

Department of Energy

Case Study

Madison Korteling

PROJECT OVERVIEW

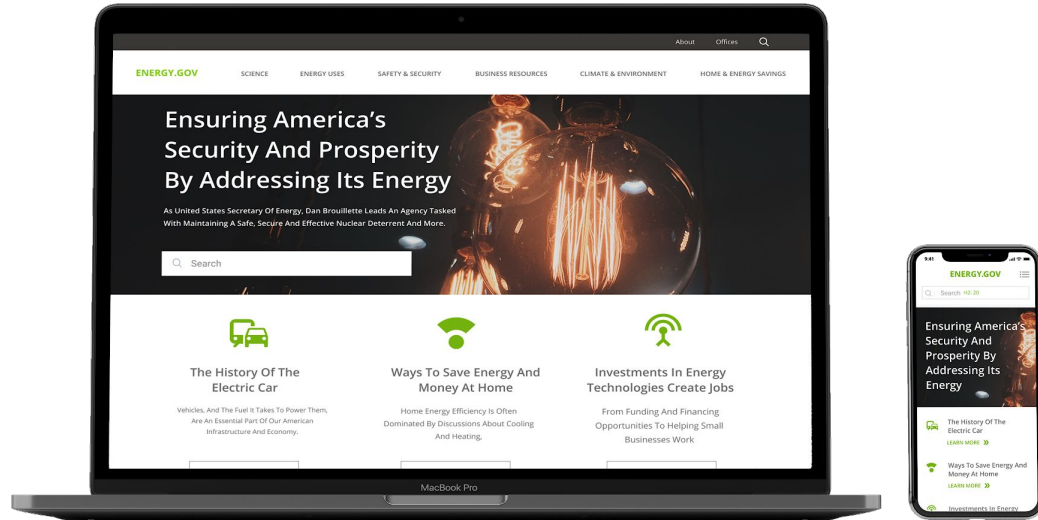
THE PROBLEM:

Though the site contains a wealth of information on various topics, visitors to the site have a hard time finding the knowledge they need to meet their goals.

How might we make the UI more user friendly and have an overall easier flow when looking for specific information?

MY ROLE: UI designer (Individual/ Group Project)

TOOLS: Figma, Miro



OUR SOLUTIONS

REMOVING THE BREADCRUMB BAR

The breadcrumb bar was confusing with too many drop down options. We took the tabs and made them into Cards to be easier seen and clicked by the user.

CREATED MORE WHITE SPACE

The site was cluttered with pictures and random links. We created space with cards and less pictures to create a cleaner more easy to navigate look.

RE-SIZED/ADDED QUALITY PHOTOS

The photos and pictures on the site were pixelated and sized awkwardly which took up too much space on the page. We added quality photos and properly sized them to fit the site comfortably.

FIXED FONT INCONSISTENCIES

Throughout the site, header and body typefaces range in size and style. We defined a consistent set of typefaces to be applied across the UI.

User Interface Analysis

Madison Korteling

Homework 8 & 9

Proto-Persona



Name: Sara Collen

Age: 35

Loc.: Manhattan NY

Job: Engineer

Married

Has 2 cats

Behavioral Demographics

- Works full time as Engineer
- Reads a lot
- Always looking for ways to improve the environment and her education
- Enjoys going for hikes
- Is a planner and well organized
- Goes to conventions for her job twice a month

Goals/ Needs

- Wants to save money
- Start an environmentally clean lifestyle
- looking to make changes in her house, car etc
- needs resources for more sustainable living

User Pain Points and Frustrations

- Wasting money on gasoline
- not enough reliable sources to find information
- wasting money on heating her house

Possible Solutions for Pain Points and Frustrations

- check out Energy.gov for information
- remodel house with energy efficient materials/utilities

User Testing Interview



Lauren

"...found it right where I would expect it to be - in the Navigation"



Mary Ellen

"I'll just use the search tool...Well, that didn't work"



Tom

"It was an overall confusing flow"



Sara

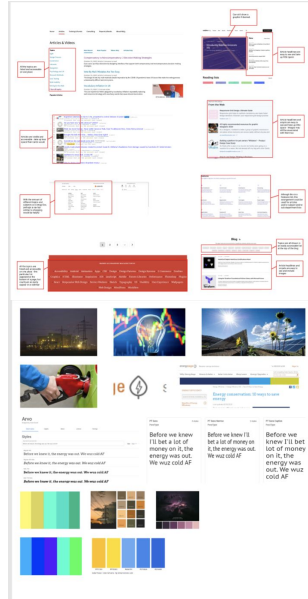
"There are a lot of hyperlinks on every page, and too much text to read"



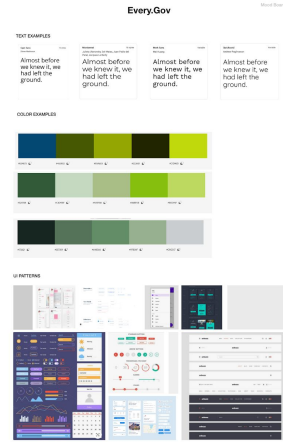
Teresa

"Yeah...this site is not intuitive at all."

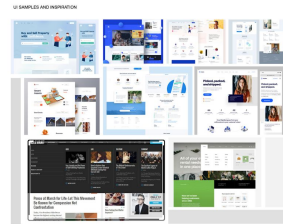
Inspiration



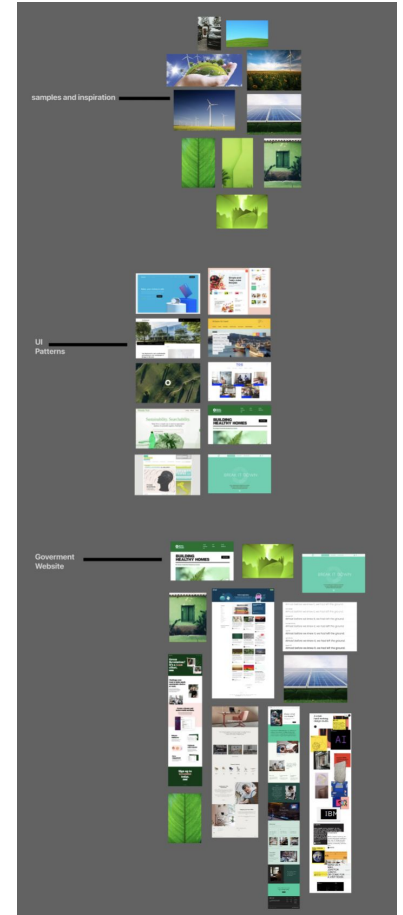
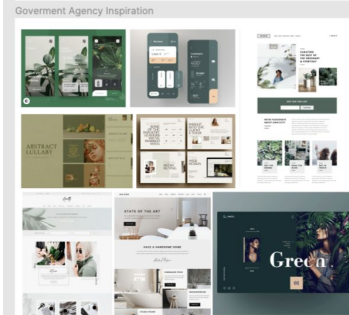
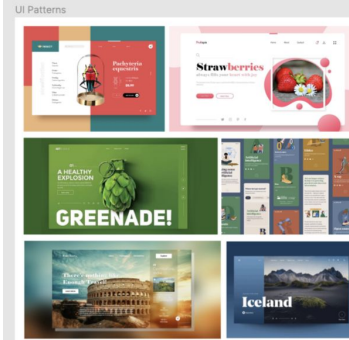
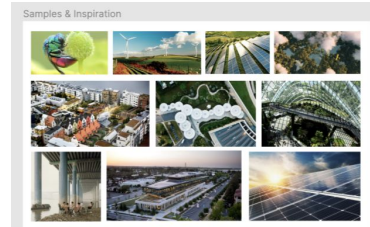
Karl



Madison



Maria



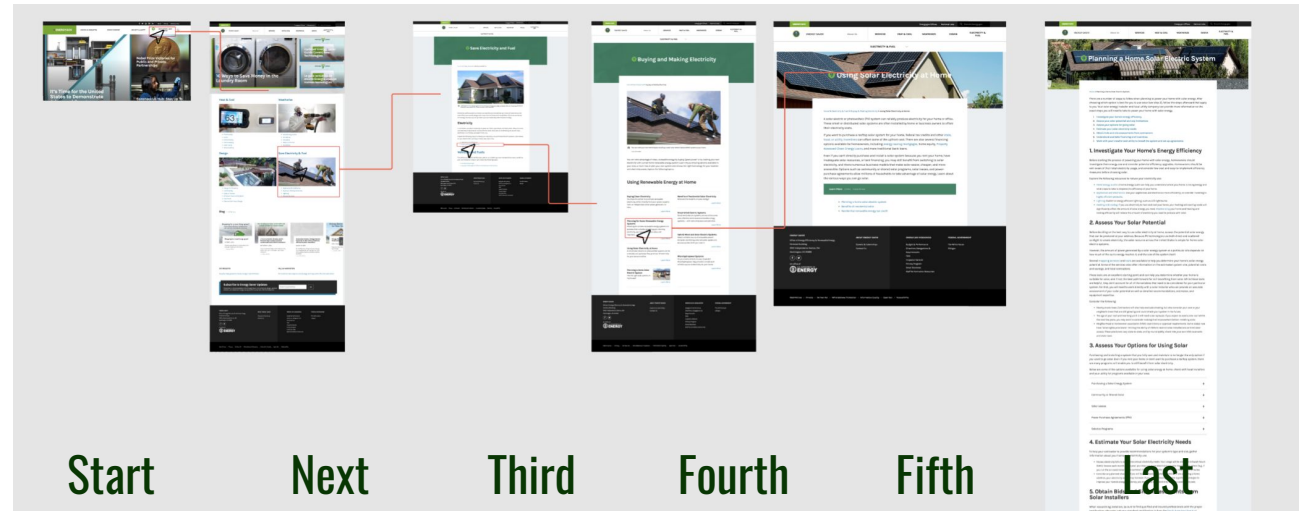
Jeff

User Flow



Users Path-

Our ideal user for this path would be someone looking to save money on their home utilities



