

Klimastudien: Shared Socioeconomic Pathways

Task 1

Choose an SSP and summarize what it says about population, economy, politics, technologies, environment, energy and resources. You can use the table below to summarize your results.

Task 2

Exchange your results with students who have chosen a different scenario.

SSP4						
SSP3						
SSP2						
SSP1						
	Population	Economy	Politics	Technology	Environment	Energy and Resources

Shared Socioeconomic Pathways

SSP 1: Taking the Green Road

The world is moving towards a more sustainable path that respects perceived ecological limits. Driven by an increasing commitment to achieving development goals, inequality is reduced both across and within countries. Increasingly effective and consistent cooperation between local, national and international institutions, private companies and the population is improving the management of global public goods. High education and health expenditure accelerate demographic transition, leading to a relatively low population. The well-being of the population is slowly being brought to the foreground, although this results in slower economic growth. Nevertheless, Gross Domestic Product (GDP) can grow strongly, especially in developing and threshold countries. Investment in environmental technology and changes in tax structures lead to improved resource efficiency, reducing overall energy and resource use and improving environmental conditions over the longer term. Increased investment, financial incentives and changing perceptions make renewable energy more attractive. Consumption is oriented towards low material growth as well as lower resource and energy intensity. Hence, environmental conditions are improving. More sustainable consumption patterns (especially in industrialized countries) and a decoupling of economic output and energy use lead to a decrease in resource and energy intensity. Only renewable energies (except biomass) are socially accepted energy sources.

Text orientiert an: Umweltbundesamt: Sozioökonomische Szenarien als Grundlage der Vulnerabilitätsanalysen für Deutschland zu finden unter: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-05-29_cc_25-2019_soziooekonomischenzenarien.pdf und O'Neill, B. C., Kriegler, E., Ebi, K. L., Kemp-Benedict, E., Riahi, K., Rothman, D. S., ... & Solecki, W. (2017). The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global environmental change*, 42, 169-180.

Weitere Informationen unter publicclimateschool.de/schulprogramm



Shared Socioeconomic Pathways

SSP 2: Middle of the Road

Social, economic, and technological trends do not shift markedly from historical patterns. Most economies are politically stable, but development and income growths remain unevenly. Progress in achieving sustainable development goals is slow. Global population growth is moderate and levels off in the second half of the century as a consequence of completion of the demographic transition. However, education investments are not high enough to accelerate the transition to low fertility rates in low-income countries and to rapidly slow population growth. This growth, along with income inequality that persists or improves only slowly, continuing societal stratification, and limited social cohesion, maintain challenges to reducing vulnerability to societal and environmental changes and constrain significant advances in sustainable development. There is technological progress but without groundbreaking developments. Environmental systems experience degradation, although there are some improvements and overall, the intensity of resource and energy use declines. Even though fossil fuel dependency decreases slowly, there is no reluctance to use unconventional fossil resources.

Text orientiert an: Umweltbundesamt: Sozioökonomische Szenarien als Grundlage der Vulnerabilitätsanalysen für Deutschland zu finden unter: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-05-29_cc_25-2019_soziooekonomischenzenarien.pdf und O'Neill, B. C., Kriegler, E., Ebi, K. L., Kemp-Benedict, E., Riahi, K., Rothman, D. S., ... & Solecki, W. (2017). The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global environmental change*, 42, 169-180.

Weitere Informationen unter publicclimateschool.de/schulprogramm

Shared Socioeconomic Pathways

SSP 3: A Rocky Road

A resurgent nationalism, concerns about competitiveness and security, and regional conflicts push countries to increasingly focus on domestic or, at most, regional issues. Over time, policies become increasingly oriented towards national and regional security issues, including barriers to trade, particularly in the energy resource and agricultural markets. Countries focus on achieving energy and food security goals within their own regions at the expense of broader-based development, and in several regions move toward more authoritarian forms of government with highly regulated economies. Investments in education and technological development decline. Economic development is slow, consumption is material-intensive, and inequalities persist or worsen over time, especially in developing countries. Many countries struggling to maintain living standards and provide access to safe water, improved sanitation, and health care for disadvantaged populations. A low international priority for addressing environmental concerns leads to strong environmental degradation in some regions. The combination of impeded development and limited environmental concern results in poor progress toward sustainability. Population growth is low in industrialized and high in developing countries.

There will be a dependency on fossil fuel along with a growing resource intensity. Population growth is low in industrialized and high in developing countries.

Text orientiert an: Umweltbundesamt: Sozioökonomische Szenarien als Grundlage der Vulnerabilitätsanalysen für Deutschland

zu finden unter: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-05-29_cc_25-2019_soziooekonomischenzenarien.pdf

und O'Neill, B. C., Kriegler, E., Ebi, K. L., Kemp-Benedict, E., Riahi, K., Rothman, D. S., ... & Solecki, W. (2017). The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global environmental change*, 42, 169-180.

Weitere Informationen unter publicclimateschool.de/schulprogramm



Shared Socioeconomic Pathways

SSP 4: A Road Divided

Highly unequal investments in human capital, combined with increasing disparities in economic opportunity and political power, lead to increasing inequalities and stratification both across and within countries. Over time, a gap widens between internationally connected, well-educated society and a lower-income, poorly educated society. Power becomes more concentrated in a relatively small political and business elite, even in democratic societies, with little representation of vulnerable groups. Economic growth is moderate in industrialized and middle-income countries, while most of the low-income countries will struggling to provide adequate access to water, sanitation, and health care for the poor. Technology development is high in the high-tech economy and sectors. Uncertainty in the fossil fuel markets lead to underinvestment in new resources in many regions of the world. To compensate for price fluctuations for fossil fuels, energy companies invest in both CO₂-intensive and low-carbon energy sources. Environmental policies focus on local issues around middle- and high-income areas. Challenges to adaptation are high for the substantial proportions of populations at low levels of development and with limited access to effective institutions for coping with economic or environmental stresses.

Text orientiert an: Umweltbundesamt: Sozioökonomische Szenarien als Grundlage der Vulnerabilitätsanalysen für Deutschland

zu finden unter: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-05-29_cc_25-2019_soziooekonomischenzenarien.pdf

und O'Neill, B. C., Kriegler, E., Ebi, K. L., Kemp-Benedict, E., Riahi, K., Rothman, D. S., ... & Solecki, W. (2017). The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global environmental change*, 42, 169-180.

Weitere Informationen unter publicclimateschool.de/schulprogramm