

Extended Smooth Pathway Model (ESPM)

weighted distribution key: population and emissions in base year 2019

| in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 |
|------------------------|--------------------------|-----------------|-----------------------------|
| Afghanistan | 275,33 | 0,10% | 10,48 |
| Albania | 46,76 | 0,02% | 4,80 |
| Algeria | 1.320,70 | 0,47% | 165,33 |
| Angola | 357,37 | 0,13% | 30,05 |
| Anguilla | 0,26 | 0,00% | 0,03 |
| Antigua and Barbuda | 4,67 | 0,00% | 0,64 |
| Argentina | 1.577,11 | 0,57% | 210,16 |
| Armenia | 54,11 | 0,02% | 5,79 |
| Aruba | 6,94 | 0,00% | 0,99 |
| Australia | 2.795,01 | 1,00% | 415,31 |
| Austria | 512,19 | 0,18% | 71,44 |
| Azerbaijan | 282,13 | 0,10% | 34,70 |
| Bahamas | 22,00 | 0,01% | 3,08 |
| Bahrain | 227,61 | 0,08% | 34,23 |
| Bangladesh | 1.495,69 | 0,54% | 92,89 |
| Barbados | 23,20 | 0,01% | 3,32 |
| Belarus | 473,82 | 0,17% | 64,26 |
| Belgium | 747,98 | 0,27% | 105,75 |
| Belize | 5,02 | 0,00% | 0,45 |
| Benin | 113,60 | 0,04% | 7,54 |
| Bermuda | 3,18 | 0,00% | 0,44 |
| Bhutan | 14,31 | 0,01% | 1,55 |
| Bolivia | 212,37 | 0,08% | 22,81 |
| Bosnia and Herzegovina | 193,55 | 0,07% | 27,44 |
| Botswana | 61,31 | 0,02% | 7,43 |
| Brazil | 4.362,89 | 1,56% | 500,09 |

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| weighting population key in the weighted key | 15% |
| global CO2 budget 2018 - 2100 | 420 |
| to distribute from this budget here 2020 - 2100 in Gt* | 279 |

* without AFOLU and int. shipping and aviation

| sorted by 'budget' in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 | scope years |
|------------------------------------|--------------------------|-----------------|-----------------------------|----------------|
| China | 80.773 | 28,9% | 11.256 | 7,2 |
| United States | 35.931 | 12,9% | 5.275 | 6,8 |
| India | 24.655 | 8,8% | 2.622 | 9,4 |
| EU28 | 24.469 | 8,8% | 3.457 | 7,1 |
| EU27 | 21.769 | 7,8% | 3.085 | 7,1 |
| Russia | 12.185 | 4,4% | 1.748 | 7,0 |
| Japan | 8.294 | 3,0% | 1.199 | 6,9 |
| Iran | 5.235 | 1,9% | 728 | 7,2 |
| Indonesia | 5.135 | 1,8% | 558 | 9,2 |
| Germany | 5.126 | 1,8% | 753 | 6,8 |
| South Korea | 4.850 | 1,7% | 695 | 7,0 |
| Brazil | 4.363 | 1,6% | 500 | 8,7 |
| Saudi Arabia | 4.211 | 1,5% | 625 | 6,7 |
| Canada | 4.029 | 1,4% | 594 | 6,8 |
| Mexico | 3.865 | 1,4% | 496 | 7,8 |
| South Africa | 3.355 | 1,2% | 477 | 7,0 |
| Turkey | 3.195 | 1,1% | 417 | 7,7 |
| Australia | 2.795 | 1,0% | 415 | 6,7 |
| United Kingdom | 2.690 | 1,0% | 372 | 7,2 |
| Italy, San Marino and the Holy See | 2.514 | 0,9% | 345 | 7,3 |
| Pakistan | 2.465 | 0,9% | 196 | 12,6 |
| France and Monaco | 2.420 | 0,9% | 323 | 7,5 |
| Poland | 2.399 | 0,9% | 334 | 7,2 |
| Vietnam | 2.308 | 0,8% | 271 | 8,5 |
| Thailand | 2.207 | 0,8% | 281 | 7,9 |
| Egypt | 2.171 | 0,8% | 251 | 8,7 |