Start

Next

Third

Fourth

Fifth

Last

Home Page

Energy Saver

Save Electricity and Fuel

Buying and Making Electricity

Using Solar Electricity at Home

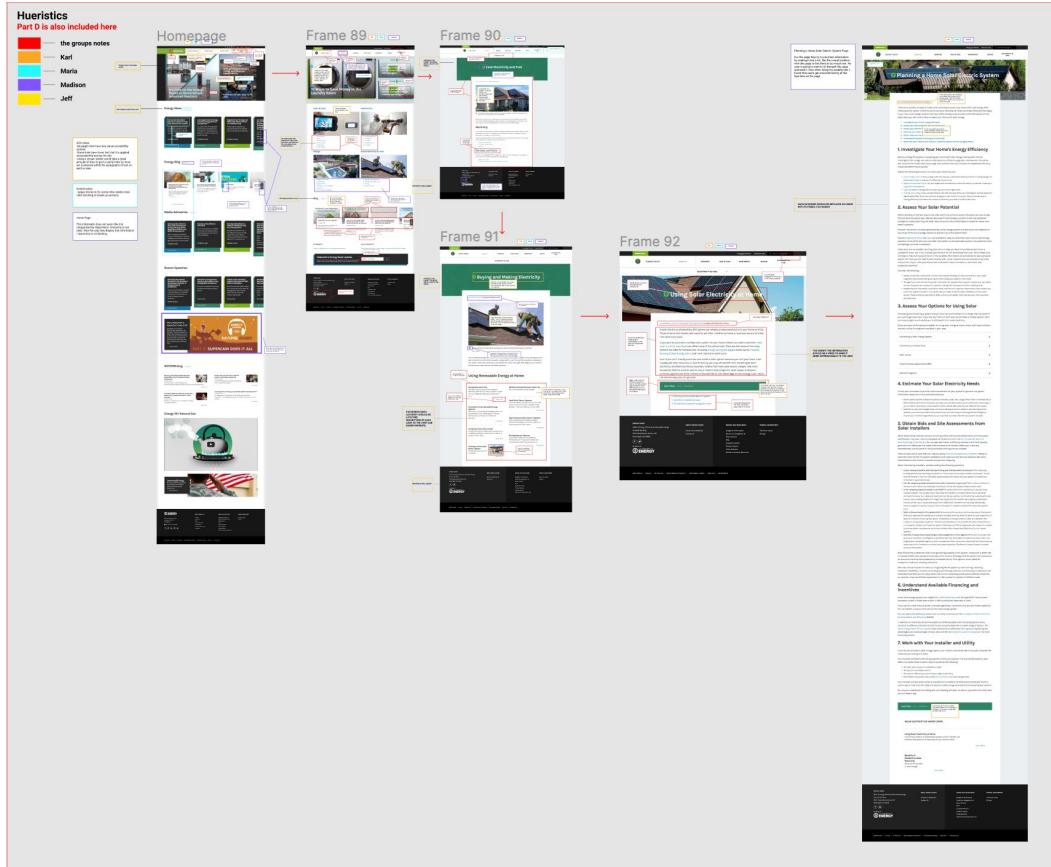
Planning a Home Solar Electric System

Color / Vision Accessibility

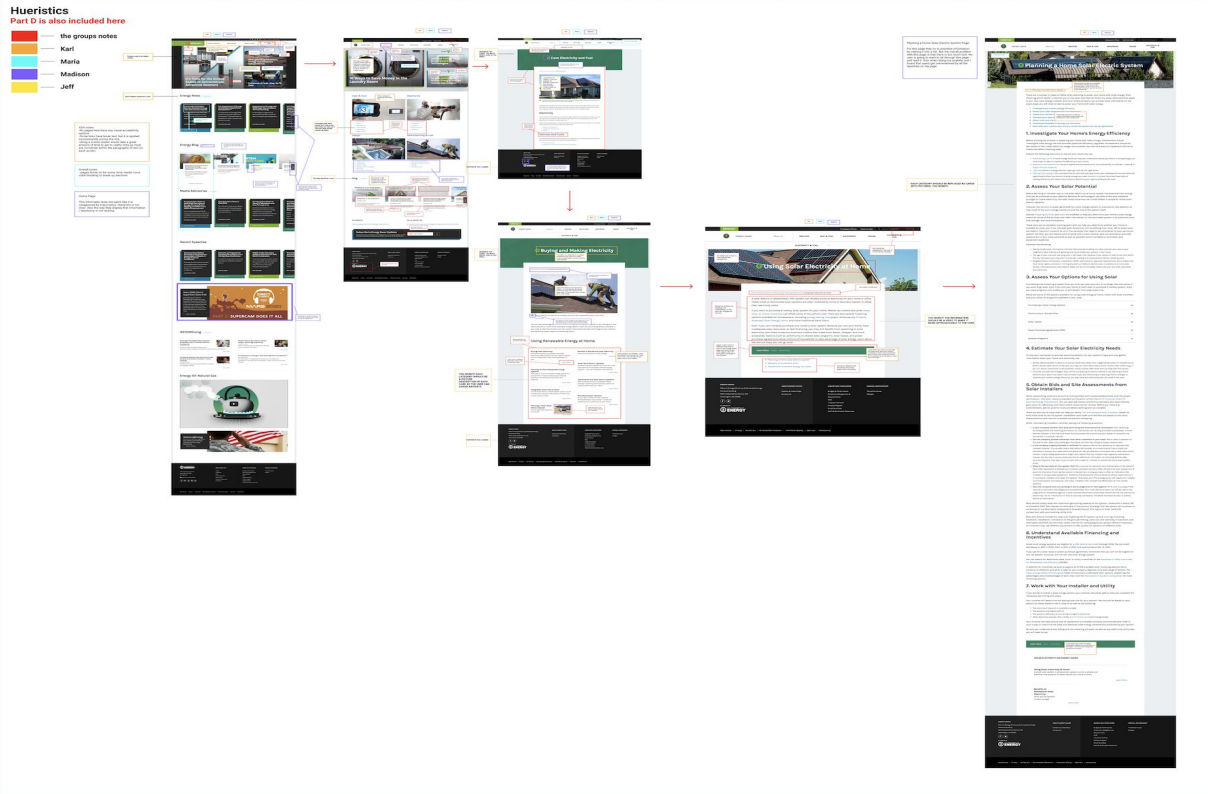


<p>Passes AA</p> <p>Required contrast ratio: 4.5</p> <p>Your contrast ratio: 4.91</p> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do...</p>	<p>Passes AA</p> <p>Required contrast ratio: 4.5</p> <p>Your contrast ratio: 4.52</p> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do...</p>	<p>Fails AA</p> <p>Required contrast ratio: 4.5</p> <p>Your contrast ratio: 2.56</p> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do...</p>	<p>Passes AA</p> <p>if you change background color to #55830B</p> <p>New contrast ratio: 4.53</p> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do...</p>	<p>Passes AA</p> <p>if you change text color to #393939</p> <p>New contrast ratio: 4.51</p> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do...</p>
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Heuristic Evaluation (team)



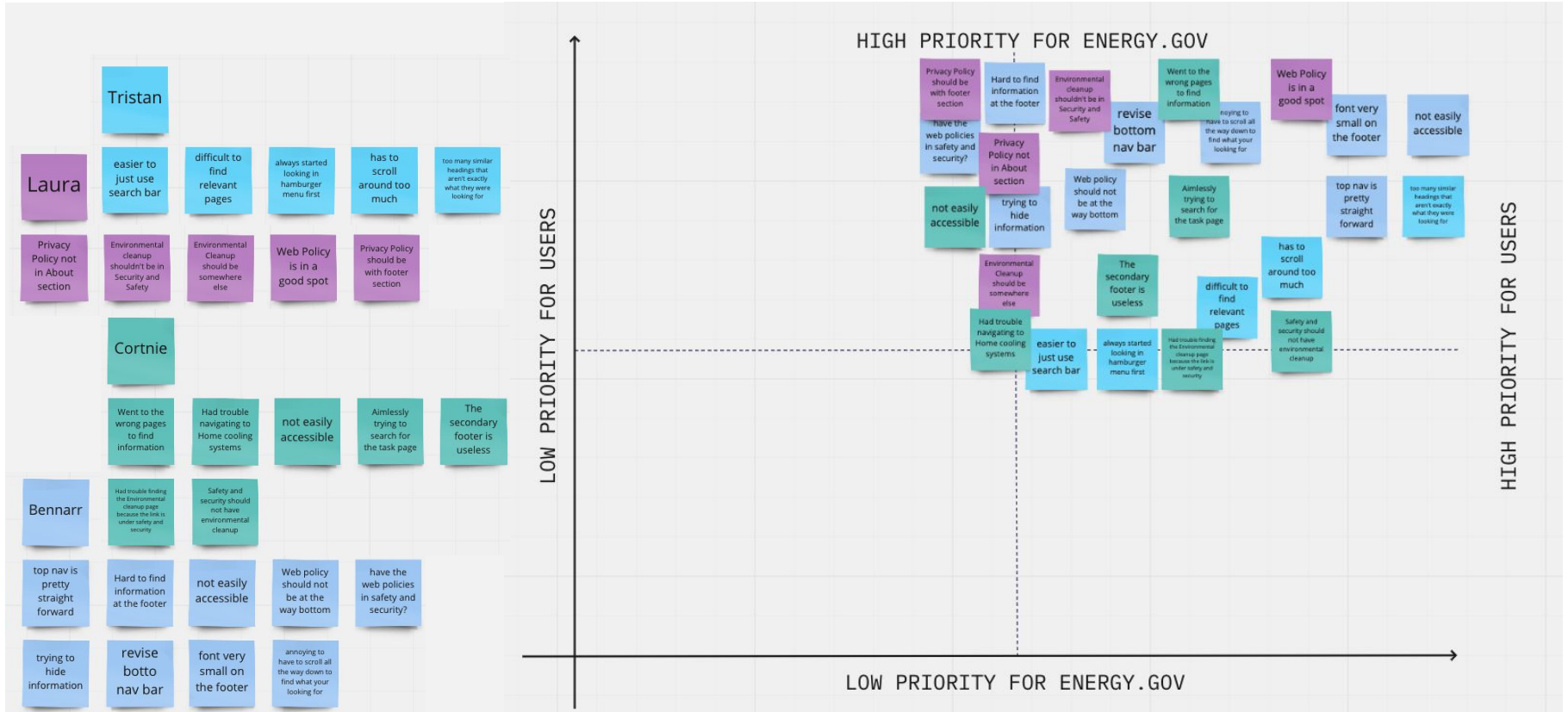
Navigation Heuristics and Red Lining



Navigation Heuristics and Red Lining

- We are redesigning the navigation to improve usability of the site.
- After several user tests, we determined that some sections are hidden too deep into the site.
- Some portions of the site contain navigation areas that are inconsistent with others, and the styling of content across the site lacks a theme.

