CENTRE FOR RESEARCH INTO ENERGY DEMAND SOLUTIONS

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www.creds.ac.uk

CREDS web accessibility review

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Introduction

It is best practice to ensure a website is accessible to anyone who may wish to read it. New rules which come into force on 23 September 2020 require all public sector websites to:

- meet accessibility standards
- publish an accessibility statement.

The statement should be regularly reviewed and updated. This applies to all websites created after 23 September 2018 – the CREDS website was launched around that time, and given the length of the project, we should abide by the new guidance.

The website has been built with best practice in mind – using hierarchical headings, descriptive link text, writing lists where appropriate, and limiting the use of images within text. Until now, it has not been audited, so this is a good opportunity to discover how we can improve the usability of the site. The aim is to comply with international WCAG 2.1 AA accessibility standards.

The new rules accept that some issues may be too costly to make completely accessible, in which case the statement must reflect that.

The stages of the review are:

1. Accessibility audit
2. Develop a plan to fix any issues
3. Publish the accessibility statement
4. Ensure future content and new features conform with WCAG 2.12 AA standards.

1. Audit

The audit was carried out between September and December 2020, using a range of online tools, and recommendations from WCAG 2.1. As the website runs to over 500 pages and we do not have the capacity to test every page, we selected a representative sample of different content types, a total of 33 different types.

The sample pages were assessed using the WAVE Evaluation Tool, WC3 Markup Validation Service, Lighthouse Chrome extension, and navigating and reading the site with assistive technology to gauge its effectiveness.

Specific findings from the assessment are available in a spreadsheet format, on request.

2. Issues raised

In the initial stages, the assessment highlighted a number of issues with colour contrast being too narrow for visually impaired readers to use the site effectively. These have all been corrected, the site now meets AAA standard for enhanced contrast (1.4.6).

Other issues arising concerned the use of 'Read more' text for the expanding panels on some pages (2.4.4). Links are now descriptive rather than generic to aid anyone using assistive technology.

There should be multiple ways for users to navigate the website (2.4.5) – the site has breadcrumbs, top-level navigation, and a site-wide search function, and we have since created a visual sitemap of all of the pages.

A number of instances of non-sequential headings were uncovered and corrected (2.4.6).

Focus elements did not contrast enough to make it easily visible to a partially sighted user where they are on a page (2.4.7). These have all now been amended and pass the accessibility tests.

The website is built in Wordpress, with a number of plugins to add functionality. There are two <style> alerts which are generated by two plugins and are not fixable – they do not affect the usability or accessibility of the site.

The plugin which manages the publications filtering system generates alerts: non-sequential headings (AA) (2.4.6), redundant title text (A) (3.3.2), missing fieldsets (A) (4.1.2). These issues have been pointed out to the plugin developer, but they will remain until the plugin is updated. They are alerts rather than errors, so an annoyance rather than critical, but the page only achieves a 92% accessibility rating as a result.

Code to allow for Twitter cards to be automatically generated led to HTML errors – while not strictly an accessibility issue, all HTML errors we uncovered have been corrected.

There are a number of pdfs linked from the website. Any pdfs created by the designer are checked for accessibility and reading order, however, some pdfs generated in Word do not currently meet accessibility standards.

3. Accessibility statement

The CREDS website is very close to meeting WCAG 2.1 AA standard.

4. Plan for future content

We will create guidance for anyone who is responsible for creating pdfs from Word to ensure that future pdfs are more accessible.

We will try to link to web pages rather than pdfs wherever possible, however, that is dependent on the way external content is managed – some long-form documents do not have a web-landing page.

Our aim is to make the CREDS website WCAG 2.1 AAA compliant – using what we have learned in carrying out the accessibility assessment, we aim to improve how we display and describe images, and provide better information about link destinations (2.4.9).
In addition, any use of small clickable icons will be a minimum of 44 x 44 px to enable easier use of the website on mobile technology (2.5.5).

5. Review process

This report describes the conformance of the Centre for Research into Energy Demand Solutions (CREDS) website with W3C's Web Content Accessibility Guidelines (WCAG).

Based on this evaluation, the CREDS website is close to meeting WCAG 2.1, Conformance Level AA. Review results are available in Section 9 below.

6. Background about evaluation

Conformance evaluation of web accessibility requires a combination of semi-automated evaluation tools and manual evaluation by an experienced reviewer. The evaluation results in this report are based on evaluation conducted on the following date(s): September to December 2020.

