Government Agency Redesign & UI Redesign Case Study

Author : Vaman Sriharan

Introduction

The purpose of this case study is to outline the process and outcomes of a UX/UI responsive web design (RWD) redesign for the website www.energy.org. The objective of the redesign is to enhance the user experience, create an aesthetically pleasing interface, and ensure seamless responsiveness across various devices. This report includes UI analysis, user research, UI style guide, UI branding, RWD wireframes, sitemaps, low fidelity and high fidelity design compositions, and a conclusion statement.

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Problem Statement :

The existing design of www.energy.gov falls short in meeting modern standards of user experience and responsiveness. Users encounter difficulties in navigating the website, locating relevant information, and engaging effectively with the content. This limits the website's potential as a trusted resource for energy-related information, hindering its ability to serve users' needs.

Solution for Redesign :

The redesign of www.energy.gov aims to create a user-centered and responsive website that provides seamless access to energy-related information. By improving navigation, simplifying content discovery, and enhancing overall usability, the redesign seeks to establish www.energy.gov as a reliable and engaging platform for users seeking energy-related resources and knowledge.

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Design Thinking Process :

As the design lead, I followed the DT methodologies for the Dept. of Energy re-design.

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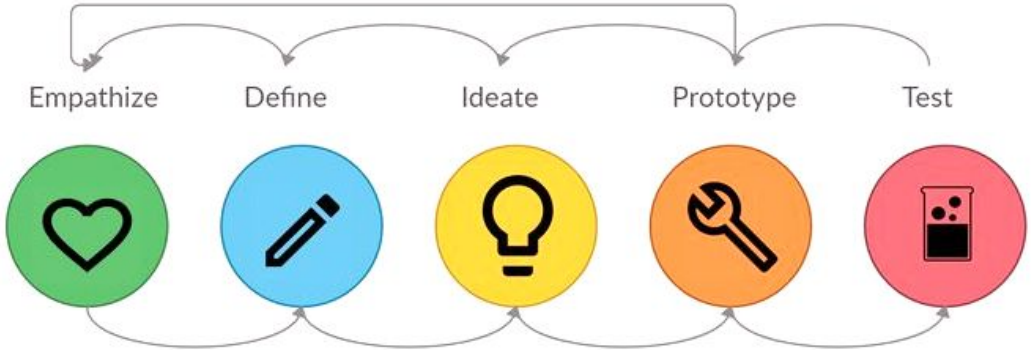

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User Research :

User research was conducted to gain insights into the preferences and needs of the target audience. Various methods, such as brainstorming sessions, surveys, interviews, and usability testing, were employed to collect valuable feedback. The research uncovered user pain points, desires for more interactive features, and the need for intuitive navigation. These insights served as the foundation for decision-making throughout the redesign process.

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Persona :

To better understand the target audience, a (proto) persona named "Sarah" is created. This persona represents a user who seeks up-to-date information on renewable energy, energy conservation, and government initiatives related to the energy sector

> Demographics

Name : Sarah | Age : 35 | Marital Status : Single | Occupation : Environmental Activist
Income : Moderate | Education : Bachelor's degree in Environmental Studies

> Background

Sarah is a 35-year-old environmental activist who has been working to promote the adoption of clean energy technologies for the past decade. She is passionate about reducing carbon emissions and mitigating the effects of climate change. Sarah often access energy.gov to keep her informed about the latest developments in green energy sector. Looking for options to install solar pannels at her home.

> Goals & Needs

Promote the adoption of clean energy technologies | Advocates free solar panels for all homes
Educate people about the benefits of green energy
Encourage policy makers to adopt environmentally-friendly policies

> Pain Points & Frustrations

Navigation difficuilties - often finds herself overwhelmed by the complex navigation
Poor design - finds cluttered pages and confusing layouts
Outdated & Irrelevant information | Limited scope - lack of green related information

> Behaviors & Habits

Advocates for clean energy solutions | Writes blogs to educate people about the benefits of green energy
Networks with other environmental activists and organisations
Uses social media to share information about green energy and encourage others to take action

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User Path from Analysis :

A thorough analysis of the existing website is conducted to identify pain points and areas for improvement. By studying user behavior, the user path is defined, highlighting common user flows and interactions within the website.

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Heuristic Analysis :

A heuristic evaluation of the website is performed to assess usability issues based on established principles and guidelines. This evaluation identified specific design flaws, such as inconsistent navigation, poor information hierarchy, and limited accessibility.

Department of Energy - Navigation System HE

Website URL: https://www.energy.gov/

Heuristic	Rating			Comments
Appearance/aesthetics: first impressions are important—they can make the difference between users staying or leaving your site				
Example	3	2	1	
Primary goal or purpose is clear	x			Clear about the primary navigation purposes
Clean, simple design		x		1 & 4 : Too simple design, background color not pleasent, small fonts
Pleasing color scheme		x		Main colours are rather garish and do not contrast other primary colours well
Appropriate use of white space		x		there is a good ratio of white space and used well for text. But in some areas there is an inconsistency between size and ratio
Consistent design		x		The overall nav design is the same
Text and colors are consistent		x		On the main home page and subheadings for this section the text size and fonts remain the same,
Icons are universally understood	x			Basic globally known icons are used, background not pleasing
Images are meaningful and serve a purpose		x		all the images are relevant but some have a poor quality resalutation
Content: users are at your site for the content—make it easy for them to find and use your site				
Major headings are easy to understand		x		They are but some sub headings get lost as they are only just bolder the informative text
Easy to scan		x		some areas are but some areas are very clustered, too much content in places
Minimal text/information presented	x			Text is set out well and tends to be black on a white background, natural contrast
Clear terminology; no jargon	x			n/a
Links are clear and follow conventions		x		Links are directed to same page within the website
Help is available on every page			x	There is always a more info or find out more link, and at the bottom there is a standard layout of of accessibility links
Important content is above the fold				Yes, this mecanism used well
Search box is easy to identify and easy to use	x			Yes, Search box is easy to identify and easy to use
Navigation: make getting around your site easy and eliminate the user's guesswork				
Consistent navigation	x			Yes, navigations are consistent
Easy to identify your location on the site (breadcrumbs, headers, colors)		x		Yes, these are easly identifiable
Consistent way to return home		x		Easy
Limited number of buttons and links		x		Limited no of buttons, there are lots of links / scondary pages / card links
Organization of information makes sense	x			Informations are very well organised and well presented
Efficiency/functionality: following basic rules will keep user frustration to a minimum				
Website loads quickly	x			Very quickly loads
Custom 404 errors				No custom error messages
Error messages are meaningful		x		n/a
Login is in upper-right corner of page				No login page as such
Proper etiquette for links off site		x		Not sure
Contact information is easy to find	x			at the bottom of the web page
Login is easy to find				No login page
Hours are easy to find				n/a
No broken links				No broken links
User knows the status of searches			x	Difficult to predict
User knows if they are logged in/out				n/a
System supports undo and redo				n/a
Forms autofill and calculate when practical				n/a

