	66,49	25,67	297 000	200 000	97 000
61	M-Real Oyj, Simpeleen tehdas	Pulp and paper production	6.(b)	FI	61,43	29,34	237 000	81 100	155 900
62	Mäntän Energia Oy, Mäntän voimalaitos	Power & heat production	1.(c)	FI	62,03	24,64	204 000	142 000	62 000
63	Nordkalk Oyj Abp, Tytyrin kalkkitehdas	Cement and lime production	3.(c)	FI	60,26	24,06	124 000	124 000	
64	Vattenfall Lämpö Oy, Hämeenlinnan Vanajan voimalaitos	Power & heat production	1.(c)	FI	60,97	24,5	219 000	122 000	97 000
65	Savon Sellu Oy, Savon sellu	Pulp and paper production	6.(b)	FI	62,94	27,72	325 000	120 000	205 000
66	M-real Oyj, Kyro voimalaitos	Pulp and paper production	6.(b)	FI	61,66	23,18	186 000	186 000	
67	Oy Kokkola Power Ab, Kokkolan voimalaitos	Power & heat production	1.(c)	FI	63,86	23,04	225 000	212 000	13 000
68	Järvi-Suomen Voima Oy, Savonlinnan voimalaitos	Power & heat production	1.(c)	FI	61,86	28,92	137 000		137 000
69	Kotkan Energia Oy, Hovinsaaren voimalaitos	Power & heat production	1.(c)	FI	60,47	26,91	230 000	137 000	93 000
70	Ekokem Oy Ab, Riihimäen toimipiste	Waste treatment or incineration	5.(a)	FI	60,77	24,82	239 000	239 000	
71	Kokkolan Voima Oy, Ykspihlajan lämmitysvoimalaitos	Power & heat production	1.(c)	FI	63,85	23,05	119 000	64 100	54 900

72 Järvi-Suomen Voima Oy, Ristiinan voimalaitos	Power & heat production	1.(c)	FI	61,47	27,27	1 240 000	1 240 000	141 000
73 SMA Mineral Oy, Röyttän Kalkkitehdas	Cement and lime production	3.(c)	FI	65,76	24,15	140 000	140 000	
75 Nordkalk Oyj Abp, Raahen kalkkitehdas	Cement and lime production	3.(c)	FI	64,65	24,44	192 000	192 000	
76 Tornion Voima, Tornion voimalaitos	Power & heat production	1.(c)	FI	65,76	24,16	275 000	220 000	55 000
77 Jyväskylän Voima Oy, Keljonlahti	Power & heat production	1.(c)	FI	62,24	25,81	600 000	600 000	
78 Porvoon Energia Oy, Tolkkisten höyryvoimalaitos	Power & heat production	1.(c)	FI	60,33	25,58	125 000	775	124 225
79 Kaukaan Voima Oy	Power & heat production	1.(c)	FI	61,33	28,1	162 000	162 000	
80 VAPO OY, Forssan Voimalaitos	Power & heat production	1.(c)	FI	60,79	23,58	241 000	147 000	94 000
81 VAPO OY, Salon voimalaitos	Power & heat production	1.(c)	FI	60,37	23,11	141 000	117 000	24 000
82 Keravan Lämpövoima Oy, Keravan voimalaitos	Power & heat production	1.(c)	FI	60,36	25,11	139 000	58 700	80 300
83 Stora Enso Oy, Imatran tehtaat	Pulp and paper production	6.(b)	FI	61,17	28,75	2 620 068	178 336	2 441 732
84 Turku Energia, Oriketo	Power & heat production	1.(c)	FI	60,48	22,31	112 500		112 500
85 Fortum Power and Heat Oy, Nokian voimalaitos	Power & heat production	1.(c)	FI	61,47	23,5	129 000	129000	

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## DENMARK

No	Facility	Sector	Activity	Country	LAT	LONG	CO2 (t/a)	FOSSIL CO2 (t/a)	BIO CO2 (t/a)