Navigation Usability Testing Notes



Navigation Usability Testing Notes

Considerations:

- People visit Energy.gov to learn more, and want quick and easy answers. Having a navigation that is easy to follow is high priority for users going to ENergy.Gov. Some pain points users have is getting to the destination that they are looking for. It is frustrating when users have to take 5 clicks to navigate to a page rather than 2. In addition, users have problems finding the things they are looking for, and spend more time looking for things in the navigation than they should.
- Depending on the User, many people visit the site to benefit their households, companies, and/or the environment.

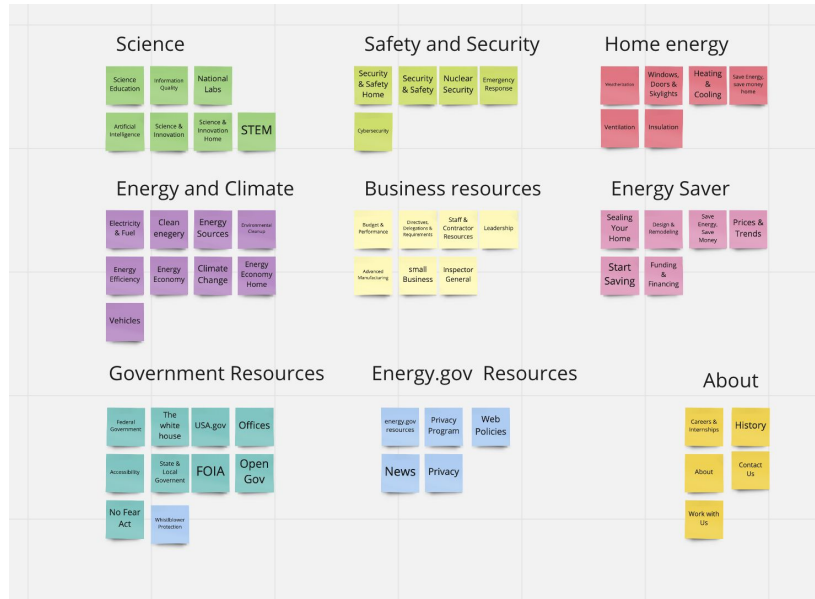
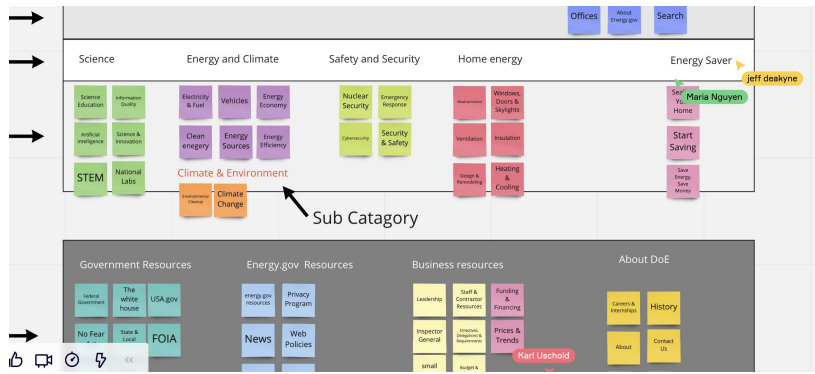
Major pain points:

- Unable to location information about Environmental Cleanup projects.
- Some navigation headers are vague as to what content is on them
- Some navigation headers are redundant

Card Sorting

Directives, Delegations & Requirements	Web Policies	Privacy	No Fear Act	Whistleblower Protection	Information Quality	Open Gov	Accessibility	Contact Us	FOIA	energy.gov resources	Weatherization	Careers & Internships
Budget & Performance	Science & Innovation	Energy Economy	Security & Safety	Save Energy, Save Money	Science & Innovation Home	Energy Sources	Clean enegery	Energy Efficiency	Privacy Program	Staff & Contractor Resources	About Energy.gov	Work with Us
Offices	Artificial Intelligence	Climate Change	Vehicles	STEM	Energy Economy Home	Prices & Trends	Funding & Financing	State & Local Government	Federal Government	Inspector General	Windows, Doors & Skylights	Careers & Internships
National Labs	Advanced Manufacturing	Security & Safety Home	Nuclear Security	Cybersecurity	Environmental Cleanup	Emergency Response	Save Energy, save money home	Heating & Cooling	The white house	Windows, Doors & Skylights	Design & Remodeling	Science Education
About	USA.gov	Leadership	Design & Remodeling	Electricity & Fuel	Start Saving	Insulation	Sealing Your Home	Ventilation	small Business	News	History	Leadership