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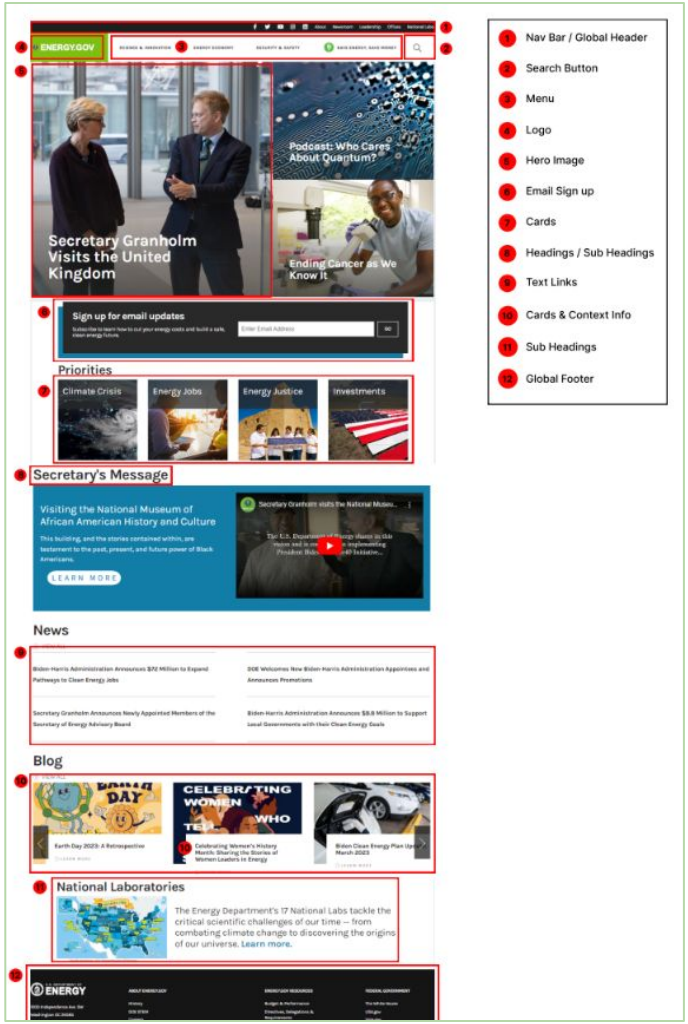
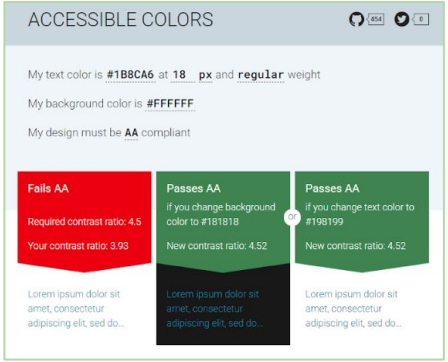
UI Analysis :

During the UI analysis phase, a comprehensive evaluation of the current website's interface was conducted. The analysis assessed the visual hierarchy, navigation structure, color schemes, typography, and overall usability. Strengths such as clear content organization were identified, along with weaknesses including inconsistent visual elements and suboptimal navigation. These findings provided a baseline for the redesign process.





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Initial User Testing :

User testing sessions were conducted to gather feedback on the website's usability and identify areas for improvement. Real users were observed while performing tasks on the website, and their experiences, preferences, and pain points are recorded. This qualitative data guides the redesign process and ensures that user needs and preferences are addressed using FP Matrix

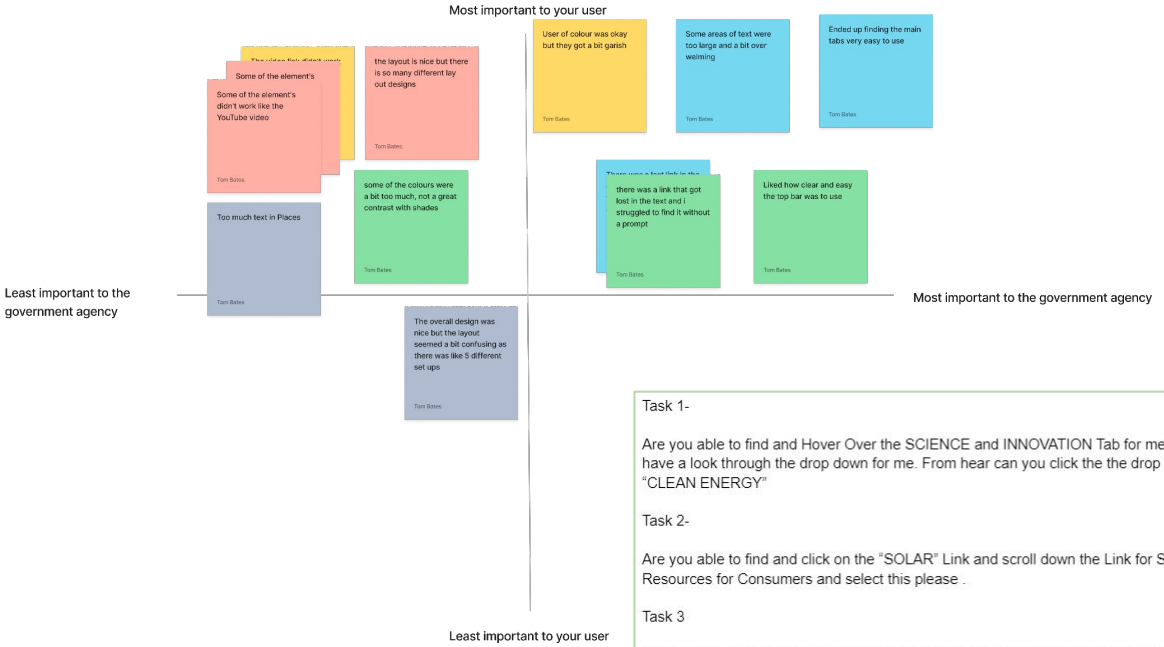
Good afternoon, Thank you for taking the time out of your day to carry out this user test with me.

