SUMMARY 2 SUMMARY REPORT FOR CO_2 EQUIVALENT EMISSIONS
(Sheet 1 of 1)

Year **Proxy 2018**
Submission **July 2019**
Country **Portugal**

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO_2[(1)]	CH_4	N_2O	HFCs	PFCs	SF_6	Unspecified mix of HFCs and PFCs	NF_3	Total	ETS	non-ETS
	CO_2 equivalent (kt)									CO2 equivalent (Gg)	
Total (net emissions)[(1)]	**42 907,60**	**9 580,21**	**3 395,21**	**3 395,05**	**18,12**	**25,25**	**NO**	**NO**	**59 321,44**		
1. Energy	**47 127,38**	**395,66**	**550,37**						**48 073,40**	**23 769**	**24 305**
A. Fuel combustion (sectoral approach)	46 006	333	547						46 887	22 663	24 224
1. Energy industries	17 472	14	150						17 636	17 304	333
2. Manufacturing industries and construction	7 412	50	91						7 553	4 824	2 729
3. Transport	17 121	24	158						17 304	535	16 768
4. Other sectors	3 957	245	147						4 350	0	4 350
5. Other	44	0	0						44	0	44
B. Fugitive emissions from fuels	1 121	63	3						1 187	1 106	81
1. Solid fuels	0	17	0						17	15	1
2. Oil and natural gas	1 121	46	3						1 170	1 090	80
C. CO_2 transport and storage	0,00	0,00	0,00						0,00	0,00	0,00
2. Industrial processes and product use	**4136,19**	**46,65**	**90,20**	**3395,05**	**18,12**	**25,25**	**0,00**	**0,00**	**7711,46**	**3 112**	**4 600**
A. Mineral industry	3165,87								3165,87	2 925	241
B. Chemical industry	682,01	27,30	50,98	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	760,29	145	615
C. Metal industry	53,48	18,21	NO	NO	NO	NO	NO	NO	71,69	41	30
D. Non-energy products from fuels and solvent use	234,84	1,14	NO						235,98	0	236
E. Electronic Industry				NE	NE	NE	NE	NO	NO,NE	0	NO,NE
F. Product uses as ODS substitutes				3395,05	18,12				3413,17	0	3 413
G. Other product manufacture and use	NO	NO	39,22	NO	NO	25,25	NO	NO	64,46	0	64
H. Other	NO	NO	NO						NO	0	NO
3. Agriculture	**63,27**	**4 628,56**	**2 233,83**						**6 925,65**	**0**	**6 926**
A. Enteric fermentation		3 716,49							3 716,49	0	3 716
B. Manure management		740,78	180,91						921,69	0	922
C. Rice cultivation		138,22							138,22	0	138
D. Agricultural soils		NO	2 033,69						2 033,69	0	2 034
E. Prescribed burning of savannas		NO	NO						NO	NO	NO
F. Field burning of agricultural residues		33,06	19,23						52,29	0	52
G. Liming	6,62								6,62	0	7
H. Urea application	56,64								56,64	0	57
I. Other carbon-containing fertilizers	NO								NO	NO	NO
J. Other	NO	NO	NO						NO	NO	NO
4. Land use, land-use change and forestry[(1)]	**-8 447,76**	**94,69**	**322,27**						**-8 030,80**		
A. Forest land	-10 766	58,37	31,73						-10 675,77		
B. Cropland	540,27	3,31	46,96						590,53		
C. Grassland	64,22	1,34	26,06						91,63		
D. Wetlands	332,04	0,00	26,31						358,34		
E. Settlements	2 320,15	0,00	170,37						2 490,51		
F. Other land	-995,92	31,67	20,84						-943,40		
G. Harvested wood products	57,35	NA	NA						57,35		
H. Other	NO	NO	NO						NO		
5. Waste	**28,52**	**4 414,66**	**198,54**						**4 641,72**	**0**	**4 642**
A. Solid waste disposal	0,00	3 560,40	0,00						3 560,40	0	3 560
B. Biological treatment of solid waste		23,47	14,26						37,73	0	38
C. Incineration and open burning of waste	28,52	0,17	0,83						29,52	0	30
D. Waste water treatment and discharge		830,62	183,45						1 014,07	0	1 014
E. Other	0,00	0,000	0,000						0,001	0	0
6. Other *(as specified in summary 1.A)*											

Memo items:[(2)]											
International bunkers	NE	NE	NE						NE		
Aviation	NE	NE	NE						NE		
Navigation	NE	NE	NE						NE		
Multilateral operations	NE	NE	NE						NE		
CO_2 emissions from biomass	NE								NE		
CO_2 captured	NE								NE		
Long-term storage of C in waste disposal sites	NE								NE		
Indirect N_2O			NE								

Indirect CO_2 [(3)]	183,23										

Total CO_2 equivalent emissions without land use, land-use change and forestry	**67 352,24**	**26 880,12**	**40 472,12**
Total CO_2 equivalent emissions with land use, land-use change and forestry	**59 321,44**		
Total CO_2 equivalent emissions, including indirect CO_2, without land use, land-use change and forestry	**67 535,47**		
Total CO_2 equivalent emissions, including indirect CO_2, with land use, land-use change and forestry	**59 504,67**		

(1) For carbon dioxide (CO_2) from land use, land-use change and forestry the net emissions/removals are to be reported. For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

(2) See footnote 7 to table Summary 1.A.

