



Annex 2. Trends and projections in Danish GHG emissions and removals 1990-2040

Trends and projections in Danish GHG emissions and removals 1990-2040 with the effects of existing national and EU policies and measures as of May 2019 (the WEM-scenario) - by gas, by IPCC sectors, in the EU ETS, in EU non-ETS (ESD/ESR), the LULUCF sector and different energy sectors.



GREENHOUSE GAS EMISSIONS	1990	1995	2000	2005	2010	2015	2017	2020	2025	2030	2035	2040
	CO2 equivalent (kt)							CO2 equivalent (kt)				
CO2 emissions w without net CO2 from LULUCF	53558	61584	54279	51498	49169	35204	34795	31864	29063	26213	24993	23961
CO2 emissions w with net CO2 from LULUCF	58275	64985	57664	55735	47940	38613	37545	34324	31377	29528	27993	27434
CH4 emissions w without CH4 from LULUCF	7596	8022	7871	7629	7308	6822	6885	6277	6376	6462	6432	6459
CH4 emissions w with CH4 from LULUCF	7789	8212	8059	7814	7493	7012	7076	6443	6550	6644	6622	6657
N2O emissions w without N2O from LULUCF	7965	7228	6970	5503	5210	5226	5450	5301	5192	5085	5074	5195
N2O emissions w with N2O from LULUCF	7993	7255	6997	5529	5237	5259	5479	5306	5198	5091	5081	5203
HFCs	NO,NA	258	766	903	827	462	405	334	283	191	191	191
PFCs	NO,NA	1	23	19	17	0	1	0	0	0	0	0
Unspecified mix of HFCs and PFCs	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA
SF6	42	104	57	21	37	121	75	20	20	21	21	21
NF3	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA
Total (without LULUCF)	69161	77197	69966	65571	62568	47835	47612	43796	40933	37971	36710	35827
Total (with LULUCF)	74099	80815	73566	70021	61551	51468	50582	46427	43428	41475	39908	39507
Total (without LULUCF, with indirect CO2)	70291	78259	70790	66231	63038	48133	47892	44030	41109	38110	36831	35929
Total (with LULUCF, with indirect CO2)	75229	81877	74390	70681	62020	51766	50863	46661	43604	41614	40029	39609
GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1995	2000	2005	2010	2015	2017	2020	2025	2030	2035	2040
	CO2 equivalent (kt)							CO2 equivalent (kt)				
1. Energy (w ith indirect CO2)	53517	61632	54348	51407	49564	34838	34110	30928	27951	24888	23611	22461
2. Industrial processes and product use	2344	2901	3699	2764	1911	1829	2010	2003	2063	2073	2073	2139
3. Agriculture	12668	12129	11256	10813	10405	10397	10642	10428	10411	10477	10503	10773
4. Land use, land-use change and forestry	4938	3618	3600	4450	-1018	3632	2971	2630	2494	3504	3198	3680
5. Waste	1762	1598	1487	1246	1159	1070	1131	672	685	672	645	557
6. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
GREENHOUSE GAS EMISSIONS in EU ETS and non-ETS SECTOR CATEGORIES	1990	1995	2000	2005	2010	2015	2017	2020	2025	2030	2035	2040
	CO2 equivalent (kt)							CO2 equivalent (kt)				
EU ETS (CO2 emissions from stationary installations also included in the inventory) [1990-2004: PROXY estimates]	29356	36237	29733	26476	25266	15796	15063	12144	10221	8345	8269	8007
EU ETS (CO2 emissions from domestic aviation also included in the inventory)	251	246	194	177	179	130	137	140	147	156	158	161
EU ETS (Total CO2 emissions in ETS also included in the inventory) [1990-2004: PROXY estimates]	29607	36483	29927	26653	25445	15926	15200	12284	10368	8500	8428	8167
Non-ETS GHG emissions, without LULUCF, with indirect CO2 (2013-2020: ESD / 2021-2030: ESR) [1990-2004: PROXY estimates]	40684	41776	40863	39578	37593	32208	32693	31746	30741	29610	28404	27762
GREENHOUSE GAS NET EMISSIONS and ACCOUNTING QUANTITIES in the LULUCF SECTOR	1990	1995	2000	2005	2010	2015	2017	2020	2025	2030	2035	2040
	CO2 equivalent (kt)							CO2 equivalent (kt)				
LULUCF under the UNFCCC (net emissions from "4. Land use, land-use change and forestry")	4938	3618	3600	4450	-1018	3632	2971	2630	2494	3504	3198	3680
LULUCF accounting quantities (net credits if negative): KP1(2008-2012), KP2(2013-2020), EU/LULUCF(2021-2030)	NA	NA	NA	NA	-1405	-2106	-2832	-3322	-1460	-1460	NE	NE
GREENHOUSE GAS EMISSIONS in the different ENERGY SECTORS	1990	1995	2000	2005	2010	2015	2017	2020	2025	2030	2035	2040
	CO2 equivalent (kt)							CO2 equivalent (kt)				
1. Energy (with indirect CO2)	53517	61632	54348	51407	49564	34838	34110	30928	27951	24888	23611	22461
A. Fuel combustion (sectoral approach) (w ith indirect CO2)	53000	60932	53258	50531	48996	34447	33727	30617	27601	24705	23441	22300
1. Energy industries (w ith indirect CO2)	27381	33620	26875	23830	24574	13179	11855	9242	6821	4904	4811	4453
2. Manufacturing industries and construction	5431	5918	5927	5446	4419	3833	4025	3744	3672	3628	3532	3518
3. Transport	10752	12075	12469	13586	13405	12722	13209	13368	13334	12750	11988	11272
4. Other sectors	9266	8996	7786	7290	6390	4515	4333	3954	3466	3114	2800	2748
5. Other	170	323	201	379	209	198	306	309	309	309	309	309
B. Fugitive emissions from fuels	517	699	1090	877	568	391	383	311	350	183	170	161
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2. Oil and natural gas and other emissions from energy production	517	699	1090	877	568	391	383	311	350	183	170	161
C. CO2 transport and storage	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO



