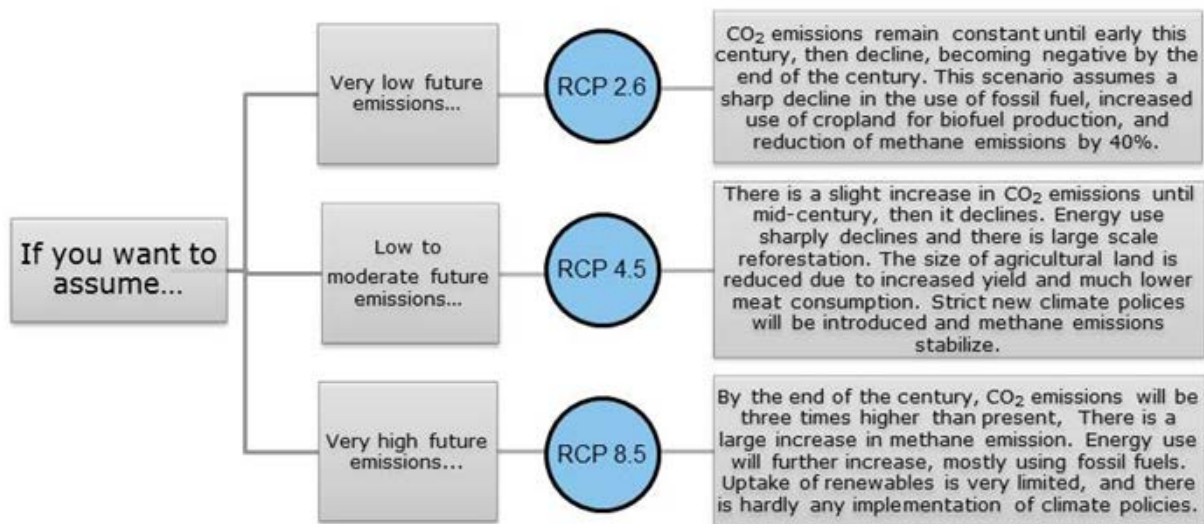




How to use different RCPs?

Future greenhouse gas emissions and concentrations are difficult to predict and depend on future developments such as future population growth, economic growth, energy use, uptake of renewable energy, technological change, deforestation and land use.

The climate-modelling community has developed four Representative Concentration Pathways (RCPs). The four RCPs span a large range of future global warming scenarios. RCPs are space and time and dependent trajectories of future greenhouse gas concentrations and different pollutants caused by different human activities. RCPs quantify future greenhouse gas concentrations and the radiative forcing (additional energy taken up by the Earth system), due to increases in climate change pollution. Three different RCPs are used:



Due to the different future greenhouse gas concentrations, RCP2.6 will result in the least amount of global warming and only limited climate change. RCP 8.5 will result in more rapid warming and more climate change.

When selecting the RCPs it is important to realize that **until mid-century** the differences in outcomes between the RCPs is often very small. The reason for this is that the climate system responds relatively slowly to changes in greenhouse gas concentration. So the choice of RCP is not important **until mid-century**. For analyses **after mid-century**, it is important to distinguish between different RCPs. RCP8.5 gives a much more rapid warming and more pronounced changes in important indicators such as river flow, water temperature and precipitation. The difference between RCP 2.6 and 4.5 remain relatively small until the end of the century.