1	DONG Energy A/S - Asnæsværket	Power & heat production	1.(c)	DK	55,66	11,07	1930000	1930000	
2	DONG Energy A/S - Avedøreværket	Power & heat production	1.(c)	DK	55,6	12,48	2956028	1611668	1344360
3	Aalborg Portland	Cement and lime production	3.(c)	DK	57,06	9,97	1420000	1420000	
4	Vattenfall A/S Nordjyllandsværket	Power & heat production	1.(c)	DK	57,07	10,04	2690000	2690000	
5	Dong Energy A/S Studstrupværket	Power & heat production	1.(c)	DK	56,25	10,34	2587274	2404490	182784
6	DONG A/S Enstedværket	Power & heat production	1.(c)	DK	55,02	9,44	2183279	1953677	229602
7	DONG A/S - Esbjergværket	Power & heat production	1.(c)	DK	55,45	8,45	1320000	1320000	
8	Vattenfall A/S Fynsværket	Power & heat production	1.(c)	DK	55,43	10,4	2262596	1979546	283050
9	Vattenfall A/S Amagerværket	Power & heat production	1.(c)	DK	55,68	12,62	1913342	1421090	492252
10	DONG Energy A/S - Stignæsværket	Power & heat production	1.(c)	DK	55,2	11,25	156000	156000	
11	Tyra feltet	Offshore oil and gas activities	1.(g)	DK	55,6	4,9	562979	562979	
12	Dan feltet	Offshore oil and gas activities	1.(g)	DK	55,4	5,1	526809	526809	
13	I/S Vestforbraending	Waste treatment or incineration	5.(a)	DK	55,71	12,42	638185	638185	
14	DONG A/S, Skærbækværket	Power & heat production	1.(c)	DK	55,51	9,61	767264	767264	
15	Statoil A/S raffinaderi	Oil and gas refineries	1.(a)	DK	55,68	11,1	492000	492000	
16	A/S Dansk Shell - Raffinaderiet	Oil and gas refineries	1.(a)	DK	55,59	9,75	382000	382000	
17	Gorm feltet	Offshore oil and gas activities	1.(g)	DK	55,6	4,8	299654	299654	
18	Amagerforbraending	Waste treatment or incineration	5.(a)	DK	55,68	12,62	475640	475640	
19	DONG Energy A/S - H.C. Ørstedsværket	Power & heat production	1.(c)	DK	55,65	12,55	401668	401668	
20	Herningværket	Power & heat production	1.(c)	DK	56,12	9,01	421467	44169	377298
21	Energi Randers Production A/S	Power & heat production	1.(c)	DK	56,46	10,03	304776		304776
22	DONG A/S Maabjergværket	Waste treatment or incineration	5.(a)	DK	55,52	9,62	288489	182511	105978
23	DONG Energy A/S - Svanemølleværket	Power & heat production	1.(c)	DK	55,71	12,58	158000	158000	
24	Affaldscenter Aarhus - Forbraendsanlaegget	Waste treatment or incineration	5.(a)	DK	56,23	10,16	334619	334619	
25	L90 Affaldsforbraending	Waste treatment or incineration	5.(a)	DK	55,46	8,51	270497	270497	
26	Syd Arne feltet	Offshore oil and gas activities	1.(g)	DK	56	4,2	148631	148631	
27	I/S Kara Affaldsforbraendingsanlaeg	Waste treatment or incineration	5.(a)	DK	55,64	12,12	239477	204695	34782
28	Kommunekemi A/S	Waste treatment or incineration	5.(a)	DK	55,3	10,81	187747	187747	
29	I/S Reno Nord	Waste treatment or incineration	5.(a)	DK	57,02	10,01	186534	186534	
30	Silkeborg KRAFTVARMEVÆRK A/S	Power & heat production	1.(c)	DK	56,2	9,56	213000	213000	
