UNH Sustainability Institute

SIMAP DATA REVIEW REPORT	8.17.2023

INSTITUTION NAME	DATE OF DATA REVIEW CALL	TYPE OF DATA REVIEW
University of Virginia	7/28/2023	Second data review, Fiscal year 2022

Thank you for completing a Data Review with the SIMAP team! Below, please find our recommendations for next steps to finalize your carbon and nitrogen footprint calculations. Once you have addressed these items, please confirm by email to simap@unh.edu. Once we agree that your inventory is finalized, we will check the box on the status page in SIMAP indicating the review is complete for the applicable years. In the Appendix, you can see the full list of items we assessed as part of your Data Review.

Summary:

Your FY2022 inventory looks great! Below, please find the critical updates and recommendations we discussed, which involve adding Food data for 2022 and changes to Student Commuting, along with checking data points and adding notes to document methodologies and reasons for changes.

Regarding your question about compost as a sink, all compost or other carbon sinks are entered under "Sinks" and are subtracted from UVA's net footprint. Any sink data will appear under the gross emissions footprint.

The reason solid waste was a carbon sink in 2010 and 2011 but a carbon source in 2012 and beyond is due to the EPA WARM Model emissions factors used in SIMAP. Since GHG inventories should only include generated emissions, we are working on updating SIMAP's waste category to address variations like these.

The CH4/N2O electricity factors correction updates are online in SIMAP as of August 9th! Thank you again for bringing this to our attention.

There are several options for estimating historic data, including:
1. **Approach 1: Year-specific data:** Collect the historic activity data by year. This method is the most accurate when the data is available, but it can also be challenging to collect this historical data.
2. **Approach 2: Backfill:** Set historic years that are blank to the first year with verifiable activity data. You may find that you need to take an average of multiple years if there are fluctuations in activity data. For your example with study abroad travel, since you only have 2021 and 2022 and their values vary so greatly, it might make more sense to wait until more data is available to input a backfilled average.
3. **Approach 3: Set a new baseline:** Set a new goal and baseline year for new Scope 3 categories, especially if the Scope 3 categories are not included in your carbon neutral goal. This method also allows you to gather multiple years' worth of data before setting a goal so that you can develop a consistent methodology and data pathway to ensure that your baseline year has complete and reliable data.

We noted in our discussion that correcting data prior to the 2010 baseline was not as helpful as correcting data post-2010. You can mark these years as not complete, and explain in the Notebook that pre-2010 data is for tracking purposes only and not reporting. The recommendations below make note of this decision.

Regarding your question about fuel purchased for university vehicles, all fuel used by vehicles that are operated by UVA should be reported in Scope 1 Transport Fuels. Because the vehicles are operated by the university, it does not matter where the vehicles fill up. Organizational boundaries help answer this question about where to report data in SIMAP:

- The operational control approach accounts for day-to-day control over decisions and use of spaces and vehicles operated by the university. All of this data would be reported under Scope 1 and 2. (As noted in our discussion, this is UVA's main approach and it is the approach that most higher ed institutions use.)
- The financial control approach only accounts for spaces and vehicles that the university owns.
- For both approaches, whatever is not included in Scope 1 and 2 goes into Scope 3.

The best practice is to have one overarching organization framework that is well-documented for data gathering and transparency. We also discussed how UVA's reporting is only accounting for the main campus, and information like this would go in the Notebook.

CATEGORY	CRITICAL UPDATE
Scope 3: Food	**Add food data for 2022 as soon as it becomes available.** Food data is necessary for your complete inventory and consistency over time. We discussed that there is a 1–2-year lag in reporting food data, but we will not be able to mark the data review as "complete" until food data is added.
Scope 3: Student Commuting	**For all years prior to 2018, check the box titled "*My campus owns/operates the buses used by commuters, and those emissions are already accounted for in scope 1 transport fuels*"** to address the double counting of bus travel emissions, which are already accounted for in your Scope 1. This box was correctly checked for 2018 and beyond, and no action is required for those years.

