



make sure data centres are in your region

use carbon calculators



enable caching

don't use autoplay



Don't over-use animations



don't use custom fonts if you have to make sure they are self-hosted

use a dark mode to save energy on your viewers devices

check out minimal themes with simple coding

ask developers for green themes and plugins

The Checklist by Heidi Nikolaisen and Sophy King

A Low-Carbon Artist Website

There are many things to consider when thinking about how to create more energy efficient websites for artists, as well as websites in general. The artist website is almost mandatory as an important platform to disseminate work. It requires excellent documentation and so can easily become 'heavy' with large images, videos and elaborate code. As the digitalization of society grows at high speed, the carbon footprint of digital behaviour becomes ever more relevant; the global internet now consumes more electricity than the UK each year.

A website is often the first step in entering the public art scene. For an artist it can seem like an overwhelming chore to collect their material and consider how to make it available. Unlike companies and industries, artists are mainly left to the task of setting up their personal website by themselves without guidance or technical support.

The Checklist offers a platform from which to start thinking about your website, with sustainability in mind from the beginning, or to rethink the website that you have. It is meant as an encouragement to think about disseminating work in a more carbon neutral way and to spread awareness of the carbon footprint of the digital artifact known as the Artist Website.

The Checklist is the result of collaborative research by the artists Sophy King and Heidi Nikolaisen within the framework of the Sustain 2021 programme initiated by Castlefield Gallery.

The aim of the research has been to pinpoint ways of reducing carbon emissions from artists' websites, to know what to be aware of and to support the building of a more sustainable digital culture.

We have tried to apply these checklist items ourselves in the process of building our collective project, the Sustain Zine's, website. As we have encountered multiple obstacles in these efforts, they should not be taken as complete and perfect, but rather as experiments and trial and error. If interested, you can check out the final setup chosen for the zine website here (insert link). We found plenty of good advice on how to lower the co2 emissions of your page, much of it aimed at designers and developers. We have tried to balance the degree of technicality in developer's guides with the focus on aesthetics and performance found in design advice and introduced a third parameter - that of broader ethical and infrastructural systemic perspectives. The advice given here can be assessed on three levels: in a hurry you can check the TLDR; if you have a bit more time you can cross-reference the Checklist with your own website. If you want to dig deeper, you can access the linked resources. All together we hope this material will inspire you to get to know your website better and form stronger opinions, as a small but important step into controlling more of your digital actions.

ARTIST' WEBSITES: SUSTAINABILITY AND ETHICS CHECKLIST

Three most impactful changes you can make to lower carbon emissions on your artist website right now:

1. Switch to green hosting
2. Minimize site weight
3. Demand Co2 emissions visibility and hold providers and collaborators accountable

MINDSET

- Create a space of **personal awareness** around and of your website.
- Be aware that your website **doesn't need to be perfectly zero carbon** but that your efforts to change even just a small element can make a difference.
- Be sure to check in with yourself **how much energy and effort** you want to put into making changes to your website and **be patient in the learning process**.
- Don't be afraid to try products or services** that you haven't tried before.
- Reach out to others and tell them about the changes you are considering to make and reach out to **people in your network who could support and help** you achieve that.

DATA AND KNOWLEDGE

Getting to know the components and key figures of your website is the first step to gaining a better understanding of what it means for a website to produce and contribute to carbon emissions, and how that is connected to file sizes, visitor count and a number of other factors.

- Test your site** using one or more website carbon calculators (we suggest [Digital Beacon](#), Wholegrain Digital's [Carbon Calculator](#), [Ecograder](#) and The Green Web Foundation's [Green Web Checker](#)). Use these to get a primary sense of the emission levels and where things could be tweaked.
- Collect the data you gather** about your website and create an overview for yourself of the key findings. There are a number of tools for website analysis available (see next step), but they can be overwhelming and unproductive for someone with a smaller and less profit oriented need.
- Know the tools to perform general website analysis**. This is not a totally necessary step, but it can be nice to know that you have different options for digging deeper into the performance of your website. A lot of the carbon calculator's rely on the data from these tools (especially Google Insights) for their estimates.