Card Sorting Progress

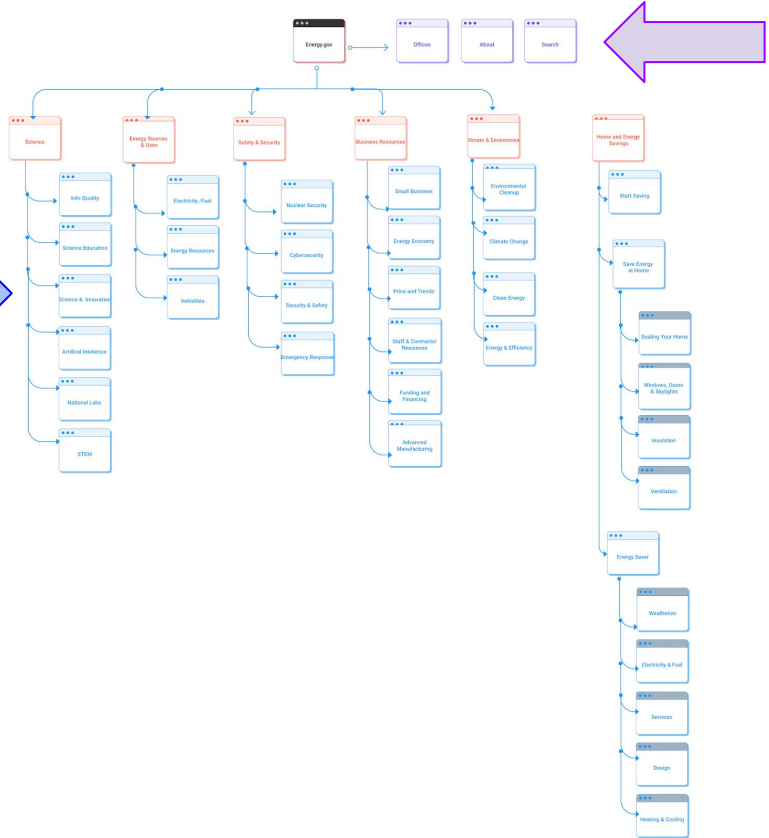


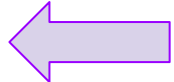
Card Sorting Final



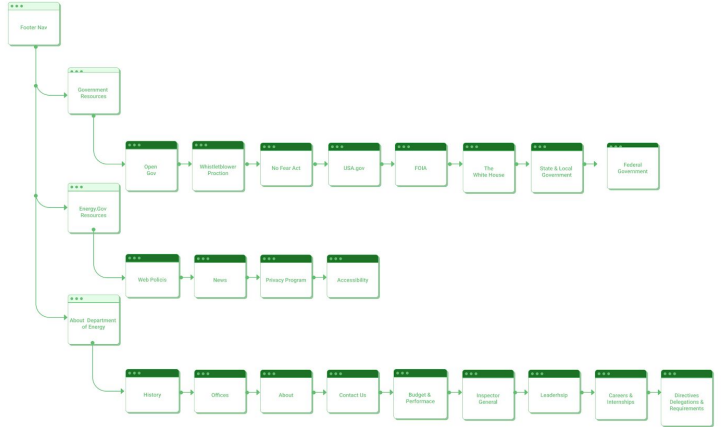
New Sitemap for Energy.gov

Primary 
 Secondary 

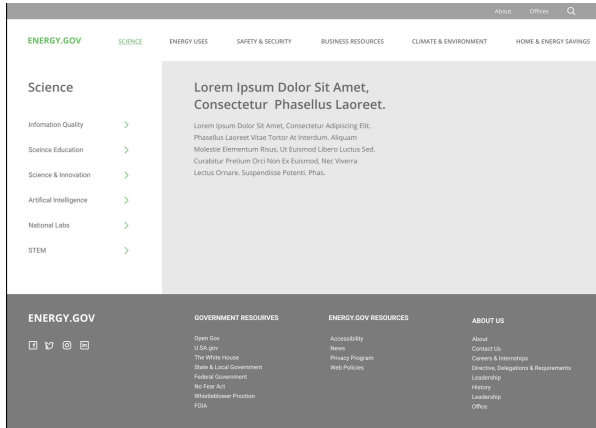
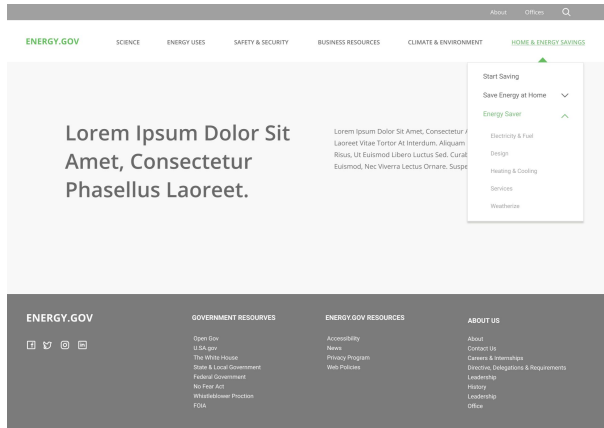
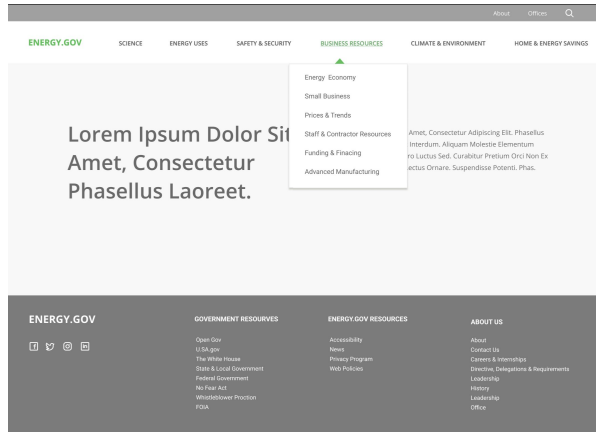
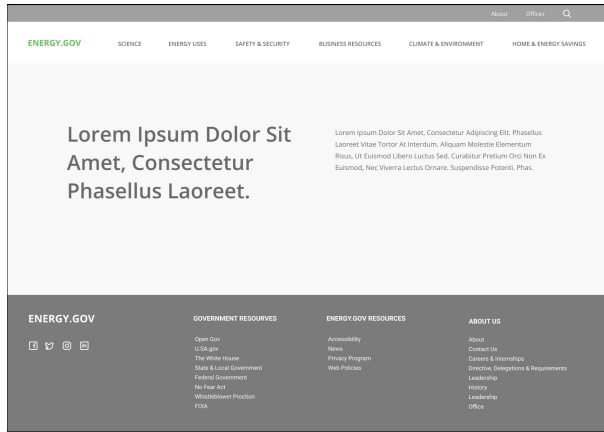


Global 

Footer Navigation 



Energy.gov Navigation Mock: Madison



[View Figma File](#)

[View Prototype](#)

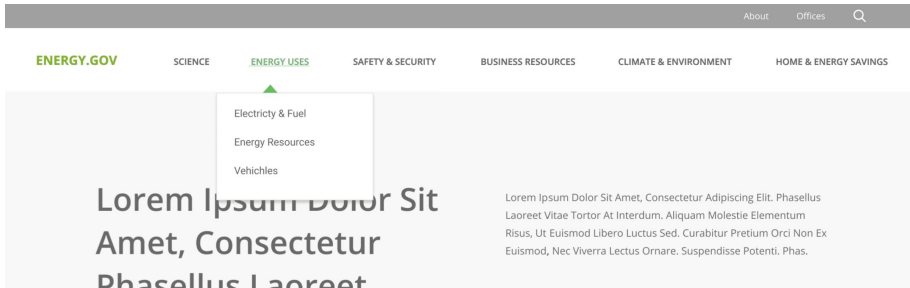
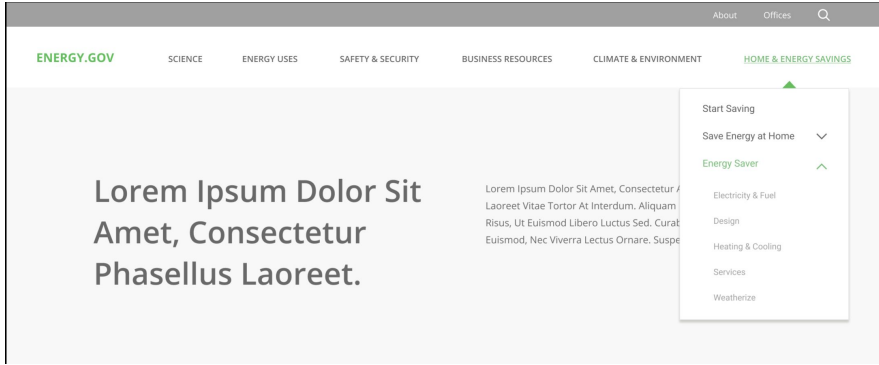
User Interface Design

Madison Korteling

Homework 10

Website Navigation

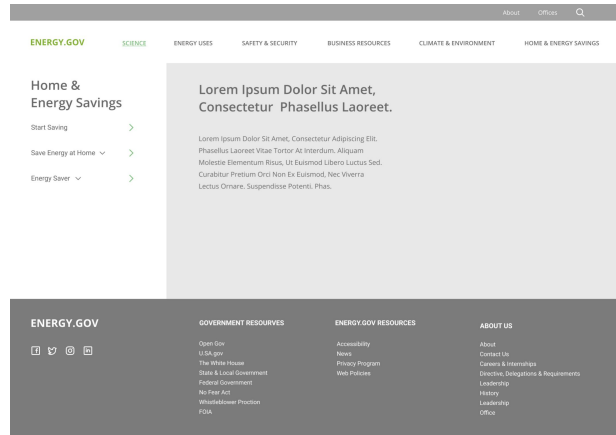
PRIMARY NAVIGATION



HOME PAGE WITH FOOTER



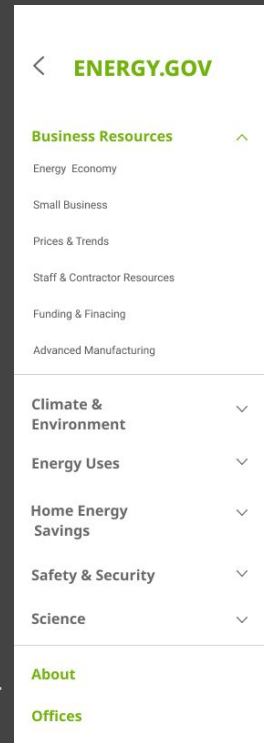
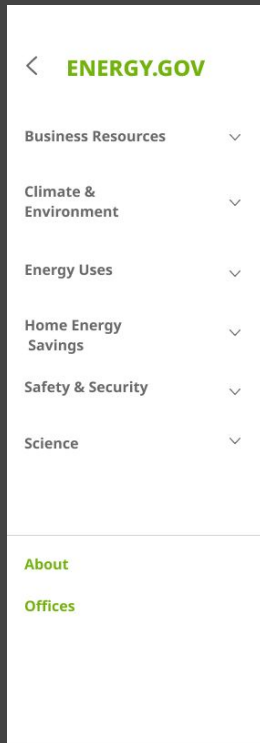
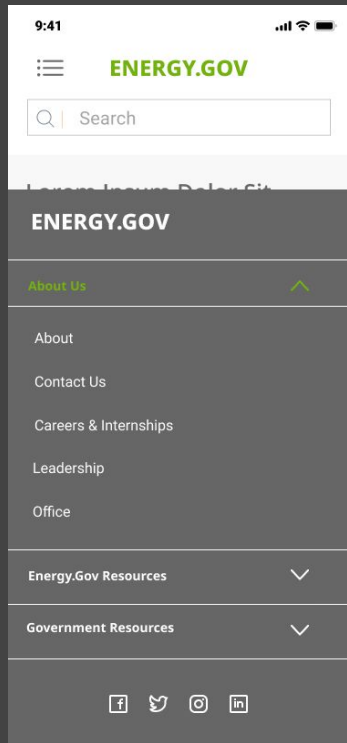
SECONDARY PAGE WITH SECOND NAV



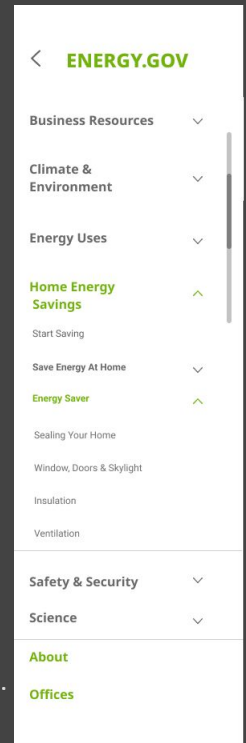
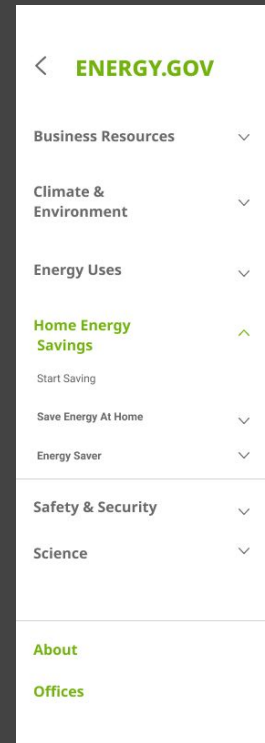
Mobile Navigation