CATEGORY	RECOMMENDATIONS
Budgets	Budget data is missing for 2017-2021. We recommend adding the budgets for consistency, but they are not required for calculating the institution footprint and are only used for normalizations.
Scope 1: Fertilizer	There is a large spike in 2014. We recommend adding an explanation in the Notes section or Notebook to help document why this spike occurred.
Scope 1: Transport Fuels	The custom emission factors for "Direct transport: Other (Gaseous/solid fuels)," which was noted as the jet fuel for the university-owned jet, are missing for 2000 – 2008. We recommend backfilling the missing years with the emissions factors for the most recent year's data, or making note in the Notebook that this data is pre-2010 and leave as is.
Scope 1: Stationary Fuels	The spike in 2009 was caused by a doubling in distillate oil versus surrounding years. If you're able to find an explanation, we recommend adding it in the Notes section.
Scope 1: Refrigerants & Chemicals	There are great fluctuations in refrigerants. If there is a reason, we recommend adding it to the Notes. Using refills as data is the best approximation of leakage (which is contributing to global warming) that is easiest to track. A recharge to fill after a leak is a best guess, but this data should not include charging a new system, because it should be in the system and functioning properly. Fluctuations can be expected in this approach, such as if more than needed was purchased in some years and stored for later use.
Scope 1: Solar	The current solar entries in Scope 1 are for solar panels on buildings. We recommend making a note about this methodology in the Notebook.
Scope 2: Renewable Energy	We recommend adding an entry in the Notebook to explain how UVA's renewables are tracked.
Scope 3: Air Travel	We noted air travel as a critical update in last year's review to backfill missing data for 2010-2020 for study abroad and 2010-2016 for business travel. However, we discussed how there is no new data for this category, and it is not part of UVA's carbon neutral goal. For now, you can add data without setting a goal or baseline yet, and it is a good practice to have a few years' worth of data before setting a goal or baseline.
Scope 3: Waste	We recommend explaining the changes in waste disposal methods from 2001 to 2002, but since this data is pre-2010 and for tracking purposes only, it is not a priority.

| Sinks: Compost | There is no compost data for 2015 and 2020, and it was noted during our discussion that in 2015, the vendor stopped accepting compost because of contamination, but the issue was fixed in the following years. We recommend putting in a 0 data point with an explanation in the Notes section for consistency. For 2020, it is assumed that the pandemic impacted operations so that no waste was composted, but this has not been verified. We recommend looking into this further. Also, it is recommended that you use the same unit for consistency. |

Please contact us at simap@unh.edu with any questions.

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APPENDIX: SUMMARY OF ITEMS ASSESSED

SIMAP TAB: ACCOUNT

PAGE	CATEGORY	REVIEWED	NOTES
Institution	Basic account information	Yes	
	Zip code	Yes	Zip code listed at 22904, but zip code listed on https://www.virginia.edu/maps is 22903 - is there a reason for this?
Notebook	Notebook entries	NA	
Normalizations	Budgets	Yes	See Recommendation above.
	Physical Spaces	Yes	
	Populations	Yes	

SIMAP TAB: DATA ENTRY

SCOPE	CATEGORY	REVIEWED	NOTES
Scope 1	Stationary Fuels	Yes	See Recommendations above.
	Transport Fuels	Yes	See Recommendation above.
	Fertilizer	Yes	See Recommendation above.
	Animals	NA	
	Refrigerants & Chemicals	Yes	See Recommendation above.
Scope 2	Utility Consumption	Yes	
	Renewable Energy	Yes	See Recommendation above.
Scope 3	Commuting	Yes	See Critical Update above.
	Business Travel & Study Abroad	Yes	Still in the process of gathering data, see above. Not a part of the carbon neutral goal.
	Student Travel to/from Home	NA	
	Food	Yes	See Critical Update above.
	Paper	Yes	
	Waste & Wastewater	Yes	See Recommendation above.
Sinks	Compost	Yes	See Recommendation above.
	Non-Additional Sequestration	NA	
	Offsets	NA	