| in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 |
|----------------------------------|--------------------------|-----------------|-----------------------------|
| British Virgin Islands | 1,15 | 0,00% | 0,15 |
| Brunei | 47,40 | 0,02% | 6,93 |
| Bulgaria | 323,04 | 0,12% | 44,59 |
| Burkina Faso | 134,69 | 0,05% | 3,71 |
| Burundi | 64,70 | 0,02% | 0,32 |
| Cambodia | 160,79 | 0,06% | 10,85 |
| Cameroon | 233,68 | 0,08% | 14,48 |
| Canada | 4.028,64 | 1,44% | 594,20 |
| Cape Verde | 9,79 | 0,00% | 1,04 |
| Cayman Islands | 3,63 | 0,00% | 0,51 |
| Central African Republic | 28,78 | 0,01% | 0,47 |
| Chad | 90,91 | 0,03% | 0,70 |
| Chile | 692,73 | 0,25% | 91,14 |
| China | 80.772,71 | 28,94% | 11.255,88 |
| Colombia | 855,20 | 0,31% | 90,05 |
| Comoros | 5,99 | 0,00% | 0,21 |
| Congo | 75,64 | 0,03% | 7,06 |
| Cook Islands | 0,37 | 0,00% | 0,04 |
| Costa Rica | 85,08 | 0,03% | 8,82 |
| Côte d'Ivoire | 231,77 | 0,08% | 14,02 |
| Croatia | 148,63 | 0,05% | 19,44 |
| Cuba | 239,56 | 0,09% | 27,55 |
| Curaçao | 55,24 | 0,02% | 8,43 |
| Cyprus | 55,39 | 0,02% | 7,46 |
| Czechia | 772,62 | 0,28% | 110,94 |
| Democratic Republic of the Congo | 489,22 | 0,18% | 2,89 |
| Denmark | 236,40 | 0,08% | 33,13 |
| Djibouti | 12,16 | 0,00% | 1,05 |
| Dominica | 1,22 | 0,00% | 0,13 |
| Dominican Republic | 220,51 | 0,08% | 25,18 |

| sorted by 'budget' in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 | scope years |
|----------------------------------|--------------------------|-----------------|-----------------------------|----------------|
| Kazakhstan | 2.134 | 0,8% | 309 | 6,9 |
| Spain and Andorra | 2.064 | 0,7% | 276 | 7,5 |
| Taiwan | 1.987 | 0,7% | 285 | 7,0 |
| Malaysia | 1.862 | 0,7% | 258 | 7,2 |
| Nigeria | 1.819 | 0,7% | 111 | 16,4 |
| Argentina | 1.577 | 0,6% | 210 | 7,5 |
| Philippines | 1.559 | 0,6% | 148 | 10,5 |
| Bangladesh | 1.496 | 0,5% | 93 | 16,1 |
| Iraq | 1.450 | 0,5% | 188 | 7,7 |
| Ukraine | 1.448 | 0,5% | 197 | 7,4 |
| United Arab Emirates | 1.440 | 0,5% | 214 | 6,7 |
| Algeria | 1.321 | 0,5% | 165 | 8,0 |
| Netherlands | 1.107 | 0,4% | 162 | 6,8 |
| Venezuela | 893 | 0,3% | 120 | 7,4 |
| Colombia | 855 | 0,3% | 90 | 9,5 |
| Uzbekistan | 832 | 0,3% | 102 | 8,2 |
| Czechia | 773 | 0,3% | 111 | 7,0 |
| Belgium | 748 | 0,3% | 106 | 7,1 |
| Ethiopia | 719 | 0,3% | 17 | 42,8 |
| Chile | 693 | 0,2% | 91 | 7,6 |
| Qatar | 685 | 0,2% | 103 | 6,7 |
| Kuwait | 678 | 0,2% | 100 | 6,8 |
| Morocco | 647 | 0,2% | 68 | 9,5 |
| Romania | 626 | 0,2% | 80 | 7,8 |
| Oman | 587 | 0,2% | 85 | 6,9 |
| Turkmenistan | 585 | 0,2% | 84 | 7,0 |
| Peru | 543 | 0,2% | 57 | 9,5 |
| Greece | 533 | 0,2% | 72 | 7,4 |
| Austria | 512 | 0,2% | 71 | 7,2 |
| Myanmar/Burma | 508 | 0,2% | 33 | 15,6 |