31	Koege Kraftvarmeværk	Waste treatment or incineration	5.(a)	DK	55,46	12,19	139128		139128
32	VATTENFALL A/S Hillerød Kraftvarmeværk	Power & heat production	1.(c)	DK	55,9	12,31	161000	161000	
33	I/S Nordforbraending	Waste treatment or incineration	5.(a)	DK	55,9	12,49	181473	120171	61302
34	Sønderborg Kraftvarmeværk	Waste treatment or incineration	5.(b)	DK	54,92	9,78	133127	128639	4488
35	Halfdan feltet	Offshore oil and gas activities	1.(g)	DK	55,6	5	94178	94178	
36	Viborg Kraftvarmeværk A/S	Power & heat production	1.(c)	DK	56,45	9,39	146000	146000	
37	AffaldPlus - Naestved Kraftvarmeværk	Waste treatment or incineration	5.(a)	DK	55,21	11,73	134632	134632	

38 Dalum Papir	Pulp and paper production	6.(b)	DK	55,36	10,37	121074		121074
39 Maxit Hinge	Cement and lime production	3.(c)	DK	56,39	10,04			
40 Kolding Forbraendingsanlaeg	Waste treatment or incineration	5.(a)	DK	55,51	9,45	148105	124543	23562
41 REFA	Waste treatment or incineration	5.(a)	DK	54,78	11,88	130709	130709	
42 Novo Nordisk A/S - Kalundborg	Production of chemicals	4.(e)	DK	55,41	11,6			
43 Grenaa Kraftvarmevaerk	Power & heat production	1.(c)	DK	56,42	10,91	126324	52884	73440
44 AffaldPlus Slagelse Forbr. And DONG Slagelse	Waste treatment or incineration	5.(a)	DK	55,42	11,35	115932	69726	46206
45 Nordic Sugar Nakskov	Other	8.(b)	DK	54,83	11,14	110000	110000	
46 Siri feltet omfattende anlæg på Siri platforme	Offshore oil and gas activities	1.(g)	DK	56,4	4,8	230060	230060	
47 AarhusKarlshamn Denmark A/S	Other	8.(b)	DK	56,09	10,13	93388	93388	
48 Nordic Sugar Nykøbing A/S	Other	8.(b)	DK	54,77	11,88	90411	90411	

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NORWAY

No	Facility	Sector	Activity	Country	LAT	LONG	Total CO2 (t/a)	FOSSIL CO2 (t/a)	BIO CO2 (t/a)
1	STATOIL ASA, Mongstad	Oil and gas refineries	1.(a)	NO	60,81	5,03	1 880 000	1 880 000	
2	Hammerfest LNG	Oil and gas refineries	1.(a)	NO	70,69	23,6	1 020 000	1 020 000	
3	Statoil ASA Osebergfeltet	Offshore oil and gas activities	1.(g)	NO	60,49	2,83	1 080 000	1 080 000	
4	Gassco AS, Kårstø	Oil and gas refineries	1.(a)	NO	59,28	5,52	1 070 000	1 070 000	
5	Statoil ASA Gullfaksfeltet	Offshore oil and gas activities	1.(g)	NO	61,18	2,19	795 000	795 000	
6	Statoil ASA Åsgardfeltet	Offshore oil and gas activities	1.(g)	NO	65,1	7,5	1 020 000	1 020 000	
7	ConocoPhillips Skandinavia AS Ekofiskområdet	Offshore oil and gas activities	1.(g)	NO	56,5	3,2	707 000	707 000	
8	Naturkraft AS, Kårstø	Production of electricity	1.(c)	NO	59,28	5,52	986 000	986 000	
9	Norcem A.S., Brevik	Cement and lime production	3.(c)	NO	59,06	9,69	333 000	246 000	87 000
10	Statoil ASA Statfjordfeltet	Offshore oil and gas activities	1.(g)	NO	61,25	1,85	660 000	660 000	
11	Statoil ASA Sleipnerfeltet	Offshore oil and gas activities	1.(g)	NO	58,5	1,7	757 000	757 000	
