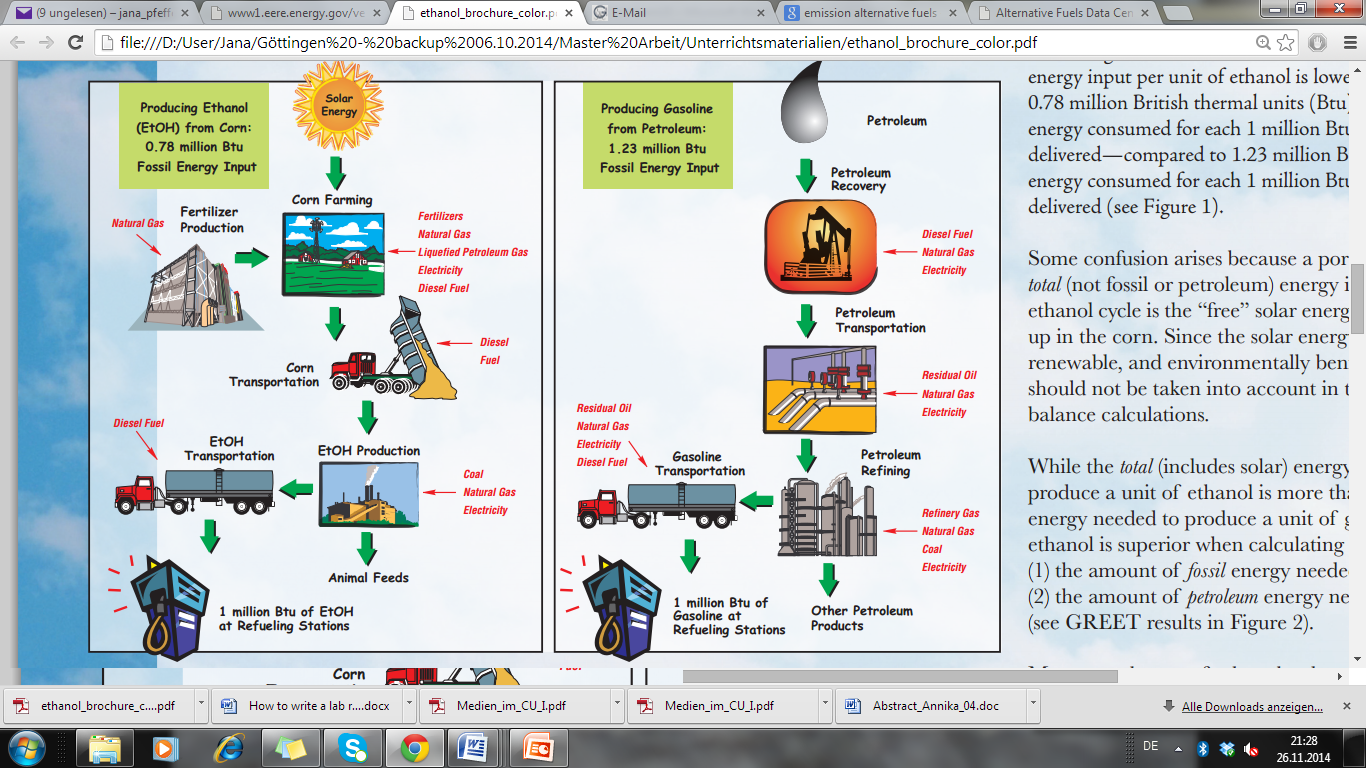
**Energy *Requirements* for the Production of Ethanol**

To produce ethanol from *corn* (another way to make ethanol) energy is required. The *amount* of energy required to make one *unit* of ethanol is 0.78 million Btu[[1]](#footnote-1) (British thermal unit) or   
8, 23 Joules. Once made, one unit of the fuel ethanol contains 1 million Btu or 1,055 Joules. Therefore, more energy is *gained* during combustion of one unit of ethanol than is needed to make one unit of ethanol. This production, transportation, storage and combustion of ethanol are shown in the following picture. Notice all the fuels that are needed during these processes.



