

# Tutorial 1 – The economic approach to the environment

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## 1 Multiple choice questions

1. What does the Keeling curve describe?
  - (a) The relationship between economic growth and carbon dioxide emissions
  - (b) The level of carbon dioxide in the atmosphere over time
  - (c) The relationship between temperature and the concentration of carbon dioxide in the atmosphere
  - (d) The expected path of atmospheric temperature if no climate policy is implemented
2. Which of the following elements is not considered a greenhouse gas?
  - (a) Particulate matter
  - (b) Methane
  - (c) Carbon dioxide
  - (d) Water vapor
3. How did the share of the world population living in extreme poverty evolved between 1820 and 2015?
  - (a) It increased
  - (b) It remained stable
  - (c) It decreased
  - (d) It decreased and then increased
4. How many carbon reservoirs are there in the DICE model?
  - (a) 2
  - (b) 3
  - (c) 4
  - (d) 5
5. In the Ramsey formula for time-discounting ( $r_t \approx \rho + \eta g_{t-1}$ ), what does  $\rho$  represent?
  - (a) The social discount rate
  - (b) The aversion to inter-temporal inequalities
  - (c) The growth rate of the economy
  - (d) The pure rate of time preference

## 2 Document analysis

This exercise is based on the following document:

- IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change ([available here](#)).
1. Explain what the IPCC is (what it stands for, what its goal is, and how it works).
  2. The IPCC summary for policymakers depicts the current state of the climate. What are the main takeaways?
  3. This report also discusses possible climate futures. What are the main takeaways?
  4. Explain what are the “Shared Socioeconomic Pathways” (SSPs) used in the sixth IPCC report.
  5. Describe Part (a) of Figure SPM.4 of the report.
  6. Describe Part (b) of Figure SPM.4 of the report.
  7. What are your takeaways from Figure SPM.4?
  8. Describe Figure SPM.8 of the report.
  9. Describe Figure SPM.10 of the report.