more different framework data and corresponding results at: http://results-espm.save-the-climate.info

framework data (input values here: yellow fields)			
		Gt	
global CO2 budget 2018 - 2100		**680**	global budget
net positive LUC emissions (**npLUC**; land-use change) from 2018 on	**13%**	-88	
international shipping and aviation (ISA) emissions from 2018 on	3%	-20	
(projected) global CO2 emissions 2018 - 2019		-74	
global CO2 budget 2020 - 2100 to distribute here		498	
weighting population key in the weighted key	**50%**		national budget
scenario type used for the reference values	**RM-5.rad**		reference values
minimum annual **emissions** as a percentage of the country's current emissions	**-6%**		

global budget to distribute here:

npLUC and ISA emissions are subtracted from the global budget because no reliable data are available at the country level. The emissions for countries used and the country budgets determined here also do not include LUC and ISA emissions.

reference values for the countries with the highest emissions					projection emissions 2019 in Gt	per capita 2019 in t	share in global emissions 2019	accu-mulated share	temporary overshoot in Gt	reduction rate used 2020
target year:	2030		2050							
reference year:	1990	2010	1990	2010						
China	146%	-35%	-73%	-76%	11.4	8	31%	31%	23	-2.2%
United States	-52%	-56%	-97%	-87%	5.3	16	14%	45%	13	-2.0%
EU27	-57%	-52%	-95%	-81%	3.0	7	8%	53%	6	-1.7%
India	238%	15%	28%	-26%	2.7	2	7%	61%	0	-1.0%
Russia	-64%	-49%	-97%	-84%	1.8	12	5%	65%	4	-1.9%
Japan	-48%	-50%	-95%	-83%	1.2	9	3%	69%	3	-1.8%

largest national budgets 2020 - 2100	national budget	weighted key	actual emissions 2018	scope years
	Gt		Gt	
China	122.8	24.7%	11.3	10.9
India	62.2	12.5%	2.6	23.7
United States	46.4	9.3%	5.3	8.8
EU28	39.3	7.9%	3.5	11.4
EU27	34.6	7.0%	3.1	11.2
Russia	16.7	3.3%	1.7	9.5
Indonesia	12.6	2.5%	0.6	22.6
Japan	12.1	2.4%	1.2	10.1
Brazil	10.2	2.0%	0.5	20.4
Pakistan	8.3	1.7%	0.2	42.5
Iran	7.7	1.5%	0.7	10.6
Germany	7.5	1.5%	0.8	10.0
Mexico	7.4	1.5%	0.5	15.0
Nigeria	7.2	1.5%	0.1	65.5
South Korea	6.5	1.3%	0.7	9.3
Bangladesh	5.9	1.2%	0.1	63.5
Turkey	5.6	1.1%	0.4	13.4
Saudi Arabia	5.3	1.1%	0.6	8.5
Canada	5.2	1.0%	0.6	8.8
South Africa	5.1	1.0%	0.5	10.6
Vietnam	5.0	1.0%	0.3	18.4
Egypt	4.9	1.0%	0.3	19.7
United Kingdom	4.6	0.9%	0.4	12.4
Philippines	4.5	0.9%	0.1	30.5
France and Monaco	4.3	0.9%	0.3	13.2
Italy, San Marino and the Holy See	4.2	0.9%	0.3	12.3
sum without EU	382		30	
sum across all countries	498		37	13.6
coverage rate	77%		82%	

Basic idea behind the ESPM

The ESPM consists of two steps:

(1) **National budgets**: A predefined global CO2 budget is distributed to countries. The ESPM tool offers the use of a **weighted distribution key** that includes the **'population'** and the **'emissions'** in a base year (here: 2019).

(2) **National paths**: The ESPM tool offers the scenario types **RM 1 - 6** to derive plausible national paths that adhere to a national budget.

The **weighting of the population distribution key** is therefore an important parameter when determining national budgets.

In addition to the budget, an important parameter for determining the national paths is the potential for **net negative emissions** that is assumed. This is given here by the minimum value of annual emissions up to 2100 as a percentage of the country's current emissions. A negative percentage stands for net negative emissions. 0% stands for net zero emissions (emission neutrality). If net negative emissions are taken into account, the budget is temporarily exceeded (overshoot). Please note: The potential of negative emissions is controversial. In addition, a resulting **overshoot** can be problematic with regard to the **tipping points** in the climate system.

Basic idea behind the RM Scenario Types 1 - 6

With the help of the RM Scenario Types, emission paths can be determined that meet a given budget. The scenario types differ in the **assumption** about the **property** of the **annual reductions**. This approach is particularly useful when it comes to making **political decisions** about emission **paths**.

The scenario type **RM-5-rad** used here to calculate the paths and thus also the reference values shows a convex course of the annual reduction rates.