We will aim to keep the test under 10 minutes,

Just to confirm, are you happy for this test to be recorded?

We will be carrying out 3 tasks through the website which i will be explaining step by step along the way.

As we go through each task I would like you to think out loud about the way you use this website and any parts of the pages you like, dont like and possibly why. Express any frustrations or joy of use.



Task 1-

Are you able to find and Hover Over the SCIENCE and INNOVATION Tab for me? And just have a look through the drop down for me. From hear can you click the the drop down link “CLEAN ENERGY”

Task 2-

Are you able to find and click on the “SOLAR” Link and scroll down the Link for Solar Energy Resources for Consumers and select this please .

Task 3

Are you Able to find and click on the “LEARN MORE” Link and have a free look at the page and tell me what you think of the experience of it.

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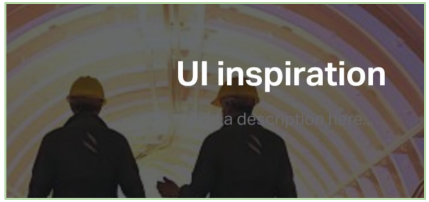
Mood Board :

A mood board was created using InVision, bringing together various visual elements, colors, typography, and imagery to establish a coherent design direction and aesthetic for the website redesign. The mood board serves as a visual reference and guide during the design process, ensuring a consistent and appealing visual identity.



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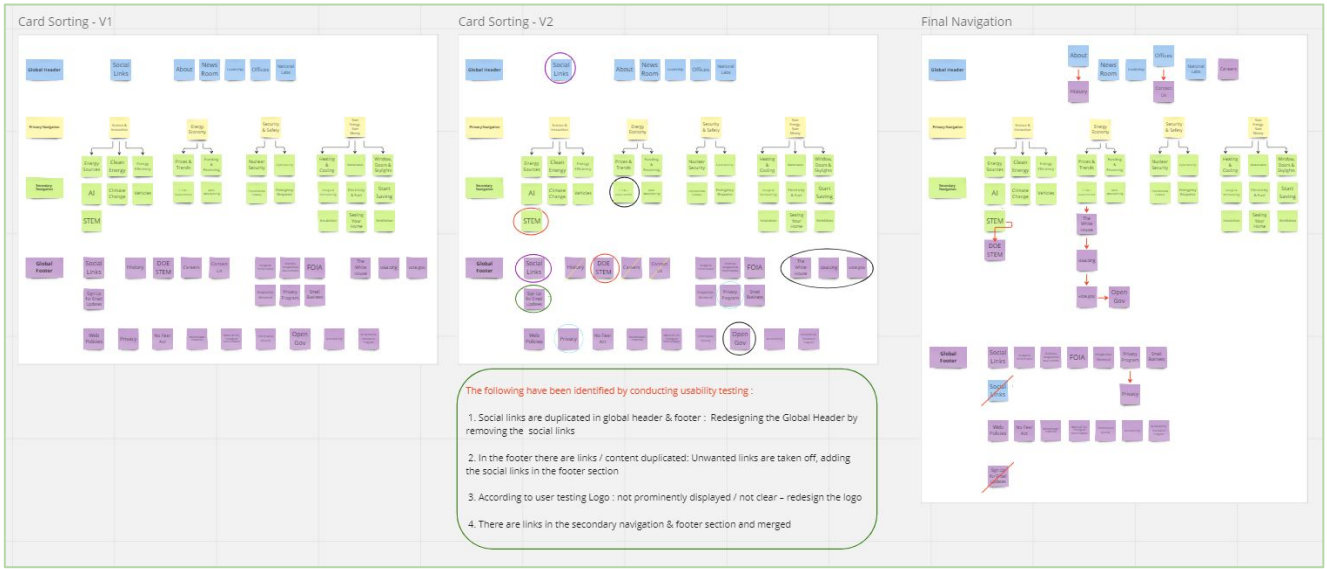
Card Sorting :

Card sorting exercises were performed to understand how to categorise and organise information for the redesign. Content items were grouped into logical categories, providing valuable insights into information hierarchy. The results inform the redesign of the website's sitemap.



