

reference values selected scenariotype: RM-5 rad	target year 2030		target year 2050		projection emissions 2019 in Mill. t	per capita emissions 2019 in t	
	vs. reference year	1990	2010	1990			2010
Afghanistan		308%	84%	287%	74%	10,76	0,28
Albania		-51%	-29%	-85%	-78%	4,86	1,69
Algeria		58%	-7%	-69%	-82%	169,83	3,94
Angola		84%	-14%	-16%	-60%	28,85	0,91
Anguilla		211%	-21%	-11%	-77%	0,03	1,94
Antigua and Barbuda		81%	13%	-71%	-82%	0,65	6,66
Argentina		17%	-31%	-78%	-87%	208,42	4,65
Armenia		-81%	-12%	-95%	-75%	5,94	2,01
Aruba		107%	24%	-70%	-82%	0,99	9,36
Australia		-8%	-38%	-88%	-92%	415,29	16,48
Austria		-28%	-40%	-89%	-91%	72,43	8,09
Azerbaijan		-61%	-8%	-92%	-81%	35,56	3,54
Bahamas		27%	11%	-81%	-83%	3,11	7,98
Bahrain		75%	-27%	-78%	-91%	34,17	20,82
Bangladesh		437%	27%	227%	-22%	95,41	0,59
Barbados		169%	-11%	-63%	-88%	3,38	11,78
Belarus		-62%	-38%	-94%	-90%	66,01	6,98
Belgium		-43%	-43%	-92%	-92%	107,07	9,28
Belize		68%	25%	-34%	-51%	0,45	1,16
Benin		1321%	16%	704%	-35%	7,74	0,66
Bermuda		-18%	-23%	-87%	-88%	0,44	7,10
Bhutan		401%	-21%	38%	-78%	1,59	2,08
Bolivia		136%	4%	-34%	-71%	23,42	2,03
Bosnia and Herzegovina		-31%	-23%	-90%	-88%	27,44	8,31
Botswana		73%	39%	-63%	-70%	7,62	3,31
Brazil		43%	-26%	-64%	-81%	502,65	2,38
British Virgin Islands		268%	36%	-35%	-76%	0,15	5,13
Brunei		27%	-41%	-83%	-92%	7,04	16,24
Bulgaria		-66%	-43%	-94%	-91%	44,53	6,36
Burkina Faso		1050%	133%	1252%	174%	3,81	0,19
Burundi		548%	500%	1230%	1132%	0,33	0,03
Cambodia		1974%	68%	1052%	-6%	11,14	0,68
Cameroon		139%	6%	49%	-34%	14,56	0,56
Canada		-19%	-35%	-89%	-92%	597,67	15,98
Cape Verde		1339%	111%	312%	-39%	1,06	1,93
Cayman Islands		114%	12%	-67%	-83%	0,51	7,87
Central African Republic		382%	118%	639%	233%	0,47	0,10
Chad		652%	383%	1345%	829%	0,68	0,04
Chile		76%	-19%	-68%	-85%	92,16	4,86
China		196%	-22%	-55%	-88%	11.403,32	7,95
Colombia		16%	-9%	-66%	-73%	90,92	1,81
Comoros		339%	61%	344%	62%	0,21	0,25
Congo		106%	-8%	-27%	-67%	7,25	1,35
Cook Islands		-35%	-52%	-84%	-88%	0,04	2,46
Costa Rica		106%	-17%	-38%	-75%	9,01	1,79
Côte d'Ivoire		276%	50%	136%	-6%	14,40	0,56
Croatia		-51%	-42%	-91%	-89%	19,72	4,77
Cuba		-51%	-46%	-88%	-87%	27,82	2,45
Curaçao		-5%	-16%	-89%	-90%	8,49	51,96
Cyprus		5%	-40%	-83%	-90%	7,64	6,37
Czechia		-58%	-43%	-94%	-92%	111,64	10,44
Democratic Republic of the Congo		204%	242%	512%	590%	2,84	0,03
Denmark		-63%	-59%	-94%	-93%	32,04	5,55
Djibouti		-32%	-33%	-72%	-73%	1,07	1,10
Dominica		165%	6%	-21%	-69%	0,13	1,81
Dominican Republic		106%	-23%	-47%	-80%	25,34	2,36
Ecuador		66%	-23%	-60%	-81%	44,95	2,59
Egypt		82%	-22%	-55%	-81%	254,04	2,53
El Salvador		110%	-18%	-21%	-69%	8,00	1,24
Equatorial Guinea		2113%	-51%	456%	-88%	3,32	2,45
Eritrea		316%	88%	320%	90%	0,88	0,25

