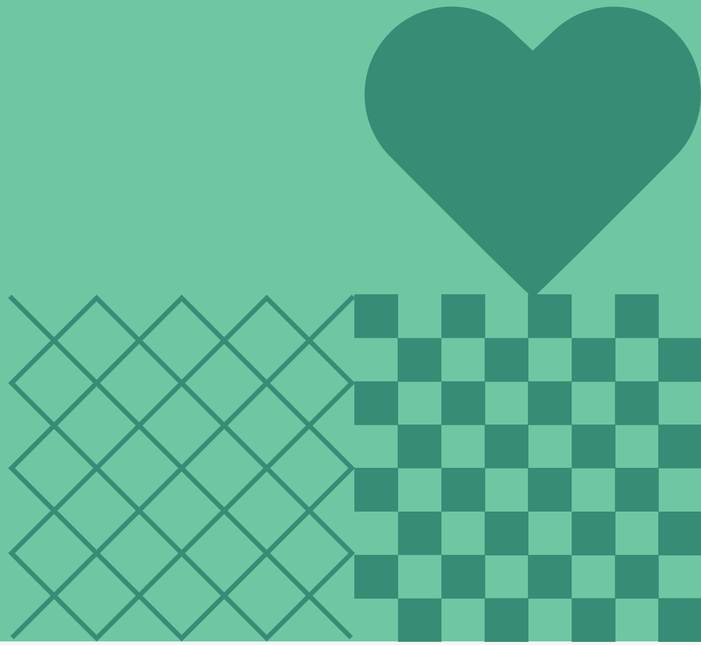
July 2025

Cultural Website Sustainability Benchmark Report 2025



What is the carbon footprint of cultural websites in the UK?

Supercool and Digital Carbon Online tracked 66 organisations' websites to find out

DIGITAL CARBON ONLINE

Supercool

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From Supercool

Back in 2024 I had conversations with people across the sector, asking what support we at Supercool can offer cultural organisations as they work on reducing their negative impact on the planet. Out of these conversations came a request - a benchmarking report that would help the sector understand what 'good' looks like. So here we are, publishing the first Cultural Website Sustainability Benchmark Report.

Partnering with Digital Carbon Online for this report means we've been able to collect data across millions of page views. We've also been able to use two models to measure the carbon footprint, resulting in data that's more accurate.

We hope this report is useful for you – and other cultural organisations – by providing direction, and a benchmark for knowing how your website is performing compared with others in the cultural sector.

Kate Mroczkowski
Strategy Director, Supercool

From Digital Carbon Online

There's no doubt about it, digital technologies have changed how we go about our lives and work. Yet, despite the multitudes of positive impact these technologies have afforded us, they also come with often overlooked side-effects.

The internet is currently estimated to contribute more global greenhouse emissions than that of the airline and maritime industries, ballooning from approximately 4%[1] today to 14%[2] by 2040 - more than today's emissions from the entire transportation sector.

At Digital Carbon Online, we're on a mission for a more sustainable digital future, and a big part of that is raising awareness through work like this eye-opening project. We hope this report will uncover unexpected insights, while also providing direction and motivation for the sector (and beyond) to collectively achieve lower website carbon footprints.

Scott Stonham
Chief Executive, Digital Carbon Online

1 Lean ICT: Towards digital sobriety, The Shift Project
2 Chasing Net Zero - Are the ICT sector plans on track?, KPMG

Methodology

Methodology

Using Google Tag Manager (GTM), we implemented Digital Carbon Online tracking on **66 cultural websites.** These were a mix of theatres, venues, touring companies, festivals, museums, sector support organisations, education institutions and arts centres.

Data was tracked from 1 February to 30 April 2025. Across these websites, we tracked key pages including homepages, event listings and top-level landing pages with almost **9 million website visits tracked.**

Throughout this report, we've provided both the Standard and Alternative figures for page weights. See Appendix for more details.

How to use this report

To compare your website to the data in this report, you'll need to measure the carbon footprint of your web pages. Here are two ways to do this:

Websitecarbon.com

As one of the original website carbon footprinting tools, websitecarbon.com makes it easy for website owners to get a snapshot of the carbon footprint of individual pages at a given point in time.

Use this tool to manually check the carbon emissions of individual pages.

Digital Carbon Online

Digitalcarbon.online helps build an understanding of how the carbon emissions of entire websites vary over time. The platform also provides a free test tool that estimates the carbon footprint of the 50 most important pages of a website.

Request a free report from digitalcarbon.online/test to compare your website with those mentioned in this report.

Terminology

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Terminology

More information is available in the Appendix.

CO2e	Carbon dioxide equivalent gases – a unit of measurement that expresses the impact of each greenhouse gas in terms of the amount of CO2e[3]
Page weight	The CO2e generated by a web page
Page view	The request to load a single page by an end-user
GA4	Google Analytics 4
GTM	Google Tag Manager
Standard model	A method for assessing the carbon footprint that follows a similar methodology of other website carbon tools
Alternative model	An alternative approach that follows the Green Web Foundations' principles adjusted for more real-world user interactions.

3 What is CO2 equivalent (CO2e) and how is it calculated?, Zero CO2

Case study: British Museum

Over the past couple of years, we have been looking at improving our website's carbon footprint.

Alison Bean,
Website Product Manager,
The British Museum

This is not just the right thing to do for the planet; the changes we made have improved site speed and therefore the experience for our users, many of whom are foreign tourists, accessing the site via Wi-Fi. But at the same time as users need faster site speed, they also want to see more images of our collection and videos about our work. So, the challenge for us was, how could we do that without affecting site speed?

The answer was to look for ways to get our site to load as fast as possible, no matter what the content is. To achieve this, we did two key things: loading images in WebP – something which can be done at low cost, and with little effort, via Cloudflare – and working with our developers to improve our Core Web Vitals.

This work has made a significant difference, meaning we now offer more rich content to users, without affecting site speed, and whilst keeping our carbon footprint as low as possible.

Summary of findings

Summary of findings

How does the cultural sector compare with other sectors?

We've compared the average carbon rating for arts, culture, and heritage websites with the data available in Abstrakt's Website Carbon Impact Study[4].

It's worth noting that cultural websites tend to use a lot of imagery and rich media, which would impact the page weights. However, the data demonstrates that other sectors could provide valuable lessons and insights when it comes to reducing the impact of cultural websites.