12	Yara Norge AS, Yara Porsgrunn	Production of chemicals	4.(c)	NO	59,12	9,62	838 000	838 000	
13	Statoil ASA Troll B og C	Offshore oil and gas activities	1.(g)	NO	60,6	3,8	706 000	706 000	
14	Hydro Aluminium AS Sunndal	Non-ferrous metal production	2.(e)	NO	62,36	8,38	497 000	497 000	
15	Statoil ASA Snorrefeltet	Offshore oil and gas activities	1.(g)	NO	61,5	2,3	458 000	458 000	
16	Hydro Aluminium AS Karmøy	Non-ferrous metal production	2.(e)	NO	59,15	5,14	312 000	312 000	
17	NORETYL AS	Production of chemicals	4.(a)	NO	59,05	9,68	485 000	485 000	
18	NORCEM AS, Kjøpsvik	Cement and lime production	3.(c)	NO	68,69	16,21	370 000	356 000	14 000
19	Statoil ASA Heidrunfeltet	Offshore oil and gas activities	1.(g)	NO	65,3	7,3	444 000	444 000	
20	ESSO NORGE AS, Slagentangen	Oil and gas refineries	1.(a)	NO	59,18	10,31	330 000	330 000	
21	Finnfjord AS	Iron and steel production	2.(d)	NO	69,23	17,98	256 000	256 000	
22	Hydro Aluminium AS Årdal, Årdal Metallverk	Non-ferrous metal production	2.(e)	NO	62,04	5,29	394 000	394 000	
23	TiZir Titanium & Iron AS, Tyssedal	Iron and steel production	2.(b)	NO	60,11	6,55	306 000	247 000	1 000
24	Marathon Petroleum Company Alvheim	Offshore oil and gas activities	1.(g)	NO	59,3	2	167 000	167 000	
25	PETERSON LINERBOARD AS, Moss	Pulp and paper production	6.(b)	NO	59,44	10,67	323 000	56 300	266 700
26	StatoilHydro Tjeldbergodden Metanolfabrikk	Production of chemicals	4.(b)	NO	63,24	8,39	319 000	319 000	
27	Alcoa Mosjøen	Non-ferrous metal production	2.(e)	NO	65,5	13,12	402 000	402 000	
28	Statoil ASA Visundfeltet	Offshore oil and gas activities	1.(g)	NO	61,3	2,4	286 000	286 000	
29	Elkem ASA Bremanger	Production of chemicals	4.(b)	NO	61,48	5,25	193 000	148 000	45 000
30	Borregaard Ind. Ltd., Cellulosesektor	Pulp and paper production	6.(a)	NO	59,28	11,11	224 000	143 000	81 000
31	Eramet Norway Kvinesdal AS	Iron and steel production	2.(d)	NO	58,2	7,12	198 000	198 000	
32	ERAMET NORWAY AS, Sauda	Iron and steel production	2.(d)	NO	59,41	6,26	294 000	294 000	
33	Bp Norge AS Valhallfeltet	Offshore oil and gas activities	1.(g)	NO	56,3	3,4	276 000	276 000	
34	Elkem Salten	Production of chemicals	4.(b)	NO	68,44	16,16	371 000	303 000	68 000
35	Sør-Norge Aluminium	Non-ferrous metal production	2.(e)	NO	59,86	5,75	167 000	167 000	
36	FESIL ASA, Holla Metall	Production of chemicals	4.(b)	NO	63,17	9,05	136 000	115 000	21 000

37 Elkem Thamshavn AS	Production of chemicals	4.(b)	NO	63,32	9,88	295 000	247 000	48 000
38 Statoil ASA Nornefeltet	Offshore oil and gas activities	1.(g)	NO	66	8,1	317 000	317 000	
39 Statoil ASA Granefeltet	Offshore oil and gas activities	1.(g)	NO	59,1	2,5	224 000	224 000	
40 Statoil ASA Veslefrikk og Huldrafeltet	Offshore oil and gas activities	1.(g)	NO	60,8	2,9	191 000	191 000	