| in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 |
|-------------------|--------------------------|-----------------|-----------------------------|
| Ecuador | 381,99 | 0,14% | 44,39 |
| Egypt | 2.170,94 | 0,78% | 250,66 |
| El Salvador | 86,22 | 0,03% | 7,90 |
| Equatorial Guinea | 28,59 | 0,01% | 3,31 |
| Eritrea | 24,61 | 0,01% | 0,86 |
| Estonia | 167,14 | 0,06% | 24,33 |
| Eswatini | 14,27 | 0,01% | 1,23 |
| Ethiopia | 718,80 | 0,26% | 16,80 |
| Falkland Islands | 0,28 | 0,00% | 0,04 |
| Faroese | 0,28 | 0,00% | 0,00 |
| Fiji | 13,48 | 0,00% | 1,32 |
| Finland | 342,87 | 0,12% | 48,80 |
| France and Monaco | 2.420,42 | 0,87% | 323,28 |
| French Guiana | 6,59 | 0,00% | 0,77 |
| French Polynesia | 5,29 | 0,00% | 0,57 |
| Gabon | 53,87 | 0,02% | 6,59 |
| Georgia | 93,29 | 0,03% | 10,89 |
| Germany | 5.126,38 | 1,84% | 752,65 |
| Ghana | 297,15 | 0,11% | 20,09 |
| Gibraltar | 4,55 | 0,00% | 0,68 |
| Greece | 532,89 | 0,19% | 72,40 |
| Greenland | 3,70 | 0,00% | 0,53 |
| Grenada | 2,46 | 0,00% | 0,29 |
| Guadeloupe | 17,37 | 0,01% | 2,35 |
| Guatemala | 230,26 | 0,08% | 20,51 |
| Guinea | 89,06 | 0,03% | 3,00 |
| Guinea-Bissau | 13,33 | 0,00% | 0,44 |
| Guyana | 16,81 | 0,01% | 1,92 |
| Haiti | 84,75 | 0,03% | 3,65 |
| Honduras | 120,32 | 0,04% | 10,35 |

| sorted by 'budget' in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 | scope years |
|----------------------------------|--------------------------|-----------------|-----------------------------|----------------|
| Israel and Palestine, State of | 505 | 0,2% | 67 | 7,5 |
| Democratic Republic of the Congo | 489 | 0,2% | 3 | 169,0 |
| Belarus | 474 | 0,2% | 64 | 7,4 |
| Sudan and South Sudan | 431 | 0,2% | 21 | 20,4 |
| Serbia and Montenegro | 430 | 0,2% | 59 | 7,3 |
| Kenya | 423 | 0,2% | 21 | 20,2 |
| Libya | 408 | 0,1% | 56 | 7,2 |
| Tanzania | 403 | 0,1% | 13 | 30,0 |
| Singapore | 399 | 0,1% | 56 | 7,1 |
| Portugal | 396 | 0,1% | 53 | 7,5 |
| Hungary | 395 | 0,1% | 52 | 7,6 |
| Ecuador | 382 | 0,1% | 44 | 8,6 |
| Norway | 361 | 0,1% | 50 | 7,2 |
| Angola | 357 | 0,1% | 30 | 11,9 |
| North Korea | 347 | 0,1% | 32 | 11,0 |
| Finland | 343 | 0,1% | 49 | 7,0 |
| Sweden | 339 | 0,1% | 45 | 7,6 |
| Hong Kong | 329 | 0,1% | 45 | 7,3 |
| Bulgaria | 323 | 0,1% | 45 | 7,2 |
| Switzerland and Liechtenstein | 308 | 0,1% | 41 | 7,5 |
| Ghana | 297 | 0,1% | 20 | 14,8 |
| Azerbaijan | 282 | 0,1% | 35 | 8,1 |
| Slovakia | 280 | 0,1% | 38 | 7,4 |
| Tunisia | 280 | 0,1% | 33 | 8,5 |
| Syria | 279 | 0,1% | 29 | 9,6 |
| Uganda | 276 | 0,1% | 5 | 50,3 |
| Afghanistan | 275 | 0,1% | 10 | 26,3 |
| Sri Lanka | 270 | 0,1% | 24 | 11,4 |
| New Zealand | 263 | 0,1% | 36 | 7,2 |
| Ireland | 260 | 0,1% | 37 | 7,0 |