reference values selected scenariotype: RM-5 rad	target year 2030		target year 2050		projection emissions 2019 in Mill. t	per capita emissions 2019 in t	
	vs. reference year	1990	2010	1990			2010
Estonia		-60%	-31%	-95%	-91%	24,99	18,85
Eswatini		46%	-57%	-41%	-83%	1,26	1,09
Ethiopia		811%	218%	1074%	309%	17,26	0,15
Falkland Islands		92%	7%	-74%	-85%	0,04	12,00
Faroese		307%	222%	693%	527%	0,00	0,04
Fiji		-11%	-24%	-71%	-75%	1,35	1,52
Finland		-47%	-54%	-92%	-93%	48,87	8,83
France and Monaco		-47%	-46%	-91%	-90%	322,88	4,95
French Guiana		37%	-4%	-67%	-77%	0,78	2,69
French Polynesia		-54%	-56%	-87%	-88%	0,59	2,11
Gabon		-32%	-30%	-85%	-84%	6,57	3,03
Georgia		-79%	16%	-95%	-73%	11,19	2,80
Germany		-56%	-45%	-93%	-92%	730,08	8,74
Ghana		389%	34%	171%	-26%	20,63	0,68
Gibraltar		192%	-12%	-64%	-89%	0,68	20,27
Greece		-41%	-49%	-91%	-92%	74,37	7,10
Greenland		10620%	-51%	1468%	-93%	0,53	9,36
Grenada		152%	32%	-39%	-68%	0,29	2,59
Guadeloupe		70%	25%	-71%	-79%	2,37	5,94
Guatemala		277%	25%	44%	-52%	21,07	1,20
Guinea		195%	127%	205%	135%	3,08	0,24
Guinea-Bissau		140%	16%	151%	21%	0,45	0,24
Guyana		278%	62%	-6%	-60%	1,96	2,51
Haiti		195%	43%	157%	25%	3,69	0,33
Honduras		212%	-8%	28%	-62%	10,53	1,08
Hong Kong		-17%	-34%	-86%	-89%	45,12	6,07
Hungary		-53%	-35%	-92%	-89%	53,56	5,53
Iceland		10%	-30%	-85%	-90%	4,19	12,36
India		199%	2%	-15%	-71%	2.693,19	1,97
Indonesia		131%	-10%	-37%	-76%	572,68	2,12
Iran		127%	-19%	-67%	-88%	747,59	9,02
Iraq		76%	-4%	-68%	-83%	193,21	4,92
Ireland		-31%	-45%	-89%	-91%	36,43	7,46
Israel and Palestine, State of		20%	-41%	-78%	-89%	67,44	5,00
Italy, San Marino and the Holy See		-50%	-50%	-91%	-91%	341,32	5,63
Jamaica		-31%	-30%	-84%	-84%	8,02	2,72
Japan		-36%	-39%	-91%	-91%	1.188,26	9,37
Jordan		65%	-18%	-60%	-80%	26,00	2,57
Kazakhstan		-23%	-17%	-90%	-89%	317,66	17,12
Kenya		184%	40%	117%	7%	21,53	0,41
Kiribati		59%	-38%	51%	-41%	0,03	0,28
Kuwait		92%	-27%	-77%	-91%	102,36	24,33
Kyrgyzstan		-71%	6%	-91%	-66%	10,38	1,62
Laos		1288%	74%	815%	14%	3,71	0,52
Latvia		-76%	-45%	-95%	-89%	7,77	4,07
Lebanon		172%	-21%	-45%	-84%	25,60	3,73
Lesotho		554%	23%	457%	4%	0,73	0,34
Liberia		207%	122%	206%	121%	1,28	0,26
Libya		-3%	-42%	-85%	-91%	58,02	8,56
Lithuania		-74%	-33%	-95%	-88%	14,81	5,37
Luxembourg		-46%	-44%	-93%	-93%	10,22	16,61
Macao		-11%	-26%	-76%	-80%	1,32	2,07
Madagascar		683%	149%	868%	208%	4,55	0,17
Malawi		538%	99%	903%	212%	1,71	0,09
Malaysia		183%	-24%	-57%	-89%	263,84	8,26
Maldives		812%	-32%	183%	-79%	0,90	1,69
Mali		592%	359%	1146%	727%	1,13	0,06
Malta		-59%	-63%	-91%	-92%	1,51	3,43
Martinique		64%	15%	-73%	-81%	2,48	6,60
Mauritania		263%	21%	91%	-37%	3,33	0,74
Mauritius		141%	-22%	-50%	-84%	4,50	3,55