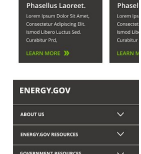
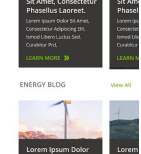
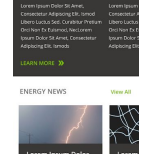
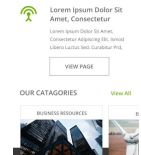
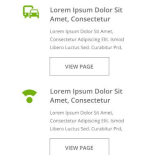
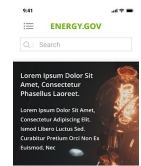
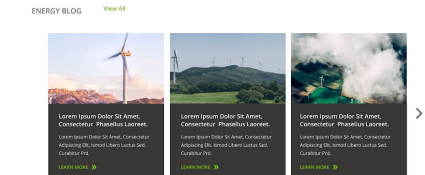
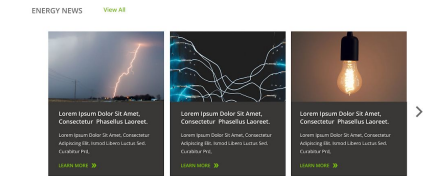
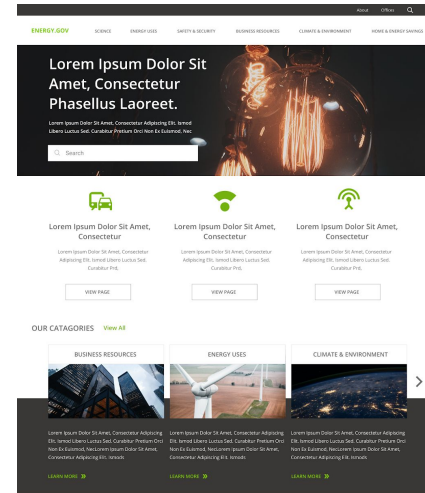
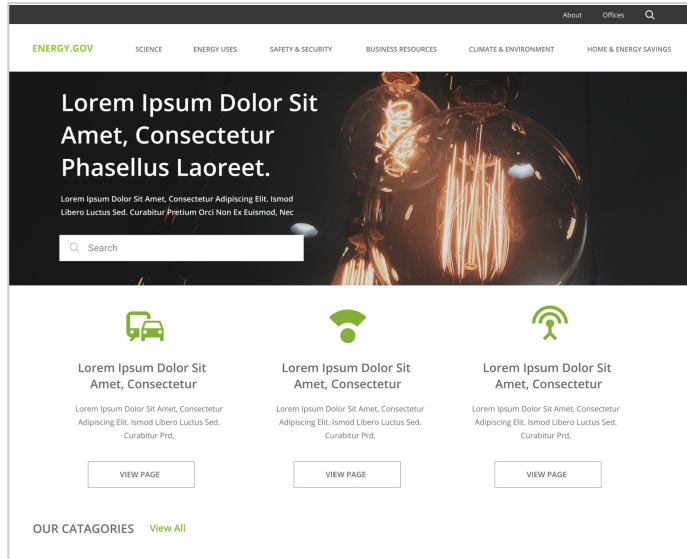
FOOTER



PRIMARY NAVIGATION



Homepage Wireframes

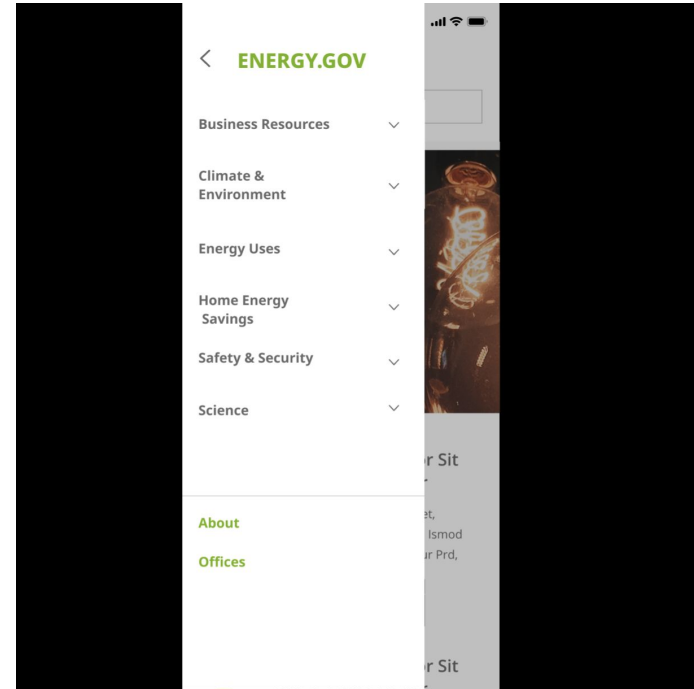
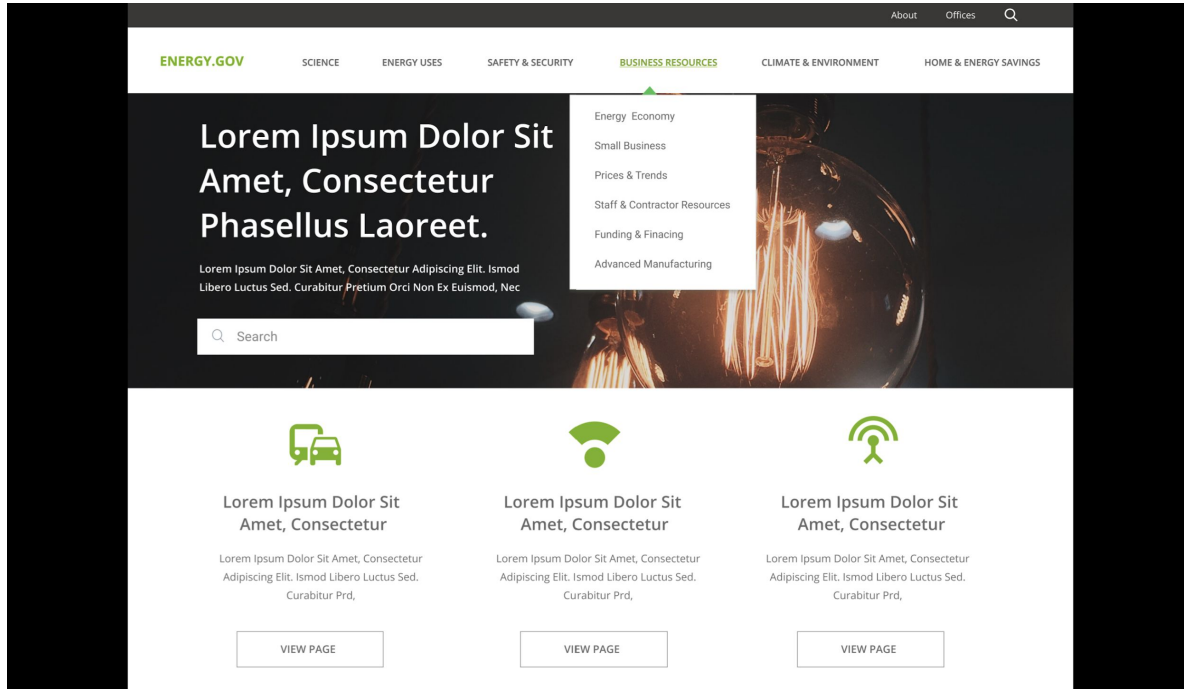


[View Figma File](#)

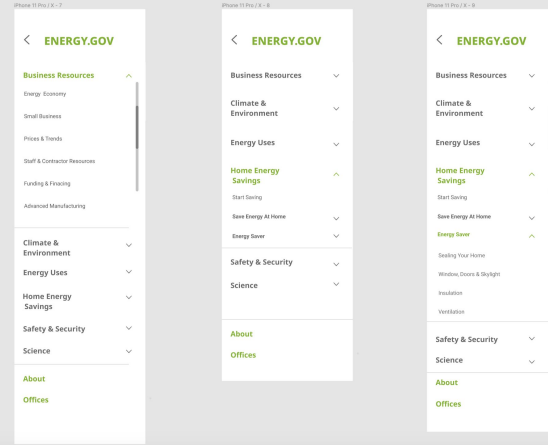
Prototypes

[View Web Prototype](#)

[View Mobile Prototype](#)



Version A

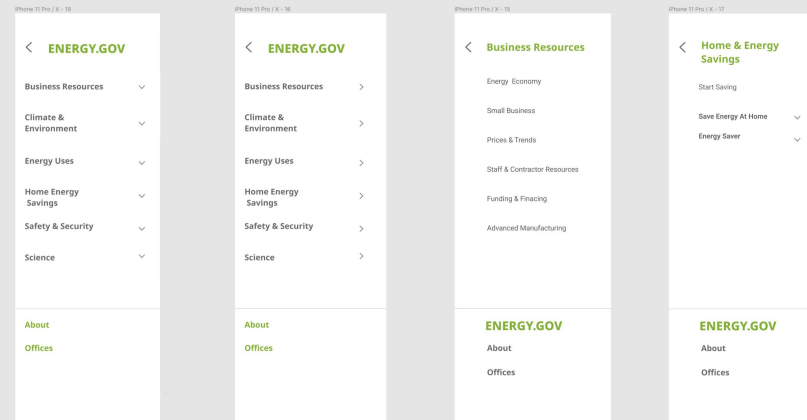


A/B Testing- App

What are we testing?

- The navigation of the hamburger menu on the mobile app.
- In Version A the subcategories appear below.
- In Version B the subcategories are brought up in a separate page

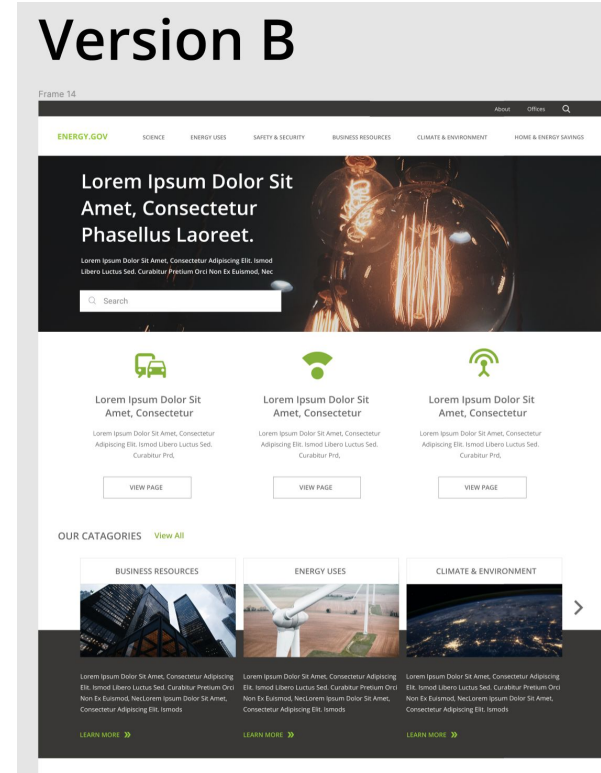
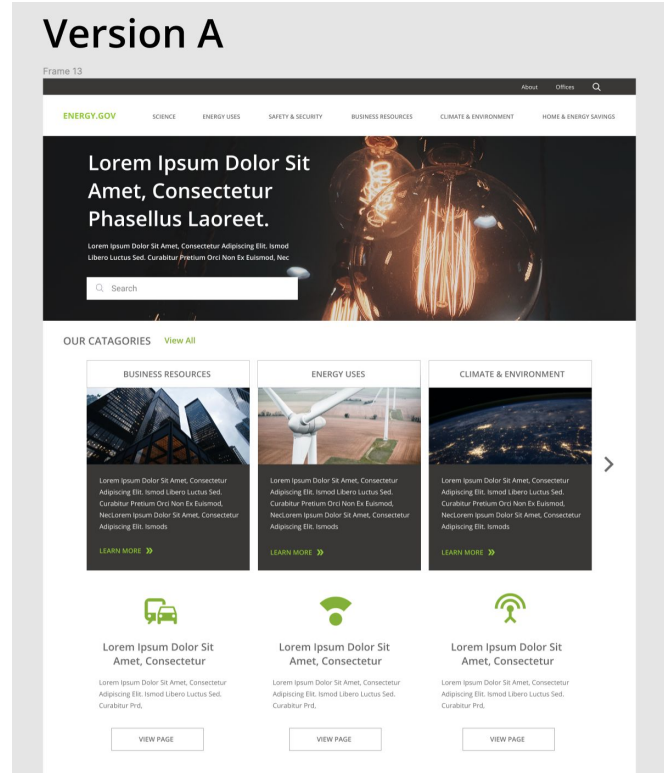
Version B



A/B Testing- Web

What are we testing?