| in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 |
|------------------------------------|--------------------------|-----------------|-----------------------------|
| Hong Kong | 329,14 | 0,12% | 45,31 |
| Hungary | 395,41 | 0,14% | 52,14 |
| Iceland | 28,65 | 0,01% | 4,09 |
| India | 24.655,12 | 8,83% | 2.621,92 |
| Indonesia | 5.134,52 | 1,84% | 557,53 |
| Iran | 5.235,24 | 1,88% | 727,81 |
| Iraq | 1.450,06 | 0,52% | 188,10 |
| Ireland | 259,65 | 0,09% | 37,21 |
| Israel and Palestine, State of | 504,93 | 0,18% | 67,06 |
| Italy, San Marino and the Holy See | 2.513,54 | 0,90% | 344,81 |
| Jamaica | 67,34 | 0,02% | 7,95 |
| Japan | 8.294,37 | 2,97% | 1.198,55 |
| Jordan | 221,27 | 0,08% | 26,04 |
| Kazakhstan | 2.133,98 | 0,76% | 309,25 |
| Kenya | 423,15 | 0,15% | 20,96 |
| Kiribati | 0,85 | 0,00% | 0,03 |
| Kuwait | 678,01 | 0,24% | 100,34 |
| Kyrgyzstan | 101,26 | 0,04% | 10,13 |
| Laos | 62,67 | 0,02% | 3,61 |
| Latvia | 60,06 | 0,02% | 7,82 |
| Lebanon | 201,10 | 0,07% | 25,59 |
| Lesotho | 16,18 | 0,01% | 0,72 |
| Liberia | 34,98 | 0,01% | 1,24 |
| Libya | 408,15 | 0,15% | 56,48 |
| Lithuania | 109,76 | 0,04% | 14,42 |
| Luxembourg | 68,79 | 0,02% | 9,95 |
| Macao | 11,95 | 0,00% | 1,29 |
| Madagascar | 175,51 | 0,06% | 4,43 |
| Malawi | 112,09 | 0,04% | 1,67 |
| Malaysia | 1.862,22 | 0,67% | 257,84 |

| sorted by 'budget' in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 | scope years |
|----------------------------------|--------------------------|-----------------|-----------------------------|----------------|
| Cuba | 240 | 0,1% | 28 | 8,7 |
| Trinidad and Tobago | 238 | 0,1% | 36 | 6,6 |
| Denmark | 236 | 0,1% | 33 | 7,1 |
| Yemen | 235 | 0,1% | 12 | 20,0 |
| Cameroon | 234 | 0,1% | 14 | 16,1 |
| Côte d'Ivoire | 232 | 0,1% | 14 | 16,5 |
| Guatemala | 230 | 0,1% | 21 | 11,2 |
| Mozambique | 230 | 0,1% | 10 | 23,3 |
| Bahrain | 228 | 0,1% | 34 | 6,6 |
| Nepal | 223 | 0,1% | 10 | 21,6 |
| Jordan | 221 | 0,1% | 26 | 8,5 |
| Dominican Republic | 221 | 0,1% | 25 | 8,8 |
| Bolivia | 212 | 0,1% | 23 | 9,3 |
| Lebanon | 201 | 0,1% | 26 | 7,9 |
| Bosnia and Herzegovina | 194 | 0,1% | 27 | 7,1 |
| Madagascar | 176 | 0,1% | 4 | 39,6 |
| Estonia | 167 | 0,1% | 24 | 6,9 |
| Zimbabwe | 165 | 0,1% | 13 | 12,7 |
| Cambodia | 161 | 0,1% | 11 | 14,8 |
| Senegal | 159 | 0,1% | 11 | 14,8 |
| Croatia | 149 | 0,1% | 19 | 7,6 |
| Mongolia | 146 | 0,1% | 20 | 7,5 |
| Niger | 141 | 0,1% | 2 | 62,4 |
| Burkina Faso | 135 | 0,0% | 4 | 36,3 |
| Zambia | 131 | 0,0% | 5 | 25,3 |
| Honduras | 120 | 0,0% | 10 | 11,6 |
| Mali | 114 | 0,0% | 1 | 103,7 |
| Benin | 114 | 0,0% | 8 | 15,1 |
| Malawi | 112 | 0,0% | 2 | 67,1 |
| Slovenia | 111 | 0,0% | 16 | 7,2 |