7. Scope of review

- Centre for Research into Energy Demand Solutions
- www.creds.ac.uk
- URLS included in the review:

  https://www.creds.ac.uk/
  https://www.creds.ac.uk/transport-mobility/
  https://www.creds.ac.uk/theme/transport-projects/
  https://www.creds.ac.uk/commission-on-travel-demand/
  https://www.creds.ac.uk/latest/commission-on-travel-demand/
  https://www.creds.ac.uk/shared-mobility-where-now-where-next/
  https://www.creds.ac.uk/publications/
  https://www.creds.ac.uk/publications/policy-for-energy-demand-reduction/
  https://www.creds.ac.uk/publications/conceptualising-flexibility-challenging-representations-of-time-and-society-in-the-energy-sector/
  https://www.creds.ac.uk/theme/news-events/
  https://www.creds.ac.uk/greening-homes-turning-round-the-construction-supertanker/
  https://www.creds.ac.uk/e-bikes-could-slash-transport-emissions-and-get-britons-back-to-work/
  https://www.creds.ac.uk/meeting-the-uks-energy-demand-challenge/
  https://www.creds.ac.uk/what-we-do/
  https://www.creds.ac.uk/what-is-energy-demand/
  https://www.creds.ac.uk/people/
  https://www.creds.ac.uk/people/nick-eyre/
  https://www.creds.ac.uk/partners/
  https://www.creds.ac.uk/theme/ecrs/
  https://www.creds.ac.uk/funding-landscape-for-early-career-researchers/
  https://www.creds.ac.uk/funders/
  https://www.creds.ac.uk/energy-demand-research-network/
  https://www.creds.ac.uk/active-building-centre/
  https://www.creds.ac.uk/publications/e-bike-carbon-savings-how-much-and-where/

https://www.creds.ac.uk/3d-stock-modelling/

https://www.creds.ac.uk/the-long-and-winding-road-of-research-funding/

https://www.creds.ac.uk/shifting-the-focus-video-highlights/

https://www.creds.ac.uk/wp-content/uploads/CREDS-e-bikes-briefing-May2020.pdf

https://www.creds.ac.uk/wp-content/uploads/PartL-consultation-CREDS-response-final.pdf

https://www.creds.ac.uk/wp-content/pdfs/CREDS-Shifting-the-focus-July2019.pdf

https://www.creds.ac.uk/wp-content/pdfs/CREDS-Data-clean-growth-strategy-2020.pdf

https://www.creds.ac.uk/terms-conditions/

https://www.creds.ac.uk/cookies/

https://www.creds.ac.uk/privacy-policy/

https://www.creds.ac.uk/equality-diversity-and-inclusion-plan/

https://www.creds.ac.uk/sitemap/

- Review conducted between 14 September and 10 December 2020
- Natural language of site: English GB

8. Reviewer(s)

- Stephanie Ferguson
- Environmental. Change Institute, University of Oxford
- Stephanie.ferguson@ouce.ox.ac.uk
- Designer with web creation experience
- English, UK

9. Review process

- Tested for WCAG 2.1 Level AA
- Evaluation tools used: WAVE Evaluation Tool 3.3.1, Lighthouse Chrome extension, W3C Markup Validation Service, Web Content Accessibility Guidelines 2.1.
- Tested using Voiceover Utility for Mac.

10. Results and recommended actions

- This website is very close to meeting WCAG 2.1 AA standard.
  - This site is strong in visual presentation, enhanced contrast and responsive page structure.
  - Main concerns for accessibility are some Word-based pdfs are not accessible, and there are no audio descriptions for older video content.

Results

The table below indicates whether the CREDs website conforms or not with the WCAG 2.1 standards. A number of standards do not apply to the CREDS website as it does not include any interactive areas, or forms to complete.