Annex 3. Natural gas price projections

2019- MEUR/ktoe	Import price	Retail price Central power plant	Decentral CHP plant/ heavy industry	Final consumers
2018	289	309	350	470
2019	303	322	363	484
2020	270	289	330	451
2021	228	247	284	396
2022	226	245	283	394
2023	232	251	281	374
2024	238	257	288	383
2025	244	263	294	391
2026	251	270	302	401
2027	257	276	310	410
2028	264	283	316	419
2029	270	289	324	428
2030	276	294	330	436
2031	282	301	337	445
2032	288	307	344	454
2033	294	313	351	462
2034	300	319	356	468
2035	306	324	362	473
2036	315	334	371	483
2037	318	337	375	486
2038	321	341	378	489
2039	324	343	381	492
2040	327	346	384	495

Annex 4. Electricity and gas prices by energy, network and taxes/levies for businesses and households

BUSINESSES

Inclusive taxes and levies					
2017H2 (DKK/m3)	Band I	Band II	Band III	Band IV	Band V
Gas price	1,9161	1,9162	1,7153	1,6332	1,5955
Transmission	0,0709	0,0793	0,0746	0,0674	0,0572
Distribution	0,9518	0,9271	0,3749	0,2567	0,2064
Subscription	0,1063	0,0196	0,0038	0,0005	0,0001
Naturgasafgift	2,1880	2,1880	2,1880	2,1880	2,1880
Nox-tax	0,0080	0,0080	0,0080	0,0080	0,0080
CO2-tax	0,3890	0,3890	0,3890	0,3890	0,3890
Energy saving contribution	0,2477	0,2366	0,0906	0,0618	0,0469
Other tariffs	0,0108	0,0108	0,0108	0,0058	0,0019
Total, excl. VAT	5,89	5,77	4,85	4,61	4,49

Refundable taxes/levies subtracted					
2017H2 (DKK/m3)	Band I	Band II	Band III	Band IV	Band V
Gas price	1,9161	1,9162	1,7153	1,6332	1,5955
Transmission	0,0709	0,0793	0,0746	0,0674	0,0572
Distribution	0,9518	0,9271	0,3749	0,2567	0,2064
Subscription	0,0953	0,0097	0,0027	0,0003	0,0001
Naturgasafgift	1,8131	1,2963	0,4483	0,2979	0,2979
Nox-tax	0,0080	0,3812	0,3151	0,0080	0,0080
CO2-tax	0,3890	0,0080	0,0080	0,1634	0,1634
Energy saving contribution	0,2477	0,2366	0,0906	0,0618	0,0469
Other tariffs	0,0108	0,0108	0,0108	0,0058	0,0019
Total, excl. VAT	5,50	4,87	3,04	2,49	2,38



Inclusive taxes and levies					
	Band I	Band II	Band III	Band IV	Band V
Gas price	1,9161	1,9162	1,7153	1,6332	1,5955
Transmission and distribution	1,1290	1,0260	0,4533	0,3245	0,2636
Taxes	2,8435	2,8324	2,6864	2,6526	2,6338
Total, excl. VAT	5,8885	5,7746	4,8550	4,6103	4,4929
Refundable taxes/levies subtracted					
	Band I	Band II	Band III	Band IV	Band V
Gas price	1,9161	1,9162	1,7153	1,6332	1,5955
Transmission and distribution	1,1180	1,0161	0,4522	0,3243	0,2636
Taxes	2,4686	1,9329	0,8728	0,5369	0,5181
Total, excl. VAT	5,5027	4,8653	3,0403	2,4944	2,3772

HOUSEHOLDS

2017H2 (DKK/m3)	Band I	Band II	Band III
Gas price	2,6852	1,9572	2,1656
Transmission	0,0892	0,0995	0,1000
Distribution	0,9518	0,9518	0,9518
Subscription	1,6764	0,4224	0,0595
Naturgasafgift, kr/m3	2,1880	2,1880	2,1880
Nox-tax	0,0080	0,0080	0,0080
CO2-tax	0,3890	0,3890	0,3890
Energy saving contribution	0,2477	0,2477	0,2477
Other tariffs	0,0108	0,0108	0,0108
Total, excl. VAT	8,25	6,27	6,12

	Band I	Band II	Band III
Gas price	2,6852	1,9572	2,1656
Transmission and distribution	2,7174	1,4737	1,1113
Taxes	2,8435	2,8435	2,8435
Total, excl. VAT	8,2461	6,2743	6,1204



Annex 5. Description of existing measures and the modelling platform (Denmark's energy and climate model)

Existing policies and measures are described in the NECP regulation (art.2) as the implemented and adopted policies and measures.

