EC1340 – Fall 2022
Take home midterm
Due 5pm, October 28, 2022
Matt Turner

The object of this assignment is to use what you have learned in the course to assess the cost effectiveness of a climate change policy described in the Inflation reduction act.

A summary of climate related initiatives in the IRA is here, and in a bit more detail here. The IRA does many things, so figuring out the total effect of the bill is a huge job. For the purpose of this assignment, you should pick out a piece of it, like the electrification of mail trucks, and try to understand the impacts of this particular policy intervention. There are lots of choices; pick something you are interested in.

Once you have selected your policy proposal, please check in with me to make sure it is not too hard. I will hold office hours during class time on Friday October 21 and during my regular office hours Wednesday afternoon.

Once we have agreed on your topic, perform the calculations and estimations described below.

This exam is worth a total of 100 points. Point scores for each part are written next to the question. Try to keep your test paper to two or three pages, 12 point font, regular margins (if you really need to, put the details of any extensive calculations in an appendix).

1. (20) Estimate the reduction in Carbon emissions that will result from you policy. Be sure to describe the alternative 'no policy' carefully. For example, if you are evaluating windpower, what happens in the absence of the incremental windpower? Is there less power generation? Is power generated by gas? By coal?

2. (20) Estimate the cost per ton of Carbon mitigation from your policy.

3. (10) Estimate the impact on future climate of your policy using a calculation like the ones we did in class.

4. (10) Estimate the impact of your policy on future consumption using a calculation like the one we did in class.

5. (20) Calculate the discount present value of avoided climate damages from your policy. For this purpose, use a discount rate of 0.03.

6. (20) Compare the costs and benefits of your policy. What does this suggest about whether the policy is a good idea?