DESIGN

Whether you already have a site and want to tweak it towards a more sustainable design or you are starting from scratch, whether you use WordPress or you are coding it yourself, these are the things you should keep in mind. If using WordPress please disregard the coding advice and vice versa. In this list we have prioritized energy usage over user experience.

- Avoid animations** on your site as they are heavy.
- Use dark-mode as standard** or use dark colors. Dark colors use less energy on most of your visitors' devices. If using wordpress aim for a dark theme.
- Fonts**. Use default fonts and minimize the amount of fonts used on your site. Use light weight fonts and host them locally if possible. This means downloading and converting them to WOFF2 format to ensure a high compression ([WOFF2](#)).
- Disable autoplay on videos**. Display a thumbnail and only once the user clicks the image render the video.
- Minimize **weight of your video** by compressing it using the AVIF format (here is a link to a [guide](#)).
- If you are using WordPress consider choosing a **greener WordPress theme** (see [this article](#) for a list and [this](#) for other considerations).
- Compress images**. Images and videos are the heaviest objects on a website. Make sure to crop to size, compress and convert every image to [WEBP](#). (Here is a [link to guide](#) that shows you how to resize and compress images). Keep images down to max 500 kb
- Use SVG icons** for buttons, icons, favicons as they are very lightweight (for reference, the images on [this site](#) are svg).

- Use images with less or reduced colors.** The size of the images are also determined by the amount of colors. Making images black and white or reducing the numbers of colors (e.g. using dithering) therefore contributes to a smaller image size.
- Enable caching.**
- If possible **display images only once requested by the user.** This will save a lot of unnecessary loads.
- If you are writing the code yourself, be aware of code size and try **to avoid any elaborate code libraries.**
- As a baseline try to **minimize each of your pages to 1mb.**
- Be aware of your cookie settings** and minimize them if you can. A recent comprehensive [study](#) shows that traffic, especially coming from 3rd party cookies, has a huge negative carbon impact and this traffic is often not included in common calculations).

CLIMATE ACTIONS

- Choose green hosting** for your site.
The green website foundation has a list of “verified” green hosting providers, but the list is self maintained and has a lot of broken links. It is therefore not a very accurate and reliable source to get the full picture of providers, especially outside of the eu. We recommend instead checking your local options and reading [this article](#) for tips on how to navigate choosing a green hosting service.
- Include script to carbon calculator** ([Website Carbon Script](#))
- Get browser extension** that allows you to quickly check a website (Digital Beacon [Chrome Extension](#) / [Firefox Extension](#))
- Show carbon badges** (carbon calculator results and any offsetting you have invested in) on your page. Look for country specific companies that provide offsetting (here’s a few you can start with: [Web Neutral Project](#), [Website Carbon Badge](#), [The Green Website Foundation Badge](#)) showing your calculated emissions on your site (even if it doesn’t look good to begin with).
- Consider what **energy the computer you are building your website is running on.** Can this energy become more green? Can you hook up your computer to a solar energy source or other ways to minimize the energy consumption of the device you are working on. Can you reuse an old laptop (but be vary of too slow computers)?

ETHICS AND ACCOUNTABILITY

Many companies and businesses rely on people making websites and are involved in the process from issuing and controlling web legislation to selling web hosting to actually storing your content. Government organizations, developers, designers, marketing companies, isp’s and data storage centers all play their part in the ‘profit chain’ of websites. Also the photographer who documents the work plays a role.

- Be aware that your personal website is **part of a bigger ecosystem of web infrastructure** and think about what you are supporting and who is profiting in this chain.
- Demand **more visibility on server information** regarding renewable energy from your service providers.
- Think about the **lifespan** and administration of your site in relation to the aim of the project. Does it need to be accessible in three years or less? Could there be a time limit to the online availability of the project and if so who takes it down?
- Greenwashing.** Look for partnerships and accreditation for environmental efforts that signal a dedicated and committed plan.
- Climate Justice.** How are the companies and providers contributing to climate justice?
- Server Location and Maintenance.** Ask your service providers where the servers are located, if they are running on renewable energy and how they are maintained.