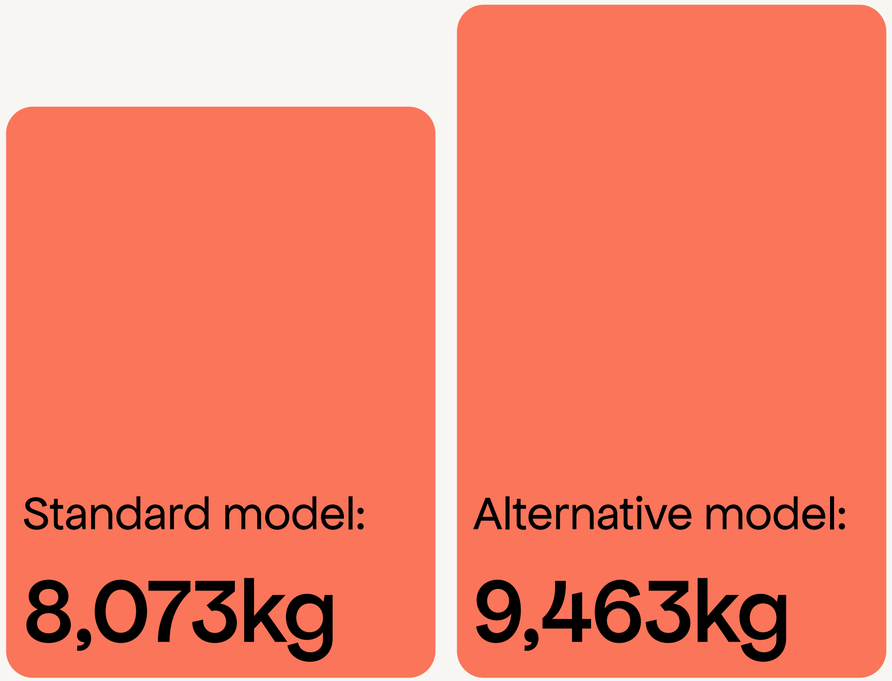
Sector[5]	Website Carbon Rating	Average CO2 per page View (in grams, Standard model)
Insurance	C	0.44
Healthcare	C	0.45
Supermarkets	D	0.53
Banks	D	0.54
Arts, culture & heritage	D	0.56
Utilities	D	0.64
Apparel & accessories	E	0.68
Higher Education	E	0.69
Construction	E	0.75
Eco brands	F	0.88
Food & beverage	F	1.19

4 Website Carbon Impact Study, Abstrakt

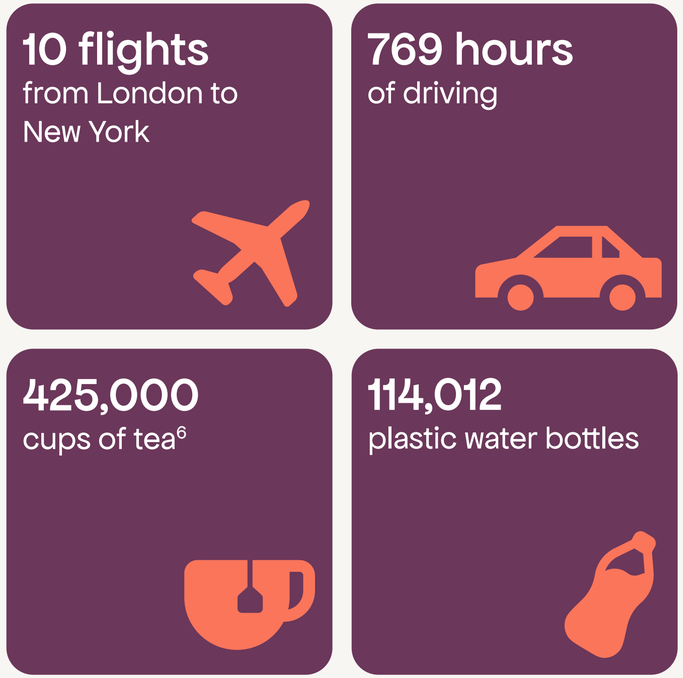
5 Introducing the Website Carbon Rating System, Website Carbon Calulator

Summary of findings

Total carbon footprint of the page views we measured:



The Alternative model impact is the equivalent of:



6 The carbon footprint of common items, Clever Carbon

Summary of findings

Most popular pages

Homepages and event listing pages account for 80% of the page views tracked. Homepages account for some of the highest-weighted pages across the data set.

Reducing the weight of these two areas of a website will likely have the biggest overall impact in reducing your website's carbon footprint.

Videos are the big hitters

Across the data, where we see especially high page weights, these align with websites that make use of video content.

Videos can be a powerful tool and help to showcase your organisation better than images or text, but they do have a cost. This is a good example of when it's important to weigh both the positive and negative impacts of digital content.

Unoptimised images

During the period of this study, we observed one website's monthly emissions almost double due to three unoptimised images on the home page.

Optimising images and converting them to modern formats (such as WebP and AVIF) can drastically reduce file sizes and significantly lower overall emissions. There are many free and paid tools available to help with this.

There're lots of opportunities

The lowest impact websites are a mix of theatres, arts centres, museums and touring companies. They range from small to very large organisations. What they have in common is a strong focus on sustainability.

These websites demonstrate how much everyone can do to reduce the impact of their websites. We've invited some of these organisations to share their strategies, ideas and processes throughout this report.

Case study: National Museums Scotland

National Museums Scotland is committed to addressing climate and biodiversity challenges, taking action across our whole organisation.

Kate Amann,
Digital Product Manager,
National Museums Scotland

So when it came to redeveloping our website, one of our priorities was carbon management.

To help us maintain a lower website carbon footprint, we've created new content design guidelines which include factors for managing the carbon footprint of assets and content.

These include:

- Defining maximum file sizes for images
- Limiting video embeds per page, and,
- Questioning the number of images necessary for collections stories to make sure everything we include has a unique purpose.

We've also streamlined some of our more complex sections of our website – particularly Collections, Schools, and About us – by taking out unnecessary levels in the structure.

Focusing on our most visited areas of the website, we completely reworked the Visit pages, to make user journeys shorter, more efficient and therefore reducing the number of pages per user visit.

Lastly, we've deleted well over 400 pages and merged the content of over 140 others. This covers both the elimination of broken content and incorrect, out-of-date, or unnecessary information, as well as the retiring, archiving, or reworking of collections story content.

