

**You will be asked to describe and defend your position on issues. Your grade will be determined not by what position you have, but by how you use information from the class to support your statements.**

The final exam will touch on all subjects covered after financial and nuclear (that were covered in the second midterm). Please also expect to see questions of general concern such as:

- Calculating cost, heat, efficiencies, carbon outputs.
- Global trends in energy use, and the planet earth and the people.

For efficiency, please be able to identify all the technologies we've touched upon: lighting, heat pump/refrigerators, cool roofs, OTEC, wind, solar (PV, CSP, Thermal, passive solar, what role does storage have?), and all the transportation technologies: ICE, hybrid, BEV, HFC. Be able to give pros and cons to each.

Grid vs. off grid. How will electricity use change? Other forms of energy consumption? How would you like to see them change? What are the challenges and advantages that come with these changes? How will supply side strategies differ from demand response?

Issues of environmental justice, equity, and national security.

More about energy for the global poor and what is being done.

Distinguish market mechanisms from C&C mechanisms with regard to efficiency and/or emissions.

Distinguish internal from external costs, and the act of *internalizing* an external cost, and why this might be desirable.

The role of California in the energy transition and some of the political processes and conflicts that arise between the federal government and California. What are the national and global consequences of the way California goes, such as the CAFE Waiver.

What are the global efforts/issues. What does "Paris" mean? Why is it important? Where do you stand and why?

Why do we have to pay attention to *people* and how they behave and what they like to do, how they pursue *happiness*? How will their behavior affect sustainability efforts as we invoke policy plans. *What policy plans?* What policies? What is CCE (or CCA)? What did we learn from each speaker:

Chris, Student Experimental Farm, the TES water tower, Cal Poly's Solar Farm.