All the policies, which are part of the frozen policy are described as follows.

Energy Agreement of 29 June 2018 (Ministry of Climate, 2018) covers the period up to and including 2024. However, since the last of the three offshore wind farms under the agreement is not expected to be commissioned until 2030, the agreement can be interpreted to affect the entire projection period. In addition to three new offshore wind farms, the Energy Agreement ensures funding for new biogas production; continued relaxation of electricity taxes; new technology-neutral tendering procedures for photovoltaic solar modules, onshore wind and nearshore offshore wind; as well as new energy saving efforts in place of the energy saving scheme (energy saving efforts of energy companies), which runs until the end of 2020 (Danish Energy Agency, 2019d).

The new energy saving scheme includes subsidy pools for energy saving efforts by the corporate sector as well as by households. Furthermore, the scheme includes a campaign to raise awareness about how households can save energy. DECO19 moreover includes the effect of abolishing Annex 1 of the Danish Electricity Tax Act as part of the Energy Agreement, which will allow more business and industry sectors to seek refunds for electricity taxes. Finally, removal of the cogeneration requirement and the fuel obligation in small-scale district heating areas under the Energy Agreement, as well as the Danish Energy Agency's possibility to grant exemption from the cogeneration requirement in large-scale district heating areas, are also included. Removal of the cogeneration requirement, including removal of the possibility to be exempted from this requirement, has implications for the expected scope of the conversion of facilities from coal-based and natural-gas-based CHP generation to production based on other energy supply technologies such as heat pumps and biomass boilers.

The Energy Agreement earmarks a financial reserve for even more renewable energy from 2025 - the so-called RE reserve. The effect of this element has not been included in DECO19 because any realisation of the RE reserve must be based on a period assessment of developments *without* realisation of the RE reserve. Furthermore, the Energy Agreement's pool for the deployment of green transport has yet to be realised as concrete initiatives and has therefore also not been included.

The Energy Agreement's relaxation of electricity taxes prolongs and expands current relaxations agreed in connection with the Agreement on Business and Entrepreneurial Initiatives of 12 November 2017 (Erhvervsministeriet, 2017). In the energy area, this agreement is valid up to and including 2020.



The PSO tariff, which is paid for over the electricity bill, is being phased out and will be discontinued from year end 2021 (Energistyrelsen, 2018b).

An agreement on a temporary relaxation of the registration tax on electric vehicles (Danish Ministry of Taxation, 2018) has been included as having an effect on sales of cars up to 2022.

Earlier subsidy schemes for new offshore wind, new biomass-based CHP and new biogas production will lapse during 2019 and will be replaced by the technology-neutral tendering scheme. Existing facilities established under earlier subsidy schemes will continue under existing terms and conditions. However, the 2018 amendment to the Promotion of Renewable Energy Act and to the Electricity Supply Act stipulates a revised price supplement for biomass-based electricity generation based on facility-specific depreciation in accordance with EU state aid rules.

Production-independent support for small-scale CHP production (the so-called basic amount) and support for establishment of large electricity-driven heat pumps ended at year end 2018 (Danish Energy Agency, 2018a).

The technology-neutral tendering procedure conducted in the period 2018-2019 has been included with the effects achieved from this initiative. Upcoming technology-neutral tendering procedures have been included as an element in the Energy Agreement and have been distributed across technologies as appropriate.

Agreements funded by the Danish Finance Act 2019 (Finansministeriet, 2018) have been included as having an effect on some of the emissions from agriculture; on emissions of certain greenhouse gases from cooling systems; as well as on reduced leakages from biogas plants from 2021.

EU product standards such as the Ecodesign Directive and the Energy Labelling Directive, and standards for transport vehicles, have been included as having an effect throughout the projection period with the restrictions and expansions already decided by the EU.

In principle, the EU Waste Framework Directive will have effect throughout the entire projection period. However, there is currently no basis for any new expectations about the composition of waste or the calorific value, including the renewable energy share of waste for incineration, just as the existing incineration capacity is assumed to stay the same.

The Danish building regulations will continue, in which transitioning to building class 2020 will be optional, and the regulations will be current throughout the projection period.

Other existing taxes and subsidies will continue to apply throughout the projection period.

Denmark's Energy and Climate Model

All the projections are based on constant prices 2016, specific selection of exogenous factors and the Denmark's Energy and Climate Model. All modelling set-up used is explained as follows:

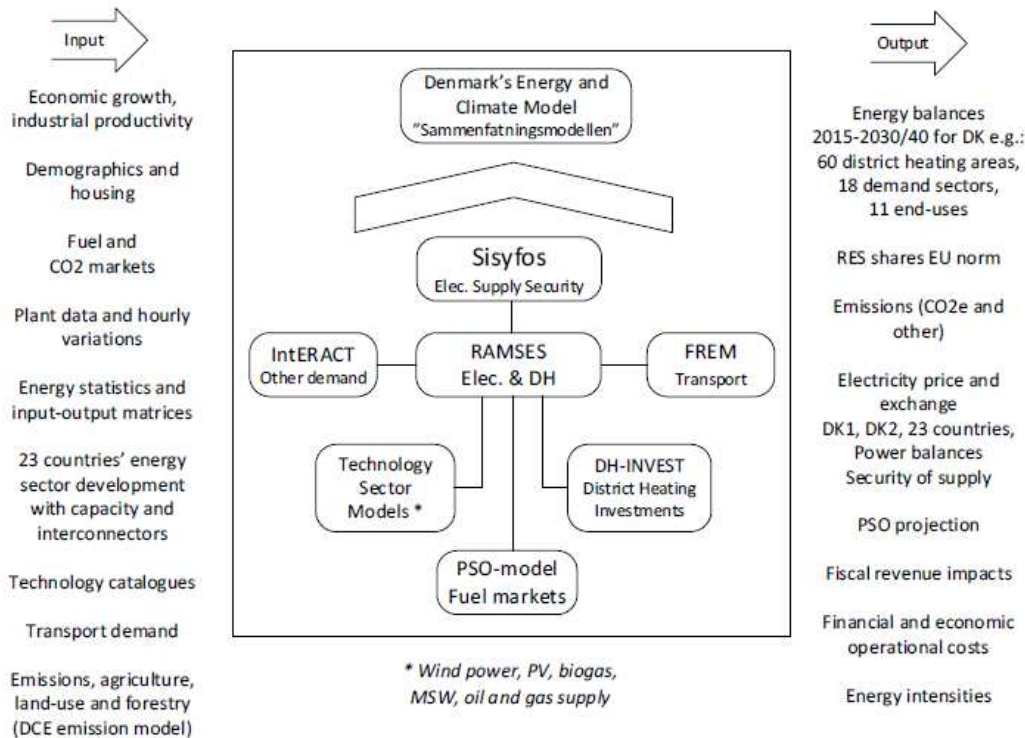


Figure 1. Overall elements in the model platform with inputs on the left and outputs on the right. (Energistyrelsen, 2019a).

INPUTS include: Projection of emissions based on, amongst other things, DECO's energy balance and on emissions from e.g. agriculture in collaboration with the Danish Centre for Environment and Energy (DCE) at Aarhus University; projections by the Danish Ministry of Finance and the Ministry of Economic Affairs and the Interior of economic and demographic developments, business productivity and CO2 allowances; the International Energy Agency's (IEA's) projection of world market prices of fossil fuels adapted to a Danish level; detailed plant data on Danish energy plants, based, among other things, on the Danish Energy Agency's energy production statistics and master data register; Statistics Denmark's input-output matrices for exchanges between sectors; the Danish Energy Agency's technology catalogues; and the projection of the electricity demand, energy production capacity and interconnectors of 23 European countries, based on data from the European Network of Transmission System Operators, ENTSO-E.



OUTPUTS include: (year-by-year and hour-by-hour up to 2030) energy consumption by sector, by use and by technology; energy balances for supply facilities and for district heating areas; greenhouse gas emissions; key indicators such as shares of renewables in accordance with the requirements of the RE Directive (Eurostat, 2018); electricity exchange and the electricity price for each of the 15 European electricity market areas included in the electricity market model; security of electricity supply; fiscal revenue lags; socioeconomic and corporate financial performance; as well as developments in the energy intensities of businesses.

THE MODEL PLATFORM INTEGRATES THE FOLLOWING SUB MODELS:

- **The summary model "Denmark's Energy and Climate Model"**, which integrates the two sector models mentioned below as well as results from the DCE's emissions model such as to provide an overall projection result at system level. Furthermore, the summary model forms the basis for the comparative analyses of projection scenarios vis-a-vis impact assessments at system level.
- **RAMSES**, which models electricity and district heating supply. RAMSES is a technical-economic model for operations optimisation, which is based on a detailed description of all energy-producing facilities and district heating areas in the Danish energy system as well as on an aggregated description of the electricity production plants in the European electricity markets included in the model, including interconnectors between these markets. RAMSES simulates operations in the interlinked European energy system on an hourly basis. RAMSES does not automatically take account of new investments. RAMSES includes Denmark as well as 23 countries broken down by 15 European electricity market areas. Trends in new production capacity are defined partly exogenously based on specific knowledge as well as on capacity development models, e.g. for wind power and solar PV, and partly based on a coupling to DH-Invest, which is a new investment model for small-scale district heating areas.
- **IntERACT**, which models energy consumption by the corporate sector and households. The model comprises two sub models: An economic model which describes the macroeconomic correlations using a neoclassical, general equilibrium model and a technical energy system model based on the IEA's TIMES model (IEA-ETSAP, 2018). The model describes fundamental energy-technology, thermodynamic and physical relationships on a theoretical energy-economics basis. The model uses output data from RAMSES on electricity prices and district heating prices.
- **DH-INVEST**, which is an investment model for small-scale district heating areas. This investment model simulates operations and investments for each district heating area in order to determine investment scenarios that are optimal from the perspective of corporate economics. The investment scenarios include decommissioning of existing facility units. The investment model is integrated



with RAMSES and uses a common assumptions basis, after which the calculated changes in capacity for the individual district heating area are included in the basis used by RAMSES in its modelling of the overall Danish electricity and district heating system.