SIMAP TAB: DATA MGMT

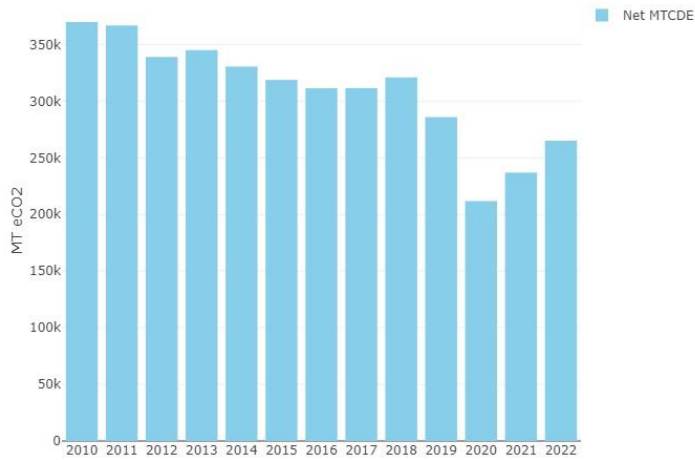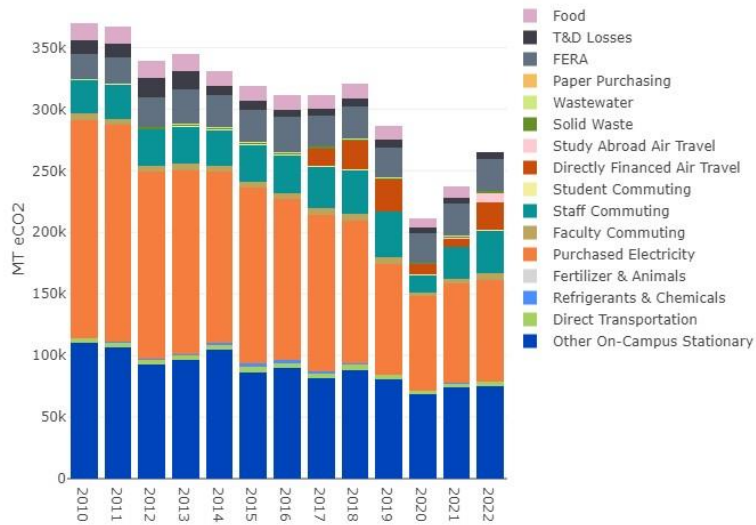| PAGE	CATEGORY	REVIEWED	NOTES
Calculation Sources and Methods	Emission factors version	Yes	
	Global warming potential version	Yes	
	Scope 2 method	Yes	
	eGrid region	Yes	
Status	Status of years	Yes	
Import Log	Files imported	Yes	

SIMAP graphs downloaded 8/3/2023:
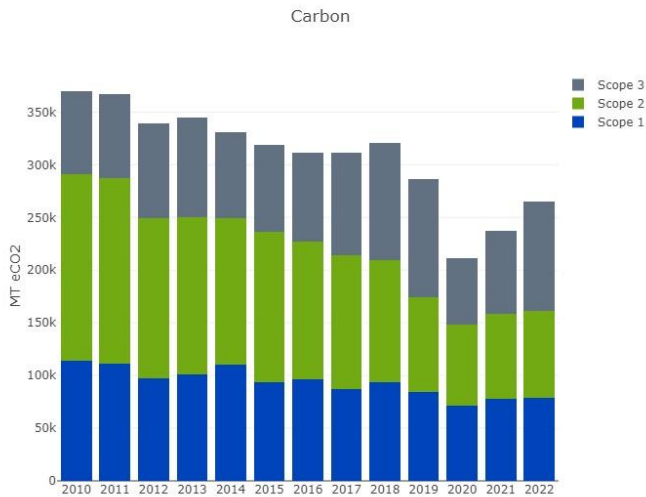
Scopes 2010-2022

Net footprint 2010-2022

Categories (Higher Ed) 2010-2022

Customized Report

In the Reports tab, you can generate a Customized Report to help track your Scope 1 and 2 goals. Scope 1 and 2 are automatically included, and you can select which Scope 3 categories you would like to include. For example, the graphs below include Scopes 1 and 2, and Faculty, Staff, and Student Commuting for Scope 3 categories.