41 Statoil ASA Bragefeltet	Offshore oil and gas activities	1.(g)	NO	60,6	3,1	206 000	206 000	
42 Norske Skog Skogn	Pulp and paper production	6.(b).	NO	63,63	11,2	180 000	9 700	170 300
43 Statoil ASA Njordfeltet	Offshore oil and gas activities	1.(g)	NO	64,3	7,2	162 000	162 000	
44 Statoil ASA Kristinfeltet	Offshore oil and gas activities	1.(g)	NO	65	6,4	219 000	219 000	
45 Fesil Rana Metall AS	Iron and steel production	2.(b)	NO	66,31	14,16	253 000	244 000	9 000
46 Elkem Bjølvefossen	Iron and steel production	2.(d)	NO	60,43	6,43	113 000	113 000	
47 ExxonMobil Exploration and Production Norway AS Jotunfeltet	Offshore oil and gas activities	1.(g)	NO	59,5	2,4	171 000	171 000	
48 A/S Norske Shell Draugenfeltet	Offshore oil and gas activities	1.(g)	NO	64,4	7,8	178 000	178 000	
49 Alcoa Norway ANS, Lista	Non-ferrous metal production	2.(e)	NO	58,05	6,47	158 000	158 000	
50 Statoil ASA Volvefeltet	Offshore oil and gas activities	1.(g)	NO	58,4	1,9	138 000	138 000	
51 Statoil ASA Heimdalfeltet	Offshore oil and gas activities	1.(g)	NO	59,6	2,2	160 000	160 000	
52 NORSKE SKOGINDUSTRIER ASA, Saugbrugs	Pulp and paper production	6.(b).	NO	59,73	11,28	140 000	9 220	130 780
53 Bp Norge AS Ulafeltet	Offshore oil and gas activities	1.(g)	NO	57,1	2,8	192 000	192 000	
54 Haraldrud energigjenvinningsanlegg	Waste and waste water management	5.(b)	NO	59,56	10,45	115 000	46 000	69 000
55 Klemetsrud energigjenvinningsanlegg	Waste and waste water management	5.(b)	NO	59,84	10,83	173 000	69 000	104 000
56 FREVAR KF - Forbrenningsanlegget (Fredrikstad)	Waste and waste water management	5.(b)	NO	59,12	10,57	107 000	794	106 206
57 Hydro Aluminium AS Høyanger	Non-ferrous metal production	2.(e)	NO	61,21	6,05	103 000	103 000	
58 Wacker Chemicals Norway	Production of chemicals	4.(b)	NO	63,32	9,14	277 000	252 000	25000
59 Eldfisk	Offshore oil and gas activities	1.(g)	NO	56,38	3,62	272000	272000	
60 Nordfrakalk	Cement and lime production	3.(c)	NO	63,78	11,44	207000	207000	
61 BIR Avfallsenergi	Waste and waste water management	5.(b)	NO	60,28	5,32	154000	65000	89000
62 Balder	Offshore oil and gas activities	1.(g)	NO	59,19	2,39	124000	124000	

SWEDEN

No	Facility	Sector	Activity	Country	LAT	LONG	Total CO2 (t/a)	Fossil CO2 (t/a)	Bio CO2 (t/a)
1	SSAB Oxelösund AB	Iron and steel production	2.(b)	SE	58,68	17,13	2 170 000	2 170 000	
2	Luleå kraftvärmeverk LUKAB	Power & heat production	1.(c)	SE	65,57	22,21	1 990 000	1 990 000	
3	M-real Sverige AB, Husums fabrik	Pulp and paper production	6.(a)	SE	63,34	19,16	1 690 000	70 000	1 620 000
4	Södra Cell Mönsterås	Pulp and paper production	6.(a)	SE	57,09	16,55	2 010 000	70 000	1 940 000
5	Preemraff, Lysekil	Oil and gas refineries	1.(a)	SE	58,35	11,42	1 670 000	1 670 000	