- **SISYFOS**, which simulates the capacity adequacy (security of supply) of the electricity system. SISYFOS is a Monte Carlo simulation model which, based on rolls of dice, simulates different situations with outages of power plants and/or power lines in the electricity system. Using time series for electricity demand, wind power, photovoltaic power, etc., the model identifies combinations of events which can lead to capacity shortages. Loss-of-probability (LOLP) is calculated and converted into number of minutes' capacity shortage per year. Furthermore, expected unserved energy (EUE) is calculated using a methodology developed by Energinet, along with the associated average number of outage minutes.
- **FREM**, which models energy consumption in the transport sector. Amongst other things, FREM is based on input from the Danish Transport, Construction and Housing Authority, which uses the National Transport Model (LTM) (Technical University of Denmark, 2018) to describe developments in road traffic and energy consumption by railways. FREM projects road transport based on projections for growth in transport volume, developments in the energy efficiency of vehicles by 44 vehicle categories and survival rates, journeys as a function of the age of vehicles, as well as choice of vehicle. FREM projects energy consumption in air transport based on developments in GDP and population numbers, as well as expected developments in energy efficiency in aviation.
- **The PSO model**, which is used to calculate expected future expenditure on subsidies for electricity production. The model calculates expenses for offshore wind, onshore wind, biogas, photovoltaics, CHP production and more. The results are used to determine the PSO tariff and in connection with fiscal budgeting. The model uses output data from RAMSES on electricity prices, electricity consumption and electricity production. The model also models relevant technology subsidy schemes.
- **Technology Deployment Models** for offshore wind, onshore wind, solar PV and biogas use, which model the profitability of technology investments in terms of corporate finances against the profitability requirements of relevant investors, which means the models model the most probable capacity deployment scenario against the current investment and operating conditions.



Annex 6. Carbon ETS price. Revised carbon ETS price in September 2019

Year	Carbon ETS price DECO2019	Carbon price revised September 2019
2005	22,5	22,5
2010	15,5	15,5
2015	7,7	7,7
2017	6,1	6,1
2020	16,1	27,6
2021	16,6	28,4
2022	17,2	29,2
2023	17,9	30,1
2024	18,6	31,0
2025	19,4	31,9
2026	20,3	32,9
2027	21,3	33,9
2028	22,4	34,9
2029	23,5	35,9
2030	24,8	37,0
2035	32,0	42,8
2040	41,4	49,6

Annex 7. Projections of air pollutants

ANNEX IV A-WM: Emission projections reporting template - With Measures

NFR 2014-1

COUNTRY: DK (as ISO2 code)
 DATE: 15-03-2019 (as DD.MM.YYYY)
 Version: v1.0 (as v1.0 for the initial submission)

