Eric’s directions to update GREET tables from an email on 8/1/2022:

Here is a guide to access it:

* Go to <https://greet.es.anl.gov/greet_excel_model.models>.
* Click on the hyperlink here "Click to save and extract the zip archive GREET\_2021rev1.zip to your hard drive."
* Create an account with your credentials.
* After registering, the website should be <https://greet.es.anl.gov/index.php?content=download1x>.
* Scroll down and find this section to download the zip file. "GREET 1 Downloads. To download GREET: Click here to save and extract the zip archive GREET\_2021rev1.zip to your hard drive." Download the zip file.
* It's a 44 MB zip file. Extract the zip GREET\_2021rev1.zip.
* Open GREET1\_2021.xlsm. Enable editing and enable content for the macros to run. It gives you a pop-up to accept the terms and continue.
* Go to the tab "Ag\_inputs", number 36 from left to right.

You can find the N, P2O5, and K2O values we have used in the past in cells B138, C138, and D138. For example, for nitrogen, it says 59.920 BTU / gram. So the value for a pound of N would be 59.920 \* 454 = 27,204 BTU / lb N (rounding).

If you check the headings in row 126, it says Fertilizer Produced in the US, then Brazil. I never found global averages here; however, it's a big spreadsheet.

The CO2 emission values are in row 155 (columns B-D). So for N, it says 3.0258 (I'm not a fan of their 4-digit precision). Since the units are gram per gram, I'm pretty sure if you convert it to lb CO2 / lb N, it ends up being the same value (3 something). I did the conversion once, and I felt like an idiot. But you got to do it at least once.

You can see lime values in cell BC92 (I think). A disclosure here. I could never replicate the lime energy use and CO2e values we use in the platform. I tried at least three times. I can't tell you how many hours I spent trying to decipher the spreadsheet from the intern Field to Market employed in 2017 or so to calculate the original values. I think the lime values need a second or third look. I tried many times to clean up the fertilizer and pesticide factors, and I succeeded for a few, but I could never get to the bottom of the lime values. I thought about contacting the intern many times, but I didn't think he would remember.

There's probably way more useful information here, and I might be making wrong assumptions about the values. I think it would be a good use of money to pay and get somebody from ANL to explain it all (they would probably do it for free), or get a consultant that is an expert in those models to confirm the platform's assumptions. Jesse Daystar is an expert on LCAs, and if he doesn't know the extent of these models, he probably knows somebody that does.