1. Perceivable		
1.1.1 Non-text Content	A	Conforms

1.2.1 Audio-only and Video-only (Prerecorded)	A	Conforms
1.2.2 Captions (Prerecorded)	A	Conforms
1.2.3 Audio Description or Media Alternative (Prerecorded)	A	Conforms
1.2.4 Captions (Live)	AA	Not applicable
1.2.5 Audio Description (Prerecorded)	AA	Does not conform
1.2.6 Sign Language (Prerecorded)	AAA	Does not conform
1.2.7 Extended Audio Description (Prerecorded)	AAA	Does not conform
1.2.8 Media Alternative (Prerecorded)	AAA	Does not conform
1.2.9 Audio-only (Live)	AAA	Not applicable
1.3.1 Info and Relationships	A	Conforms
1.3.2 Meaningful Sequence	A	Conforms
1.3.3 Sensory Characteristics	A	Conforms
1.3.4 Orientation	AA	Conforms
1.3.5 Identify Input Purpose	AAA	Not applicable
1.3.6 Identify Purpose	AAA	Not applicable
1.4.1 Use of Color	A	Conforms
1.4.2 Audio Control	A	Conforms
1.4.3 Contrast (Minimum)	AA	Conforms
1.4.4 Resize text	AA	Conforms
1.4.5 Images of Text	AA	Conforms
1.4.6 Contrast (Enhanced)	AAA	Conforms
1.4.7 Low or No Background Audio	AAA	Conforms
1.4.8 Visual Presentation	AAA	Conforms
1.4.9 Images of Text (No Exception)	AAA	Mostly conforms
1.4.10 Reflow	AA	Conforms
1.4.11 Non-text Contrast	AA	Conforms
1.4.12 Text Spacing	AA	Conforms
1.4.13 Content on Hover or Focus	AA	Conforms
2. Operable		
2.1.1 Keyboard	A	Conforms
2.1.2 No Keyboard Trap	A	Conforms
2.1.3 Keyboard (No Exception)	AAA	Conforms
2.1.4 Character Key Shortcuts	A	Not applicable
2.2.1 Timing Adjustable	A	Not applicable
2.2.2 Pause, Stop, Hide	A	Not applicable
2.2.3 No Timing	AAA	Not applicable
2.2.4 Interruptions	AAA	Not applicable

2.2.5 Re-authenticating	AAA	Not applicable
2.2.6 Timeouts	AAA	Not applicable
2.3.1 Three Flashes or Below Threshold	A	Conforms
2.3.2 Three Flashes	AAA	Conforms
2.3.3 Animation from Interactions	AAA	Not applicable
2.4.1 Bypass Blocks	A	Conforms
2.4.2 Page Titled	A	Conforms
2.4.3 Focus Order	A	Conforms
2.4.4 Link Purpose (In Context)	A	Conforms
2.4.5 Multiple Ways	AA	Conforms
2.4.6 Headings and Labels	AA	Mostly conforms
2.4.7 Focus Visible	AA	Conforms
2.4.8 Location	AAA	Conforms
2.4.9 Link Purpose (Link Only)	AAA	Conforms
2.4.10 Section Headings	AAA	Conforms
2.5.1 Pointer Gestures	A	Conforms
2.5.2 Pointer Cancellation	A	Conforms
2.5.3 Label in Name	A	Conforms
2.5.4 Motion Actuation	A	Conforms
2.5.5 Target Size	AAA	Does not conform
2.5.6 Concurrent Input Mechanisms	AAA	Not applicable
3. Understandable		
3.1.1 Language of Page	A	Conforms
3.1.2 Language of Parts	AA	Not applicable
3.1.3 Unusual Words	AAA	Not applicable
3.1.4 Abbreviations	AAA	Not applicable
3.1.5 Reading Level	AAA	Not applicable
3.1.6 Pronunciation	AAA	Not applicable
3.2.1 On Focus	A	Conforms
3.2.2 On Input	A	Conforms
3.2.3 Consistent Navigation	AA	Conforms
3.2.4 Consistent Identification	AA	Conforms
3.2.5 Change on Request	AAA	Conforms
3.3.1 Error Identification	A	Not applicable
3.3.2 Labels or Instructions	A	Mostly conforms
3.3.3 Error Suggestion	AA	Not applicable
3.3.4 Error Prevention (Legal, Financial, Data)	AA	Not applicable
3.3.5 Help	AAA	Not applicable

3.3.6 Error Prevention (All)	AAA	Not applicable
4. Robust		
4.1.1 Parsing	A	Conforms
4.1.2 Name, Role, Value	A	Mostly conforms
4.1.3 Status Messages	AA	Not applicable

The main areas where the site does not conform to WCAG 2.1 criteria are as follows:

- Prerecorded video and audio do not have audio descriptions (AA) (1.2.5).
- The publications page includes a filter facility which does not conform to guidance non-sequential headings (AA) (2.4.6), redundant title text (A) (3.3.2), missing fieldsets (A) (4.1.2).

Future recorded video and audio will have audio descriptions where appropriate.

The Publications filter mechanism is controlled by a website plugin from an external developer. The developer is aware of the issues, hopefully future updates to the plugin will include suggested accessibility amendments.

The site will be evaluated annually, with checks of individual pages undertaken as and when they are created.

11. References

- Web Content Accessibility Guidelines (WCAG) Overview
- Web Content Accessibility Guidelines 2.1
- Techniques for WCAG 2.1
- Web Accessibility Evaluation Tools List
- Using Combined Expertise to Evaluate Web Accessibility
- W3C Markup validation tool
- Lighthouse evaluation tool for Chrome browser.