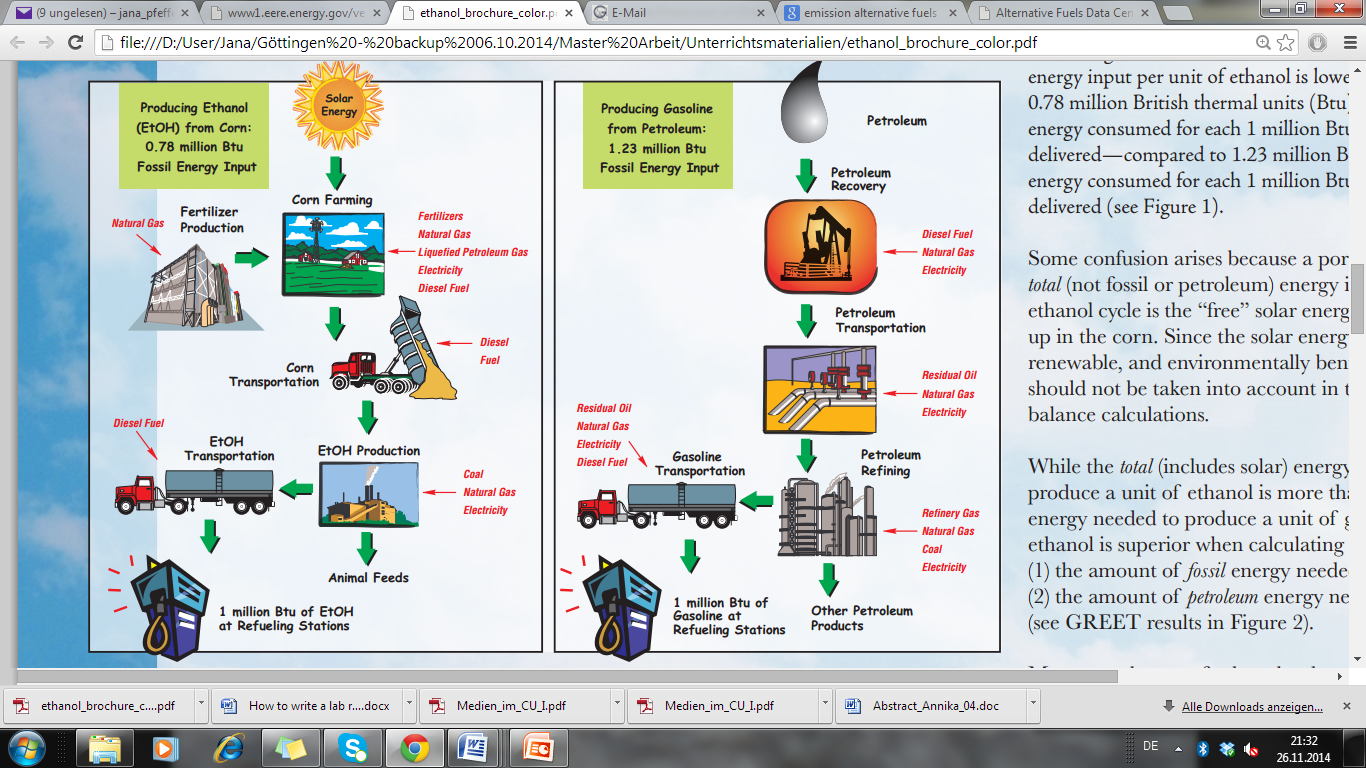
Picture 1: Taken from: http://www1.eere.energy.gov/vehiclesandfuels/pdfs/program/ethanol\_brochure\_color.pdf

.**Questions**

1. What *environmental problems* do you see with the production of the alternative fuel ethanol?

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1. Compare the production of ethanol (Picture 1) to the production of *gasoline* (Picture 2). Which do you believe is the better fuel for our environment? Why?



Picture 2: Taken from: http://www1.eere.energy.gov/vehiclesandfuels/pdfs/program/ethanol\_brochure\_color.pdf

1. 1 Btu (British thermal unit) = 1055,05585 joules [↑](#footnote-ref-1)