- The layout design in Version A and B. Additionally, making 'Our Categories' into cards, or keeping the dark grey background



A/B Testing Feedback

App:

Users liked the drop down menu better in Version A than Version B. Their only complaint was that the sub categories were too close together. In my iterations I plan on making the menu navigation scrollable to give more room in between categories

Website:

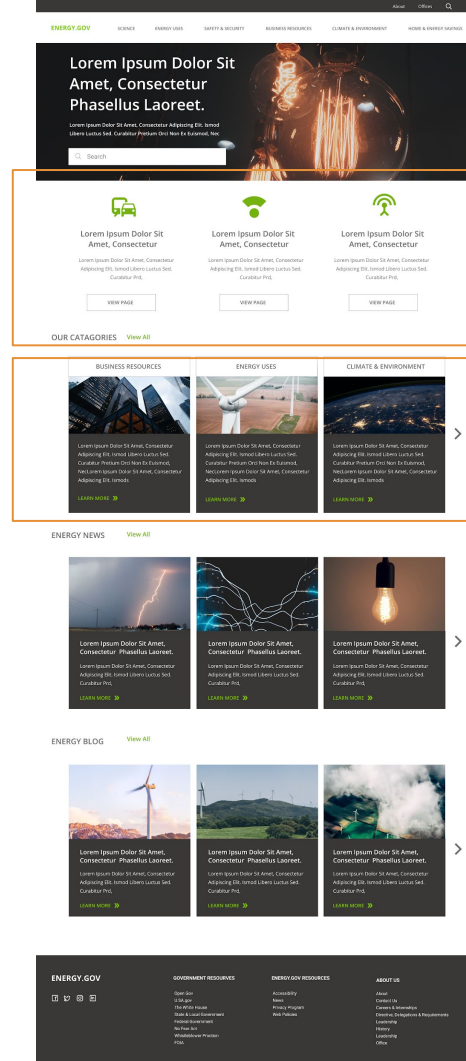
There were mixed views on the layout of the website homepage. All users liked the cards, for the 'Our Category' section from Version B.

Web Iterations

Changes made

- Fixing the alignment of text
- Changing the 'Our category cards

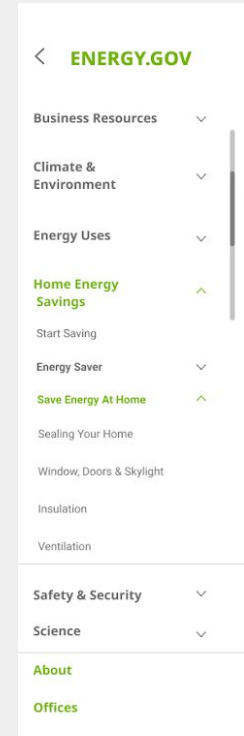
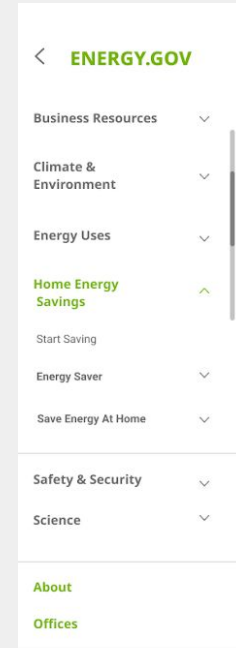
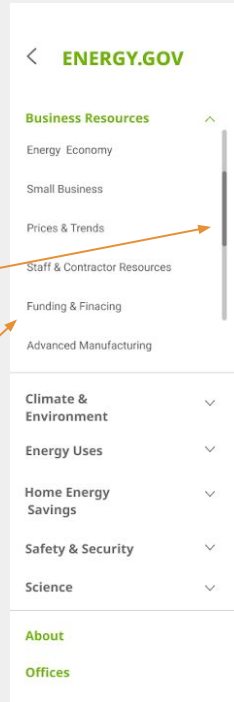
[View Figma File](#)



Mobile Iterations

Changes made

- Made the menu scrollable for all drop down options
- Made more space in between the each line of text to make it easier for the user to click on



[View Figma File](#)

Style Guide

Energy.Gov Style Guide

Date

UI STYLE DIRECTION

Government websites are always hard to navigate, and cluttered with information. What Energy.Gov needs is an easy way for their users to navigate and find information. By creating a clean, clear and minimal design, users are able to find exactly what they are looking for without feeling overwhelmed by information.

UI Style Adjectives

Modern Clean Minimal
Function Practical

Typography- Open Sans

For this design, I decided to go with an san serif typeface. Open Sans is easy to read and is not distracting for the user. Additionally, the Open Sans is a great typeface for small text, and paragraphs

Headings

H1 (Open Sans Semi Bold 50 pt)

H2 (Open Sans Semi Bold 25 pt)

H3 (Open Sans Regular 16 pt)

H4 (Open Sans Regular 14 pt)

Typography Body Copy

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.

(Open Sans, Reg 14 pt)

BRAND LOGO

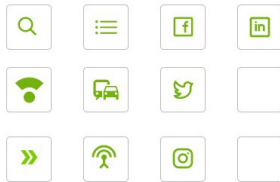
— Logo on white



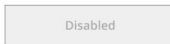
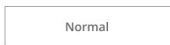
— Logo on dark



Iconography



Button States



COLOR PALETTE

— Base Colors



— Primary Colors



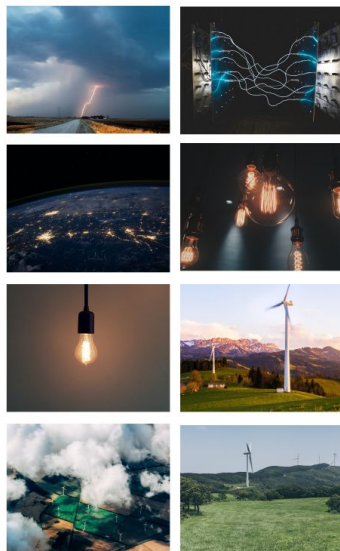
— Secondary Colors



COLOR GRADIENT



Images Samples



Graphic Patterns



Responsive Design

Madison Korteling

Homework 11 & 12

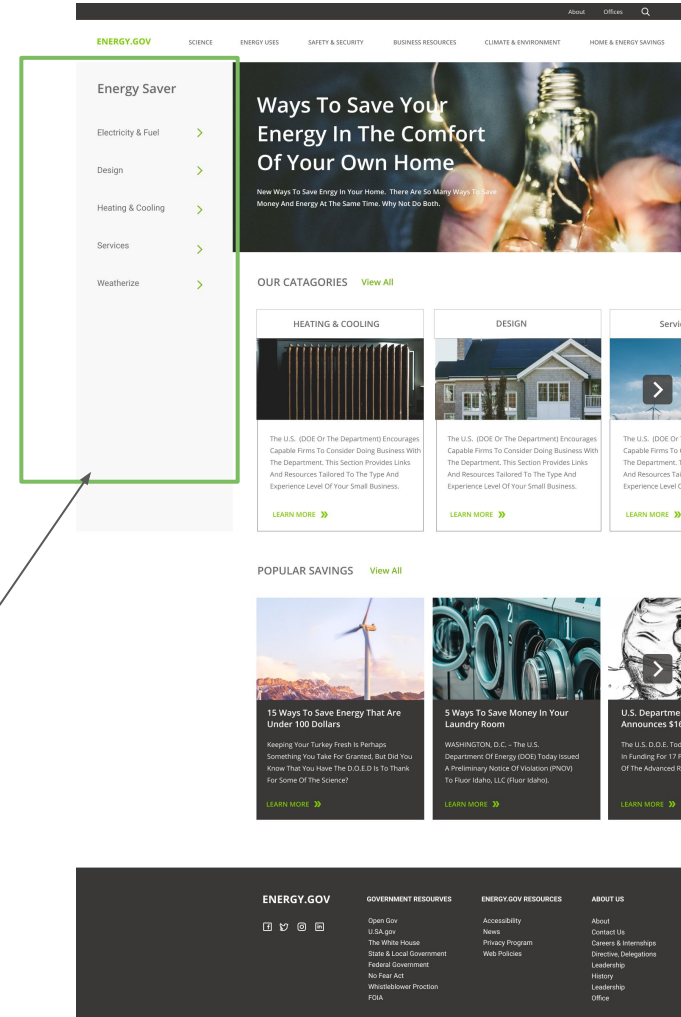
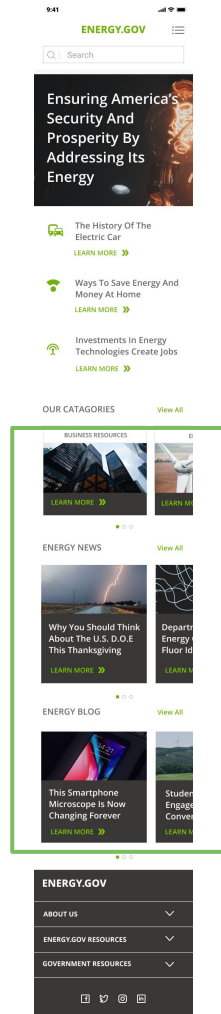
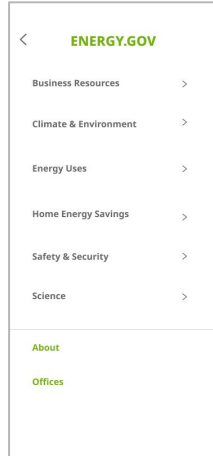
Responsive Wireframes: iterations

