Introducing the Web Sustainability Guidelines

Sustainable Web Design Community Group (SustyWeb)

About

Who are the people giving this breakout discussion and what we'll mention.

Łukasz Mastalerz (Speaker)
Climate Arc

Tim Frick (Co-Chair)
Mightybytes

Alexander Dawson (Co-Chair)

1.
The Problem

Climate

Issues surrounding the environment which will impact the digital sector.

IPCC Report endorsed by world governments at Cop 21, Paris (2015) puts a target to reduce global emissions to below **1.5c** above pre-industrial levels.
Source: IPCC

The digital industry is now responsible for between **2-5%** of global emissions.
Source: Lancaster University, EU Commission

If the Internet were a country it would be one of the top **five** polluters.
Source: Greenpeace

Between **2015** and **2021**, internet visitors increased **60%**, whilst web traffic increased by **440%**.
Source: IEA

Since the Paris Agreement, average page sizes have increased by over **70%** on desktop and **140%** on mobile.
Source: HTTP Archive

Variables

How carbon leaks throughout the chain and how this affects the Web industry.

Sources:

- Paper (Printing)
- Water (Cooling)
- Power (Server & Client)
- e-Waste (Server & Client)
- More… (Carbon Traps)

Everything from a visitors environment, to the composition, and location of a site, will impact how much carbon it emits.

Website carbon calculators account for a range of known issues, but cannot consider every possible variable and won’t replace real-world testing and the need for advice from reliable sources.

2.
The Market

Public

How rising awareness is encouraging change within all levels of industry.

“Bad actors” and attempted greenwashing are increasingly being called out publicly.

Ethical brands win awards and increase consumer trust, which can increase sales.

News organizations are more closely examining the impact of digital emissions.

People want to reduce their emissions and be good citizens (even if it’s done passively)!

Sources:
1,2,3,4,5,6,7,8,9,10

Industry

How the web industry is rising to the challenge of digital sustainability.

Multiple books on Web sustainability exist.
Source: SWD Wiki

Tools to examine, report, and fix, your digital carbon impact have been developed.
Source: SWD Wiki

Websites, articles, videos, and podcasts, have been created on digital sustainability.
Source: SWD Wiki 1,2,3

Numerous academic research papers examine the link between climate, carbon, and digital.
Source: SWD Wiki

Regulatory

Existing standards, the laws guiding them, and the legislation still to come.

Standards include:
GRI, ISO

Best practices:
AFNOR*, GR491, RGESN*, SDGs

Digital Susty laws:
CSRD, ESRS, GCD, REEN*, EEA§

Note: Other countries are looking to reduce emissions, and will draft new laws to meet their targets, catching up with other nations (and comply with international agreements).

* French
§ Germany

Justification

Why W3C should meet this challenge, and the benefits it can bring to the Web.

Digital sustainability is currently quite fragmented, with citable sources, and industry guidance scattered and evolving.

The W3C is a leader in offering user-centered recommendations such as inclusiveness (WAI) and privacy (PING) specifications.

W3C notes hint toward a sustainable future within design, privacy, & ethics principles.

W3C specifications are already impacted by Web sustainability. The organization can play a crucial role in research and resolution.

The publication of WCAG provides a baseline “source of truth” in accessibility adoption.

Widespread adoption of Web sustainability guidance can measurably reduce global emissions.

3.
The Guidelines

Membership

Who are the Sustainable Web Design Community Group (SustyWeb) members?

Our group started in 2013 and began active work on our specification for nearly 2 years.

We are a W3C Community Group (CG), as such we aren't creating recommendations or standards but a series of guides which can be adapted.

We are (mostly) comprised of non-W3C members.

Over **50** individuals actively participated in group activities like attending meetings and contributing to our specification.

Members include Web developers, designers, environmentalists, sustainability experts, academics, and business leaders.

49 organizations, certified B-Corps, and independent trade groups have participated and / or supported our activities.

Methodology

How we approached creating the specification, from ideation to public draft.

Our guidelines were inspired by WCAG.

We hold regular Zoom meetings to ideate and check on the progress of group activities.

We use the wiki for collecting links and attaching notes from our meetings.

We split into 5 committees based upon our skill-set to create initial rough drafts:
UX / WebDev / Hosting / Business / Metrics

The drafts once complete were merged, copy edited, and formatted into W3C ReSpec.

Any post-release issues with the draft specification are welcome through GitHub.

Features

Our approach to ensure our guidelines played nicely while being impactful.

We've produced **93** guidelines and **232** success criteria over an incredible **250+** pages!

Our work works with existing international laws, and tied into sustainability standards.

Our specification is weighted by evidence to provide the most accurate advice possible.

Every guideline is provided with an example, plus links which can offer added clarity.

Supplementary documents like our At-A-Glance page and SWD website may assist with implementing guidance from the specification.

Soon

Now that we've launched the draft specification, what are we aiming to-do next?

Outreach and Feedback:

- Design / Dev community.
- Wider tech industry.
- Mainstream media.
- Environmental groups.
- Scientific organizations.
- Government / Policy.

Keep Revising Draft

Implementation:

- Early Adoption
- Developer Tooling

Future

We’re not just thinking about the short-term, this is where we may travel.

Improving emission reduction targets with better advice, research, and tooling.

Encouraging policy-makers to include digital sustainability within climate targets.

Seek developer tooling, like Lighthouse, and SERP rankings to utilize Web Sustainability within their scoring and measurements.

Forming a potential working group around our CG’s specification and sustainability within the W3C to progress toward standardization.

4.

The Walkthrough

§ 3.2 Minify Your HTML, CSS, And JavaScript

Whitespace holds no value when it's being presented to the visitor (unless they view the source code), by using minification, valuable data savings can be made which will reduce loading times.

§ Success Criterion - Minify Code

All source code is minified upon compilation (including inline code).

§ Impact & Effort

Impact
Low

Effort
Low

§ Benefits

- **Environmental:** Limit bandwidth consumption.
- **Performance:** Reduce loading time.
- **Conversion:** Improved by reducing loading time.

X.X Guideline
Why this is an important thing to consider.

Success Criterion
What you need to-do (at minimum) in order to successfully implement this.
Note: More than one Criterion may exist.

Impact & Effort
- **Impact:** The benefit it can have.
- **Effort:** The work required to see results.

Benefits
Categorized gains for sustainable behavior.

§ Reporting

You can find details about complying with [GRI] through the body behind the standard.

GRI 301: Materials
Low

GRI 302: Energy
Low

GRI 303: Water
Low

GRI 305: Emissions
Low

§ Example

EXAMPLE 31

```
!function(e,t){"use strict";"object"==typeof module&&"obj
```

Source: jQuery Slim.

§ Resources

Resources are for information purposes only, no endorsement is implied.

▶ **Show / Hide citations and available resources.**

Tags: HTML, CSS, JavaScript, Performance

Reporting
Meeting compliance with the GRI sustainability standard.

Example
May come in the form of code and / or URLs.

Resources
Evidence based links to support claims along with implementation guidance and useful materials to better understand practices. (Click to reveal or hide sources)

Tags
Allows third party tooling and implementation resources to filter guidelines via an API by the categories / user-journey it belongs to.

Web Sustainability Guidelines (WSG) 1.0
https://w3c.github.io/sustyweb/

Web Sustainability Guidelines 1.0 At-A-Glance
https://w3c.github.io/sustyweb/glance.html

Sustainable Web Design Community Group
https://www.w3.org/community/sustyweb/

Thanks for coming! Please get involved.