e2: coal and nuclear

e2 Coal and nuclear:

http://physics.hpa.edu/physics/apenvsci/videos/e2_videos/e2%20energy/6%20coal%20and%20nuclear.mp4

https://elab.hpa.edu/apes/videos/e2/e2%20energy/

Jim Woolsey salt audio: https://elab.hpa.edu/apes/audio/20100626_wesat_05.mp3

APES questions

1. Jim Woolsey in the audio describes a power shift, using salt as an example-explain
2. What are the three main uses of energy in our country, according to the audio?
3. How will smart grids and electric/hybrid vehicles impact this?
4. Why a "perfect storm"?
5. When he says “our grandchildren” who does he mean to you?
6. Why a silver bullet? what is this reference? (think of werewolves)
7. What percentage of global energy is sustainable now?
8. Why are coal and nuclear "two 800 lb gorillas"?
9. Wood to coal-why and when? why is it the 21st century energy source?
10. How has this changed since this video was created in 2008?
11. How often were new Chinese coal plants opened, and how long will each one last?
12. Why and to whom do mercury, sulfur compounds impact?
13. Who does Mike Mudd represent? Is he telling the truth?
14. Jeffrey Sachs stresses testing-why?
15. Why is carbon capture dangerous?
16. Why do you think the Montana folks want to promote carbon capture?
17. For how many years could coal provide US energy?
18. 2100 mW for how many homes and how much for each home?
19. What does Dan Kammen think about carbon capture?
20. Why does the pursuit of carbon capture slow development of greener solutions?
21. This video is from 2008, what has changed since then that dramatically changes the scene to the use of coal for electricity? (hint: fracking is part of this)
22. The coal guy says 2012 is when IGCC should be running-what actually happened?
23. How much energy in the US is created by nuclear plants now?
24. Jeffrey Sachs compares coal and nuclear-what does he think?

25. This video was done before Fukushima Daiichi in Japan. How has public opinion changed since then globally? (Germany, Japan, US)
26. Why is a pebble bed reactor safer? How does it differ from a traditional reactor? (look this up)
27. How is the nuclear waste issue in a PBR differ?
28. What is the LEGO NGNP construction model?
29. Nuclear power plants cost many more times as much to decommission as to build, so how does this impact investment?
30. How many permits for nuclear power have been approved in the last 30 years?
31. Why is Jeffrey Sachs an optimist? Are you part of his vision?
32. What do you think energy will look like when you are 50 in the year 2058?
33. After reading the MIT article on small modular reactors (SMR) how will this change the future of nuclear power?
34. Who is funding this now and why?
35. Coal and nuclear both rely on boiling water to make steam. Natural gas can be burned in a turbine, like a jet engine that can respond almost instantly, instead of waiting for water to boil. This has a huge impact on the adoption of renewable energy like wind and solar. Why?

Migrated from Apple Server Wiki. Original page ID: F3e4K8D

Revision #2
Created 2026-09-29 15:58:08 UTC by Admin
Updated 2026-09-29 16:19:19 UTC by Admin