

Questions

1. We worry a lot about changes to the planet for which are humans responsible. Do human make any changes to the planet that are good?
Solution: This is a tricky question to address, because you first have to consider what is meant by “good.” Certainly if you consider the fact that we’ve changed the environment in a way that has helped us live longer, than yeah, we have made changes to the planet that are good. If however, you consider the implications of these changes on other creatures, then it you may not think that those changes were so good. It all depends on how you want to define “good.”
2. You will often here the phrase, “We must balance decisions about the environment with decisions about the economy.” What do people mean when they say this? Why is this statement misleading?
Solution: They mean that imply that we give something the environment (like setting aside parkland) in exchange for extracting resources. This is misleading, in the sense that it makes it sound as if humans are actually giving something to the natural world that it didn’t already have. It’s as if one person is going to take \$20 from someone who has \$100, and then says, “Well, I’ll give you \$10 of those dollars back, and we’ll call that a balance.” This is not to say that extracting resources is unethical, rather when it is done, one shouldn’t try to cover up the act with misleading rhetoric.
3. What’s a tocsin? Expand on the metaphor “Spaceship Earth.”
Solution: It’s an alarm bell. Spaceship Earth refers to the notion that everything we’ve got to use is pretty much one the Earth already. If we exhaust non-renewable resources, pollute the environment, or degrade resources, we can’t easily get them back or fix them.
4. There is an expression “What stands in our way is people’s belief in TINA.” TINA stands for “There is no alternative.” Describe how TINA stands in the way of significant changes in our approach to solving problems with regards to energy extraction, conversion, distribution, and consumption.
Solution: People generally look at a fossil fuels as the only real source of energy and are not seriously committed to finding alternatives or conservation. As long as this is the case, and I suggest it will be until prices demand otherwise, they will not even begin to consider alternatives.
5. If you were going to make one change to the way Americans act with respect to their energy consumption, what would it be?
Solution: There are lots of different answers here. For me, I would have us move to an electricity-based (as a opposed to a fossil-fuel based) energy distribution system. This would make the transition to renewable energy easier in the future. So, electric-based transportation would be a major repercussion of this “policy.”

Laboratory results

8. Describe some the results of your exercise as energy czar.
Solution: These answers will vary quite a bit. One thing that seems certain is that we are going to be relying on more coal consumption if we don’t step up our commitment to solar and wind very quickly. This is assuming we try to maintain our consumption levels.
9. What are some of the challenges you think leaders will face when trying to cope with future energy issues.
Solution: We are running low on non-renewable sources (apart from coal). This will be a significant political challenge. Dealing with pollution and global warming will be a challenge. Issues stemming from population are always touchy. And funding research into basic science to help move alternative energy sources to the forefront always meets with some resistance.