NFR Code	Longname	Projected emissions (kt)					Projected emissions (kt)					Projected emissions (kt)					Projected emissions (kt)					Projected emissions (kt)					Projected emissions (kt)								
		NOx					NMVOC					SOx (as SO ₂)					NH ₃					PM _{2.5}					BC								
		2016	2020	2025	2030	2040 where available	2050 where available	2016	2020	2025	2030	2040 where available	2050 where available	2016	2020	2025	2030	2040 where available	2050 where available	2016	2020	2025	2030	2040 where available	2050 where available	2016	2020	2025	2030	2040 where available	2050 where available	2016	2020	2025	2030
1A1	Energy industries (Combustion in power plants & Energy Production)	16.75	14.53	15.91	15.74	15.65	0.97	1.30	1.13	1.01	0.99	2.55	2.69	2.91	3.06	3.31	0.02	0.01	0.01	0.01	0.01	0.48	0.62	0.65	0.68	0.72	0.03	0.03	0.03	0.03	0.03				
1A2	Manufacturing Industries and Construction (Combustion in industry including Mobile)	8.85	7.08	7.07	7.44	8.26	1.66	1.86	1.98	2.05	2.41	2.72	2.96	3.36	3.83	4.41	0.26	0.23	0.28	0.30	0.41	0.41	0.31	0.25	0.22	0.25	0.22	0.16	0.11	0.08	0.07				
1A3b	Road Transport	35.44	26.12	18.74	13.78	9.58	7.26	5.58	4.80	4.62	4.37	0.07	0.08	0.08	0.08	0.07	1.00	0.68	0.55	0.53	0.52	1.67	1.38	1.28	1.29	1.45	0.69	0.42	0.27	0.23	0.25				
1A3bi	R.T., Passenger cars	15.31	IE	IE	IE	IE	4.00	IE	IE	IE	IE	0.04	IE	IE	IE	IE	0.92	IE	IE	IE	IE	0.31	IE	IE	IE	IE	0.22	IE	IE	IE	IE				
1A3bi	R.T., Light duty vehicles	8.26	IE	IE	IE	IE	0.41	IE	IE	IE	IE	0.01	IE	IE	IE	IE	0.04	IE	IE	IE	IE	0.23	IE	IE	IE	IE	0.18	IE	IE	IE	IE				
1A3bi	R.T., Heavy duty vehicles	11.72	IE	IE	IE	IE	0.28	IE	IE	IE	IE	0.02	IE	IE	IE	IE	0.04	IE	IE	IE	IE	0.18	IE	IE	IE	IE	0.13	IE	IE	IE	IE				
1A3bi	R.T., Mopeds & Motorcycles	0.14	IE	IE	IE	IE	1.25	IE	IE	IE	IE	0.00	IE	IE	IE	IE	0.00	IE	IE	IE	IE	0.02	IE	IE	IE	IE	0.00	IE	IE	IE	IE				
1A3bv	R.T., Gasoline evaporation	NA	IE	IE	IE	IE	1.32	IE	IE	IE	IE	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE				
1A3bi	R.T., Automobile tyre and brake wear	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE	0.61	IE	IE	IE	IE	0.16	IE	IE	IE	IE				
1A3bii	R.T., Automobile road abrasion	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE	NA	IE	IE	IE	IE	0.32	IE	IE	IE	IE	NA	IE	IE	IE	IE				
1A3a,c,d,e	Off-road transport	16.46	15.46	13.90	11.67	7.89	0.74	0.61	0.61	0.62	0.58	0.51	0.52	0.51	0.51	0.48	0.00	0.00	0.00	0.00	0.00	0.35	0.31	0.31	0.31	0.30	0.09	0.06	0.06	0.06	0.06				
1A4	Other sectors (Commercial, institutional, residential, agriculture and fishing stationary and mobile combustion)	17.04	14.37	11.83	9.11	7.46	17.20	15.16	13.67	12.50	11.36	1.76	1.72	1.71	1.70	1.78	1.86	1.76	1.66	1.54	1.47	15.22	13.45	11.78	10.25	8.89	2.81	2.57	2.38	2.22	2.09				
1A5	Other	1.30	1.08	0.92	0.79	0.75	0.30	0.25	0.22	0.20	0.20	0.06	0.06	0.06	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.08	0.06	0.04	0.02	0.02	0.03	0.02	0.02	0.01	0.01				
1B	Fugitive emissions (Fugitive emissions from fuels)	0.13	0.09	0.12	0.09	0.09	9.02	8.06	8.97	8.94	7.41	0.46	0.71	0.71	0.71	0.71	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.03	0.29	0.21	0.29	0.36	0.47				