6	Gruvöns bruk	Pulp and paper production	6.(a)	SE	59,34	13,12	1 520 000	20 000	1 500 000
7	Stora Enso, Skutskärs bruk	Pulp and paper production	6.(a)	SE	60,64	17,39	1 580 000	30 000	1 550 000
8	Korsnäsverken	Pulp and paper production	6.(a)	SE	60,68	17,27	1 330 000	10 000	1 320 000
9	Östrand's massafabrik	Pulp and paper production	6.(a)	SE	62,48	17,29	1 400 000	80 000	1 320 000
10	Cementa AB, Slitefabriken	Cement and lime production	3.(c)	SE	57,71	18,80	1 430 000	1 390 000	40 000
11	SSAB Tunnpå AB	Iron and steel production	2.(b)	SE	65,56	22,20	1 440 000	1 440 000	
12	Smurfit Kappa Kraftliner Piteå	Pulp and paper production	6.(a)	SE	65,33	21,44	1 230 000	20 000	1 210 000
13	Södra Cell Mörrum	Pulp and paper production	6.(a)	SE	56,16	14,76	1 070 000	70 000	1 000 000
14	Billerud Skärblacka AB	Pulp and paper production	6.(a)	SE	58,58	15,90	950 000	30 000	920 000
15	Södra Cell Värö	Pulp and paper production	6.(a)	SE	57,23	12,19	1 070 000	20 000	1 050 000
16	Västerås kraftvärmeverk	Power & heat production	1.(c)	SE	59,59	16,51	1 070 000	614 000	456 000
17	Skoghalls Bruk	Pulp and paper production	6.(b)	SE	59,32	13,44	1 010 000	90 000	920 000
18	Billerud Karlsborgs AB	Pulp and paper production	6.(a)	SE	65,80	23,29	760 000	10 000	750 000
19	VÄRTAVERKET	Power & heat production	1.(c)	SE	59,35	18,10	1 080 000	883 000	197 000
20	Iggesund Paperboard AB, Iggesund Bruk	Pulp and paper production	6.(a)	SE	61,64	17,08	830 000	60 000	770 000
21	STORA ENSO NYMÖLLA AB	Pulp and paper production	6.(a)	SE	56,04	14,48	780 000		780 000
22	Borealis Krackeranl.	Production of chemicals	4.(a)	SE	58,08	11,83	690 000	690 000	
23	SCA Munksund	Pulp and paper production	6.(b)	SE	65,28	21,52	660 000	30 000	630 000
24	Korsnäs Frövi AB	Pulp and paper production	6.(a)	SE	59,48	15,33	660 000	20 000	640 000
25	Händelöverket	Waste treatment or incineration	5.(b)	SE	58,62	16,23	720 000	200 000	520 000
26	Mondi Dynäs AB	Pulp and paper production	6.(a)	SE	62,97	17,72	610 000	20 000	590 000
27	Domsjö Fabriker AB	Pulp and paper production	6.(a)	SE	63,27	18,70	400 000		400 000
28	Boländeranläggningarna, Avfallsförbränningsanläggning	Power & heat production	1.(c)	SE	59,85	17,68	350 000	70 000	280 000
29	Vallviks Bruk	Pulp and paper production	6.(a)	SE	61,18	17,17	540 000	10 000	530 000
30	Bäckhammars Bruk	Pulp and paper production	6.(a)	SE	59,31	14,11	410 000	20 000	390 000
31	STORA ENSO KVARNSVEDEN AB	Pulp and paper production	6.(b)	SE	60,48	15,42	340 000	30 000	310 000
32	Preem Petroleum AB Preemraff Göteborg	Oil and gas refineries	1.(a)	SE	57,71	11,83	560 000	560 000	
33	E ON Värme Sverige AB, Åbyverket	Power & heat production	1.(c)	SE	59,27	15,18	270 000	190 000	80 000
34	Sävenäs	Waste treatment or incineration	5.(b)	SE	57,73	12,05	550 000	140 000	410 000