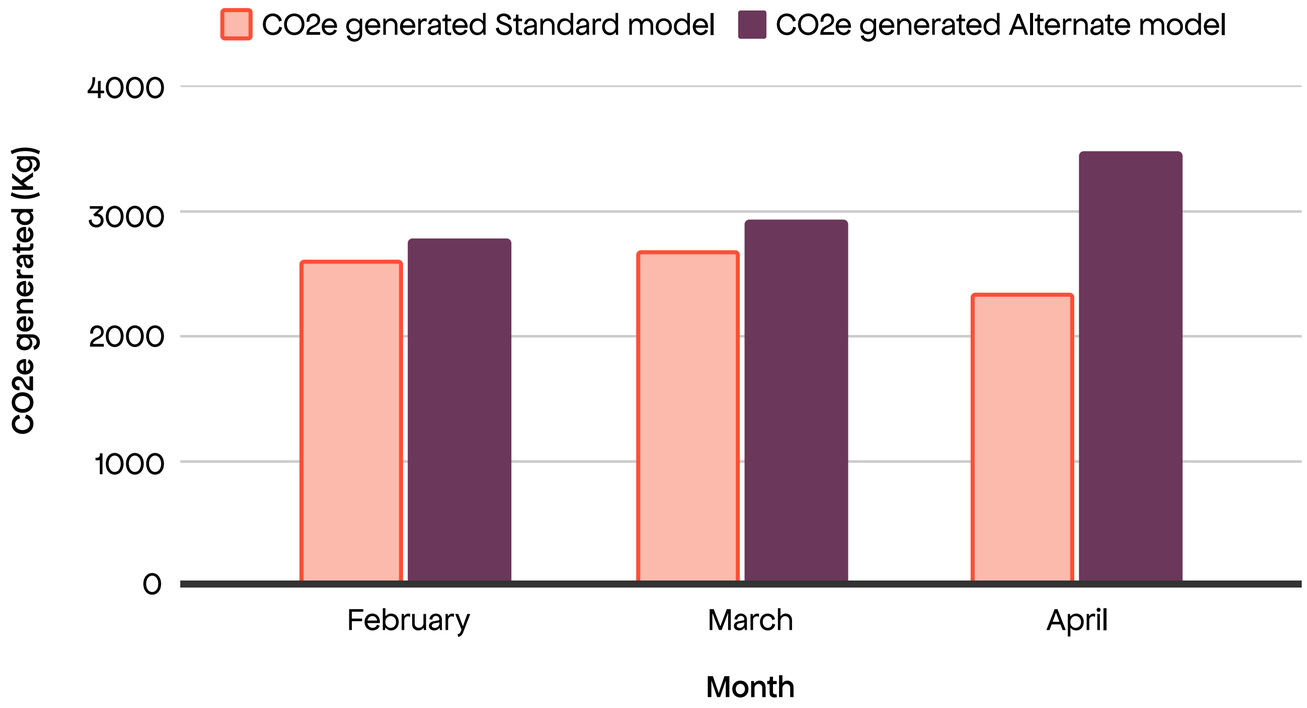
The report in detail

The report in detail

CO2e generated over time

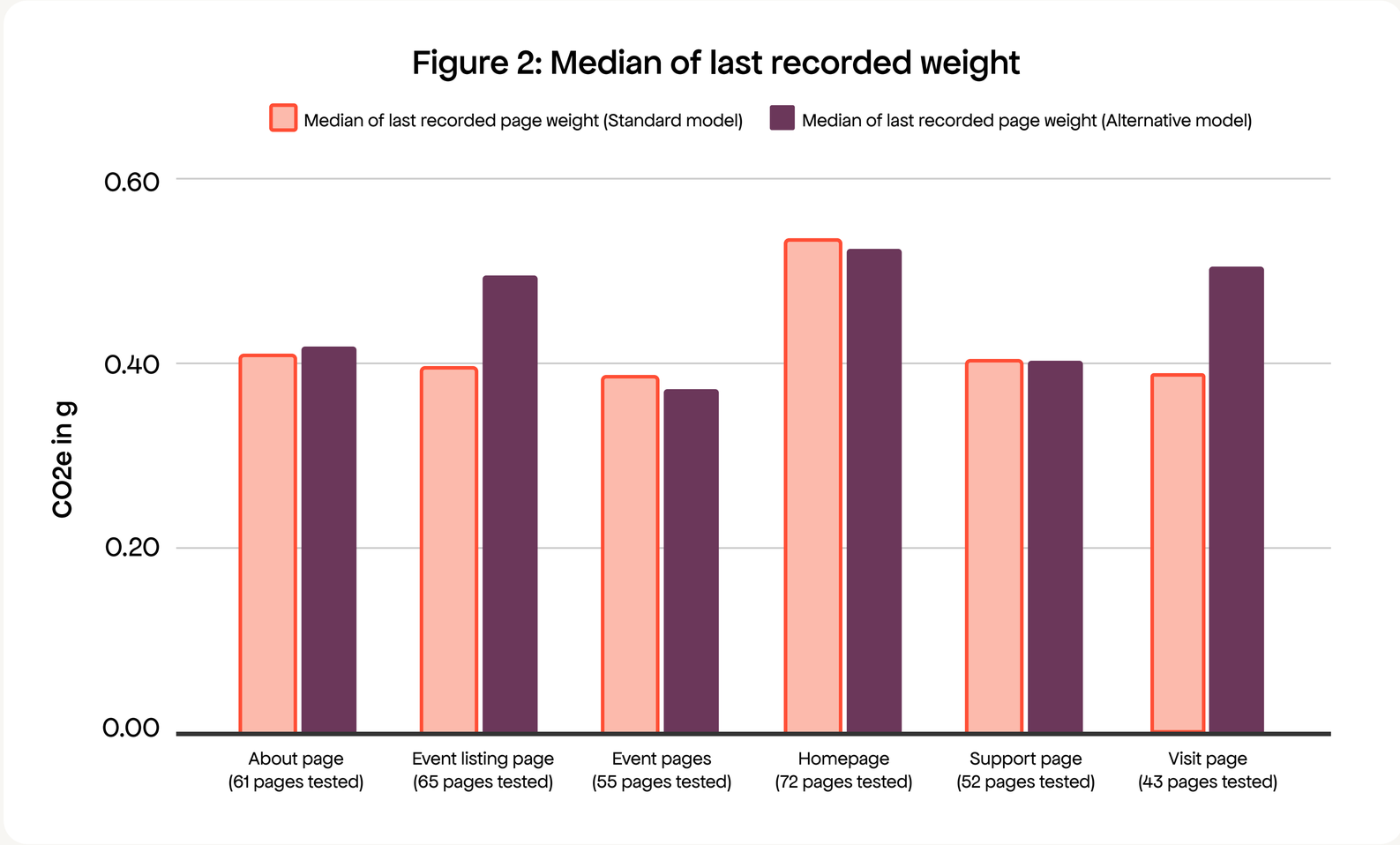
CO2e generated over time is relatively static across both models. The Alternative model shows an increase in the CO2e generated in April. This coincides with an increase in web traffic as many cultural organisations launch seasons and festivals.