reference values selected scenariotype: RM-5 rad	target year 2030		target year 2050		projection emissions 2019 in Mill. t	per capita emissions 2019 in t	
	vs. reference year	1990	2010	1990			2010
Mexico		8%	-34%	-78%	-87%	495,57	3,88
Moldova		-82%	-31%	-95%	-82%	8,85	2,19
Mongolia		-5%	-13%	-84%	-86%	20,07	6,22
Morocco		107%	-11%	-40%	-74%	70,17	1,92
Mozambique		681%	151%	573%	116%	10,15	0,33
Myanmar/Burma		432%	203%	212%	78%	33,54	0,62
Namibia		97%	-2%	-42%	-71%	4,57	1,83
Nepal		775%	94%	610%	57%	10,59	0,37
Netherlands		-39%	-47%	-91%	-92%	158,42	9,27
New Caledonia		185%	-7%	-66%	-89%	7,54	26,65
New Zealand		-4%	-32%	-85%	-90%	37,07	7,75
Nicaragua		131%	-3%	2%	-57%	6,31	0,96
Niger		330%	163%	558%	302%	2,33	0,10
Nigeria		20%	-2%	-25%	-39%	113,69	0,57
North Korea		-83%	-58%	-94%	-84%	32,45	1,26
North Macedonia		-53%	-43%	-91%	-89%	8,25	3,96
Norway		-14%	-31%	-88%	-90%	51,84	9,64
Oman		245%	2%	-56%	-87%	87,53	17,59
Pakistan		125%	-4%	1%	-57%	201,51	0,93
Palau		-63%	-62%	-96%	-96%	1,31	72,59
Panama		183%	-18%	-34%	-81%	12,03	2,83
Papua New Guinea		43%	8%	3%	-23%	3,99	0,45
Paraguay		138%	4%	-3%	-58%	7,70	1,09
Peru		81%	-16%	-45%	-74%	57,19	1,76
Philippines		136%	18%	-18%	-59%	151,87	1,40
Poland		-43%	-35%	-92%	-90%	342,61	9,04
Portugal		-24%	-38%	-86%	-89%	53,18	5,20
Puerto Rico		11%	24%	-56%	-50%	3,26	1,11
Qatar		276%	-8%	-56%	-89%	104,60	36,93
Réunion		93%	-34%	-59%	-86%	3,06	3,44
Romania		-72%	-38%	-95%	-88%	81,37	4,20
Russia		-53%	-34%	-94%	-91%	1.779,97	12,20
Rwanda		274%	148%	492%	293%	1,14	0,09
Saint Helena, Ascension and Tristan da		23%	2%	-72%	-77%	0,02	3,01
Saint Kitts and Nevis		350%	9%	-17%	-80%	0,25	4,66
Saint Lucia		226%	16%	-10%	-68%	0,38	2,06
Saint Pierre and Miquelon		-66%	40%	-96%	-81%	0,08	13,88
Saint Vincent and the Grenadines		225%	15%	1%	-64%	0,19	1,67
Samoa		-20%	-13%	-56%	-52%	0,14	0,69
São Tomé and Príncipe		145%	-14%	32%	-54%	0,15	0,71
Saudi Arabia		124%	-19%	-72%	-90%	628,82	18,35
Senegal		248%	18%	93%	-34%	10,99	0,67
Serbia and Montenegro		-44%	-38%	-91%	-90%	59,25	6,30
Seychelles		117%	-33%	-69%	-90%	1,01	10,30
Sierra Leone		128%	130%	167%	169%	1,49	0,19
Singapore		12%	-30%	-84%	-90%	57,43	9,89
Slovakia		-60%	-39%	-94%	-90%	39,12	7,17
Slovenia		-41%	-46%	-91%	-92%	15,63	7,52
Solomon Islands		13%	-18%	27%	-8%	0,14	0,20
Somalia		208%	159%	443%	356%	0,97	0,06
South Africa		-6%	-37%	-86%	-90%	474,51	8,10
South Korea		63%	-26%	-78%	-90%	714,26	13,94
Spain and Andorra		-24%	-39%	-87%	-90%	282,82	6,04
Sri Lanka		302%	23%	60%	-51%	24,14	1,13
Sudan and South Sudan		236%	12%	159%	-14%	21,67	0,40
Suriname		60%	-15%	-68%	-83%	2,30	3,95
Sweden		-52%	-47%	-91%	-90%	44,41	4,42
Switzerland and Liechtenstein		-43%	-45%	-90%	-90%	40,74	4,72
Syria		-41%	-69%	-82%	-90%	29,10	1,70
Taiwan		44%	-34%	-80%	-91%	290,21	12,21
Tajikistan		-62%	48%	-79%	-16%	6,09	0,65

reference values selected scenario type: RM-5 rad	target year 2030		target year 2050		projection emissions 2019 in Mill. t	per capita emissions 2019 in t	
	vs. reference year	1990	2010	1990			2010
Tanzania		579%	99%	608%	108%	13,80	0,24
Thailand		95%	-26%	-62%	-86%	285,68	4,10
The Gambia		311%	29%	306%	28%	0,62	0,26
Timor-Leste		137%	22%	153%	30%	0,29	0,23
Togo		246%	4%	179%	-16%	3,02	0,37
Tonga		35%	-51%	-48%	-81%	0,13	1,20
Trinidad and Tobago		74%	-43%	-79%	-93%	35,95	25,77
Tunisia		47%	-22%	-66%	-82%	33,82	2,89
Turkey		80%	-13%	-68%	-85%	428,38	5,13
Turkmenistan		17%	-14%	-85%	-89%	86,43	14,55
Turks and Caicos Islands		1448%	2%	191%	-81%	0,17	4,49
Uganda		1124%	109%	1609%	192%	5,64	0,13
Ukraine		-85%	-61%	-97%	-93%	188,97	4,30
United Arab Emirates		133%	-23%	-71%	-90%	216,65	22,17
United Kingdom		-61%	-54%	-93%	-92%	363,06	5,38
United States		-35%	-41%	-92%	-92%	5.334,43	16,21
Uruguay		20%	-27%	-67%	-80%	7,08	2,05
Uzbekistan		-47%	-39%	-88%	-86%	102,01	3,09
Vanuatu		-37%	-32%	-40%	-35%	0,08	0,28
Venezuela		-29%	-61%	-86%	-92%	115,40	4,05
Vietnam		789%	16%	105%	-73%	278,85	2,89
Western Sahara		64%	-11%	10%	-40%	0,29	0,50
Yemen		48%	-62%	13%	-71%	11,95	0,41
Zambia		70%	125%	57%	107%	5,31	0,30
Zimbabwe		-44%	-4%	-74%	-56%	13,40	0,91
EU28		-52%	-46%	-92%	-91%	3.388,14	6,61
EU27		-51%	-45%	-92%	-91%	3.023,61	6,79
sub sum						43.476,37	
EU27						-3.023,61	
EU28						-3.388,14	
sum						37.064,62	
base data: projection global 2019*						-37.064,62	
difference						0,00	