2A,B,C,H,I,J,K,L	Industrial Processes	0.02	0.03	0.03	0.03	0.04	2.57	2.67	2.69	2.69	2.70	1.21	1.38	1.60	1.66	1.80	0.27	0.34	0.39	0.40	0.44	0.57	0.60	0.67	0.70	0.75	0.00	0.00	0.00	0.00	0.00				
2D, 2G	Solvent and other product use	0.03	0.05	0.05	0.05	0.04	25.27	25.81	25.81	25.80	25.79	0.03	0.05	0.05	0.05	0.05	0.03	0.03	0.02	0.02	0.01	0.26	0.27	0.25	0.23	0.20	0.00	0.01	0.01	0.01	0.01				
3B	Animal husbandry and manure management	0.20	0.20	0.20	0.19	0.19	35.83	36.87	37.85	38.73	38.73	0.00	0.00	0.00	0.00	0.00	35.40	32.80	32.55	31.90	31.90	0.55	0.58	0.59	0.61	0.61	0.00	0.00	0.00	0.00	0.00				
3B1a	Cattle Dairy	0.02	0.01	0.01	0.01	0.01	9.97	10.32	10.60	10.97	10.97	NA	0.00	0.00	0.00	0.00	7.76	7.39	7.33	7.29	7.29	0.28	0.30	0.31	0.32	0.32	NA	0.00	0.00	0.00	0.00				
3B1b	Cattle Non-Dairy	0.09	0.09	0.09	0.08	0.08	7.55	7.62	7.76	7.89	7.89	NA	0.00	0.00	0.00	0.00	3.39	3.34	3.42	3.49	3.49	0.14	0.15	0.15	0.16	0.16	NA	0.00	0.00	0.00	0.00				
3B2	Sheep	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.03	0.03	NA	0.00	0.00	0.00	0.00	0.08	0.08	0.08	0.08	0.08	0.00	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00				
3B3	Poultry	0.04	0.04	0.05	0.04	0.04	7.96	8.05	8.02	7.85	7.85	NA	0.00	0.00	0.00	0.00	14.88	13.96	13.39	12.47	12.47	0.05	0.05	0.05	0.05	0.05	NA	0.00	0.00	0.00	0.00				
3B4a	Buffalo	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO				
3B4d	Goats	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	NA	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	NO	NO	NO	NO	NO				
3B4e	Horses	0.03	0.03	0.03	0.03	0.03	0.98	0.93	0.93	0.93	0.93	NA	0.00	0.00	0.00	0.00	0.71	0.67	0.67	0.67	0.67	0.01	0.01	0.01	0.01	0.01	NA	0.00	0.00	0.00	0.00				
3B4f	Blues and asses	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO				
3B4g	Poultry	0.02	0.02	0.02	0.02	0.02	3.01	3.13	3.14	3.08	3.08	0.00	0.00	0.00	0.00	0.00	2.39	1.98	1.98	1.94	1.94	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00				
3B4h	Other	0.00	0.00	0.00	0.00	0.00	6.31	6.78	7.37	7.96	7.96	NA	0.00	0.00	0.00	0.00	6.17	5.36	5.66	5.94	5.94	0.01	0.01	0.02	0.02	0.02	NA	0.00	0.00	0.00	0.00				
3D	Plant production and agricultural soils	18.40	19.96	20.33	20.56	20.56	1.75	1.79	1.74	1.72	1.72	0.00	0.00	0.00	0.00	0.00	35.20	35.58	35.99	36.19	36.19	0.45	0.44	0.43	0.42	0.42	0.00	0.00	0.00	0.00	0.00				
3FJ	Field burning and other agriculture	0.09	0.10	0.09	0.09	0.09	0.02	0.25	0.25	0.24	0.24	0.02	0.01	0.01	0.01	0.01	0.25	0.25	0.24	0.24	0.24	0.21	0.22	0.22	0.21	0.21	0.02	0.02	0.02	0.02	0.02				
5	Waste	0.09	0.08	0.08	0.08	0.08	0.56	0.16	0.16	0.16	0.16	0.63	0.55	0.55	0.55	0.55	0.66	0.90	0.90	0.90	0.90	0.25	0.24	0.24	0.24	0.24	0.00	0.00	0.00	0.00	0.00				
6A	Other (included in National Total for Entire Territory)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO				
NATIONAL TOTAL	National Total for the entire territory	114.82	99.15	89.26	79.63	69.67	103.16	100.37	99.87	99.28	96.66	10.04	10.73	11.55	12.22	13.22	74.99	72.58	72.59	72.04	72.09	20.53	18.47	16.73	15.20	14.07	4.19	3.51	3.19	3.02	3.02				