| in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 |
|------------------|--------------------------|-----------------|-----------------------------|
| Maldives | 8,62 | 0,00% | 0,87 |
| Mali | 113,92 | 0,04% | 1,10 |
| Malta | 12,07 | 0,00% | 1,51 |
| Martinique | 17,90 | 0,01% | 2,46 |
| Mauritania | 45,86 | 0,02% | 3,24 |
| Mauritius | 35,71 | 0,01% | 4,38 |
| Mexico | 3.864,51 | 1,38% | 495,78 |
| Moldova | 78,62 | 0,03% | 8,62 |
| Mongolia | 145,94 | 0,05% | 19,53 |
| Morocco | 647,07 | 0,23% | 68,31 |
| Mozambique | 229,80 | 0,08% | 9,88 |
| Myanmar/Burma | 508,04 | 0,18% | 32,65 |
| Namibia | 42,76 | 0,02% | 4,51 |
| Nepal | 223,06 | 0,08% | 10,31 |
| Netherlands | 1.106,82 | 0,40% | 162,29 |
| New Caledonia | 49,77 | 0,02% | 7,34 |
| New Zealand | 263,21 | 0,09% | 36,41 |
| Nicaragua | 75,89 | 0,03% | 6,25 |
| Niger | 141,42 | 0,05% | 2,27 |
| Nigeria | 1.818,51 | 0,65% | 110,69 |
| North Korea | 347,01 | 0,12% | 31,59 |
| North Macedonia | 64,13 | 0,02% | 8,07 |
| Norway | 360,99 | 0,13% | 50,47 |
| Oman | 587,24 | 0,21% | 85,21 |
| Pakistan | 2.465,30 | 0,88% | 196,18 |
| Palau | 8,47 | 0,00% | 1,27 |
| Panama | 100,03 | 0,04% | 11,75 |
| Papua New Guinea | 73,15 | 0,03% | 3,92 |
| Paraguay | 87,51 | 0,03% | 7,53 |
| Peru | 542,51 | 0,19% | 57,38 |

| sorted by 'budget' in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 | scope years |
|----------------------------------|--------------------------|-----------------|-----------------------------|----------------|
| Lithuania | 110 | 0,0% | 14 | 7,6 |
| Kyrgyzstan | 101 | 0,0% | 10 | 10,0 |
| Panama | 100 | 0,0% | 12 | 8,5 |
| Georgia | 93 | 0,0% | 11 | 8,6 |
| Chad | 91 | 0,0% | 1 | 130,4 |
| Somalia | 90 | 0,0% | 1 | 95,4 |
| Tajikistan | 90 | 0,0% | 6 | 15,1 |
| Guinea | 89 | 0,0% | 3 | 29,7 |
| Paraguay | 88 | 0,0% | 8 | 11,6 |
| El Salvador | 86 | 0,0% | 8 | 10,9 |
| Costa Rica | 85 | 0,0% | 9 | 9,6 |
| Haiti | 85 | 0,0% | 4 | 23,2 |
| Moldova | 79 | 0,0% | 9 | 9,1 |
| Nicaragua | 76 | 0,0% | 6 | 12,1 |
| Rwanda | 76 | 0,0% | 1 | 67,8 |
| Congo | 76 | 0,0% | 7 | 10,7 |
| Papua New Guinea | 73 | 0,0% | 4 | 18,7 |
| Luxembourg | 69 | 0,0% | 10 | 6,9 |
| Jamaica | 67 | 0,0% | 8 | 8,5 |
| Burundi | 65 | 0,0% | 0 | 200,7 |
| North Macedonia | 64 | 0,0% | 8 | 7,9 |
| Uruguay | 64 | 0,0% | 7 | 9,2 |
| Togo | 63 | 0,0% | 3 | 21,5 |
| Laos | 63 | 0,0% | 4 | 17,3 |
| Botswana | 61 | 0,0% | 7 | 8,2 |
| Latvia | 60 | 0,0% | 8 | 7,7 |
| Cyprus | 55 | 0,0% | 7 | 7,4 |
| Curaçao | 55 | 0,0% | 8 | 6,6 |
| Armenia | 54 | 0,0% | 6 | 9,3 |
| Gabon | 54 | 0,0% | 7 | 8,2 |