Click to View

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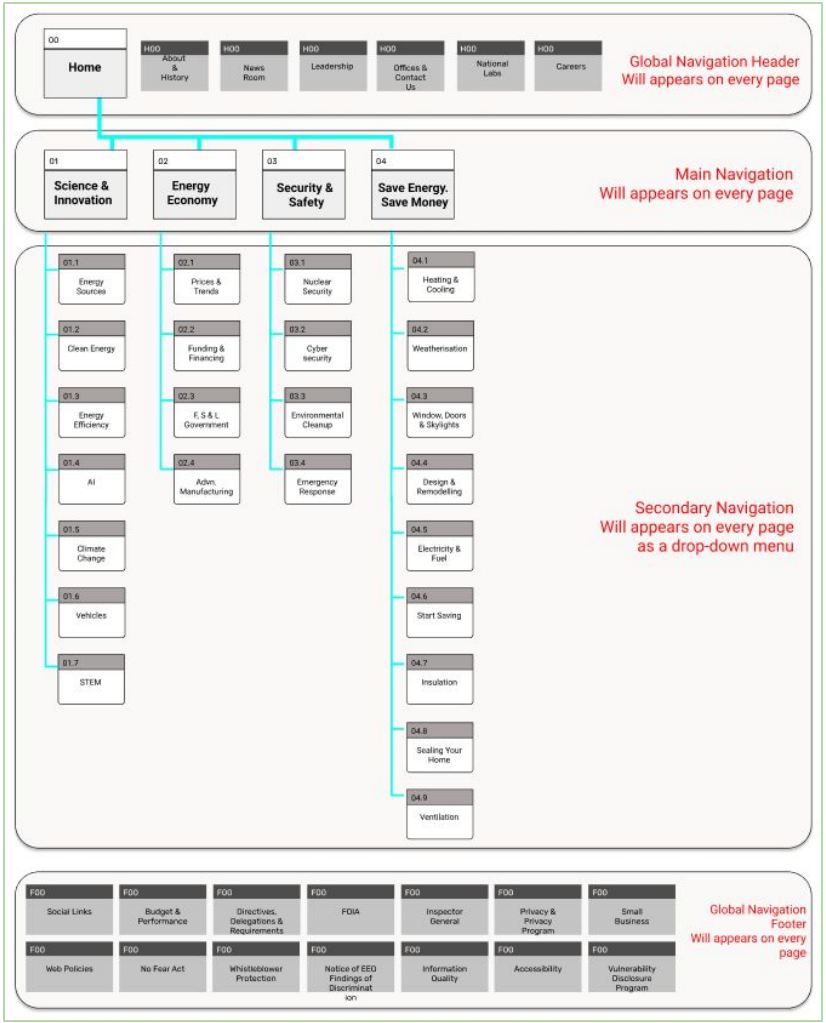
Sitemap Redesign :

Using design tools like Figma a new sitemap is created based on the findings from the card sorting exercise. The redesigned sitemap ensures a logical and intuitive information structure, improving the discoverability and accessibility of content on the website.

Click to View



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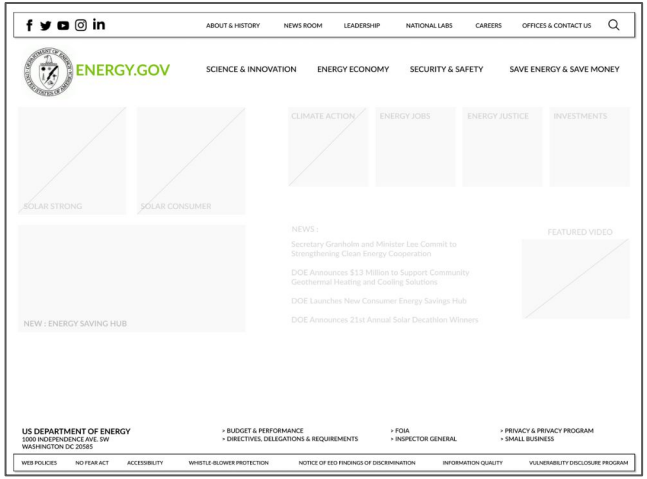
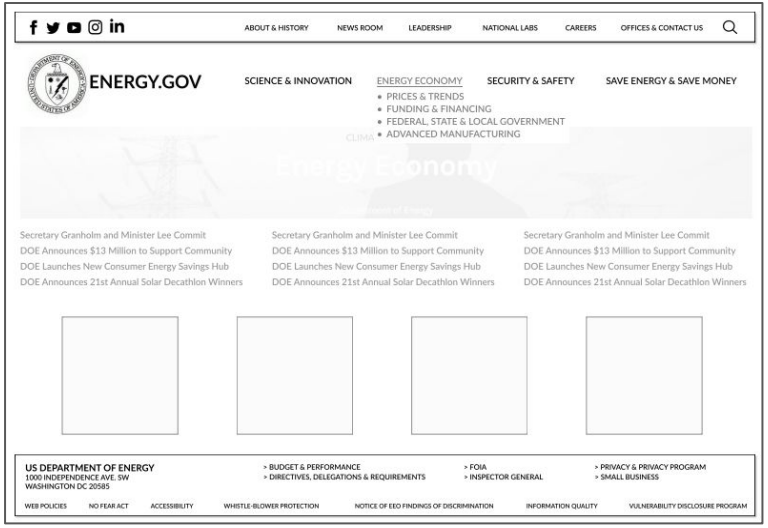
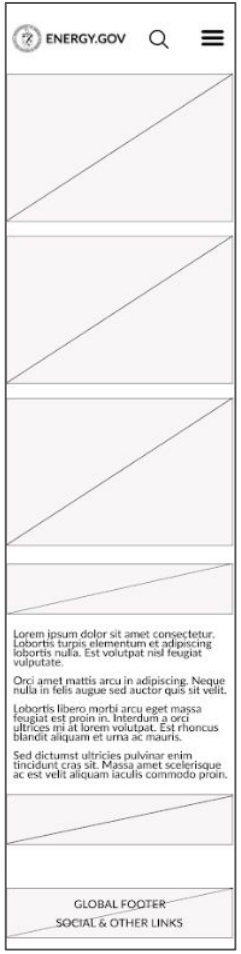
Wireframes :

Responsive wireframes were created to ensure optimal user experiences across different devices and screen sizes. Wireframes were developed for desktop and mobile devices. The wireframes focused on prioritising content based on importance and accommodating various device capabilities. By addressing user flow and functionality requirements, the wireframes ensured a seamless and engaging experience.