Figure 1: CO2e generated per month



The report in detail

Page type comparison

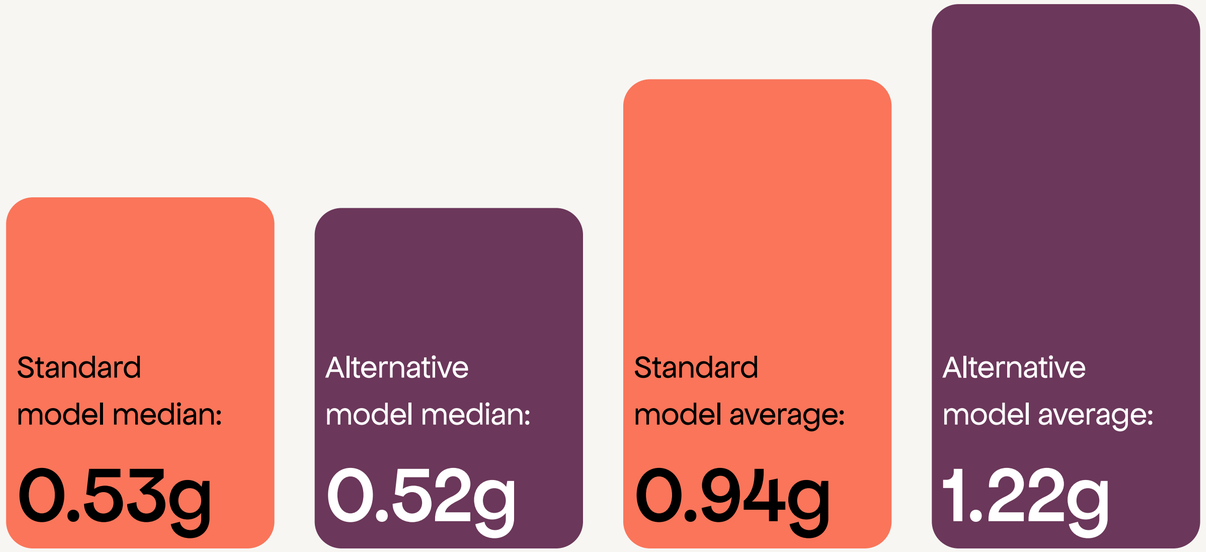


The report in detail

Homepage

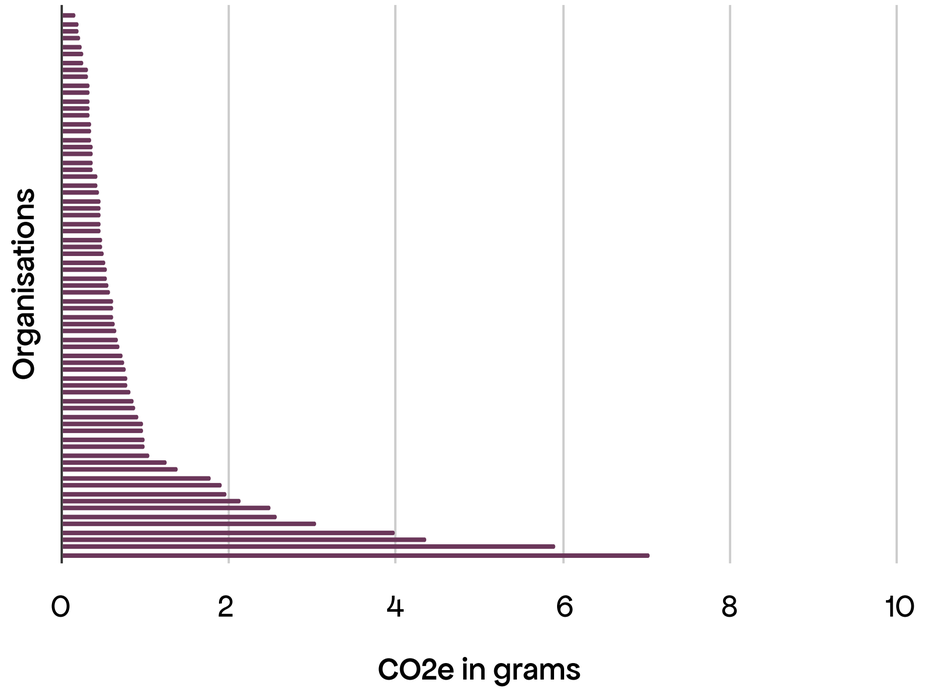
Defined as the root domain, or as a venue landing page for websites where there are multiple venues within one website.

Homepages accounted for 50% of all page visits during the study period.



*Within the data set, we saw some very large page weights on homepages. These skew the data which results in some large averages. The Median provides a more realistic benchmark.

Figure 3: Homepage - Average last recorded page weight



The report in detail

Event listings page

Defined as a page listing upcoming events and activities.

Event listing pages accounted for 31% of all page visits during the study period.

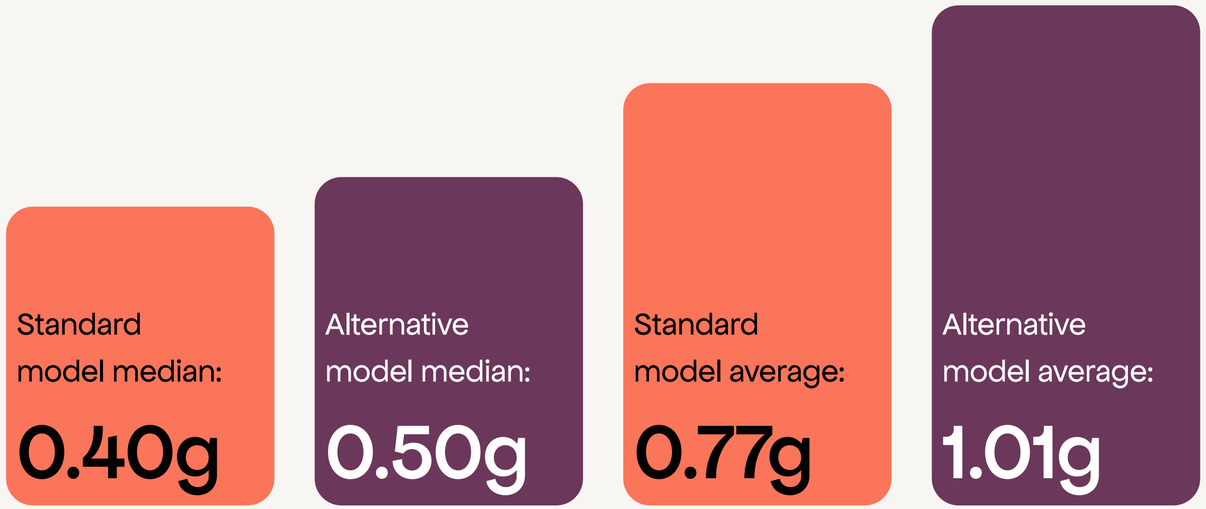
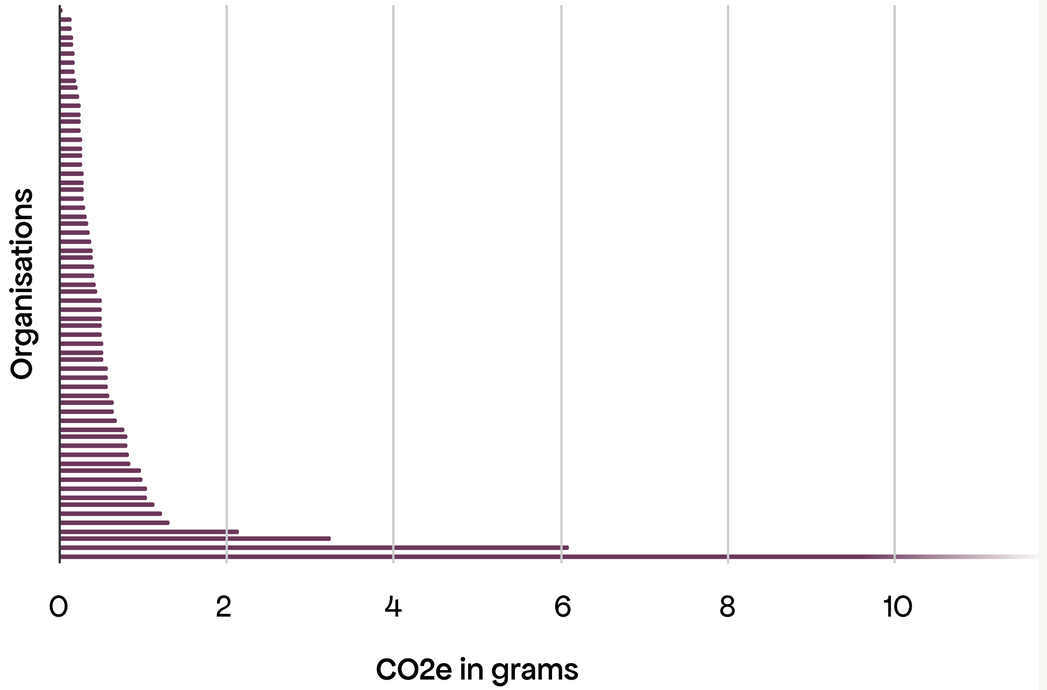


