

Exam Review

Climate Change

1. Be able to explain the Science behind climate change
2. Explain the concept of energy balance.
3. Give at least five examples of green house gases.
4. Be able to explain the concept of carbon cycle and its relationship with climate change (carbon pools and flux)
5. Be able to explain the two features that the keeling curve shows.
6. Explain climate forcing.
7. Be able to explain [using economics] why the market fails to provide a socially desirable level of climate protection.
8. Be able to convince yourself that climate change is an example of global stock externality.
9. Be able to distinguish between flow and stock pollutants and why that matter in dealing with climate change.
10. Be able to explain how the true cost of climate change is measured.
11. Be able to explain the four categories of benefits of reducing climate change.
12. Be able to talk about the estimated impacts of climate change on GDP and employment, electricity and gasoline prices.
13. Be able to explain the argument for economic incentive in dealing with climate change.
14. Be able to explain why it is difficult to deal with climate change both at the local level and international level.
15. Be able to write about the Kyoto Protocol:
 - i. The objective of the Kyoto Protocol
 - ii. Countries that ratified it.
 - iii. How was the actual compliance target defined?
 - iv. Be able to explain the three cooperative implementation mechanisms.
16. Be able to write about the Paris Agreement.
 - i. The objective of the Paris Agreement.
 - ii. Countries that ratified it.
 - iii. The commitment of developed countries to developing countries.
17. What are the problems associated with International agreements.

Energy:

1. Be able to explain energy and the two main forms of energy.
2. Be able to explain energy sources and the two main types of energy sources.
3. What are the units of measurement of various energy sources?
4. Be able to give the percentage of US energy consumption by source.
5. Be able to explain US energy production trend.
6. Be able to explain the various energy sources and their direct impact on the environment.

Tar Sands (Review the Tar Sand article)

1. Be able to explain what tar sands are.

2. Be able to explain the environmental impacts of tar sands.

Hydraulic Fracturing.(Article and Class Presentation)

1. Be able to explain Hydraulic Fracturing.
2. Be able to distinguish between convention and unconventional gas reservoirs.
3. Be able to explain the role of the various chemical additives in the fracking process.
4. Be able to explain the environmental issues associated with fracking.

Ozone(Article and Class Presentation)

1. Review the ozone article on the class webpage.
2. Be able to explain what ozone is and its role in atmospheric temperature.
3. Be able to explain the dangers associated with the thinning and depletion of the ozone.
4. Be able to discuss the Montreal Protocol.

Nuclear Power

1. Be able to explain why nuclear energy is the most dominant energy source in the world.
2. Be able to briefly explain the three main processes by which nuclear energy is generated.

Global Resources

Be able to explain the argument against sustainability.