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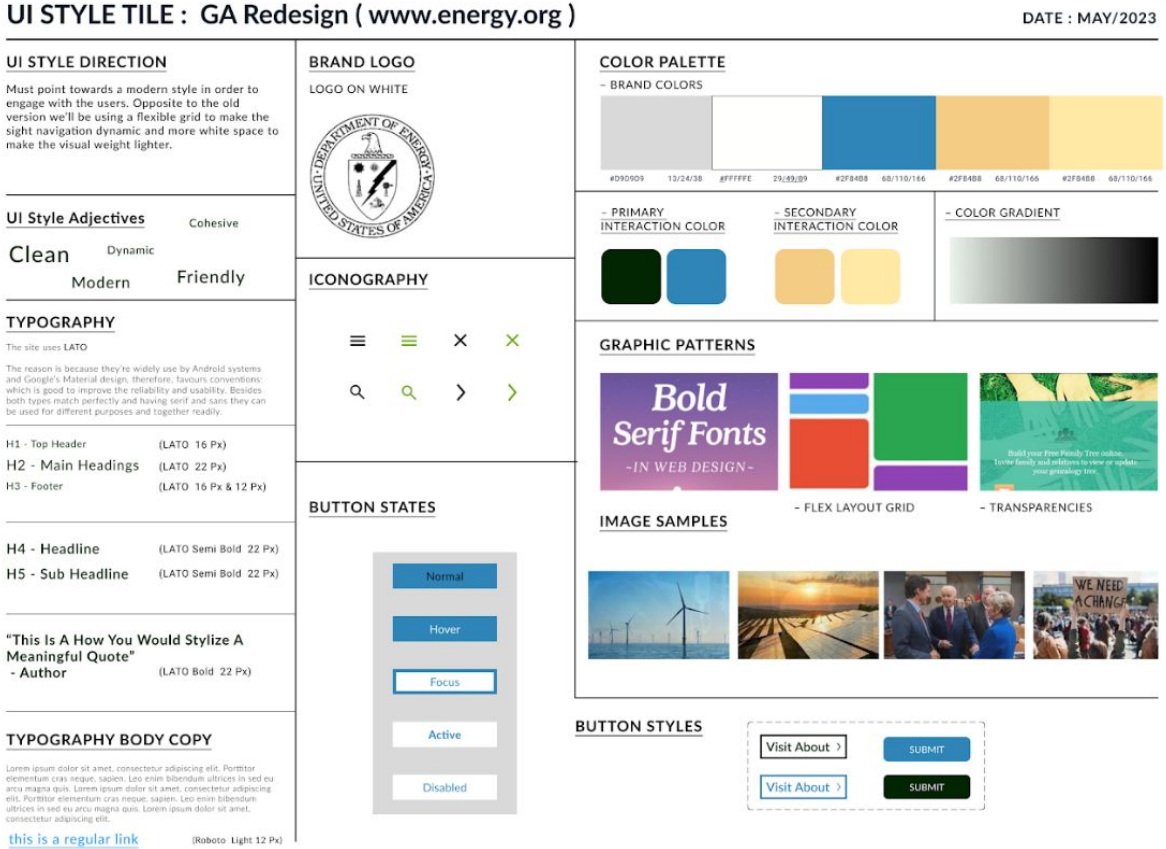
UI Style Guide :

To establish a consistent visual language for the redesigned website, a UI style guide was developed. The style guide defined typography choices, color palettes, iconography, buttons, and form elements. Adherence to the style guide ensured a cohesive design implementation and improved brand recognition. It provided guidelines for maintaining consistency across the website.



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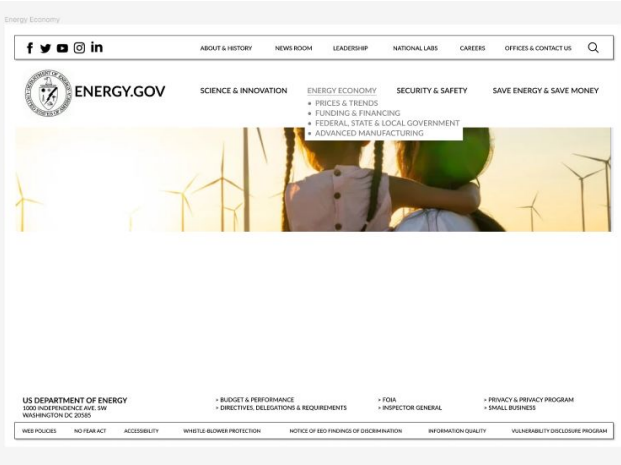
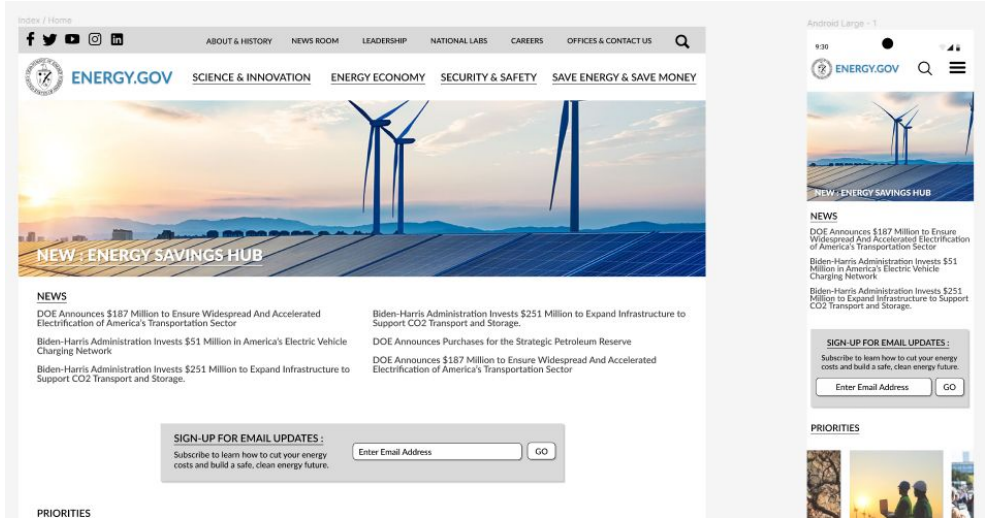


Low to Mid Fidelity Design :

Low to Mid fidelity design compositions were created based on the wireframes, incorporating the UI style guide and branding elements. Attention was given to layout, visual hierarchy, and overall aesthetics. These low fidelity designs served as a starting point for gathering feedback and making iterative design decisions.



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TASKS / QUESTIONS :

Show the participant the homepage / index page for five seconds.
Task 1 / Question 1: Based on the brief glimpse you saw, how would you describe the overall visual style or aesthetic of the website / index page

Show the participant the header navigation menu for five seconds.
Task 2 / Question 2: Which menu option would you choose to find information about 'Clean Energy'? Would you change any aspect of the look & feel of the header navigation?