Table 1. The main results of the "with measures" air pollutants projection from March 2019.

ANNEX IV A-WaM: Emission projections reporting template - With Additional Measures

NFR 2014-1

COUNTRY: DK (as ISO2 code)
 DATE: 15-03-2019 (as DD MM YYYY)
 Version: v1.0 (as v1.0 for the initial submission)

NFR Code	Longname	Projected emissions (kt)					Projected emissions (kt)					Projected emissions (kt)					Projected emissions (kt)					Projected emissions (kt)					Projected emissions (kt)										
		NOx					NMVOC					SOx (as SO ₂)					NH ₃					PM _{2.5}					BC (where available)										
		2016	2020	2025	2030	2040 where available	2016	2020	2025	2030	2040 where available	2016	2020	2025	2030	2040 where available	2016	2020	2025	2030	2040 where available	2016	2020	2025	2030	2040 where available	2016	2020	2025	2030	2040 where available	2016	2020	2025	2030	2040 where available	
1A1	Energy Industries (Combustion in power plants & Energy Production)	16.75	12.10	12.80	11.82			0.97	1.25	0.98	0.76			2.55	2.49	2.33	2.00			0.02	0.00	0.00	0.00			0.48	0.61	0.57	0.51			0.03	0.03	0.03	0.03		
1A2	Manufacturing Industries and Construction (Combustion in industry including Mobile)	8.85	6.88	6.44	6.40			1.66	1.77	1.71	1.61			2.72	2.81	3.00	3.24			0.26	0.21	0.22	0.20			0.41	0.30	0.22	0.18			0.22	0.16	0.10	0.06		
1A3b	Road Transport	35.44	26.11	18.73	13.73			7.26	5.58	4.80	4.56			0.07	0.08	0.08	0.08			1.00	0.68	0.55	0.52			1.67	1.38	1.28	1.28			0.69	0.42	0.27	0.23		
1A3bi	R.T. Passenger cars	15.31	IE	IE	IE			4.00	IE	IE	IE			0.04	IE	IE	IE			0.92	IE	IE	IE			0.31	IE	IE	IE			0.22	IE	IE	IE		
1A3bii	R.T. Light duty vehicles	8.26	IE	IE	IE			0.41	IE	IE	IE			0.01	IE	IE	IE			0.04	IE	IE	IE			0.23	IE	IE	IE			0.18	IE	IE	IE		
1A3biii	R.T. Heavy duty vehicles	11.72	IE	IE	IE			0.28	IE	IE	IE			0.02	IE	IE	IE			0.04	IE	IE	IE			0.18	IE	IE	IE			0.13	IE	IE	IE		
1A3biv	R.T. Mopeds & Motorcycles	0.14	IE	IE	IE			1.25	IE	IE	IE			0.00	IE	IE	IE			0.00	IE	IE	IE			0.02	IE	IE	IE			0.00	IE	IE	IE		
1A3bv	R.T. Gasoline evaporation	NA	IE	IE	IE			1.32	IE	IE	IE			NA	IE	IE	IE			NA	IE	IE	IE			NA	IE	IE	IE			NA	IE	IE	IE		
1A3bvi	R.T. Automobile tyre and brake wear	NA	IE	IE	IE			NA	IE	IE	IE			NA	IE	IE	IE			NA	IE	IE	IE			0.61	IE	IE	IE			0.16	IE	IE	IE		
1A3bvi	R.T. Automobile road abrasion	NA	IE	IE	IE			NA	IE	IE	IE			NA	IE	IE	IE			NA	IE	IE	IE			0.32	IE	IE	IE			NA	IE	IE	IE		
1A3c,d,e	Off-road transport	16.46	15.67	14.10	11.86			0.74	0.66	0.66	0.68			0.51	0.52	0.52	0.52			0.00	0.00	0.00	0.00			0.35	0.31	0.32	0.32			0.09	0.07	0.06	0.06		
1A4	Other sectors (Commercial, institutional, residential, agriculture and fishing stationary and mobile combustion)	17.04	14.23	11.46	8.86			17.20	15.13	13.33	12.45			1.76	1.70	1.67	1.67			1.86	1.76	1.59	1.51			15.22	13.43	11.37	10.16			2.81	2.56	2.30	2.19		
1A5	Other	1.30	1.08	0.92	0.79			0.30	0.25	0.22	0.20			0.06	0.06	0.06	0.06			0.00	0.00	0.00	0.00			0.08	0.06	0.04	0.02			0.03	0.02	0.02	0.01		
1B	Fugitive emissions (Fugitive emissions from fuels)	0.13	0.09	0.12	0.09			9.02	8.05	8.96	8.92			0.46	0.71	0.71	0.71			0.00	0.00	0.00	0.00			0.02	0.02	0.01	0.01			0.29	0.23	0.18	0.07		
2A,B,C,H,I,J,K,L	Industrial Processes	0.02	0.03	0.03	0.03			2.57	2.67	2.69	2.69			1.21	1.38	1.60	1.66			0.27	0.34	0.39	0.40			0.57	0.60	0.67	0.70			0.00	0.00	0.00	0.00		
2D, 2G	Solvent and other product use	0.03	0.05	0.05	0.05			25.27	25.81	25.81	25.80			0.03	0.05	0.05	0.05			0.03	0.03	0.02	0.02			0.26	0.27	0.25	0.23			0.00	0.01	0.01	0.01		
3B	Animal husbandry and manure management	0.20	0.20	0.20	0.19			35.83	36.87	37.85	38.73			0.00	0.00	0.00	0.00			35.40	32.80	32.55	31.90			0.55	0.58	0.59	0.61			0.00	0.00	0.00	0.00		
3B1a	Cattle Dairy	0.02	0.01	0.01	0.01			9.97	10.32	10.60	10.97			NA	0.00	0.00	0.00			7.76	7.39	7.33	7.29			0.28	0.30	0.31	0.32			NA	0.00	0.00	0.00		
3B1b	Cattle Non-Dairy	0.09	0.09	0.09	0.08			7.55	7.62	7.76	7.89			NA	0.00	0.00	0.00			3.39	3.34	3.42	3.49			0.14	0.15	0.15	0.16			NA	0.00	0.00	0.00		
3B2	Sheep	0.00	0.00	0.00	0.00			0.03	0.03	0.03	0.03			NA	0.00	0.00	0.00			0.08	0.08	0.08	0.08			0.00	0.00	0.00	0.00			NA	0.00	0.00	0.00		
3B3	Swine	0.04	0.04	0.05	0.04			7.96	8.05	8.02	7.85			NA	0.00	0.00	0.00			14.88	13.96	13.39	12.47			0.05	0.05	0.05	0.05			NA	0.00	0.00	0.00		
3B4a	Buffalo	NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO		
3B4c	Goats	0.00	0.00	0.00	0.00			0.01	0.01	0.01	0.01			NA	0.00	0.00	0.00			0.01	0.01	0.01	0.01			0.00	0.00	0.00	0.00			NA	0.00	0.00	0.00		
3B4e	Horses	0.03	0.03	0.03	0.03			0.98	0.93	0.93	0.93			NA	0.00	0.00	0.00			0.71	0.67	0.67	0.67			0.01	0.01	0.01	0.01			NA	0.00	0.00	0.00		
3B4f	Mules and asses	NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO		
3B4g	Poultry	0.02	0.02	0.02	0.02			3.01	3.13	3.14	3.08			0.00	0.00	0.00	0.00			2.39	1.98	1.98	1.94			0.05	0.05	0.05	0.05			0.00	0.00	0.00	0.00		
3B4h	Other	0.00	0.00	0.00	0.00			6.31	6.78	7.37	7.96			NA	0.00	0.00	0.00			6.17	5.36	5.66	5.94			0.01	0.01	0.02	0.02			NA	0.00	0.00	0.00		
3D	Plant production and agricultural soils	18.40	19.96	20.33	20.56			1.75	1.79	1.74	1.72			0.00	0.00	0.00	0.00			35.20	35.58	35.99	36.19			0.45	0.44	0.43	0.42			0.00	0.00	0.00	0.00		
3FJ	Field burning and other agriculture	0.09	0.10	0.09	0.09			0.02	0.25	0.25	0.24			0.02	0.01	0.01	0.01			0.25	0.25	0.24	0.24			0.21	0.22	0.22	0.21			0.02	0.02	0.02	0.02		
5	Waste	0.09	0.08	0.08	0.08			0.56	0.16	0.16	0.16			0.63	0.55	0.55	0.55			0.66	0.90	0.90	0.90			0.25	0.24	0.24	0.24			0.00	0.00	0.00	0.00		
6A	Other (included in National Total for Entire Territory)	NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO			NO	NO	NO	NO		
NATIONAL TOTAL	National Total for the entire territory	114.82	96.59	85.35	74.54			103.16	100.26	99.16	98.51			10.04	10.36	10.58	10.53			74.99	72.55	72.46	71.89			20.53	18.44	16.21	14.88			4.19	3.52	2.99	2.68		

Table 2. The main results of the "with additional measures" air pollutants projection from March 2019.