Short Description of the Regensburg Model Scenario Types RM 1 – 6

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The RM Scenario Types are used to derive plausible emission paths that meet a certain budget.

The emission paths are essentially determined indirectly by an assumption about the property of the annual emission changes. This is the innovative core of the RM Scenario Types.

The scenario types RM 1 - 5 represent monotonous pathways for annual reduction rates. RM-6 assumes a constant annual reduction amount.

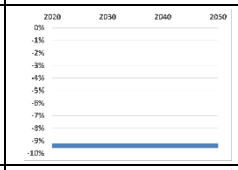
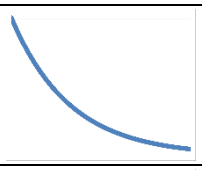
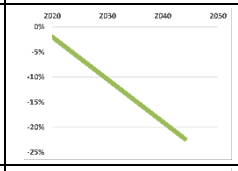
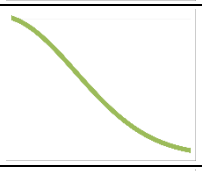
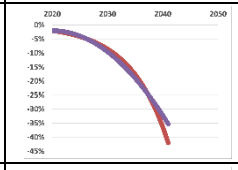
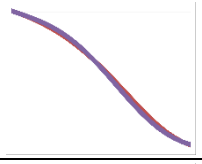
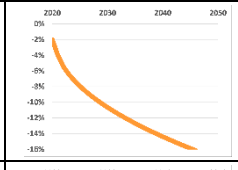
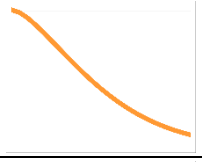
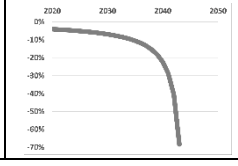
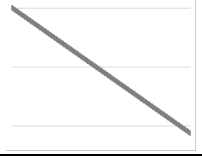
The **focus** is on the following three basic types for the **development** of the **reduction rates**:

(1) Initial less than proportional increase (RM-2-exp and RM-4-quadr)

(2) Initial over-proportional increase (RM-5-rad)

(3) Linear increase (RM-3-lin)

In principle, there are several options for mapping the basic types (1) and (2) using a specific function. However, as the scenario types RM-2-exp and RM-4-quadr show (see below), the results usually do not differ significantly with a tight budget and a plausible development of the reduction rates. It can therefore be said that the scenario types offered here cover the range of plausible possibilities well. Which scenario types make sense in terms of climate policy should be discussed.

Scenario type	**Properties of the annual reduction rates (RM 1 - 5)** or the annual reduction amount (RM-6)	Mathematical basic type for the development of annual reduction rates	**Development of the annual reduction rates**	Development of the emission paths
RM-1-const	Constant annual reduction rate	-		
RM-3-lin	Reduction rates lie on a straight line	$y = ax + b$		
RM-2-exp RM-4-quadr	Initially above RM-3-lin (initially less ambitious than RM-3-lin)	$y = e^x$ $y = ax^2 + b$		
RM-5-rad	Initially below RM-3-lin (initially more ambitious than RM-3-lin)	$y = a\sqrt{x} + b$		
RM-6-abs	Constant annual reduction amount (emission path is a straight line)	-		

A comprehensive mathematical description of the RM Scenario Types can be found here.