

## Homework # 3; due Wednesday, Feb. 29

Reading: Chapters 3,5 of Boecker and Grondelle's *Environmental Physics*

8. Watch the [colloquium by Prof. William Happer](#) (Princeton) on "CO<sub>2</sub>---friend or foe?" Provide a summary of key points, for example, in the form of about ten one-two sentence "bullet points."
9.
  - a. An ice cube is floating in a glass of water. What happens with the water level in the glass when the ice cube melts?
  - b. It is often said that the oceans will rise if the ice melts as a result of global warming. Explain this in relation to your result in part (a). (Hint: there are at least three, or maybe more, distinct physical effects to consider.)
10. Estimate, to an order of magnitude, the overall energy consumption rate of the humankind. Assume that you are on an airplane next to a neighbor interested in energy and environment, but you have no internet access, no computer, and the only things available are a pen and an airline napkin.