| in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 |
|--|--------------------------|-----------------|-----------------------------|
| Philippines | 1.558,95 | 0,56% | 147,86 |
| Poland | 2.398,61 | 0,86% | 333,86 |
| Portugal | 395,91 | 0,14% | 52,61 |
| Puerto Rico | 36,80 | 0,01% | 3,18 |
| Qatar | 684,90 | 0,25% | 102,91 |
| Réunion | 24,42 | 0,01% | 2,98 |
| Romania | 625,94 | 0,22% | 80,17 |
| Russia | 12.185,03 | 4,37% | 1.748,35 |
| Rwanda | 75,82 | 0,03% | 1,12 |
| Saint Helena, Ascension and Tristan da Cunha | 0,15 | 0,00% | 0,02 |
| Saint Kitts and Nevis | 1,86 | 0,00% | 0,24 |
| Saint Lucia | 3,40 | 0,00% | 0,37 |
| Saint Pierre and Miquelon | 0,55 | 0,00% | 0,08 |
| Saint Vincent and the Grenadines | 1,79 | 0,00% | 0,18 |
| Samoa | 1,95 | 0,00% | 0,13 |
| São Tomé and Príncipe | 2,14 | 0,00% | 0,15 |
| Saudi Arabia | 4.210,98 | 1,51% | 624,99 |
| Senegal | 158,80 | 0,06% | 10,70 |
| Serbia and Montenegro | 430,24 | 0,15% | 58,97 |
| Seychelles | 6,97 | 0,00% | 0,98 |
| Sierra Leone | 51,93 | 0,02% | 1,45 |
| Singapore | 399,11 | 0,14% | 55,91 |
| Slovakia | 280,04 | 0,10% | 38,09 |
| Slovenia | 111,35 | 0,04% | 15,55 |
| Solomon Islands | 4,51 | 0,00% | 0,13 |
| Somalia | 90,02 | 0,03% | 0,94 |
| South Africa | 3.355,09 | 1,20% | 477,25 |
| South Korea | 4.849,87 | 1,74% | 695,36 |
| Spain and Andorra | 2.064,35 | 0,74% | 276,05 |
| Sri Lanka | 270,23 | 0,10% | 23,81 |
| Sudan and South Sudan | 431,10 | 0,15% | 21,09 |

| sorted by 'budget' in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 | scope years |
|----------------------------------|--------------------------|-----------------|-----------------------------|----------------|
| Sierra Leone | 52 | 0,0% | 1 | 35,9 |
| New Caledonia | 50 | 0,0% | 7 | 6,8 |
| Brunei | 47 | 0,0% | 7 | 6,8 |
| Albania | 47 | 0,0% | 5 | 9,7 |
| Mauritania | 46 | 0,0% | 3 | 14,2 |
| Namibia | 43 | 0,0% | 5 | 9,5 |
| Puerto Rico | 37 | 0,0% | 3 | 11,6 |
| Mauritius | 36 | 0,0% | 4 | 8,1 |
| Liberia | 35 | 0,0% | 1 | 28,1 |
| Central African Republic | 29 | 0,0% | 0 | 61,6 |
| Iceland | 29 | 0,0% | 4 | 7,0 |
| Equatorial Guinea | 29 | 0,0% | 3 | 8,6 |
| Eritrea | 25 | 0,0% | 1 | 28,7 |
| Réunion | 24 | 0,0% | 3 | 8,2 |
| Barbados | 23 | 0,0% | 3 | 7,0 |
| Bahamas | 22 | 0,0% | 3 | 7,1 |
| Martinique | 18 | 0,0% | 2 | 7,3 |
| Suriname | 18 | 0,0% | 2 | 7,9 |
| Guadeloupe | 17 | 0,0% | 2 | 7,4 |
| Guyana | 17 | 0,0% | 2 | 8,8 |
| The Gambia | 17 | 0,0% | 1 | 27,8 |
| Lesotho | 16 | 0,0% | 1 | 22,5 |
| Bhutan | 14 | 0,0% | 2 | 9,3 |
| Eswatini | 14 | 0,0% | 1 | 11,6 |
| Fiji | 13 | 0,0% | 1 | 10,2 |
| Guinea-Bissau | 13 | 0,0% | 0 | 30,2 |
| Djibouti | 12 | 0,0% | 1 | 11,6 |
| Malta | 12 | 0,0% | 2 | 8,0 |
| Macao | 12 | 0,0% | 1 | 9,3 |
| Cape Verde | 10 | 0,0% | 1 | 9,5 |
| Timor-Leste | 9 | 0,0% | 0 | 30,8 |