Figure 4: Event listing page – Average last recorded page weight



The report in detail

Event or Exhibition page

Defined as a page containing content about a single event, activity or exhibition. This included one-off events and events running across multiple days/weeks.

Event pages accounted for 2% of all page visits during the study period.

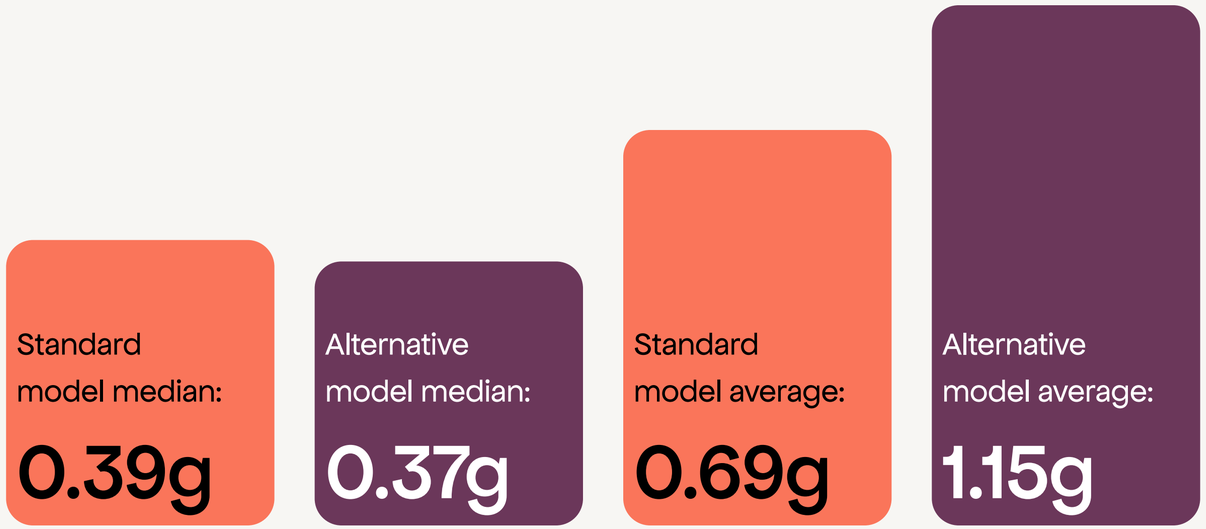
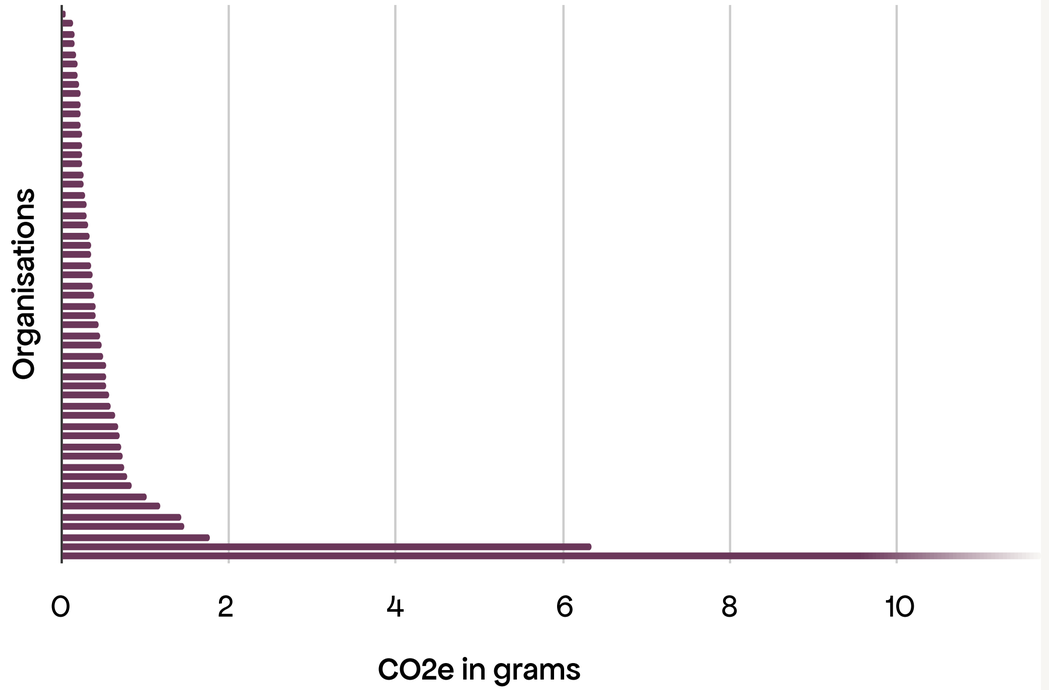


Figure 5: Event page – Average last recorded page weight



The report in detail

Visit page

Defined as a top-level page containing information related to visiting the venue or museum.

Visit pages accounted for 15% of all page visits during the study period.