* excl. AFOLU and int. shipping and aviation

reference values scenario: RM-5 rad sorted by 'emissions 2019'	target year 2030		target year 2050		projection emissions 2019 in Mill. t	per capita emissions 2019 in t	share in the global emissions in 2019	share cumulative emissions without EU
	vs. reference year	1990	2010	1990				
China	196%	-22%	-55%	-88%	11.403	8,0	30,8%	31%
United States	-35%	-41%	-92%	-92%	5.334	16,2	14,4%	45%
EU28	-52%	-46%	-92%	-91%	3.388	6,6	9,1%	45%
EU27	-51%	-45%	-92%	-91%	3.024	6,8	8,2%	45%
India	199%	2%	-15%	-71%	2.693	2,0	7,3%	52%
Russia	-53%	-34%	-94%	-91%	1.780	12,2	4,8%	57%
Japan	-36%	-39%	-91%	-91%	1.188	9,4	3,2%	60%
Iran	127%	-19%	-67%	-88%	748	9,0	2,0%	62%
Germany	-56%	-45%	-93%	-92%	730	8,7	2,0%	64%
South Korea	63%	-26%	-78%	-90%	714	13,9	1,9%	66%
Saudi Arabia	124%	-19%	-72%	-90%	629	18,3	1,7%	68%
Canada	-19%	-35%	-89%	-92%	598	16,0	1,6%	70%
Indonesia	131%	-10%	-37%	-76%	573	2,1	1,5%	71%
Brazil	43%	-26%	-64%	-81%	503	2,4	1,4%	73%
Mexico	8%	-34%	-78%	-87%	496	3,9	1,3%	74%
South Africa	-6%	-37%	-86%	-90%	475	8,1	1,3%	75%
Turkey	80%	-13%	-68%	-85%	428	5,1	1,2%	76%
Australia	-8%	-38%	-88%	-92%	415	16,5	1,1%	77%
United Kingdom	-61%	-54%	-93%	-92%	363	5,4	1,0%	78%
Poland	-43%	-35%	-92%	-90%	343	9,0	0,9%	79%
Italy, San Marino and the Holy S	-50%	-50%	-91%	-91%	341	5,6	0,9%	80%

sum emissions 2020 - 2100 - national budgets -	RM-1	RM-2	RM-3	RM-4	RM-5	RM-6	average	scope	
	const	exp	lin	quadr	rad	abs	budget	average	
in Mill. t							RM 2 - 6	budget	
Afghanistan	493,14	316,66	367,78	289,53	401,69	374,14	350,0	33	
Albania	83,49	74,34	77,02	72,91	78,72	77,36	76,1	16	
Algeria	2.355,43	2.319,70	2.331,36	2.313,60	2.336,04	2.332,98	2.326,7	14	
Angola	638,82	511,82	548,77	492,22	572,89	553,39	535,8	19	
Anguilla	0,47	0,43	0,44	0,42	0,45	0,44	0,4	15	
Antigua and Barbuda	8,32	8,52	8,46	8,54	8,42	8,46	8,5	13	
Argentina	2.812,24	2.808,13	2.810,95	2.806,74	2.809,02	2.811,51	2.809,3	13	
Armenia	96,58	88,18	90,65	86,86	92,20	90,97	89,8	15	
Aruba	12,38	12,89	12,75	12,96	12,64	12,73	12,8	13	
Australia	4.980,05	5.287,72	5.202,00	5.333,45	5.137,22	5.191,78	5.230,4	13	
Austria	912,92	944,09	935,64	948,61	928,68	934,67	938,3	13	
Azerbaijan	503,23	490,65	494,56	488,58	496,52	495,08	493,1	14	
Bahamas	39,22	40,53	40,18	40,72	39,88	40,13	40,3	13	
Bahrain	405,53	432,97	425,30	437,06	419,56	424,38	427,9	13	
Bangladesh	2.675,76	1.970,65	2.175,31	1.862,04	2.310,08	2.200,81	2.103,8	22	
Barbados	41,34	43,44	42,86	43,75	42,41	42,79	43,1	13	
Belarus	844,61	866,65	860,79	869,79	855,68	860,13	862,6	13	
Belgium	1.333,07	1.387,52	1.372,61	1.395,49	1.360,71	1.370,87	1.377,4	13	
Belize	8,97	7,52	7,94	7,29	8,21	7,99	7,8	17	
Benin	203,19	153,02	167,59	145,29	177,16	169,40	162,5	21	
Bermuda	5,67	5,82	5,78	5,84	5,75	5,78	5,8	13	
Bhutan	25,54	23,43	24,05	23,10	24,44	24,13	23,8	15	
Bolivia	379,08	346,64	356,21	341,58	362,16	357,42	352,8	15	
Bosnia and Herzegovina	344,97	357,23	353,90	359,01	351,18	353,52	355,0	13	
Botswana	109,36	105,92	106,98	105,37	107,54	107,11	106,6	14	
Brazil	7.786,04	7.267,75	7.421,57	7.186,34	7.514,98	7.441,18	7.366,4	15	
British Virgin Islands	2,05	2,06	2,06	2,06	2,06	2,06	2,1	13	
Brunei	84,46	89,65	88,20	90,42	87,11	88,03	88,7	13	
Bulgaria	575,87	587,66	584,60	589,31	581,74	584,27	585,5	13	
Burkina Faso	241,36	145,07	172,95	130,28	191,47	176,41	163,2	43	
Burundi	116,08	59,54	75,89	50,86	86,79	77,92	70,2	212	
Cambodia	287,58	217,83	238,09	207,08	251,40	240,62	231,0	21	
Cameroon	418,07	305,57	338,22	288,24	359,73	342,28	326,8	22	
Canada	7.178,17	7.615,33	7.493,59	7.680,28	7.401,45	7.479,08	7.533,9	13	
Cape Verde	17,48	15,87	16,35	15,62	16,64	16,40	16,2	15	
Cayman Islands	6,46	6,67	6,62	6,70	6,57	6,61	6,6	13	
Central African Republic	51,60	28,69	35,32	25,17	39,73	36,14	33,0	70	
Chad	163,08	85,12	107,67	73,14	122,70	110,47	99,8	147	
Chile	1.235,21	1.237,58	1.237,61	1.237,60	1.235,95	1.237,71	1.237,3	13	
China	143.968,96	148.757,85	147.462,29	149.451,68	146.389,52	147.312,99	147.874,9	13	
Colombia	1.526,85	1.373,09	1.418,27	1.349,15	1.446,74	1.423,97	1.402,2	15	
Comoros	10,73	6,76	7,91	6,14	8,67	8,05	7,5	35	
Congo	135,11	116,11	121,66	113,17	125,23	122,36	119,7	17	
Cook Islands	0,66	0,62	0,63	0,61	0,64	0,63	0,6	15	
Costa Rica	151,90	136,38	140,94	133,96	143,81	141,51	139,3	15	
Côte d'Ivoire	414,66	302,77	335,24	285,54	356,64	339,29	323,9	22	
Croatia	265,03	265,17	265,28	265,12	265,00	265,32	265,2	13	
Cuba	427,50	400,52	408,54	396,28	413,38	409,56	405,7	15	
Curaçao	98,41	106,44	104,18	107,64	102,52	103,91	104,9	12	
Cyprus	98,74	100,77	100,24	101,05	99,75	100,18	100,4	13	
Czechia	1.376,89	1.440,29	1.422,83	1.449,62	1.409,14	1.420,78	1.428,5	13	
Democratic Republic of the Congo	877,62	452,41	575,40	387,11	657,39	590,67	532,6	188	
Denmark	421,47	426,33	425,17	426,96	423,82	425,06	425,5	13	
Djibouti	21,73	18,04	19,12	17,47	19,81	19,25	18,7	17	
Dominica	2,18	1,96	2,03	1,93	2,07	2,03	2,0	15	
Dominican Republic	393,53	366,92	374,82	362,74	379,62	375,82	372,0	15	
Ecuador	681,63	642,67	654,29	636,53	661,22	655,78	650,1	14	
Egypt	3.873,94	3.642,95	3.711,75	3.606,57	3.752,98	3.720,54	3.687,0	15	
El Salvador	154,03	130,51	137,38	126,87	141,81	138,24	135,0	17	
Equatorial Guinea	51,01	47,77	48,73	47,26	49,32	48,86	48,4	15	
Eritrea	44,09	27,76	32,49	25,25	35,63	33,08	30,8	35	