The checklist has been developed, adapted and compiled with inspiration from these main resources:

[Sustainablewww.org This is How We Made Our Website](#) / [Mighty Bytes Web Sustainability Checklist](#) / [Low Impact Website Manifesto Organic Basics](#) / [Sustainablewww.org The Ethical Principles in Web Development](#) / [Low Tech Magazine How to Build a Lowtech Website](#) / [HomeBrewerServer Low Tech Website How To](#) / [Wholegrain Digital Website Energy Efficiency](#) / [WP explorer 5 Ways to Make your WordPress Site Eco Friendly](#) / [Sustainable Web Design](#)

SOME RESOURCES FOR INFORMATION ON LOW CARBON WEBSITES AND DIGITAL SUSTAINABILITY PROJECTS

NAME (link)	Comment
1. GENERAL	
Electricity Map	Data quantifying how carbon intensive electricity is on an hourly basis across 50+ countries
Sustainable Web Manifesto	A sustainable web manifesto made by Wholegrain Digital
The Shift Project	The Shift Project is a French non-profit think tank advocating the shift to a post-carbon economy mainly operating in Europe
London Design Week article	Design, Climate, Action: is it possible to design low carbon impact digital services?
2. Organisations, design studios, companies and sustainable web initiatives	
Sustainablewww.org	Sustainable WWW is a blog with the purpose of teaching web developers and website owners how to create sustainable websites
Solar Low Tech Magazine	Project about running websites on solar energy and other digital sustainability tips
Serving Green	Info site focused on greening the web
The Green Web Foundation	The Green Web Foundation tracks and accelerates the transition to a fossil-free internet
Mighty Bytes	Digital agency with a focus on sustainability
Http Archive	Web statistics
Web Neutral Project	Digital sustainability
Susty WP	Guide to making WordPress websites more sustainable
Planet Friendly Web	Guide to understanding and improving the environmental impact of online products and websites
SustainableUX	Online-only conference on Sustainable Web Design
SustainableUX video	YouTube playlist from the SustainableUX project
3. SUSTAINABLE WEB DESIGN	
SUSTAINABLE WEB DESIGN	Informational site on sustainable web design
Sustainable Web Design	Resource on digital emissions and sustainable web design including disability concerns
MADC - Low Carbon Website	Architectural design studio with a low-carbon website and sustainability approach
ALINE	Digital sustainability consultancy who developed the Digital Beacon calculator
4. GREEN HOSTING	
Sustainable Business Toolkit	List and comparison table of green hosting companies including step-by-step guide to switching to a green host
Greek Geeks	Global hosting company with a strong focus on renewable energy
Small99 Green Website Hosting	Good comparison table of green web hosting
Superb Themes	Guide to more carbon neutral wordpress themes
Choose a Green Web Host	Article on green web hosting
Krystal	UK-based web hosting on sustainable energy
Kualo	UK-based web hosting with focus on sustainability and green hosting
5. TOOLS: Website Carbon Calculators and Web Sustainability Analytics Tools (Paid and Free)	
Website Emissions	Open and public tool designed to be simple and give an approximate idea of website's carbon emissions. NB: tests only one page at a time
Website Carbon	Website carbon emissions calculator built by Wholegrain Digital
Ecograder	Free web sustainability tool built by MightyBytes
Greener WP guide / Plugin	Greener WP - guide for greener Wordpress with plugin suggestions and step-by-step guidance
Ecoping	Project developing tools for web core vitals with a focus on sustainability
Webpage Test	Website Performance test, free and paid options
Digital Beacon	Calculate the environmental impact of a web page, see the breakdown and learn what measures can be taken to improve it
5. FURTHER MATERIAL: Articles and guides on website sustainability optimization	
Sustainablewww.org This is How We Made Our Website	9 steps explanation on how Sustainablewww.org was made
Wholegrain digital Website Energy Efficiency	Article with suggestions on how to make your website more energy efficient
The Shift Project - guide to reducing video weight	Guide to reducing video weight while keeping good quality
Optimizing images for web	Guide to optimizing your images for web