35	Cementa AB Skövdefabriken	Cement and lime production	3.(c)	SE	58,38	13,82	360 000	350 000	10 000
36	Shell Raffinaderi AB	Oil and gas refineries	1.(a)	SE	57,70	11,88	540 000	540 000	

37	SCA Packaging Obbola AB	Pulp and paper production	6.(b)	SE	63,73	20,23	460 000	40 000	420 000
38	Munksjö Aspa Bruk AB	Pulp and paper production	6.(a)	SE	58,76	14,80	480 000	20 000	460 000
39	Rya Gaskraftvärmeverk	Power & heat production	1.(c)	SE	57,69	11,89	500 000	500 000	
40	Sysavs avfallsförbränningsanläggning	Waste treatment or incineration	5.(b)	SE	55,63	13,04	386 000	116 000	270 000
41	Avfallskraftvärmeverket Torsvik	Waste treatment or incineration	5.(b)	SE	57,70	14,15	190 000	50 000	140 000
42	SSAB Tunnpå i Borlänge	Iron and steel production	2.(c)	SE	60,49	15,45	300 000	300 000	
43	HÄSSELBYVERKET	Power & heat production	1.(c)	SE	59,36	17,82	580 000	5 000	575 000
44	Kraftvärmeverket & Hetvattencentralen Vattumannen	Power & heat production	1.(c)	SE	59,38	16,49	480 000	30 000	450 000
45	Västhamnsverket, (VHV)	Power & heat production	1.(c)	SE	56,03	12,69	470 000	70 000	400 000
46	Gärstadverket	Waste treatment or incineration	5.(b)	SE	58,44	15,66	350 000	60 000	290 000
47	Ryaverket	Power & heat production	1.(c)	SE	57,73	12,93	400 000	80 000	320 000
48	BRISTAVERKET	Power & heat production	1.(c)	SE	59,61	17,86	360 000		360 000
49	Ortvikens pappersbruk	Pulp and paper production	6.(b)	SE	62,37	17,33	290 000	40 000	250 000
50	LKAB - Kirunagruvan	Iron and steel production	2.(a)	SE	67,84	20,17	430 000	430 000	
51	Lugnviksverket	Power & heat production	1.(c)	SE	63,21	14,65	250 000	20 000	230 000
52	Karskärsverket	Power & heat production	1.(c)	SE	60,68	17,27	330 000	170 000	160 000
53	Sandviksverket	Power & heat production	1.(c)	SE	56,87	14,84	380 000	60 000	320 000
54	CEMENTA, Degerhamn	Cement and lime production	3.(c)	SE	56,35	16,41	248 000	247 000	1 000
55	Kraftvärmeverket i Linköping	Power & heat production	1.(c)	SE	58,42	15,63	320 000	160 000	160 000
56	Bravikens Pappersbruk	Pulp and paper production	6.(b)	SE	58,58	16,17	190 000	50 000	140 000
57	Höganäs AB	Iron and steel production	2.(b)	SE	56,21	12,55	220 000	220 000	
58	HALLSTA PAPPERSBRUK	Pulp and paper production	6.(a)	SE	60,24	18,57	190 000	20 000	170 000
59	Nordkalk / Köping	Cement and lime production	3.(c)	SE	59,50	16,03	220 000	220 000	
60	Vargön Alloys AB	Non-ferrous metal production	2.(e)	SE	58,36	12,38	110 000	110 000	
61	Idbäckens Kraftvärmeverk	Power & heat production	1.(c)	SE	58,74	17,00	227 000	1 000	226 000
62	IGELSTAVERKET	Power & heat production	1.(c)	SE	59,18	17,67	430 000	180 000	250 000
63	RÖNNSKÄRSVERKEN	Non-ferrous metal production	2.(e)	SE	64,67	21,27	170 000	170 000	
64	Pilkington Floatglas AB	Other	3.(e)	SE	56,64	12,94	160 000	160 000	