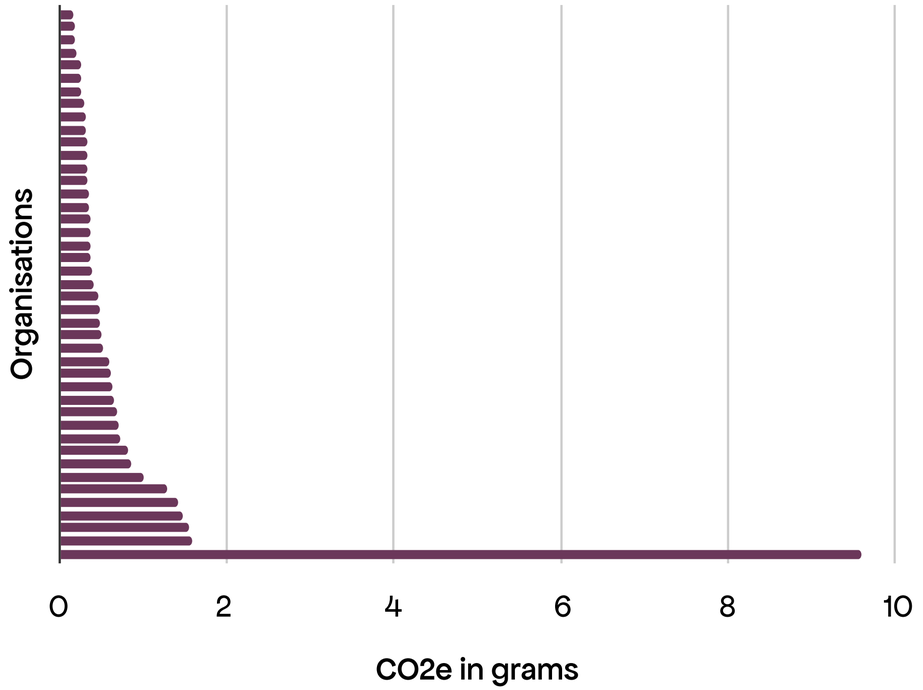
Standard model median: **0.39g**

Alternative model median: **0.51g**

Standard model average: **0.59g**

Alternative model average: **0.96g**

Figure 6: Visit page – Average last recorded page weight



The report in detail

About page

Defined as a top-level page containing information about the organisation.

About pages accounted for 2% of all page visits during the study period.

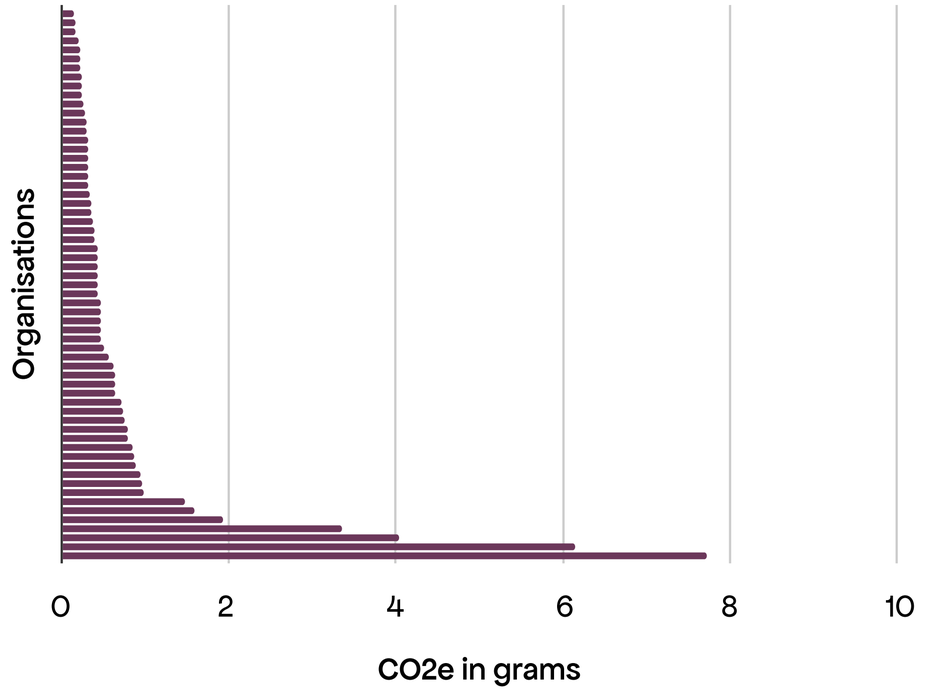
Standard model median: **0.41g**

Alternative model median: **0.42g**

Standard model average: **0.75g**

Alternative model average: **0.92g**

Figure 7: About page - Average last recorded page weight



The report in detail

Support page

Defined as a top-level page that contains information about making charitable donations or providing other types of support to the organisation.

Support pages accounted for 0.62% of all page visits during the study period.

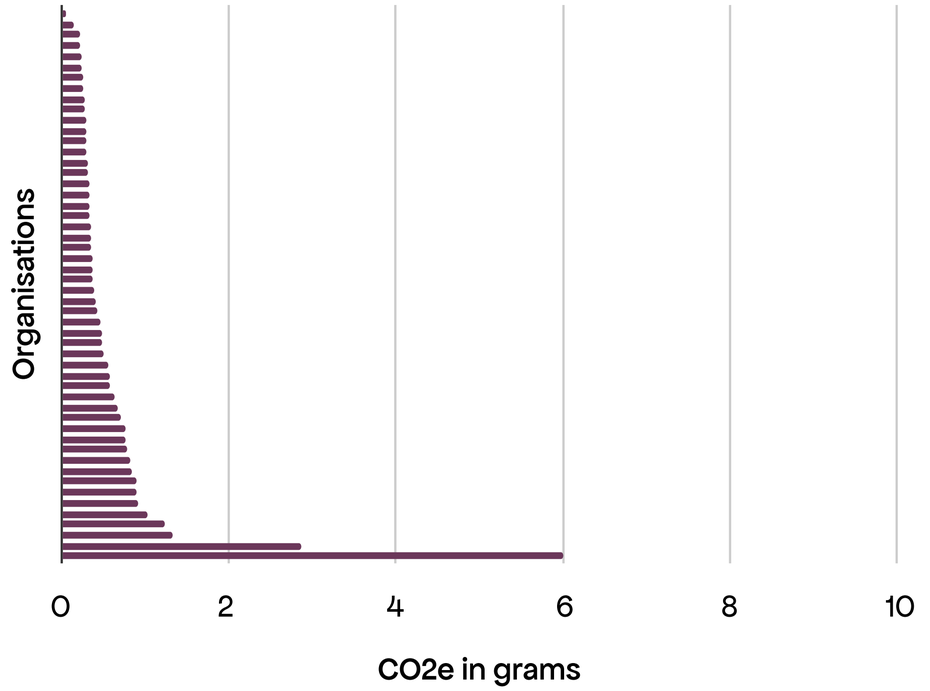
Standard model median: **0.40g**

Alternative model median: **0.40g**

Standard model average: **0.62g**

Alternative model average: **0.66g**

Figure 8: Support page - Average last recorded page weight



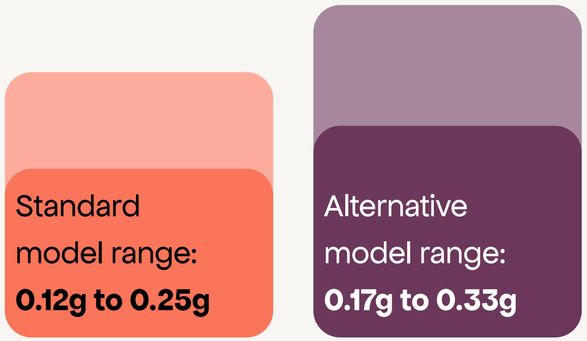
The report in detail

Services and study pages

For a small number of organisations, we measured the page weight for services and study pages. These data sets are too small to generate meaningful medians and averages.

