**TIM 155: Problem Set 5**

Due **Thursday, May 11**, in class.

This question examines the US strategy to meet its greenhouse gas reduction commitments under the 2015 Paris Agreement.

1. The United States has both an intention and a “best efforts” target for reducing greenhouse gasses by 2025. With respect to the Paris Agreement, what are these targets and where are they found? (1 point)
2. What is the U.S. Intended Nationally Determined Contribution and where can it be found (besides our homework folder!) (1 point).

1. Take a look at table ES-4 of the US Greenhouse Gas Inventory for 2017. Our interest is in net emissions. What were net US emissions in 2005? Calculate the target range of emissions for 2025 in million metric tonnes of CO2 equivalent (MMT CO2e)? (1 point)
2. By 2015, how close have we come to achieving our 2025 goal? Express this as percentage reduced between 2005 and 2015, as well as MMT CO2e reduced. How far do we need to go to get to our target between 2015 and 2025? Express this as both a percentage and as MMT CO2e. (1 point)
3. What has caused US GHG emissions to fall since 2005? Review the major categories of GHG emissions and identify which have been reduced the most. Helpful data can be found in Chapter 3 of the US Climate Action Report (e.g., Fig. 3-11 and Table 3-8). (1 point)
4. How does the US plan to meet its Paris Agreement commitments? You can find references to the US plans in its INDC report and in the US 2014 Climate Action Report (although note that since this report came out before the Paris Agreement was finalized, its time frame is different). (1 point)
5. Do you think the US will be able to meet the commitment it made in its INDC report? This should be the longest section of your homework. In the US INDC report, look for the set of bullet points following the phrase “At this time:”. Choose **one** of these bullet points and do some background research on quantities, trends, and plans for GHG reductions. You may need to identify data and analytical sources outside of the materials provided in class. Based on your analysis do you believe this sector will achieve the percentage reduction goal by 2025? (1 point)
6. Based on Ch. 13 of the Global Energy Assessment (GEA), do you believe carbon capture and storage (CCS) will play a major role in helping the US meet its GHG reduction commitments? Why or why not? Provide and justify your best guess as to how many MMT CO2e could be captured using CCS by 2025. (1 point).