(3) In accordance with the UNFCCC Annex I inventory reporting guidelines, for Parties that decide to report indirect CO_2, the national totals shall be provided with and without indirect CO_2.

Brief description of the key drivers underpinning the increase or decrease in GHG emissions in t-1 (proxy) compared to t-2 (inventory). If this information is publicly available please include the hyperlink to the relevant website.

The -6.1% decrease of emissions in the Energy sector is explained with the reduction of consumption of solid and gaseous fuels, due to na increase in hydraulic electric production.
Fuel/Energy consumption: http://www.dgeg.pt/

The decrease of emissions in IPPU sector is mostly due to the decrease in cement industry (2A1) emissions.

There is an estimated slight increase of about 0.4% in the agriculture GHG emissions mostly due to balance of opposite tendencies of main categories:
- 3A (Enteric Fermentation): related to an increase in the livestock - particularly no-dairy cattle and sheep;
- 3D (Agriculture Soils): reduction in the application of synthetic fertilisers.

The LULUCF sector, estimated in 2017 as a net emitter as a result of the extreme situation with respect to the extent of forest, shrubland and agriculture burnt areas, is estimated again in 2018 as a sink

The -0.5% estimated slight decrease of emissions in the waste sector are mainly related with the waste divertion from land deposition (5A) in latest years and biogas recovery.

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(Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Pressupostos/Metodologia estimativa Proxy
Total (net emissions)[1]	
1. Energy	
A. Fuel combustion (sectoral approach)	
1. Energy industries	1.A.1.a : 2017/2018 consumption trend for solid, liquid and gaseous fuels applied to inventory data for 2017. 1.A.1.b: CO2 emission estimation based in 2016 ETS data.
2. Manufacturing industries and construction	2017/2018 consumption trend for solid, liquid and gaseous fuels applied to inventory data for 2017.
3. Transport	2017/2018 consumption trend for solid, liquid and gaseous fuels applied to inventory data for 2017. Differentiated fuel trends for road transport, aviation and navigation
4. Other sectors	2017/2018 consumption trend for solid, liquid and gaseous fuels applied to inventory data for 2017.
5. Other	2017/2018 consumption trend for solid, liquid and gaseous fuels applied to inventory data for 2017.
B. Fugitive emissions from fuels	
1. Solid fuels	Last year value (2017)
2. Oil and natural gas and other emissions from energy production	2017/2018 consumption trend for solid, liquid and gaseous fuels applied to inventory data for 2017.
C. CO_2 transport and storage	2017/2018 consumption trend for solid, liquid and gaseous fuels applied to inventory data for 2017.
2. Industrial processes and product use	
A. Mineral industry	2018 ETS data
B. Chemical industry	CO2: Last year value (2017); N2O: 2018 ETS data
C. Metal industry	2018 ETS data
D. Non-energy products from fuels and solvent use	Last year value (2017)
E. Electronic Industry	Last year value (2017)
F. Product uses as ODS substitutes	Linear trend extrapolation: 2013-2017
G. Other product manufacture and use	Last year value (2017)
H. Other	Last year value (2017)
3. Agriculture	
A. Enteric fermentation	Change in livestock numbers from 2017 to 2018
B. Manure management	Change in livestock numbers from 2017 to 2018
C. Rice cultivation	Linear trend extrapolation: 2011-2017
D. Agricultural soils	Linear trend extrapolation: 2011-2017
E. Prescribed burning of savannahs	
F. Field burning of agricultural residues	Linear trend extrapolation: 2011-2017
G. Liming	Linear trend extrapolation: 2011-2017
H. Urea application	Linear trend extrapolation: 2011-2017
I. Other carbon-containing fertilizers	NO
J. Other	NO
4. Land use, land-use change and forestry[1]	
A. Forest land	General methodology: Assumes same values as previous years except for the variables described below. Burnt areas 2018: Based on the provisional map of burnt areas by ICNF. Harvest 2018: Assumes average 2013-2017 as representative of the 2018 value for industrial harvest. HWP 2017: Assumes average 2013-2017 as representative of the 2018 value for "production" "imports" and "exports" for all 3 product categories: "sawnwood"; "wood panels"; "paper and paperboard". Special Activities 2018: Assumes average 2013-2017 as representative of the 2018 value for "no tillage" and "biodiverse pastures".
B. Cropland	
C. Grassland	
D. Wetlands	
E. Settlements	
F. Other land	
G. Harvested wood products	
H. Other	
5. Waste	
A. Solid waste disposal	Urban waste: preliminary data for 2018; Industrial w.: linear trend extrapolation based on 2013-2018 GDP trends
B. Biological treatment of solid waste	Last year value (2017)
C. Incineration and open burning of waste	Industrial waste: linear trend extrapolation based on 2013-2018 GDP trends; Clinical w.: last year value (2017)
D. Waste water treatment and discharge	Domestic WWT: population growth scenarios and assumptions/information on treatmeny types evolution Industrial WWT: linear trend extrapolation based on 2013-2018 GDP trends
E. Other	Last year value (2017)
6. Other *(as specified in summary 1.A)*	

Memo items:[2]	
International bunkers	
Aviation	
Navigation	
Multilateral operations	
CO_2 emissions from biomass	
CO_2 captured	
Long-term storage of C in waste disposal sites	
Indirect N_2O	
Indirect CO_2[3]	Based on the same share of 2016 sectoral CO2 indirect emissions in relation to the 2017 total for each category/sector.