sum emissions 2020 - 2100 - national budgets -	RM-1	RM-2	RM-3	RM-4	RM-5	RM-6	average	scope	
	const	exp	lin	quadr	rad	abs	budget	average	
in Mill. t							RM 2 - 6	budget	
Estonia	297,78	317,24	311,81	320,13	307,73	311,16	313,6	13	
Eswatini	25,51	21,15	22,42	20,48	23,24	22,58	22,0	17	
Ethiopia	1.288,36	753,39	908,23	671,19	1.011,20	927,47	854,3	49	
Falkland Islands	0,49	0,52	0,51	0,52	0,51	0,51	0,5	13	
Faroese	0,50	0,26	0,33	0,22	0,37	0,34	0,3	157	
Fiji	24,08	21,09	21,96	20,63	22,52	22,07	21,7	16	
Finland	611,08	634,63	628,21	638,07	623,02	627,46	630,3	13	
France and Monaco	4.315,74	4.330,12	4.328,49	4.331,15	4.321,50	4.328,62	4.328,0	13	
French Guiana	11,76	11,14	11,33	11,04	11,43	11,35	11,3	14	
French Polynesia	9,44	8,67	8,90	8,55	9,04	8,93	8,8	15	
Gabon	96,10	92,22	93,39	91,60	94,06	93,55	93,0	14	
Georgia	166,45	158,37	160,80	157,09	162,21	161,11	159,9	14	
Germany	9.136,70	9.484,14	9.389,39	9.534,83	9.312,83	9.378,36	9.419,9	13	
Ghana	531,46	402,86	440,21	383,04	464,75	444,87	427,1	21	
Gibraltar	8,11	8,66	8,51	8,74	8,39	8,49	8,6	13	
Greece	949,90	975,59	968,74	979,27	962,82	967,97	970,9	13	
Greenland	6,60	6,87	6,79	6,91	6,73	6,78	6,8	13	
Grenada	4,40	4,15	4,22	4,11	4,27	4,23	4,2	14	
Guadeloupe	30,97	31,46	31,34	31,53	31,21	31,33	31,4	13	
Guatemala	411,39	346,57	365,48	336,54	377,71	367,85	358,8	17	
Guinea	159,55	99,75	117,07	90,56	128,57	119,22	111,0	36	
Guinea-Bissau	23,89	14,88	17,49	13,50	19,22	17,82	16,6	37	
Guyana	30,00	28,18	28,72	27,89	29,05	28,79	28,5	15	
Haiti	151,76	100,04	115,03	92,08	124,96	116,89	109,8	30	
Honduras	215,01	177,88	188,70	172,14	195,72	190,05	184,9	18	
Hong Kong	586,77	597,01	594,40	598,42	591,84	594,13	595,2	13	
Hungary	704,97	712,91	711,03	713,93	708,80	710,85	711,5	13	
Iceland	51,06	53,74	53,00	54,14	52,43	52,91	53,2	13	
India	44.012,23	40.072,81	41.233,18	39.458,17	41.957,89	41.379,94	40.820,4	15	
Indonesia	9.164,70	8.425,34	8.643,65	8.309,74	8.778,78	8.671,32	8.565,8	15	
Iran	9.330,55	9.699,18	9.598,43	9.753,07	9.517,56	9.586,68	9.631,0	13	
Iraq	2.585,56	2.592,62	2.592,09	2.593,00	2.588,21	2.592,22	2.591,6	13	
Ireland	462,83	476,63	472,93	478,62	469,79	472,50	474,1	13	
Israel and Palestine, State of	900,31	903,85	903,36	904,15	901,79	903,36	903,3	13	
Italy, San Marino and the Holy See	4.481,28	4.537,45	4.523,88	4.544,83	4.508,58	4.522,54	4.527,5	13	
Jamaica	120,16	113,96	115,82	112,98	116,91	116,05	115,1	14	
Japan	14.782,38	15.392,61	15.225,45	15.481,99	15.092,21	15.205,90	15.279,6	13	
Jordan	394,83	372,05	378,84	368,45	382,89	379,71	376,4	14	
Kazakhstan	3.802,21	4.041,13	3.974,52	4.076,66	3.924,28	3.966,58	3.996,6	13	
Kenya	757,47	520,50	589,20	484,04	634,63	597,75	565,2	26	
Kiribati	1,52	0,98	1,13	0,89	1,24	1,15	1,1	33	
Kuwait	1.207,91	1.293,63	1.269,65	1.306,42	1.251,77	1.266,77	1.277,6	12	
Kyrgyzstan	180,81	159,95	166,07	156,72	169,95	166,84	163,9	16	
Laos	112,13	80,62	89,76	75,77	95,79	90,90	86,6	23	
Latvia	107,10	105,78	106,22	105,54	106,38	106,28	106,0	14	
Lebanon	358,67	351,48	353,76	350,29	354,81	354,07	352,9	14	
Lesotho	28,97	19,24	22,06	17,74	23,93	22,41	21,1	29	
Liberia	62,66	39,64	46,31	36,10	50,73	47,13	44,0	34	
Libya	727,46	754,38	747,05	758,30	741,09	746,19	749,4	13	
Lithuania	195,69	197,48	197,07	197,70	196,54	197,04	197,2	13	
Luxembourg	122,57	130,17	128,05	131,29	126,45	127,80	128,8	13	
Macao	21,34	19,55	20,08	19,28	20,41	20,15	19,9	15	
Madagascar	314,56	186,24	223,39	166,53	248,08	228,00	210,4	46	
Malawi	200,98	110,87	136,94	97,02	154,30	140,18	127,9	75	
Malaysia	3.319,14	3.435,98	3.404,25	3.452,96	3.378,27	3.400,58	3.414,4	13	
Maldives	15,40	13,71	14,21	13,45	14,52	14,27	14,0	16	
Mali	204,33	108,52	136,24	93,81	154,70	139,68	126,6	112	
Malta	21,53	20,93	21,11	20,83	21,21	21,14	21,0	14	
Martinique	31,91	32,64	32,45	32,74	32,27	32,43	32,5	13	
Mauritania	82,01	63,15	68,63	60,24	72,22	69,31	66,7	20	
Mauritius	63,70	62,12	62,62	61,86	62,86	62,68	62,4	14	