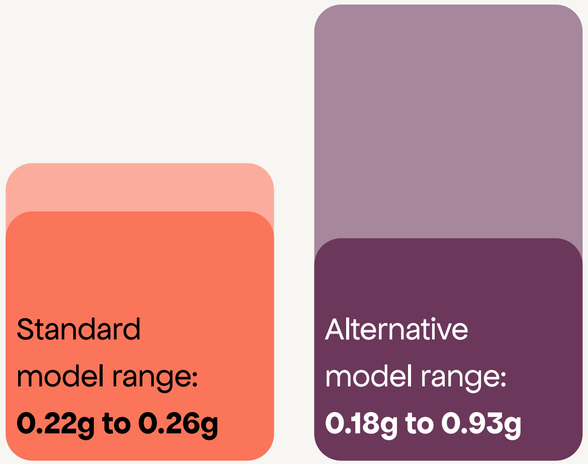
Services pages

Services pages are defined as pages that list professional B2B (business to business) services.



Study pages

Study pages are defined as top-level landing pages for educational organisations. These pages list the various courses and study areas available.



The report in detail

Summary table

Page type	Percentage of page views	Standard model median	Alternative model median	Standard model average	Alternative model average
Homepage	50%	0.53g	0.52g	0.94g	1.22g
Event listings	31%	0.40g	0.50g	0.77g	1.01g
Event or exhibition	2%	0.39g	0.37g	0.59g	1.15g
Visit	15%	0.39g	0.51g	0.59g	0.96g
About	2%	0.41g	0.42g	0.74g	0.92g
Support	0.65%	0.40g	0.40g	0.62g	0.66g

The report in detail

Highest vs lowest page weights

To understand the frequency of page types within the highest and lowest 25% of pages we've used the average of the standard and alternative weights.

Homepages feature more in the highest page weight segment than any other page type. And in contrast, appear less frequently in the lowest page weights. This suggests that homepages tend to have a higher carbon footprint than other page types.

Page type	Frequency of page type in top 25% (heaviest) page weights	Frequency of page type in bottom 25% (lightest) page weights
Homepage	34	16
Event listing	21	25
Event or exhibition	15	22
Visit	14	16
About	22	22
Support	16	22

Case study: Contact Theatre

Over the last year, Contact has taken a few practical steps to improve the digital sustainability of our website, aligning it with our wider commitment to environmental responsibility.

Rebecca Coughlan
Digital Product Manager,
Contact Theatre

As part of this journey, we've focused on reducing the volume of image and video content used across our site. Ideally limiting each page to a single image wherever possible. This not only lowers the energy required to load our site but also encourages more intentional, efficient photography and content design. We've also developed a regular process for deleting outdated pages and media files, especially those with larger file sizes, which helps to reduce our overall server load and carbon footprint.

Additionally, we regularly ask Supercool to carry out periodic audits of our website and suggest ways that we can be more digitally sustainable. This has been instrumental in helping us stay accountable and identify areas where we can do better.

For other organisations, simple actions like limiting media, deleting outdated content, and scheduling regular audits can make a meaningful impact without requiring a lot of time or money. And it always helps to ask people outside your team to input too, because it can often be hard to identify necessary changes when you work with the website every day.

Actions – what can you do now?

Actions – what can you do now?

1. Consider your values

The case studies shared throughout this report show that where organisations are prioritising sustainability, they're making progress in reducing the impact of their websites.

- Make sustainability one of the core priorities in your team
- Consider sustainability across your organisation
- Include your digital tools when reviewing your impact on the planet

2. Raise awareness

Our collective dependence on, and utilisation of, technology is only going to increase. Yet, understanding of the environmental impacts of technology is very low across the general population. Raising awareness is an important step towards more responsible use of technologies.

- Track and share your progress with tools like Digital Carbon Online
- Share your successes – in blog posts, conversations with peers, and at sector conferences
- Share what hasn't worked
- Let your audience know what you're doing to reduce the carbon footprint of your website through accreditation and data sharing

Actions – what can you do now?

3. Focus on the most visited pages

With the homepage and the event listings pages accounting for 80% of page views, reducing the weight of these pages will have a significant impact on reducing the environmental footprint of your website as a whole.

- Set up tracking so you can see how users are engaging with content on these pages
- If users aren't scrolling through pages, consider reducing the content on these pages (Hotjar is a useful tracking tool)
- Use pagination to display large numbers of events, rather than loading them in as users scroll

4. Run Content Audits

A Content Audit is a great way to understand what content you have on your website, allowing you to reduce content that's no longer relevant or working for you.

- Run a simple Content Audit to see all the pages on your website (this is a useful tool – www.xml-sitemaps.com)
- Review the pages, deleting any that are out of date or no longer needed.
- Cross reference the pages with GA4 or other tracking tools to understand whether users are engaging with content (if they aren't, consider deleting it)
- We've outlined some simple tasks and useful tools on our website – https://supercooldesign.co.uk/content-strategy

Actions - what can you do now?

5. Move to green hosting

Moving your website hosting to green servers is a great way to reduce the impact your website has on the planet.

- Check if your website is running on green hosting on the Green Web Foundation website
- Talk to your web developer about moving to green hosting
- Set a goal and commit to making the change within a specified time period

6. Be mindful of video content

Video content directly corresponds with some of the heaviest pages. Whilst video content can be great at communicating with users, it's worth checking it's delivering what you need.

- Review the use of video across your website
- Track video engagement to understand if users are watching the full video
- Remove video content that isn't being watched or engaged with
- Consider choosing 'click to play' over 'auto-play', and not looping longer videos

Actions – what can you do now?

7. Optimise images

Images play an important part in cultural websites. Whether it's a picture of the show, the performers, audiences or workshops, these images help communicate who you are and what you do. However, images are one of the heaviest things on your web pages.

- Talk to your web developer about optimising images across the website
- Use images carefully, and with intent on web pages
- Remove images from web pages where they aren't necessary

8. Optimise User Experience

Making it easier and faster for visitors to find what they are looking for can boost your SEO (search engine optimisation) performance while lowering the total number of page views per session, and therefore reducing your cumulative website carbon footprint. And getting audiences to where they need to be quicker, can also increase engagement and conversations.

- Identify key user journeys through your website
- Run user testing to assess these user journeys
- Combine content onto fewer pages to reduce the number of page visits per user

Case study: Orchestras Live

We started our digital sustainability journey in 2022, with a peer learning project working alongside Supercool, the Arts Marketing Association and the WOW Foundation.

Karys Staddon,
Production, Data & Insight Analysis,
Orchestras Live

As part of this, we undertook a content audit of our website to try and understand what its carbon footprint was, and which areas were contributing to it the most. Whilst our website footprint was relatively light, we were able to implement some changes as a result of the audit, including using a less energy-intensive background colour, removing unnecessary 'heavy' content like videos and images, and removing irrelevant content like old news pages.

When we ran the content audit 18 months later, we were really pleased to find that our website carbon footprint had reduced by just over half, showing that the changes we implemented had made a difference.

In order to keep our use of our website sustainable, we introduced some 'green website guidelines' as a result of learning from the audit process that inform our day-to-day use of the website. These included: limiting heavy content on pages (i.e. one video per page and only using video content where relevant), using lighter image files where possible, and removing old content on a regular basis.