Show the participant a specific section of the index page for five seconds.
Task 3 / Question 3: Based on the brief glimpse you saw, What visual element or feature stood out the most to you during the brief exposure

Show the participant the search bar for five seconds.
Task 4 / Question 4: Where would you expect to find the search bar on this website?

Show the participant the index page with text and images for five seconds
Task 5 / Question 5: How well do you think the text and images work together to convey the intended message or information?

Show the participant a footer section for five seconds.
Task 6 / Question 6: Based on the brief glimpse you saw, does the navigation menu appear clear and easy to understand? Why or why not?? Would you change any aspect of the look & feel?

User Testing :

User testing sessions were conducted to gather feedback on Low to Mid fidelity design compositions usability and identify areas for improvement. Wireframes for both desktop and mobile versions are iterated based on feedback from usability testing and design reviews. The wireframes are refined to address any usability issues and improve the overall user experience.

Processing and Prioritising the User Testing Results

Participant 1 : Extracts from recordings

T1/Q1 :

My first impression is that it's a clean design, and I can very clearly see and read the links and its subcategories, I feel like it's too much going on, too many things in there, cluttered and may need some color added. Too much white-space

T2/Q2 :

I am going to guess here, let me click 'Energy Economy'- noop, let's try 'Save Energy Save Money' No! it's not the right one let's try 'Science & Innovation' – there you go, I found it : it's a bit difficult but the sub category listing is very clear, just a matter of going through with all the navigation links.

Header has two sections – personally I prefer some color added. I understand this is a government web site hence lots of information – add color to differentiate the two header navigation, think about adding buttons or color text for the main header links.

T3/Q3 :

Overall the visual looks pleasing, its a government website with lots of information

I feel like, you are trying to put / insert too many information together, may to separate things a bit will help the look and feel

T4/Q4 :

As I expected, the search bar is on the top right, maybe a search button added will be nice.

T5/Q5 :

Again, images are nice, nicely presented, but it's too cluttered, need spacing in between.
Text – Navigation menu very clear, happy with the visual text side.

T6/Q6 :

Its looks clear to me, the footer looks so much of information – again, I guess it's a government website so it full of information, maybe different colors to separate the footer menu would look better

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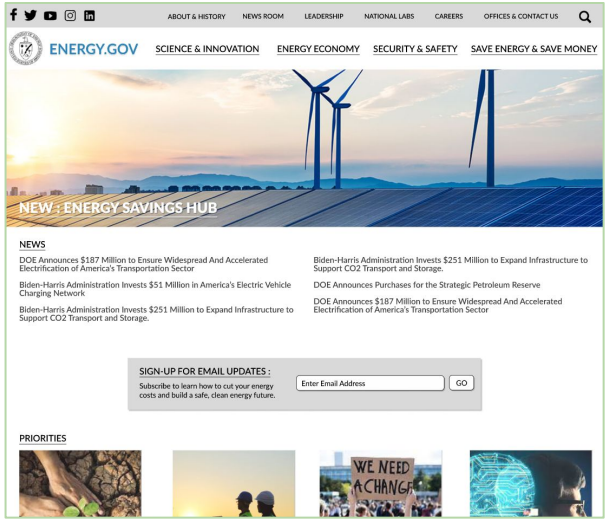
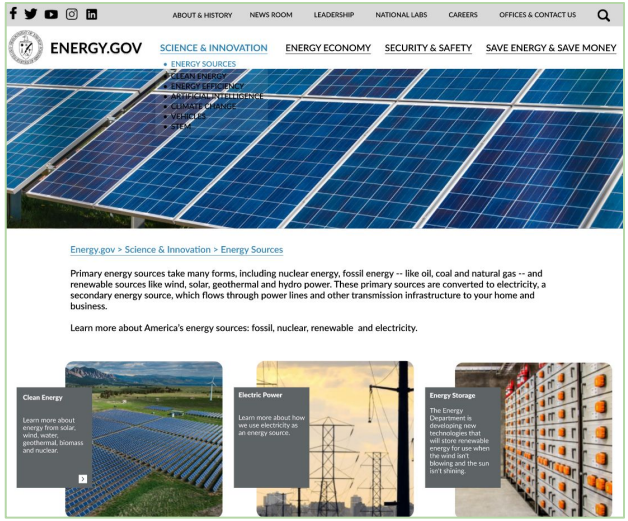
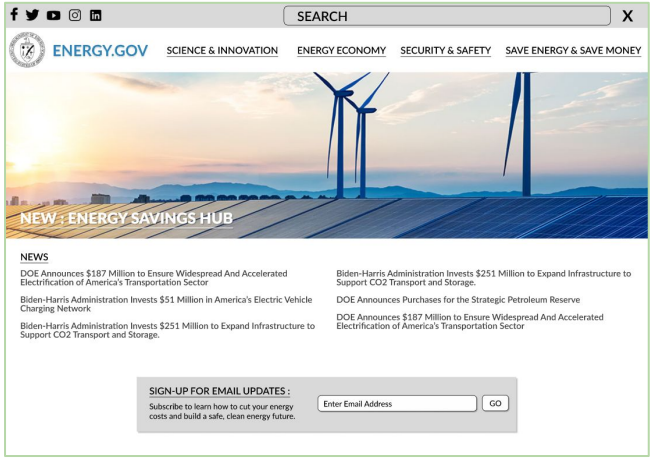
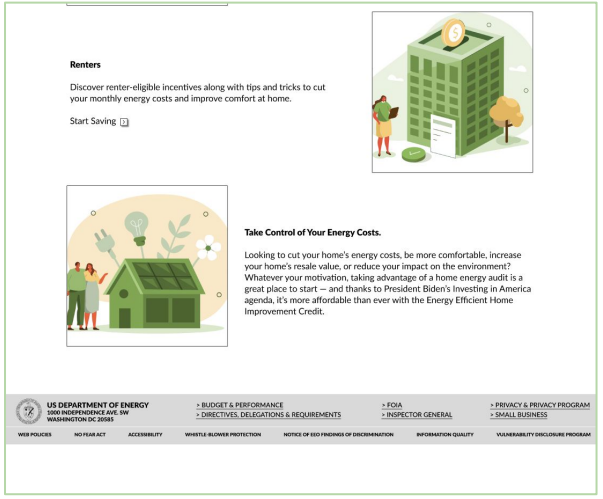
Hi-Fi Design (Desktop):

