Benchly Project Plan

Ben Gamble, Charlie Dahle, and Penny Rowe (Benchly)

Title: Ebenchly The Climate Will Kill Us All
Members: Ben Gamble, Charlie Dahle, and Penny Rowe

Section 1:
What problem are you trying to solve? Why is the project interesting to you?

- The goal of our project is to create an web-based application that allows the user to display the change in time of climate-relevant variables (see, for example, Figure 1) by changing input parameters via sliders.
- A sample of how the web application might be formatted is given by Figure 2. Note, however, that our sliders and display figures will differ - here ENROADS allows you to see how changes in our energy usage will change greenhouse gas emissions. We will instead see how changes in greenhouse gas emissions (and other parameters) effects things like the concentration of CO2 in the atmosphere and global average temperature.
- Our goal is to help educate people on the effects of climate change and to enrich our community through broadening educational tools.
- We find this project interesting because we are deeply concerned about climate change

Provide original diagrams and figures to help you explain your application.

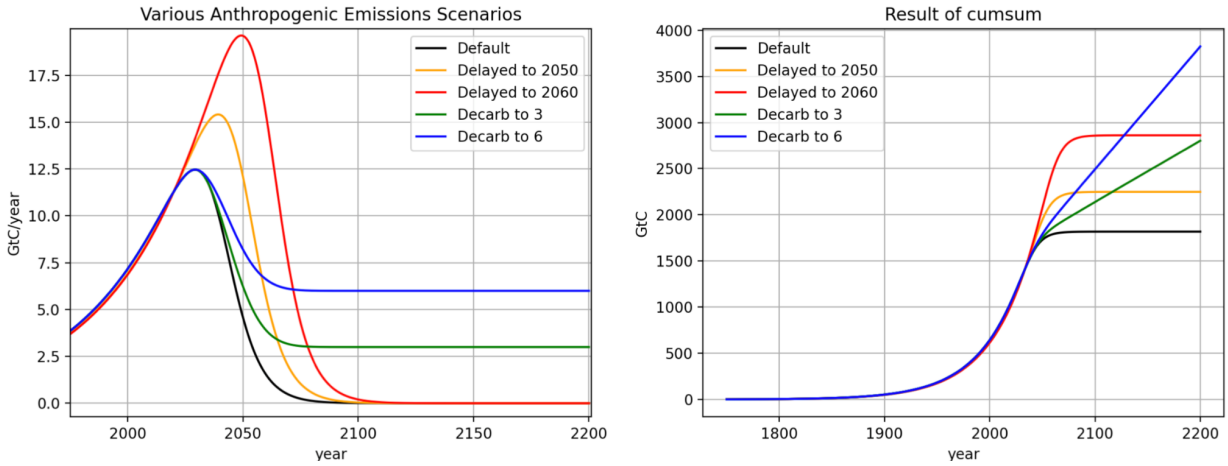

Figure 1. An example of graph outputs for different emission scenarios of the model. The y-axes are gigatons carbon per year (GtC/year) and gigatons carbon (Gt).

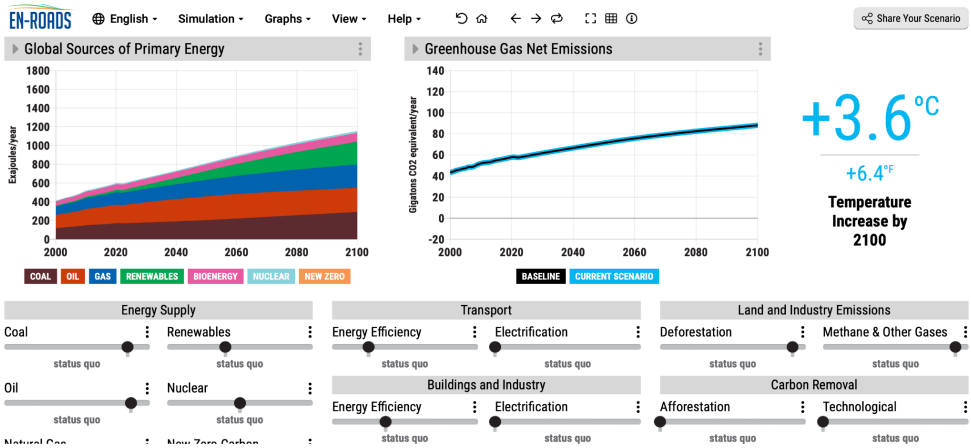

Figure 2. Existing EnRoads model that provides a general idea of the look which we are going for in our final application.

Address the novelty of the project. Explain what this project will teach you beyond what you'll take away from this course.

- Deepen our understanding of relational databases and how they are normalized
- The project will provide us with opportunities to practice collaborating on computer science and utilizing computer science to do meaningful work.
- Improve our understanding of the drivers of climate change

List the expected challenges. How do you expect the project will push you and your team?

- Narrowing the scope of analysis in our model given the various changes we could make to emissions models, as well as other climate variables and stochastic noise
- Learning the tools to display the data in purposeful way
- Doing the brute work to find the many different scenarios of the model

In what areas do you expect to face challenges? (The challenges may not be technical.)

- Managing our workload to deliver our product
    - We have discussed how to divide up work using our existing skills and experience with the front-end/back-end sides of the application
- Fully understanding the climate model
- Coordinating our work using Github
- Combining relational database work with web application

Grading Rubric

[25 pts]- Conceptualizing and creating various emissions scenarios and climate scenarios based on changing initial values of climate variables.

[25 pts]- Conceptualizing and creating a well-formed database for the final application to be built off of. This will house various data created by our model.

[15 pts] - Developing the back end.

[25 pts]- Creating a visually good looking and functional front end application for exploring different scenarios and climate variables

[10 pts]- Updates and communication through scrum and github