Mobile:

- Simplifying the cards on the homepage
- Making the primary navigation the full size of the phone

Website:

- Iterating on the cards
- Making a secondary navigation on the Energy Saver Pages



Colors

Primaries and grays

<https://www.pinterest.com/energygov/>



BLUE #002060
PURPLE #704080
GRAY #808080



#212429 #455057 #6C6B6D #808080 #999999

Typography

Roboto set with the perfect fourth modular type scale

<https://fonts.google.com/specimen/Roboto>
<https://www.modularscale.com/?t=4&p=1.25>

Open Sans

Open Sans

W1
W2
W3
W4
W5
P
SMALL



Buttons

Tabs



Icons

Faceted icons at 24px height and width with 2px stroke weight

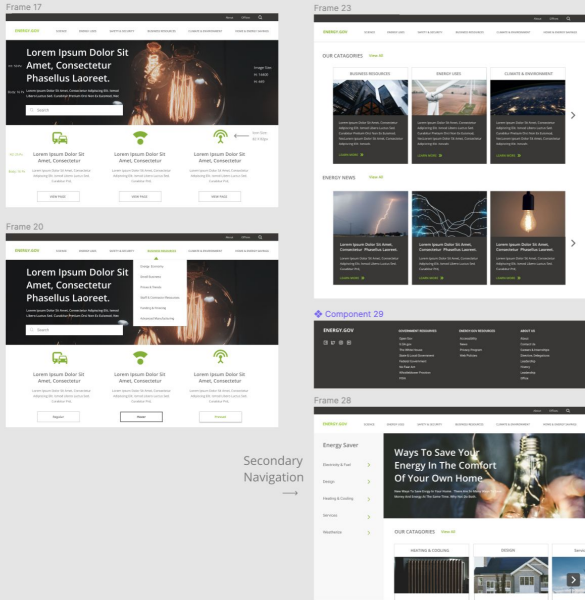
<https://materialicons.com/>



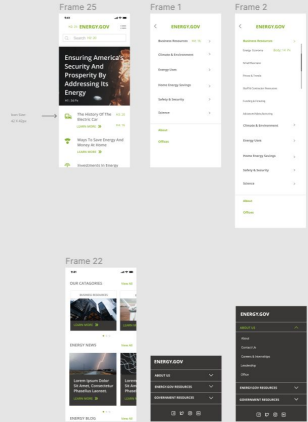
Style Guide

Figma File

Web Examples

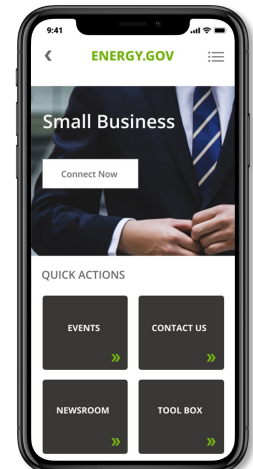
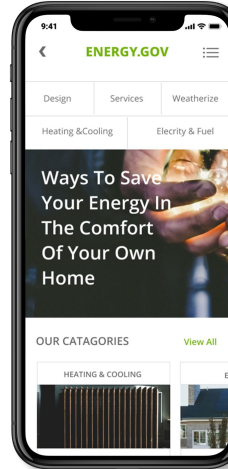
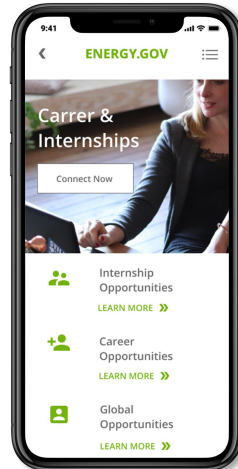
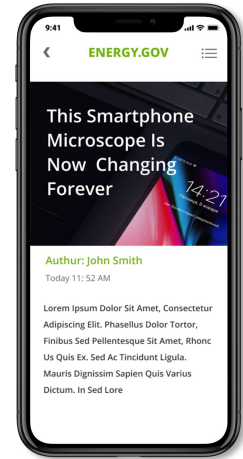
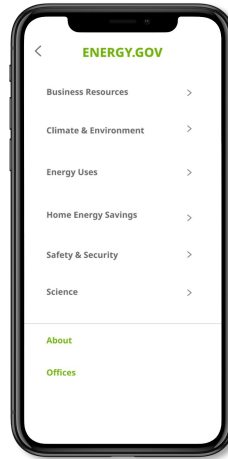
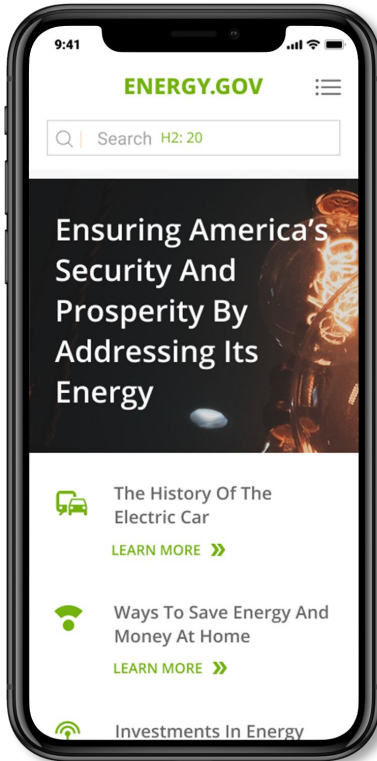


App Examples

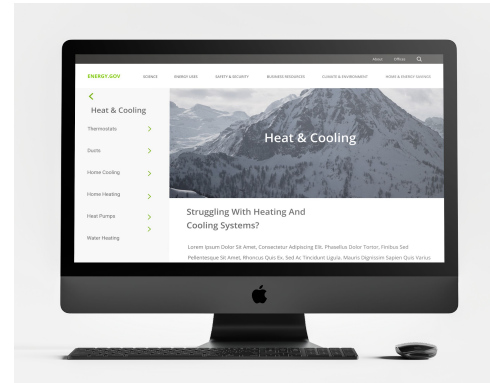
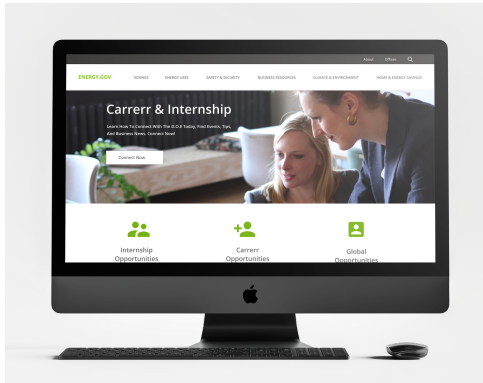
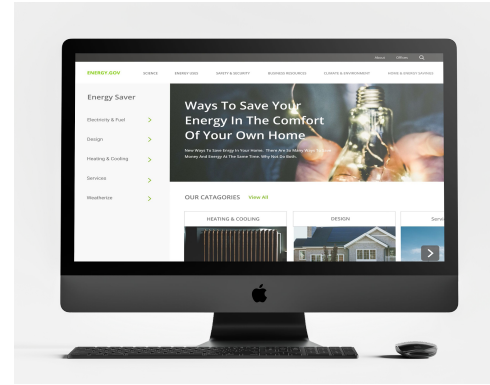
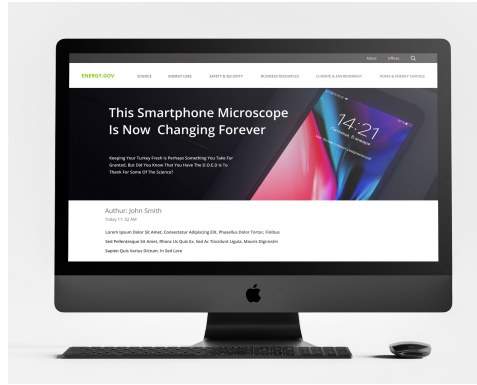
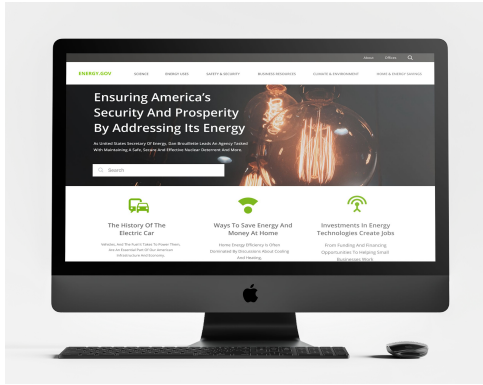