| in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 |
|-------------------------------|--------------------------|-----------------|-----------------------------|
| Suriname | 17,86 | 0,01% | 2,25 |
| Sweden | 338,73 | 0,12% | 44,60 |
| Switzerland and Liechtenstein | 307,63 | 0,11% | 40,94 |
| Syria | 278,89 | 0,10% | 28,94 |
| Taiwan | 1.986,60 | 0,71% | 284,55 |
| Tajikistan | 89,56 | 0,03% | 5,93 |
| Tanzania | 403,14 | 0,14% | 13,43 |
| Thailand | 2.206,50 | 0,79% | 281,04 |
| The Gambia | 16,68 | 0,01% | 0,60 |
| Timor-Leste | 8,90 | 0,00% | 0,29 |
| Togo | 63,20 | 0,02% | 2,94 |
| Tonga | 1,37 | 0,00% | 0,12 |
| Trinidad and Tobago | 237,71 | 0,09% | 35,95 |
| Tunisia | 279,96 | 0,10% | 32,93 |
| Turkey | 3.194,84 | 1,14% | 417,05 |
| Turkmenistan | 585,47 | 0,21% | 84,14 |
| Turks and Caicos Islands | 1,30 | 0,00% | 0,17 |
| Uganda | 276,39 | 0,10% | 5,49 |
| Ukraine | 1.448,32 | 0,52% | 196,84 |
| United Arab Emirates | 1.439,80 | 0,52% | 214,11 |
| United Kingdom | 2.690,44 | 0,96% | 371,97 |
| United States | 35.930,74 | 12,87% | 5.275,48 |
| Uruguay | 64,12 | 0,02% | 6,93 |
| Uzbekistan | 831,95 | 0,30% | 101,90 |
| Vanuatu | 2,17 | 0,00% | 0,08 |

| sorted by 'budget' in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 | scope years |
|----------------------------------|--------------------------|-----------------|-----------------------------|----------------|
| Maldives | 9 | 0,0% | 1 | 9,9 |
| Palau | 8 | 0,0% | 1 | 6,7 |
| Seychelles | 7 | 0,0% | 1 | 7,1 |
| Aruba | 7 | 0,0% | 1 | 7,0 |
| French Guiana | 7 | 0,0% | 1 | 8,6 |
| Comoros | 6 | 0,0% | 0 | 28,7 |
| French Polynesia | 5 | 0,0% | 1 | 9,2 |
| Western Sahara | 5 | 0,0% | 0 | 17,7 |
| Belize | 5 | 0,0% | 0 | 11,1 |
| Antigua and Barbuda | 5 | 0,0% | 1 | 7,3 |
| Gibraltar | 5 | 0,0% | 1 | 6,7 |
| Solomon Islands | 5 | 0,0% | 0 | 33,9 |
| Greenland | 4 | 0,0% | 1 | 7,0 |
| Cayman Islands | 4 | 0,0% | 1 | 7,1 |
| Saint Lucia | 3 | 0,0% | 0 | 9,1 |
| Bermuda | 3 | 0,0% | 0 | 7,2 |
| Grenada | 2 | 0,0% | 0 | 8,6 |
| Vanuatu | 2 | 0,0% | 0 | 26,3 |
| São Tomé and Príncipe | 2 | 0,0% | 0 | 14,2 |
| Samoa | 2 | 0,0% | 0 | 14,6 |
| Saint Kitts and Nevis | 2 | 0,0% | 0 | 7,6 |
| Saint Vincent and the Grenadines | 2 | 0,0% | 0 | 9,7 |
| Tonga | 1 | 0,0% | 0 | 11,2 |
| Turks and Caicos Islands | 1 | 0,0% | 0 | 7,7 |
| Dominica | 1 | 0,0% | 0 | 9,5 |

