Are Easy Language websites greener?

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The study

- Sustainable design principles have become increasingly important in website development, with a focus on **reducing carbon emissions and energy consumption**.

- **Easy Language (EL)** is a simplified language variety that can make websites more **accessible**.

- There has been no attention given to <u>EL capability to enhance the sustainability of websites</u>. This study examines the intersection between EL and website sustainability.

Carbon footprint of websites

Gartner Inc. calculated that the Information and Communications Technology (ICT) industry is responsible for 2% of global CO2 emissions.

"**If the internet were a country, it would be the sixth most polluting country in the world**, with annual emissions similar to those of Germany" (Greenwood, 2021:4).

Sustainable web design (I)

Sustainable Web Manifesto (2019) defines sustainable web projects as being **clean, efficient, open, honest, regenerative, and resilient**.

Sustainable web design (II)

Sustainable Web Manifesto (2019) defines sustainable web projects as being **clean, efficient, open, honest, regenerative, and resilient**.

"Websites and applications we build are becoming less efficient".

"When we make our web pages unnecessarily heavy […] we are not just wasting electricity; [but] an opportunity to create faster and more inclusive online experiences" (Greenwood, 2021:8).

Easy Language on the web (I)

Easy-to-Read web content has to have **language that is easy to read** (e.g. written in Easy Language) and the **content, structure and layout of the page need to support the user in finding, understanding and using the information** (Nietzio, Naber & Buhler, 2014).

The principle that web content, the information as well as the interaction and the interface, needs to be **understandable** is on the basis of the Web Content Accessibility guidelines (W3C WAI, 2018).

Easy Language on the web (II)

Certain recommendations from EL guidelines align with the WCAG guideline 2.4 and principle 3. For example:

Use of the active voice. [Principle 3, WCAG]	Evitar la voz pasiva y utilizar la activa, que da viveza y facilita la comprensión de la acción. [Óscar García Muñoz, 2012] ("Avoid the passive voice and use the active voice, which gives liveliness and facilitates the understanding of the action.")
Consistency in naming and labelling. [Principle 3, WCAG]	Use the same word to describe the same thing throughout your document. [Inclusion Europe, 2009]
Summaries. [Principle 3, WCAG]	A summary can be included at the beginning or at the end of each chapter, section or publication. [ISO, 2021]

The study: aims and methodology (I)

Firstly, assessing whether adopting EL in web design can not only improve websites' accessibility but also their sustainability.

Secondly, conducting a comparative study to provide evidence of the shared principles between sustainable and accessible websites.

The study: aims and methodology (II)

Comparative study between different websites in SL and EL:

Computing the carbon footprint of 6 different websites that have versions <u>both in Easy Language and in standard language</u> using Website Carbon Calculator.

FEDAGACE, WWDA, FEVIDA, Extremadura Trabaja, Fundación AMÁS, GenU

The study: aims and methodology (III)

To calculate the energy and emission of web pages, Website Carbon Calculator uses the these data points:

- Data transfer over the wire

- Energy intensity of web data

- Energy source used by the data centre

- Carbon intensity of electricity

- Website traffic

The study: aims and methodology (IV)
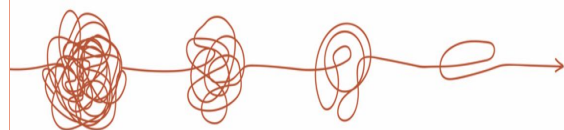
To calculate the energy and emission of web pages, Website Carbon Calculator uses the these data points:

- Data transfer over the wire

- Energy intensity of web data

- Energy source used by the data centre

- Carbon intensity of electricity

- Website traffic

When a website is loaded, the energy used is roughly proportional to the amount of data transferred. (Website Carbon Calculator)

The study: aims and methodology (V)

Website is adapted to Easy Language (ineractions and text are simplified)