The low fidelity designs were refined into high fidelity design compositions. Typography, spacing, imagery, and visual effects were meticulously addressed in the high fidelity designs. Interactive elements and micro-interactions were implemented to enhance the user experience. The high fidelity designs underwent usability testing and received feedback from stakeholders to ensure a polished and user-friendly interface









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Hi-Fi Design Iteration (Desktop) :

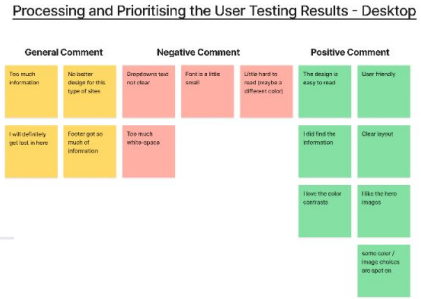
Design iterations are made based on the feedback received from usability testing. Maze testing carried out, usability issues and pain points are addressed, ensuring a seamless and intuitive user experience for mobile users.

QUESTION

Did you encounter any difficulties or confusion while using any specific features or functions of the redesigned desktop web application? ie 'Search' function

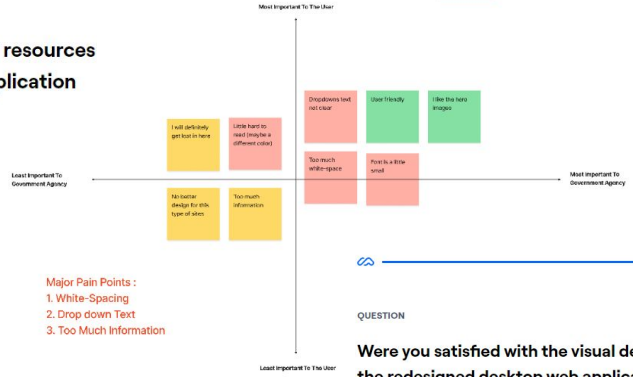
QUESTION

Did you find the layout and visual design of the redesigned desktop web application visually appealing and user-friendly



QUESTION

Were you able to quickly find the information or resources you were looking for within the desktop web application



Major Pain Points :
1. White-Spacing
2. Drop down Text
3. Too Much Information

QUESTION

Were you satisfied with the visual design and aesthetics of the redesigned desktop web application? Did it align with your expectations?

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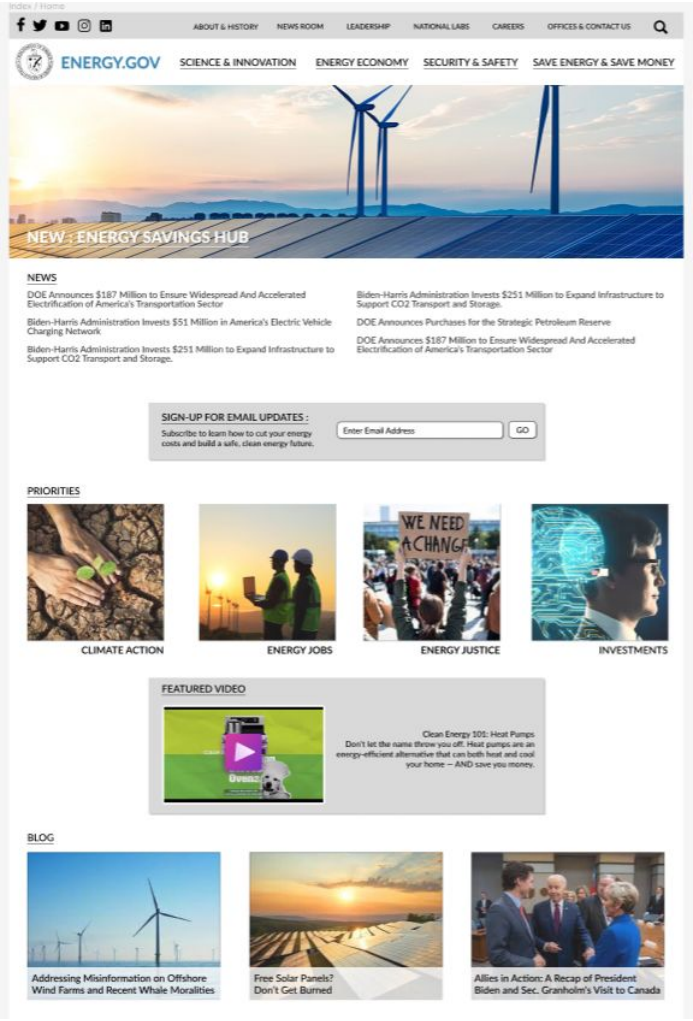
Final Hi-Fi Design (Desktop) :

Design iterations are made based on the feedback received from usability testing. This is the final design.



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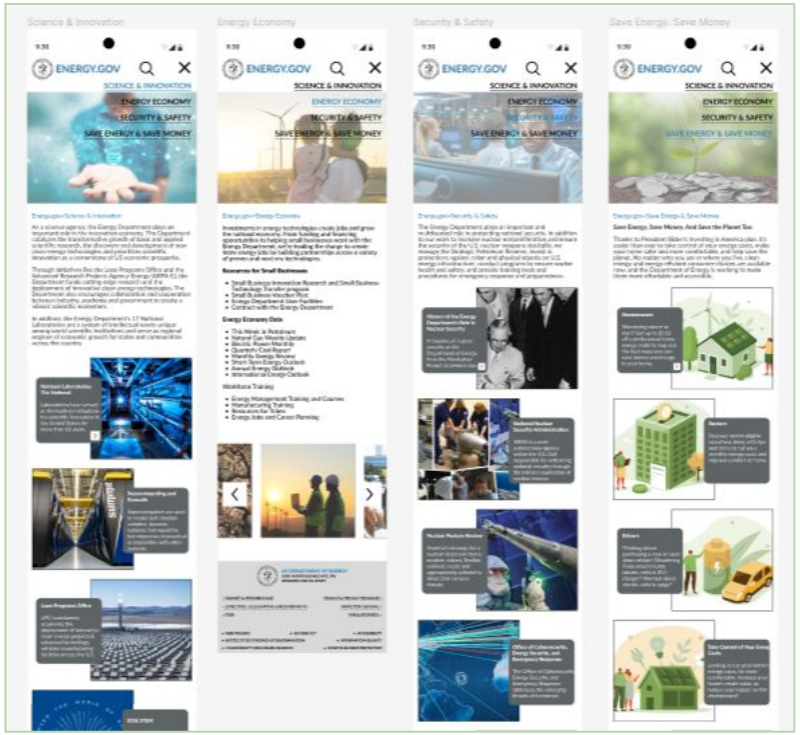
Hi-Fi Design (Mobile):

