

How are people changing the climate?

More

2. What will a warmer world be like?

Solution: Worksheet 1

1.

a)

A scenario is a description of possible future events.

b)

The temperature in the atmosphere will continue to rise during the next century and the sea level will rise during the next millennium even if we stabilize our emissions at today's level.

This is partly due to the great inertia in the climate system. The lifetime of fossil-fuel-produced CO₂ in the atmosphere is about 75 years. This means that the natural processes for removing all the extra CO₂ from the atmosphere would take a long time.

The oceans have an even slower response time. The gradually warmed ocean would take a long time before it reaches equilibrium with the atmosphere temperature and eventually give up its extra heat and returns to its former state.

3.

The increase in A2:

- This scenario involves many of the main driving forces for our emissions of greenhouse gases: Population growth, fossil fuel combustion, slow development of new "CO₂-friendly" technology, energy consumption mainly served by fossil fuels.

Drop in emissions after year 2050 in A1:

- Further economic growth will lead to increased emissions, and therefore the curve is rising. But after 2050 we will see the effect of the rapid introduction and application of new and more effective technology. This will bring the emissions down.

Least CO₂ emission in B1:

- Development of new CO₂-friendly technologies to avoid using fossil resources; quickly sharing of the technology - also to the poor countries; and a more environmentally sound economy. All these three factors will contribute to a more sustainable development.