sum emissions 2020 - 2100 - national budgets -	RM-1	RM-2	RM-3	RM-4	RM-5	RM-6	average	scope	
	const	exp	lin	quadr	rad	abs	budget	average	
in Mill. t							RM 2 - 6	budget	
Mexico	6.892,34	6.778,48	6.815,29	6.759,20	6.830,78	6.820,36	6.800,8	14	
Moldova	140,32	129,58	132,76	127,90	134,71	133,16	131,6	15	
Mongolia	260,16	265,13	263,85	265,81	262,63	263,71	264,2	13	
Morocco	1.155,14	1.048,20	1.079,68	1.031,53	1.099,39	1.083,66	1.068,5	15	
Mozambique	411,50	272,25	312,60	250,84	339,33	317,62	298,5	29	
Myanmar/Burma	908,78	677,05	744,33	641,34	788,59	752,71	720,8	21	
Namibia	76,34	68,78	71,01	67,61	72,40	71,29	70,2	15	
Nepal	399,36	269,24	306,96	249,23	331,92	311,65	293,8	28	
Netherlands	1.972,61	2.053,05	2.031,03	2.064,83	2.013,44	2.028,46	2.038,2	13	
New Caledonia	88,67	95,12	93,31	96,08	91,97	93,10	93,9	12	
New Zealand	469,15	484,11	480,08	486,27	476,71	479,61	481,4	13	
Nicaragua	135,64	109,91	117,40	105,93	122,28	118,33	114,8	18	
Niger	253,57	141,00	173,57	123,70	195,26	177,62	162,2	70	
Nigeria	3.253,49	2.380,34	2.633,74	2.245,86	2.800,68	2.665,31	2.545,2	22	
North Korea	619,92	527,06	554,17	512,68	571,66	557,57	544,6	17	
North Macedonia	114,38	112,68	113,24	112,39	113,46	113,31	113,0	14	
Norway	643,36	670,75	663,23	674,76	657,27	662,35	665,7	13	
Oman	1.046,30	1.112,81	1.094,26	1.122,70	1.080,29	1.092,05	1.100,4	13	
Pakistan	4.406,62	3.547,85	3.797,79	3.415,27	3.960,80	3.829,01	3.710,1	18	
Palau	15,08	16,35	15,99	16,54	15,73	15,95	16,1	12	
Panama	178,47	170,03	172,56	168,69	174,03	172,89	171,6	14	
Papua New Guinea	130,92	91,78	103,13	85,75	110,63	104,54	99,2	25	
Paraguay	156,38	129,63	137,43	125,50	142,49	138,40	134,7	17	
Peru	968,62	867,73	897,36	852,03	916,07	901,09	886,9	16	
Philippines	2.784,47	2.409,08	2.518,83	2.350,89	2.589,26	2.532,61	2.480,1	16	
Poland	4.274,94	4.444,42	4.398,10	4.469,20	4.360,93	4.392,69	4.413,1	13	
Portugal	705,90	710,77	709,78	711,33	708,14	709,71	709,9	13	
Puerto Rico	65,76	54,68	57,91	52,97	60,01	58,32	56,8	17	
Qatar	1.220,09	1.314,93	1.288,32	1.329,11	1.268,66	1.285,12	1.297,2	12	
Réunion	43,56	42,36	42,73	42,16	42,92	42,78	42,6	14	
Romania	1.116,26	1.105,38	1.109,16	1.103,41	1.110,20	1.109,71	1.107,6	14	
Russia	21.713,47	22.845,44	22.532,03	23.012,77	22.290,41	22.494,92	22.635,1	13	
Rwanda	135,95	74,84	92,52	65,45	104,29	94,72	86,4	76	
Saint Helena, Ascension and Tristan da Cunha	0,27	0,26	0,26	0,25	0,26	0,26	0,3	14	
Saint Kitts and Nevis	3,32	3,31	3,32	3,31	3,32	3,32	3,3	13	
Saint Lucia	6,08	5,57	5,72	5,49	5,81	5,74	5,7	15	
Saint Pierre and Miquelon	0,98	1,03	1,02	1,04	1,01	1,02	1,0	13	
Saint Vincent and the Grenadines	3,19	2,84	2,94	2,78	3,00	2,95	2,9	16	
Samoa	3,48	2,65	2,89	2,52	3,05	2,92	2,8	21	
São Tomé and Príncipe	3,83	2,93	3,19	2,79	3,36	3,22	3,1	20	
Saudi Arabia	7.502,72	7.987,79	7.852,44	8.059,98	7.750,65	7.836,27	7.897,4	13	
Senegal	284,02	215,06	235,09	204,43	248,25	237,59	228,1	21	
Serbia and Montenegro	766,98	782,24	778,29	784,36	774,57	777,86	779,5	13	
Seychelles	12,43	12,99	12,84	13,08	12,72	12,82	12,9	13	
Sierra Leone	93,05	56,06	66,77	50,37	73,88	68,10	63,0	42	
Singapore	711,29	742,39	733,85	746,96	727,10	732,84	736,6	13	
Slovakia	499,18	512,95	509,28	514,93	506,11	508,86	510,4	13	
Slovenia	198,48	204,49	202,87	205,35	201,51	202,69	203,4	13	
Solomon Islands	8,08	4,92	5,83	4,43	6,44	5,95	5,5	40	
Somalia	161,46	86,28	108,03	74,73	122,52	110,73	100,5	104	
South Africa	5.980,03	6.184,74	6.129,26	6.214,45	6.083,57	6.122,85	6.147,0	13	
South Korea	8.641,87	9.132,16	8.995,97	9.204,84	8.892,06	8.979,78	9.041,0	13	
Spain and Andorra	3.680,23	3.743,48	3.727,41	3.752,16	3.711,51	3.725,70	3.732,1	13	
Sri Lanka	482,86	402,77	426,12	390,39	441,25	429,04	417,9	17	
Sudan and South Sudan	771,73	528,48	599,00	491,05	645,63	607,77	574,4	27	
Suriname	31,85	31,38	31,53	31,29	31,59	31,55	31,5	14	
Sweden	604,05	600,73	602,04	600,06	602,10	602,25	601,4	14	
Switzerland and Liechtenstein	548,54	548,35	548,73	548,18	548,23	548,82	548,5	13	
Syria	497,97	444,03	459,86	435,64	469,88	461,85	454,3	16	
Taiwan	3.540,09	3.724,69	3.673,58	3.751,98	3.634,18	3.667,53	3.690,4	13	
Tajikistan	160,19	120,53	132,05	114,42	139,62	133,48	128,0	21	