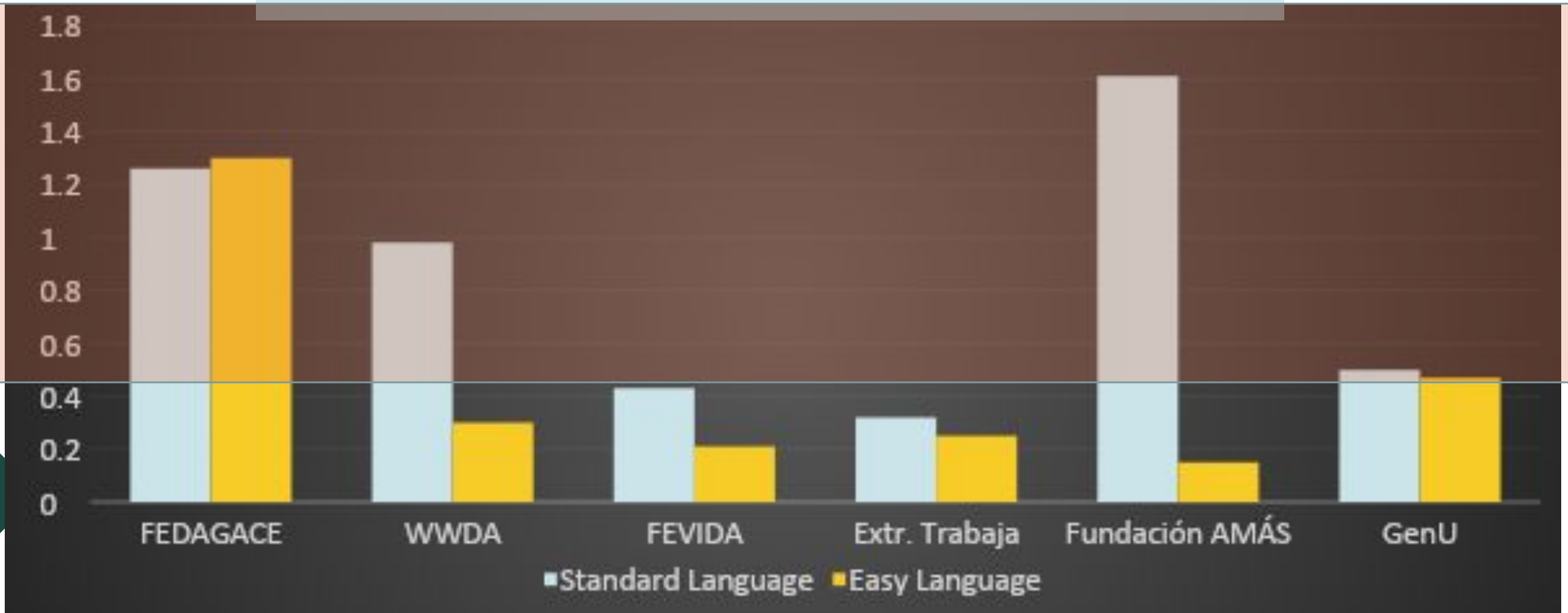Web site requires less data transfer

Web site becomes more efficient

Web site becomes more sustainable

Results

How much CO2 is produced every time someone visits this web page?

Left screenshot (Galego)

INFÓRMATE | COLABORA | TRABALLA CONNOSCO | CONTACTA

Conectarse | Galego

FEGADACE
FEDERACIÓN GALEGA DE DANO CEREBRAL

Unha vida salvada merece ser vivida con dignidade

Buscar

O DANO CEREBRAL | A FEDERACIÓN | QUE FACEMOS | TRANSPARENCIA | DEMANDAS DO COLECTIVO | RECURSOS DE ATENCIÓN

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O DANO CEREBRAL ADQUIRIDO

O dano cerebral adquirido é a discapacidade resultante dunha lesión no cerebro causada, na maioría dos casos, por un ictus ou un traumatismo cranioencefálico. Afecta a unhas 35.000 persoas en Galicia.

Co dano cerebral adquirido perde sentido falar de discapacidade física, psíquica ou sensorial: son moitas secuelas ao mesmo tempo, e preséntanse en diferentes graos e intensidades segundo a persoa.

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O mundo púxose ao revés. Historias s...

INFÓRMATE

29/11/2022 | Ourense
Rehabilitación e fins lúdicos na actividade de 'Terapia acuática' de DCA Ourense
Nas sesións trabállanse actividades da vida diaria, mobilidade, relaxación, marcha ou coordinación.

28/11/2022
O CERMI avoga por promover políticas públicas de discapacidade boas e sólidas
O I Congreso sobre Políticas Públicas de discapacidade finaliza emitido a 'Declaración de Alicante'.

25/11/2022 | Santiago
Discamino recibirá o 10º Premio FEGADACE - Miguel Blanco na #XornadaDanoCerebral
A Federación valorou o seu compromiso cos dereitos e a inclusión do colectivo do dano cerebral adquirido.

ESPAZO LIBRE DE VIOLENCIAS MACHISTAS — FEGADACE
▼ CONTRA A VIOLENT'

XORNADA SOBRE O DANO CEREBRAL

RETO ALTABAL 42 km — ALICANTE · TABARCA · ALICANTE — Novembro 2022

25/11/2022
25 de novembro de 2022: Día Internacional da Eliminación da Violencia contra a Muller
Manifesto do movemento CERMI: 'Non estás soa. Non máis violencia contra as mulleres con discapacidade!'.

18/11/2022 | Santiago
O Proceso Asistencial Integrado do Dano Cerebral protagoniza a nosa Xornada anual
O encontro, no que se entregará o 10º Premio FEGADACE-Miguel Blanco, terá lugar o 17 de decembro en Santiago.

17/11/2022 | Alicante
Aitor de Luís realizará este sábado o Reto Altabal nadando #PoloDanoCerebral
Vai percorrer 42 quilómetros entre Alicante e a illa de Tabarca para concienciar sobre a nosa discapacidade.

