Final Project Guidance

We've received many questions about the final project and would like to take this opportunity to share with you some information related to your final project.

Below is a **Summary** of the final project information (details below):

1. Entity for Final Project
    a. Graduate students: business, local government, non-profit, house of worship, non-governmental organization, or academic institution
    b. Undergraduates may choose residence
2. For Large Companies
    a. OK to provide detailed calculations of only one facility
    b. Must provide brief overview of whole company's emissions
3. Must Consider Emissions in each Scope
    a. Not required to select an entity because it has emissions in all three scopes.
4. Confidentiality - would prefer you to be able to share information for your project, however:
    a. Harvard/student agreement protects confidentiality
    b. If absolutely needed, can provide letter of confidentiality
    c. For class presentations, prefer actual data but:
        i. May normalize data presented to class to hide actual magnitude
        ii. May hide name of organization
5. Next Steps
    a. Find entity of study
    b. Make a plan for gathering information
    c. Review protocols
6. Brief Final Project Outline

Here are the **details** of the information we have for the final project:

Entity for Final Project

The first task of the final project will be to find the entity for which you will prepare a Green House Gas (GHG) reduction plan. As stated in the syllabus, **undergraduate students** can prepare a plan for their **place of residence** (such as an apartment, condominium or house). **Graduate students must prepare a plan for a business, local government, non-profit, house of worship, non-governmental organization, or academic institution**; note that undergraduate students may choose a more challenging project and use a business, local government or academic institution for their GHG reduction plan.

For Large Companies

It is great for you to use your employer as the subject of the project. Some of you may work for large companies with many offices worldwide. It is often a full time job for a group of dedicated employees at a large company to prepare the GHG inventory and reduction plan. With this in mind, **it is acceptable to provide detailed calculations of the emissions from only one facility and at least one Scope 3 category related to that facility**. However, it is important that you provide a **description of what categories of emissions would be included in the company's carbon footprint** even if you don't have data for your company's overall emissions.

Emissions in each Scope

You will be required to complete a GHG inventory for your selected entity. For example, consider a multinational software company; as a partial list, the emissions for this company could include:

- Scope 1 emissions related to process heating (natural gas or oil) and fugitive refrigerant emissions (HVAC and cooling for data centers and possibly refrigerators for food) and fugitive emissions from fire suppression systems (common for datacenters). There may also be on site emissions related to backup power generation.
- Scope 2 emissions related to electricity usage.
- Scope 3 emissions related to employee commuting, business travel, perhaps the distribution of software media (CD's and DVD's), water consumption and waste disposal to name a few.

The goal of the project is to look at a firm holistically from a carbon footprint perspective, describe their emissions, calculate a few, and come up with a plan for emissions reduction.

In selecting the entity for your report, it is not important that the facility have emissions that fit into each scope. What is important is that you account for all scopes in your report and **show that you have thoughtfully considered which of the entity's emissions fit into each of the three scopes**. i.e. if the entity were a self-powered food truck there may not be Scope 2 emissions as all emissions related to onsite energy consumption are Scope 1. In this example considering the acquisition and consumption of ingredients and supplies would likely reveal significant Scope 3 emissions.

Confidentiality

Some of you have expressed concern with regards to **confidentiality** especially when it comes to using your company's data for the final project. It would be **preferable that you be able to share the information** that you gather for this academic exercise with other students. However, the **student/teacher agreement at the Harvard Extension School** requires prior consent from the student before a student's work can be shared with individuals who are not members of the class's faculty. Alison, Rich and myself can provide verbal acknowledgment of this agreement and can provide a letter on Harvard stationary that you can show to your employer if they are concerned about confidentiality (hopefully this will not be the case). For the **class presentations** it would be great if you used actual

emissions data, but, if need be, you may **normalize the data to hide its magnitude** and you can **invent a name for your company**. Consider the following emissions data from a corporation called "Acme" (the company was renamed for the presentation):

	Actual Emissions (MT CO_2e) - show this your report	**Normalizing equation (Scope n/total) X 100**	**Normalized Emissions (MT CO_2e) - show this in your presentation**
Scope 1	10,000	(10,000/60,000) X 100	17
Scope 2	30,000	(30,000/60,000) X 100	50
Scope 3	20,000	(20,000/60,000) X 100	33

Next Steps

We will discuss the final project more in class and provide you more information. In the near term you should **focus on selecting the company, local government, academic institution, etc**.. and start figuring out **how you will get information on your entity's emissions**: who will you talk to? what records or information sources will you need?

When I took this class in 2011, I did my GHG reduction report using my company. I interfaced with 7 distinct departments in my company to gather emissions data for one facility. **It is also strongly recommended that you continue to read the WRI GHG protocol and the Climate Registry's GRP**. Note that, according to the syllabus, the proposal for your final project is due on March 2, 2015. This will be an opportunity for us to provide feedback on your project idea.

Brief Final Project Outline

Lastly, though we will provide more detailed information, consider the following to be general guidance for the outline of the project:

Specifically, the paper should look like this:

~50% of Grade

1. A description of the firm.
2. Suggested organizational and operational boundaries.
3. A description (not a calculation) of what you think all the company's emissions would consist of (Scope 1,2, and 3)
4. A calculation of one site (Scope 1 and 2 only are fine if that is all you can get – cite sources and emissions factors used; Scope 3 would be a bonus).
5. A detailed description of what you feel the firm's largest sources of emissions are, and the best way they could reduce them. This piece will be based on what we cover in class in the coming weeks. This part will be the bulk of the paper.

~30% of Grade

6. Prioritized discussion of GHG reduction strategies. The feasibility, cost, effort required to implement and financial/GHG reduction benefits of each strategy must be considered.
7. A suggested GHG reduction goal that you feel the firm could reach and why.
8. Anything else you feel important for the firm, like mandatory regulations, reporting requirements (mandatory and voluntary) or other things we discussed in class that may be relevant for the firm.

I hope you find this information helpful, as always send a message to your TA or raise your hand in class if you have any questions.

-Marlon