

FLORIDA ENERGY SYSTEMS CONSORTIUM - REDESIGN PROPOSAL

OBJECTIVE

Appraise and provide recommendations for the Florida Energy Systems Consortium (FESC) website based on present-day user research and best practices to accomplish the following design goals:

- Responsiveness, performance and accessibility
- Functionality and ease of use based on customer objectives

WEBSITE EVALUATION

The five following categories were evaluated:

1. ACCESSIBILITY

Regarding legibility, the left navigation bar font may be difficult to read.

Using the Web Accessibility test by Level Access, the following web pages under the main navigation bar were evaluated with respect to the Web Content Accessibility Guidelines (WCAG) 2.0 standard:

The eight main webpages scored between 70% - 87% Total Compliance.

Overall, the following instances were tabulated from these eight webpages:

<i>Number of Instances</i>	<i>Issue Type</i>
Qty. (2)	Missing a valid form field label for an input
Qty. (3)	Missing alternate text for images
Qty. (4)	Missing meaningful frame titles
Qty. (27)	Missing proper HTML tag titles

2. MOBILE FRIENDLINESS

Google Mobile-Friendly Test was utilized to observe the mobile compatibility with the Home page:

Test result: Page is not mobile friendly

- Viewport not set
- Clickable elements too close together
- Text too small to read
- Content wider than screen

3. PERFORMANCE

WebPageTest and PagedSpeed Insights were used to test the Home page's loading speed:

- WebPageTest fully loaded time: 4.890s
- PageSpeed Insights Optimization: Medium 66/100

25-40% of users will leave a website if it takes longer than three seconds to fully load.

Per PageSpeedInsights, this page is estimated to use 1 less render-blocking round trip and 29 less resources via the following suggestions:

- Optimizing images
- Leveraging browser caching
- Eliminating render-blocking Javascript and CSS in above-the-fold content
- Reducing server response time
- Minifying CSS
- Minifying Javascript

4. FUNCTIONALITY

This section was performed via manual observation:

- Home page "Download Brochure" link routes to HTTP 404 error.
- LinkedIn icon routes to icon image.
- Email sign-up does not have "submit" button.
- Search page and Contact pages function as intended.

W3C Validation Services used:

HTML	34 errors and 25 warnings
CSS	15 warnings

5. EASE OF USE

The website's two navigation bars may provide an unclear experience. The navigational items are split without logical classification.

The left navigational bar changes with each subsection. This may provide too much information for the average user.

DEVICE SUPPORT REQUIREMENTS

Per statcounter:

- Over 50% of mobile users account for modern market share compared to desktop and tablet.
- 23% of users' screen resolution is 360 x 640 pixels.
- 58% of browsers are Chrome. However, websites should be functional between at least 10 different browsers.

RECOMMENDATIONS FOR IMPROVEMENT

In addition to the subjects previously mentioned, the Florida Energy Systems Consortium website is recommended to be redesigned with principle improvement objectives in responsiveness, ease of use and functionality:

Responsiveness	Address with a CSS grid system. A grid may enable the website to be more usable via mobile and table users.
Ease of Use	Address with a new navigational system using clearer subject organization structure. Subjects would be determined to satisfy academic researchers, energy experts as well as the average person. Additionally, font may be modified for legibility while maintaining university themes.
Functionality	Address with clarity of information and overall layout.

DESIGN PLAN (IN WORK)

- Plan your site's design: colors, typography, layout.
- Plan what design components you'll need. Remember some will be on every page, like navigation and footer, and some will be a reused design but with different contents, like an article or form.
- Come up with a visual design plan for each module, and overall pages (combinations of modules).
- In the "docs" folder of your repo, add a file with a writeup of your design plan (pdf or markdown format, please). It can include notes on colors, typography, layout, and modules needed.

GOOGLE CHARTS

I chose the Visualization: Area Chart to highlight the amount of energy in flux per year. I think it would be useful to overlay the graphs to see how alternative energy production compares with

energy consumption in Florida, even if its just electrical consumption. Lastly, the Area Chart is great for showing the change in rate of energy flux.

<https://developers.google.com/chart/interactive/docs/gallery/areachart>