Right screenshot (Lectura Fácil)

INFÓRMATE | COLABORA | TRABALLA CONNOSCO | CONTACTA

Conectarse | Lectura Fácil

FEGADACE
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O DANO CEREBRAL ADQUIRIDO

O dano cerebral adquirido é unha discapacidade provocada por unha ferida ou lesión no cerebro.
A maioría das persoas que teñen esta discapacidade sufriron antes un ictus, un traumatismo cranioencefálico ou anoxia cerebral.

Un ictus é unha enfermidade que se produce cando o sangue deixa de chegar a unha parte do cerebro ou non chega ben.
Ou cando rompe unha vea ou unha arteria do cerebro.

O traumatismo cranioencefálico pode aparecer cando unha persoa dáse un golpe moi forte na cabeza por un accidente ou caída.

Sófrese a anoxia cerebral cando a unha persoa lle falta osíxeno no cerebro.

Unha persoa con dano cerebral adquirido pode ter unha discapacidade física, psíquica, sensorial, ou varias ao mesmo tempo.

En Galicia hai 35.000 persoas con dano cerebral adquirido.

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genU

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Home › Employment Pathways › Supported Employment Program

SUPPORTED EMPLOYMENT

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On this page
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- Why Work With Us? ▾
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- Contact genU Today ▾

Are you looking for a real job? Do you want to build up your self-esteem and earn your own income? Look no further than the opportunities available at genU Business Enterprises!

Everyone has different capacities and different capabilities – and at genU, we think that

Disability Support Services

Support Coordination

Employment Pathways
   School Leaver Employment Supports
   Supported Employment Program
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   MatchWorks ↗

Lifestyle & Participate

Individual Support

Accommodation

Youth Services

Allied Health

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SUPPORTED EMPLOYMENT

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We offer Supported Employment for people with disability in our genU Business Enterprises.

You will be able to earn your own money working in a job that's right for you.

Disability Support Services

Support Coordination
Employment Pathways
Lifestyle and Participate
Individual Support
Accommodation
Youth Services
Allied Health

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Left screenshot:

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Ver más ta... | Compartir

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Introducción

Fundación AMÁS es una organización que apo
cumple, promueve y defiende
los derechos de las personas con discapacidad intelectual
y sus familias en la Comunidad de Madrid.
Promover es hacer que ocurra un hecho
como por ejemplo ayudar
que los derechos de las personas con discapacidad se cumplan.

En Fundación AMÁS trabajamos
para que las personas con discapacidad
desarrollen su proyecto de vida
y ayudamos a su inclusión en la sociedad.
Conseguirlo depende del trabajo en equipo
y del compromiso de nuestros trabajadores.

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Your Rights   Lead & Take Part   Life Choices   Sex & Your Body   Safety & Violence   Real Stories

A website by and for women and girls (15+) with disabilities

> Easy Read   > Watch the video

Proudly produced by Women With Disabilities Australia

WWDA LEAD Art Prize Gallery

Find out more about our WWDA LEAD Art Prize Awards

⌄ Scroll down

our site

Quick Exit   Click to leave website and go to Google

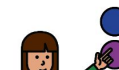This website is for women and girls with disability.

i

Scroll and Choose: ↓

Your Rights
Learn about your rights and how you can get help to stand up for yourself.
>

Lead and Take Part
Learn about your right to take part in work, education, hobbies, groups and organisations.
>

Life Choices

Xarxa AccessCat

GREEN SCENT   SMART CITIZEN EDUCATION FOR A GREEN FUTURE

TRANS MEDIA CATALONIA

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Discussion

Websites that showed better results on their Easy Language versions <u>adapted their website in terms of interaction and layout, and not only the presentation and content of text</u>.

Websites that did not perform these adaptations and only adapted the textual part of the page, showed a less relevant improvement on their Easy Language versions.

For FEDAGACE, the results were even slightly worse for the version in Easy Language due to the text becoming longer.

Conclusion

The findings indicate that EL websites are likely to have a simpler design, to require lower data transfer, and to be more energy-efficient —<u>contributing, ultimately, to sustainability</u>.

The results of this study aim to have some **implications for website designers** and developers who seek to create websites that are sustainable and accessible to all users. The study opens the door to an area that should be **further researched in the future**.

References

- Gartner (2009) *Gartner Estimates ICT Industry Accounts for 2 Percent of Global CO2 Emissions.* www.gartner.com/it/page.jsp?id=503867

- Greenwood, T. (2021). *Sustainable Web Design*. A Book Apart.

- Nietzio, A., Naber, D., & Bühler, C. (2014). Towards Techniques for Easy-to-Read Web Content. *Procedia Computer Science, 27*, 343-349.

- Van der Geest, T. , & Velleman, E. (2014). Easy-to-read Meets Accessible Web in the E-government Context. *Procedia Computer Science, 27*, 327-333.

- W3C (2018). *Web Content Accessibility Guidelines (WCAG) 2.1*. https://www.w3.org/TR/WCAG21/

- Wholegrain Digital (2019) *Sustainable Web Manifesto*. https://www.sustainablewebmanifesto.com/

Thank you!