sum emissions 2020 - 2100 - national budgets -	RM-1 const	RM-2 exp	RM-3 lin	RM-4 quadr	RM-5 rad	RM-6 abs	average budget RM 2 - 6	scope average budget
in Mill. t								
Tanzania	722,22	450,41	529,13	408,63	581,38	538,91	501,7	36
Thailand	3.935,06	3.888,75	3.904,38	3.880,60	3.909,58	3.906,61	3.898,0	14
The Gambia	29,88	18,94	22,11	17,26	24,21	22,50	21,0	34
Timor-Leste	15,94	9,86	11,62	8,93	12,79	11,84	11,0	38
Togo	113,16	76,43	87,07	70,78	94,12	88,40	83,4	28
Tonga	2,45	2,07	2,18	2,01	2,25	2,19	2,1	17
Trinidad and Tobago	423,48	454,00	445,46	458,56	439,10	444,43	448,3	12
Tunisia	499,48	476,97	483,75	473,39	487,65	484,62	481,3	14
Turkey	5.696,41	5.730,44	5.723,96	5.734,11	5.711,79	5.723,58	5.724,8	13
Turkmenistan	1.043,22	1.103,81	1.086,96	1.112,80	1.074,15	1.084,96	1.092,5	13
Turks and Caicos Islands	2,33	2,32	2,32	2,31	2,32	2,32	2,3	14
Uganda	495,48	282,95	344,45	250,30	385,38	352,09	323,0	57
Ukraine	2.582,80	2.562,33	2.569,73	2.558,50	2.571,21	2.570,84	2.566,5	14
United Arab Emirates	2.565,15	2.742,32	2.692,78	2.768,74	2.655,78	2.686,85	2.709,3	13
United Kingdom	4.796,86	4.841,38	4.831,35	4.846,90	4.818,02	4.830,47	4.833,6	13
United States	64.020,53	67.946,23	66.852,74	68.529,59	66.025,78	66.722,40	67.215,3	13
Uruguay	114,46	104,75	107,62	103,24	109,40	107,98	106,6	15
Uzbekistan	1.484,19	1.427,59	1.444,76	1.418,53	1.454,34	1.446,99	1.438,4	14
Vanuatu	3,89	2,49	2,90	2,28	3,16	2,95	2,8	33
Venezuela	1.593,38	1.572,75	1.579,62	1.569,17	1.582,10	1.580,59	1.576,8	14
Vietnam	4.118,59	3.932,79	3.988,70	3.903,24	4.020,90	3.995,93	3.968,3	14
Western Sahara	9,00	6,43	7,17	6,03	7,66	7,27	6,9	24
Yemen	420,27	288,84	326,94	268,61	352,14	331,68	313,6	26
Zambia	234,46	151,86	175,79	139,16	191,65	178,77	167,4	32
Zimbabwe	295,40	237,09	254,06	228,09	265,13	256,18	248,1	19
EU28	43.618,46	44.614,53	44.353,02	44.755,15	44.116,61	44.323,98	44.432,7	13
EU27	38.804,88	39.754,90	39.503,86	39.889,78	39.281,09	39.475,75	39.581,1	13
sub sum 2020 - 2100	580.095	582.551	582.181	582.770	581.140	582.179	582.164	
EU27	-38.805	-39.755	-39.504	-39.890	-39.281	-39.476	-39.581	
EU28	-43.618	-44.615	-44.353	-44.755	-44.117	-44.324	-44.433	
sum	497.672	498.181	498.325	498.125	497.742	498.380	498.150	
base data: budget 2020 - 2100*	-498.000	-498.000	-498.000	-498.000	-498.000	-498.000	-498.000	
rounding differences	-328	181	325	125	-258	380	150	
difference in %	0,07%	-0,04%	-0,07%	-0,03%	0,05%	-0,08%	-0,03%	
scenario type	RM-1 const	RM-2 exp	RM-3 lin	RM-4 quadr	RM-5 rad	RM-6 abs	average RM 2 - 6	
implicit population weighting vs. emissions**	15,1%	7,4%	9,6%	6,3%	11,1%	9,9%	8,9%	
global (start) change rate 2020	-6,0%	-1,5%	-1,0%	-1,0%	-1,0%	-2,7%		
global change rate 2030 vs. 2010	-45%	-15%	-22%	-10%	-31%	-22%		
global overshoot in Gt	58	177	136	179	97	182		
base data: global CO2 budget 2018 - 2100 incl. AFOLU and int. shipping and aviation in Gt:							680	

