# Bayer Climate Scenario Description

## Taking the Green Road (SSP1-2.6)

- **Average mean temperature increase in** 2040: 1.5°C; in 2060: 1.7°C; in 2100: 1.8°C (best estimate)
- **Full decarbonization by 2050** (reduction of 90% CO2e compared to 2019). **Carbon Capture** with high permanency at competitive cost and at scale available in 2040
- **High transitional impacts** across the world leading to a higher pressure to change and innovate business towards a net zero society (earlier action & coordinated policies)
- **Lower physical impacts**
  - Quick technological advances incl. hydrogen and electrification, consequently, energy demand increases by 4 times
  - Fast growth of alternative fuels. First generation biofuels act as transition technology before being phased out
  - Population growth reaches **8.5 billion by 2050**. Focus on SDGs, inequality is reduced and emphasis on **human well-being**
  - Food systems move on accelerated path towards low-GHG emission systems incl. changes in animal feedstock, lower food waste, changing diets and food innovations
- **Full circularity**, less resource intensive consumption

## A Rocky Road (SSP3-7.0)

- **Average mean temperature increase in** 2040: 1.5°C; in 2060: 2.1°C; in 2100: 3.6°C (best estimate)
- **Significant amount of greenhouse gases are still emitted** into the atmosphere
- **No-additional-climate-policy** scenario; lower and regional different transitional impacts (governments partially fail to introduce strict policies)
- **High physical impacts** (increased acute and chronic physical changes with knock on effects)
  - Innovation continues as today. Lack of push and additional investments for fast adaptation of green innovative technology
  - High population growth (**10 billion by 2050**), inequalities persist or worsen over time. Regional focus on achieving energy and food security at the expense of broader-based development
- **Unequal food security** on current levels of diets, low-GHG emission food systems only partially implemented
- **Limited circularity** improvements, resource intensive consumption continues to significant extend

We aim to further enhance our scenario description and our scenario analysis. The scenarios are built on the **IPCC AR6 report** and many further sources relevant for the industries we are working in. To enhance our activities, we have joined the Value Chain Risk to Resilience network hosted by Business for social Responsibility (BSR).