65	STORA ENSO FORS AB	Pulp and paper production	6.(a)	SE	60,21	16,32	244 000	2 000	242 000
66	Kalkproduktion Storugns AB	Cement and lime production	3.(c)	SE	57,84	18,81	170 000	170 000	
67	KVV-Åkerslund	Power & heat production	1.(c)	SE	56,25	12,90	218 000	1 000	217 000
68	DÅVA KRAFTVÄRMEVERK	Waste treatment or incineration	5.(b)	SE	63,87	20,41	500 000	60 000	440 000
69	Heleneholmsverket, (HVK)	Power & heat production	1.(c)	SE	55,58	13,01	130 000	130 000	
70	Kubikenborg Aluminium AB	Non-ferrous metal production	2.(e)	SE	62,38	17,36	150 000	150 000	
71	Karlskoga kraftvärmeverk	Power & heat production	1.(c)	SE	59,34	14,54	140 000	40 000	100 000
72	HPC Simpan och Ena Kraft, kraftvärmeverket	Power & heat production	1.(c)	SE	59,63	17,08	149 000	3 000	146 000
73	SAKAB AB	Waste treatment or incineration	5.(a)	SE	59,12	15,28	150 000	60 000	90 000
74	Munksjö Paper AB Billingsfors	Pulp and paper production	6.(a)	SE	58,99	12,26	180 000	20 000	160 000
75	Nynäshamns Raffinaderiet	Production of chemicals	4.(a)	SE	58,92	17,96	160 000	160 000	

76 Perstorp Specialty Chemicals AB, Ångcentralen	Power & heat production	1.(c)	SE	56,12	13,38	160 000	70 000	90 000
77 LKAB - Malmbergsgruvan	Non-ferrous metal production	3.(a)	SE	67,20	20,71	140 000	140 000	
78 SOLNAVERKET	Power & heat production	1.(c)	SE	59,35	17,97	180 000	20 000	160 000
79 Heden kraftvärmeverk	Power & heat production	1.(c)	SE	59,39	13,57	160 000		160 000
80 AB Sandvik Materials Technology	Iron and steel production	2.(b)	SE	60,62	16,79	140 000	140 000	
81 ÅLIDHEMSANLÄGGNINGEN	Power & heat production	1.(c)	SE	63,81	20,32	120 000	10 000	110 000
82 SMA Svenska Mineral AB, RÄTTVIKS KALKVERK	Cement and lime production	3.(c)	SE	60,90	15,17	92 000	92 000	
83 HAMMARBYVERKET	Power & heat production	1.(c)	SE	59,30	18,09	130 000		130 000
84 Perstorp Oxo AB, Stenungsund	Production of chemicals	4.(a)	SE	58,10	11,86	110 000	110 000	
85 Sävenäs Kraftvärmeverk	Power & heat production	1.(c)	SE	57,73	12,03	150 000	20 000	130 000
86 OVAKO Steel AB	Iron and steel production	2.(b)	SE	60,55	16,30	80 000	80 000	
87 Allöverket	Power & heat production	1.(c)	SE	56,04	14,15	201 000	1 000	200 000
88 Nordkalk AB Luleå	Cement and lime production	3.(c)	SE	65,56	22,20	100 000	100 000	

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## ICELAND

No	Facility	Sector	Activity	Country	LAT	LONG	CO2 (t/a)	FOSSIL CO2 (t/a)	BIO CO2 (t/a)
1	Alcoa Fjarðaál	Non-ferrous metal production	2.(e)	IS	65,02	-14,13	511 000	511 000	
2	Nordural Grundartangi	Non-ferrous metal production	2.(e)	IS	64,35	-21,78	425 000	425 000	
3	Elkem Iceland	Iron and steel production	2.(e)	IS	64,35	-21,78	351 000	351 000	
4	Alcan Iceland	Non-ferrous metal production	2.(e)	IS	64,05	-22,03	273 000	273 000	

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