* excl. AFOLU and int. shipping and aviation

** these figures are only current if their determination was updated before this document was created

national budgets 2020 - 2100 sorted by 'average budget'	RM-1	RM-2	RM-3	RM-4	RM-5	RM-6	average	scope	share in the
	const	exp	lin	quadr	rad	abs	budget RM 2 - 6	average budget	global budget
in Mill. t									
China	143.969	148.758	147.462	149.452	146.390	147.313	147.875	13	29,7%
United States	64.021	67.946	66.853	68.530	66.026	66.722	67.215	13	13,5%
EU28	43.618	44.615	44.353	44.755	44.117	44.324	44.433	13	8,9%
India	44.012	40.073	41.233	39.458	41.958	41.380	40.820	15	8,2%
EU27	38.805	39.755	39.504	39.890	39.281	39.476	39.581	13	7,9%
Russia	21.713	22.845	22.532	23.013	22.290	22.495	22.635	13	4,5%
Japan	14.782	15.393	15.225	15.482	15.092	15.206	15.280	13	3,1%
Iran	9.331	9.699	9.598	9.753	9.518	9.587	9.631	13	1,9%
Germany	9.137	9.484	9.389	9.535	9.313	9.378	9.420	13	1,9%
South Korea	8.642	9.132	8.996	9.205	8.892	8.980	9.041	13	1,8%
Indonesia	9.165	8.425	8.644	8.310	8.779	8.671	8.566	15	1,7%
Saudi Arabia	7.503	7.988	7.852	8.060	7.751	7.836	7.897	13	1,6%
Canada	7.178	7.615	7.494	7.680	7.401	7.479	7.534	13	1,5%
Brazil	7.786	7.268	7.422	7.186	7.515	7.441	7.366	15	1,5%
Mexico	6.892	6.778	6.815	6.759	6.831	6.820	6.801	14	1,4%
South Africa	5.980	6.185	6.129	6.214	6.084	6.123	6.147	13	1,2%
Turkey	5.696	5.730	5.724	5.734	5.712	5.724	5.725	13	1,1%
Australia	4.980	5.288	5.202	5.333	5.137	5.192	5.230	13	1,0%
United Kingdom	4.797	4.841	4.831	4.847	4.818	4.830	4.834	13	1,0%
Italy, San Marino and the Holy See	4.481	4.537	4.524	4.545	4.509	4.523	4.527	13	0,9%
Poland	4.275	4.444	4.398	4.469	4.361	4.393	4.413	13	0,9%

central premises	
global CO2 budget 2018 - 2100	680 Gt
emissions in 2018 and 2019, AFOLU and international shipping and aviation	-182 Gt
budget 2020 - 2100 to distribute in this tool	498 Gt
minimum annual global emissions	-4,35 Gt
convergence level	0,25 t / capita

global path properties	RM-1	RM-2	RM-3	RM-4	RM-5	RM-6
	const	exp	lin	quadr	rad	abs
implicit population weighting vs. emissions**	15%	7%	10%	6%	11%	10%
global (start) change rate 2020	-6,0%	-1,5%	-1,0%	-1,0%	-1,0%	-2,7%
global change rate 2030 vs. 2010	-45%	-15%	-22%	-10%	-31%	-22%
global overshoot in Gt	58	177	136	179	97	182

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the Regensburg Model means:
▶ monotonic national paths that are compatible with a given global budget
▶ converging emissions per capita
▶ implicit population weighting to emissions well below 50% depending on chosen global path (concrete values can be found above under properties)

[Download tool for the Regensburg Model: www.save-the-climate.info](http://www.save-the-climate.info)

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