

# W209 Final Project Presentation

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## Greenhouse Gas Emissions - The Heros and the Culprits

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# About the Project

## BEFORE

### Goals

Visualize how human *land use practices* (Urban, cropland, livestock, forests) contribute to greenhouse gas emissions and global warming

### Data Sources

US Environmental Protection Agency (EPA)  
World Bank  
US Department of Agriculture (USDA)

## AFTER

Visualize *the different factors*, both heros and culprits, that contribute to greenhouse gas emissions and global warming

World Resources Institute:

[CAIT - US States Greenhouse Gas Emissions](#)

# Our Iterations

- Our first prototype: Powerpoint presentation
  - Used for usability testing
- Tableau
- D3 with Stepper

# Key Takeaways from Usability Testing (1)

Prioritization	Takeaways	Our Actions
M	Directly help users answer the questions/ issue in the title	Modified our project title to align with our visualization and rebuilt our story
M	Graphs need clear axes and legends, making it difficult for some users to understand	Implemented clear axes and legends accordingly
M	Make LUCF chart intuitive since users did not understand the relation of land use and forestry to the overall story.	Call it out clearly in a chart, and wordings to emphasize the role of LUCF

# Key Lessons from Usability Testing (2)

Prioritization	Key Takeaways	Our Actions
S	Dig deeper into energy, which was the largest contributor of GHG	We dedicated one section for sub-sectors of energy to bring more insights
C	Show information about policy and how that is potentially affecting emissions	NA
W	Add more complicated charts	NA

# Designs

[TABLEAU DEMO](#)

[D3 DEMO](#)

# Choice of tools

- Tableau
  - Quick analysis of the data sets, building of a storyboard and finally a dashboard summarizing key findings
- D3, HTML, JavaScript
  - For map-based visualizations in order to have greater flexibility
- Blog to reorganize information and visualizations in one place

# Final Project Presentation requirements

You will give a demonstration of your visualization in action for your classmates during the discussion section. Like the mid-term presentations, you will have 15 minutes. This demonstration is your chance to show your fellow students how far your design has come since the mid-term milestone. Tell us what you changed and why. You must include details and conclusions from at least one round of usability testing (with at least three different subjects). Tell how your design changed (or will change) in response to your findings. Also address your choice of tools for building the final interactive visualization. All team members must participate in the presentation.



## Grading for Final Projects

Your instructor will consider the final presentations, the web site, and any additional information you provide in the final paper in determining a single grade for the final project.

12 points - Is the final product of appropriate form?

12 points - Does it successfully solve a problem or inform the user?

12 points - Is the explanatory text clear?

12 points - Did you show substantial iteration?

10 points - Can the visualization be understood without too much effort?

10 points - Is it aesthetically pleasing?

10 points - Did you include results of usability testing?

8 points - Did you present data in a novel way?

8 points - Did you explain your choice of tools?