| in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 |
|-------------------------------|--------------------------|-----------------|-----------------------------|
| Venezuela | 893,44 | 0,32% | 120,21 |
| Vietnam | 2.308,46 | 0,83% | 271,47 |
| Western Sahara | 5,03 | 0,00% | 0,28 |
| Yemen | 234,78 | 0,08% | 11,77 |
| Zambia | 130,91 | 0,05% | 5,17 |
| Zimbabwe | 165,26 | 0,06% | 13,04 |
| EU28 | 24.468,64 | 8,77% | 3.457,28 |
| EU27 | 21.768,82 | 7,80% | 3.085,32 |
| sub sum | 325.341,00 | | 43.167,72 |
| EU28 + EU27 | -46.237,46 | | -6.542,60 |
| sum | 279.103,54 | | 36.625,12 |
| base data* | 279.110,26 | | |
| diff.: countries without data | 6,72 | | |

*global CO2 budget 2020 - 2100 excl.: AFOLU and int. shipping and aviation

| sorted by 'budget' in Mill. t | budget 2020 - 2100 | weighted key | actual emissions 2018 | scope years |
|---------------------------------------|--------------------------|-----------------|-----------------------------|----------------|
| British Virgin Islands | 1 | 0,0% | 0 | 7,5 |
| Kiribati | 1 | 0,0% | 0 | 26,4 |
| Saint Pierre and Miquelon | 1 | 0,0% | 0 | 6,9 |
| Cook Islands | 0 | 0,0% | 0 | 8,8 |
| Falkland Islands | 0 | 0,0% | 0 | 7,0 |
| Faroes | 0 | 0,0% | 0 | 143,8 |
| Anguilla | 0 | 0,0% | 0 | 9,3 |
| Saint Helena, Ascension and Tristan d | 0 | 0,0% | 0 | 8,4 |

Reference values for the largest emitters

| scenario type: | RM-5 rad | | weighting population: | | 15% | global budget in Gt: | | 420 | based on 2019 | |
|-----------------|-----------------|-------------|-----------------------|-------------|--|----------------------------|--------------------------------------|---------------------------|-----------------------------|--|
| target year: | 2030 | | 2050 | | projection emissions 2019 in Mill. t | per capita 2019 in t | minimum emissions: | | -12% | Determination of the free parameter successful? |
| reference year: | 1990 | 2010 | 1990 | 2010 | | | share in global emissions 2019 | accu- mulated share | reduction rate used 2020 | |
| China | 122% | -42% | -87% | -97% | 11.403 | 8,0 | 31% | 31% | -1,8% | yes |
| United States | -51% | -55% | -98% | -98% | 5.334 | 16,2 | 14% | 45% | -1,4% | yes |
| EU28 | -63% | -59% | -98% | -98% | 3.388 | 6,6 | 9% | 54% | -1,5% | yes |
| India | 134% | -20% | -78% | -93% | 2.693 | 2,0 | 7% | 62% | -1,6% | yes |
| Russia | -66% | -52% | -98% | -97% | 1.780 | 12,2 | 5% | 66% | -2,2% | yes |
| Japan | -53% | -54% | -97% | -97% | 1.188 | 9,4 | 3% | 70% | -1,8% | yes |

Here the start change rate for 2020 is 50% of the change rate for 2020 in scenario RM-6 abs.
 If you use the Excel tool, you can set start change rates yourself for 2020 and use six scenario types.