Secondary Navigation
→

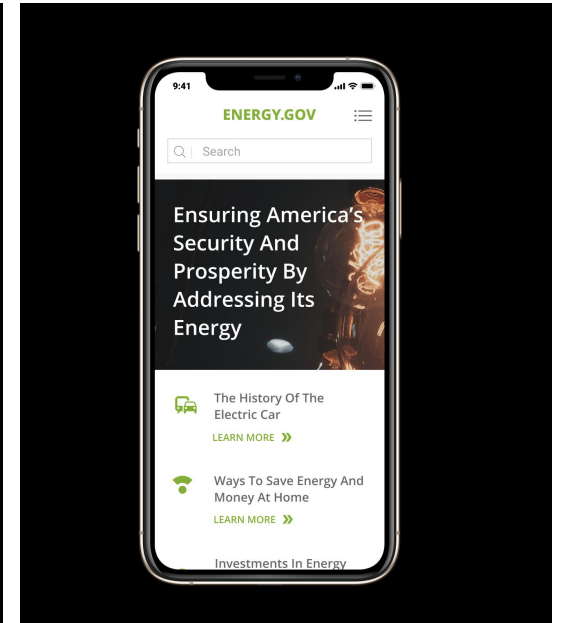
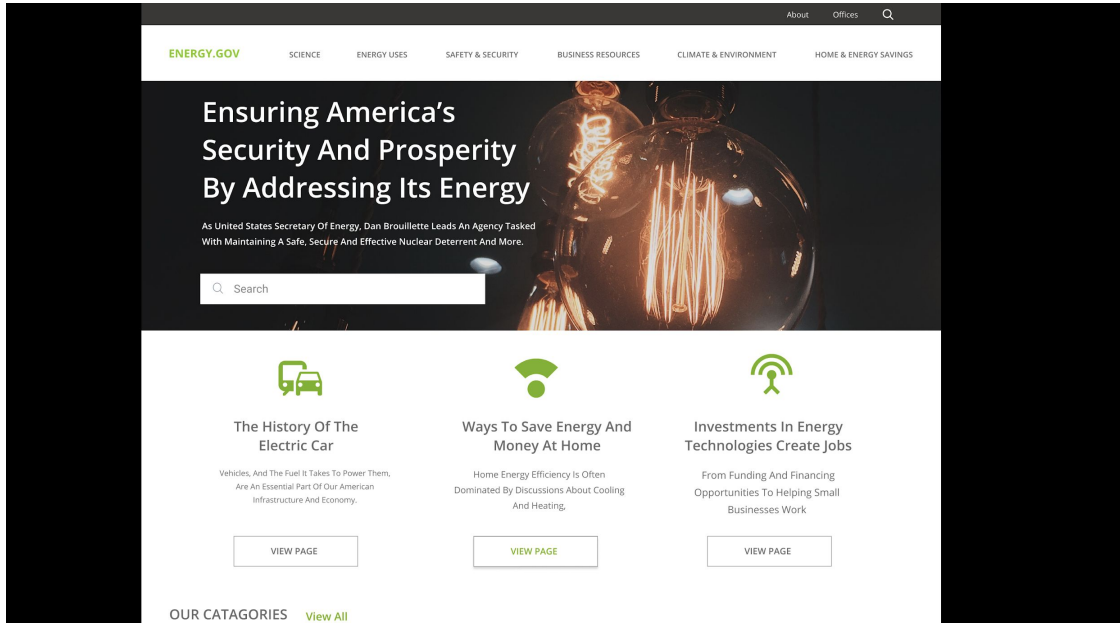
Responsive Mockups: Mobile



Responsive Mockups: Web



Clickable Prototype



Website Prototype

Mobile Prototype

User Testing/ Testing Plan

USABILITY TEST PLAN DASHBOARD

AUTHOR	CONTACT DETAILS	FINAL DATE FOR COMMENTS
<p>Madison Korteling</p> <p>PRODUCT UNDER TEST</p> <p>What's being tested? What are the business and experience goals of the product?</p> <p>What is being tested is the mobile and desktop redesign of Energy.gov. In this test users will conduct tasks to test the navigation and layout design of the homepage. In the old version users weren't able to find various categories in the footer, primary nav and secondary nav. This test will tell if the overall navigation and layout has improved our users experience.</p> <p>BUSINESS CASE</p> <p>Why are we doing this test? What are the benefits? What are the risks of not testing?</p> <p>This test is being done to see if users find the redesign of the navigation and homepage easier to use. By conducting the test it will help us understand how to help our users and make our site easier for me to navigate. By not testing users might run into some frustrations that we would not be aware about, which would cause them to not want to use our site.</p>	<p>TEST OBJECTIVES</p> <p>What are the goals of the usability test? What specific questions will be answered? What hypotheses will be tested?</p> <p>The over arching goal of this test is to see if the navigation and layout of the homepage is easy for users to use. More specifically, in the mobile prototype, to see if users find it easier to navigate on the mobile with menu bar that takes up the whole screen, and on the website/mobile to see if the placement of the cards/categories are successful on the homepage.</p> <p>PARTICIPANTS</p> <p>How many participants will be recruited? What are their key characteristics?</p> <p>The users I will be testing are between the ages of 20-50. My users will be moderately proficient in technology and have an understanding of using navigation on a mobile and desktop versions.</p> <p>EQUIPMENT</p> <p>What equipment is required? How will you record the data?</p> <p>Testing will be done partially in person and the other half on zoom. Pictures and screen shots will be provided</p>	<p>TEST TASKS</p> <p>What are the test tasks?</p> <p>Find how to save energy by heating and cooling for your home</p> <p>Find out about small business</p> <p>Find out where you would access information about the energy blog on the website</p> <p>Find where someone would go to if they wanted to find out about Energy.gov's careers and internships</p> <p>RESPONSIBILITIES</p> <p>Who is involved in the test and what are their responsibilities?</p> <p>I will be then only one involved in this test, recording information and guiding the users through their tasks</p> <p>LOCATION & DATES</p> <p>Where and when will the test take place? When and how will the results be shared?</p> <p>The dates of this test will be done on 11/28-11/29/2020. The location of this test will mostly be done virtually, and partially in my office space at home. The results will be shared over zoom and in person.</p>
<p>PROCEDURE</p> <p>What are the main steps in the test procedure?</p> <pre>graph LR; A[Find participants that will give the most accurate data] --> B[Test users via zoom or in person]; B --> C[See users reaction to mobile and desktop navigation]; C --> D[See if users are able to find categories on the homepage]; D --> E[Find if users would navigate to the footer to find information about the Energy.gov]; E --> F[Take notes of recordings and make iterations.]</pre>		

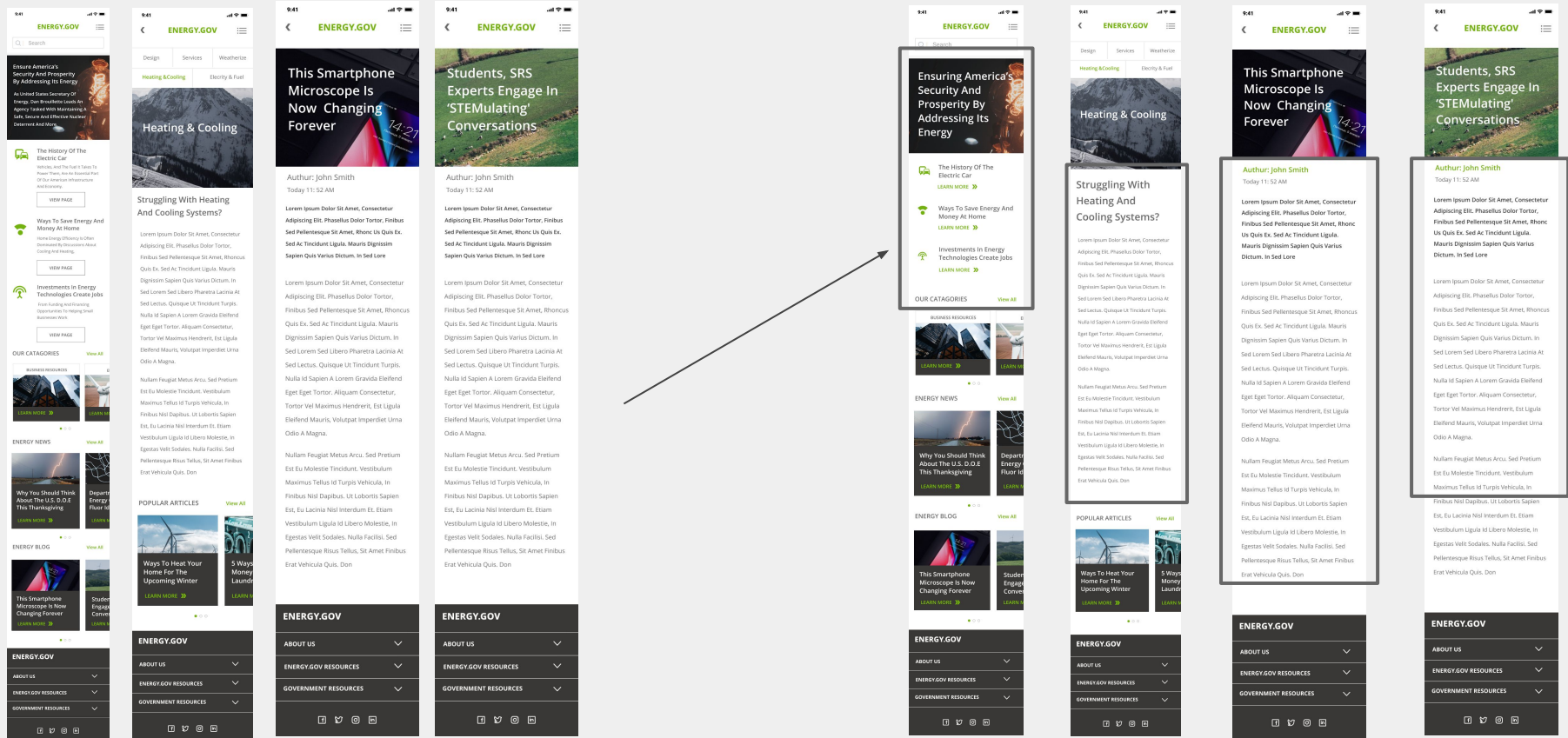
Notes:

- Users had some difficulty navigating through the mobile version than the desktop
- The mobile version had too much text and users felt like they had to do a lot of reading
- The placement of the categories were easy for users to find on mobile and desktop
- Users felt like options stand out more, things were blending together

Iterations:

- Simplify the mobile homepage by taking away text on when needed.
- Making things stand out more on the mobile device

Final Iterations- Mobile



Before

After

Key Learning & Findings

If I had more time, I would have added more content to the homepage and secondary pages, in addition to add microinteractions.

What I feel was the biggest challenge for me was categorizing all the content together. A lot of thought and testing went into just the navigation alone because there was a lot of content and information to be displayed.

Additionally I learned the importance of simplifying mobile sites. Through my user testing I found users had a harder time navigating the site, than on the desktop version. Simplifying content and having a clear flow is very important on mobile especially. In the future I would simplify the mobile pages even more than what they are now. This project taught me the significance of card sorting and responsive web design

Thank You!