a) (2 points) Briefly, what is fracking?

b) (4 points) How has the production of methane from fracking in the United States increased from 2000 to 2010 and how might this increase project to year 2040?

c) (6 points) What is the CH$_4$ leakage rate at which natural gas reaches parity with coal with respect to radiative forcing of climate? What is the EPA estimate of CH leakage rate from fracking? What leakage rate have NOAA scientists reported from a gas field in Utah?

Break even ______
EPA estimate ______
NOAA est. ______

d) (6 points) Based on your knowledge of material presented so far in class (i.e., this is not in the reading), why is there a break-even point for leakage of CH$_4$ from fracking and, of the NOAA estimate is correct, what are the consequences for global warming of a greater U.S. reliance on fracking?