

## **Week 8 Assignment: The Biofuels Debate: Use the Existing Infrastructure or Develop a New Transportation System?**

*due in section Thursday May 21 or Friday May 22, 2009*

**Name:** \_\_\_\_\_ **ID:** \_\_\_\_\_

Biofuels are made from plant crops or algae that is converted to be roughly equivalent to petroleum-based fossil fuels. Their environmental advantage is that the carbon in the biofuel has been removed from the atmosphere only recently, when the plants grew, so burning biofuel simply cycles that same carbon back into the atmosphere with no net longterm increase in atmospheric CO<sub>2</sub> concentrations. Or at least that's the idea.

Proponents of biofuels point out their major advantage: they can be used with our existing transportation infrastructure. With biofuels, you can imagine driving the same car you currently drive and buying fuel for it at the same gas station you currently patronize. Not surprisingly the oil industry has begun to invest heavily in biofuels. Opponents are quick to point out their disadvantages: producing biofuels, particularly from corn, represents an inefficient use of limited agricultural land that may lead to escalating food prices. In some cases raising the crops may require more fossil fuel than will actually be generated from the biofuels. Moreover, biofuels can be corrosive so may require significant readjustment of engine components.

How can we, as a society, decide whether to pursue biofuels (and keep our existing cars and airplanes) or to pursue alternative transportation strategies? Write a careful discussion (in no more than 250 words) explaining how we can find good answers for this question. In this particular assignment, we are more interested in having you think through the process of gathering information to make a decision than in your actual stance on the issue. You do not need to take a particular position. Instead you should think carefully about the key components of a life cycle assessment that could address this question.