The low fidelity designs were refined into high fidelity design compositions. Typography, spacing, imagery, and visual effects were meticulously addressed in the high fidelity designs. Interactive elements and micro-interactions were implemented to enhance the user experience. The high fidelity designs underwent usability testing and received feedback from stakeholders to ensure a polished and user-friendly interface



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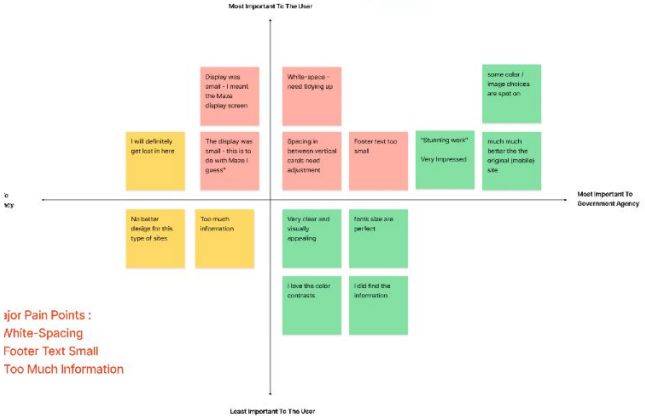
Hi-Fi Design Iteration (Mobile) :

Maze testing carried out for this part of testing, Design iterations are made based on the feedback received from testing. Usability issues and pain points are addressed, ensuring a seamless and intuitive user experience for mobile users.



QUESTION

How would you rate the accessibility of the redesigned mobile web application in terms of text size, color contrast, and overall readability?

QUESTION

Were you satisfied with the visual design and aesthetics of the redesigned mobile web application? Did it align with your expectations?

QUESTION

Did you encounter any issues related to text readability, font size, or color contrast while using the mobile web application?

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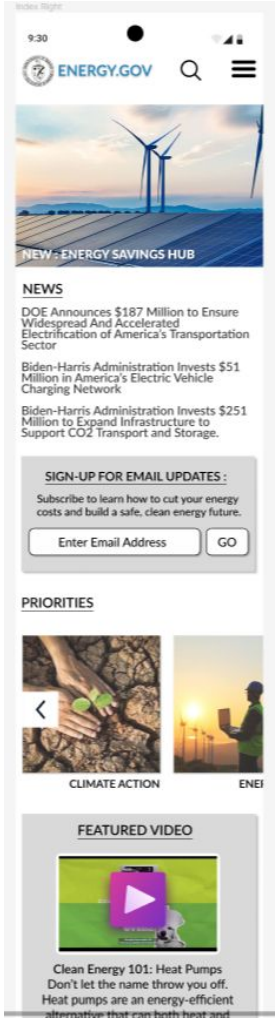
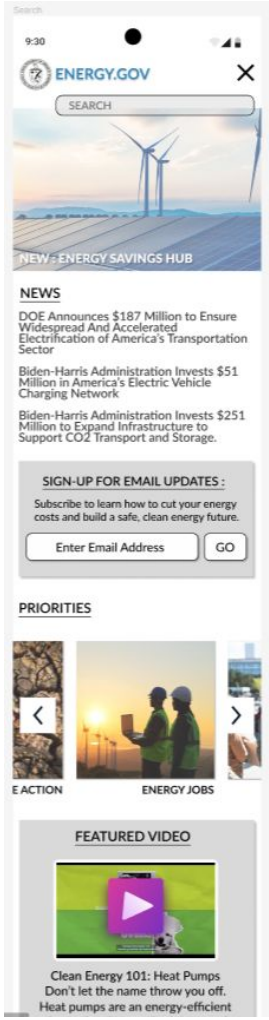
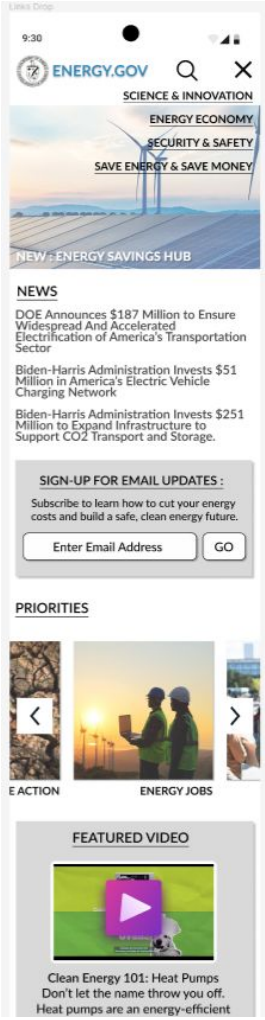
Final Hi-Fi Design (Mobile) :

Design iterations are made based on the feedback received from usability testing. This is the final design.







Conclusion :

In conclusion, I believe that the redesign of www.energy.gov prioritises responsive design and enhanced user experience. By addressing the existing challenges such as poor navigation, limited accessibility, and outdated design elements, the redesigned website & mobile version aims to establish itself as a modern, user-friendly, and trustworthy resource for energy-related information. The comprehensive redesign process, which includes user research, heuristic evaluations, usability tests, and iterative design, ensures that the final product aligns with user needs and expectations while promoting effective information retrieval and engagement. The redesigned www.energy.gov sets the foundation for a valuable and user-centric online platform in the energy sector.