We also made a digital sustainability pledge to publicly commit to these actions, which include balancing our approach to digital sustainability with accessibility when generating new content, and now review these on a regular basis.

Closing

Closing

Audiences want you to be more sustainable[7]. Lowering the carbon footprint of your website isn't just great for the planet, it's great for brand reputation, for funders, your audiences and wider stakeholders.

Measuring your key pages and benchmarking your organisation's website against this report is a great place to start.

A huge thank you to the 66 cultural organisations who've taken part in this, the first-ever **Cultural Website Sustainability Benchmark** study and report. And a special thanks to those who've shared their sustainability stories, for the benefit of the wider cultural sector.

We hope you've found this report useful. Please get in touch with us to find out more about your website's carbon footprint and how to reduce it:

Kate Mroczkowski – Strategy Director, Supercool

kate@supercooldesign.co.uk

Scott Stonham – Chief Executive, Digital Carbon Online

scott@digitalcarbon.online

7 Act Green 2024: Report, Indigo

About Supercool

Since 2004 we've been collaborating with teams at some of the UK's leading arts, cultural and heritage organisations on website projects.

An approachable, experienced, and straight-talking team of problem-solvers, we combine digital design, tech, and data with cultural sector know-how to make life easier for organisations – and your audiences.

Working collaboratively, we craft smart, beautiful and effective solutions that improve clients' long-term resilience – helping them save time, increase revenue, and get closer to audiences.

We believe it's our responsibility to be as environmentally responsible and sustainable as possible – in terms of both what we build for our clients, and how we run the business day-to-day.

Read more about how we're working on reducing our impact on the planet, and find resources to help you reduce the impact of your website on our resource hub: Supercool + Sustainability

If you're interested in taking part in future reports like this one, let us know.

Supercool

About Digital Carbon Online

DIGITAL CARBON ONLINE

At Digital Carbon Online, we're on a quest to help decarbonise the internet, one website at a time.

The internet might feel invisible, but its carbon footprint is greater than the aviation and maritime industries, rivalling large nations, and growing at a rapid pace.

We help agencies, businesses and organisations take control of their website's digital carbon footprints, providing insights and directing efforts to reduce carbon emissions.

Our platform provides ongoing automated carbon assessments of entire websites, highlighting cumulative trends and page-by-page hotspots over time. With built-in communication tools, we provide options to include your website's carbon footprint in your sustainability marketing strategy.

Founded as a family business, we believe in working with purpose-led people, and that together, we can build a web that works for people and the planet.

Join us on our mission for a more sustainable digital future.

Appendix: Detailed Methodology

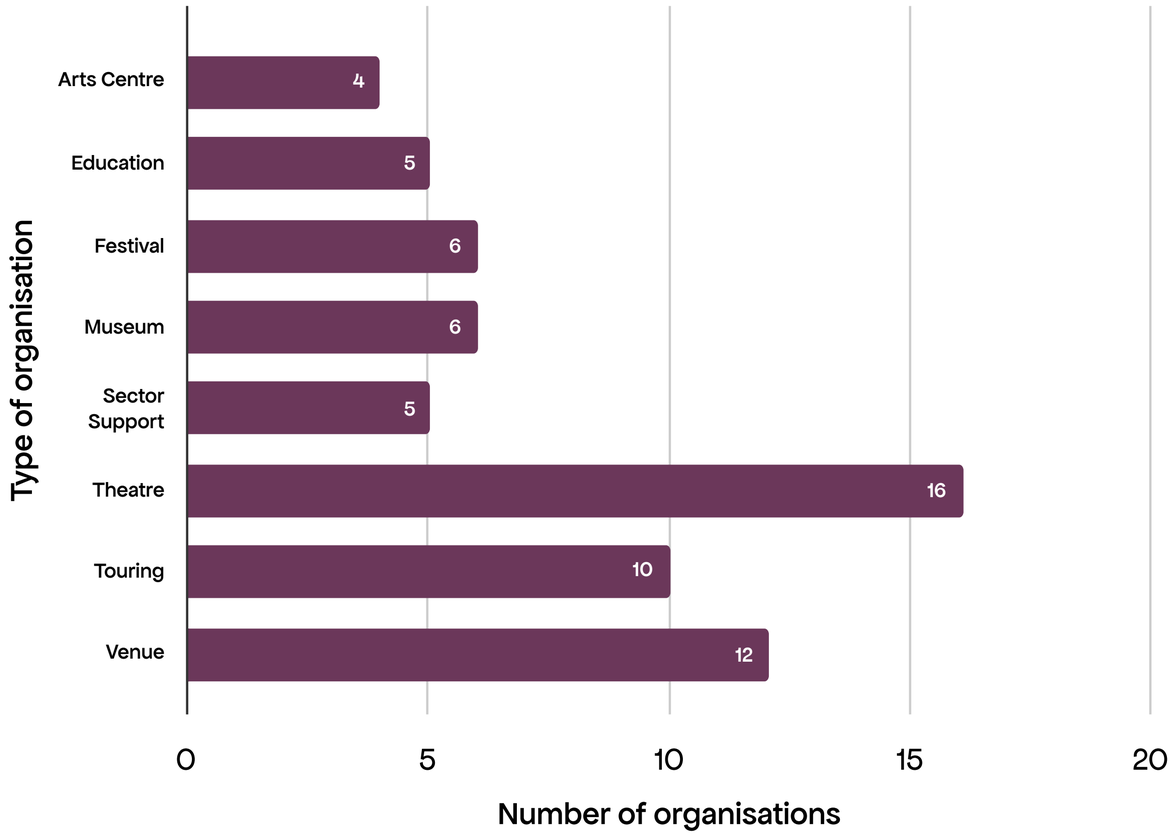
Appendix

Breakdown of organisation types assessed for this report

The following page types were tracked:

- **Homepage**
- **Event listing page e.g. /whats-on**
- **An event, where possible a Saturday evening event in May, or an exhibition running through May**
- **An “About us” page**
- **A “Support us” page**
- **A “Visit us” page**

Figure 9: Count of organisation type



Appendix

We chose the pages to track based on GA4 data, which showed they were among the most visited on cultural websites.

Where organisations didn't have a relevant page, it was excluded from the tracking. E.g. we didn't track the "Visit us" page on touring company websites.

Some websites contained multiple sites and therefore had multiple homepages.

Digital Carbon Online assessed the carbon footprint of each individual tracked page ("page weight") that was viewed by website visitors. These page weights were stored along with the frequency of the visits to each page. This allowed us to determine the cumulative footprint of each page over time.

Digital Carbon Online has been built to use two similar, but different methodologies, providing a carbon footprint range, instead of a potentially misleading single figure.

Both methods follow the best practices as defined by the Green Web Foundation. They vary in how they determine the byte size of the pages, and as such provide different CO2e values for each page. The Standard model follows the same byte-counting approach as some other single page website carbon calculators. The Alternate model takes a different, potentially more realistic approach to assessing the amount of data transferred.

During the testing period, every page will have been automatically tested at least twice by both methodologies. Temporal and cumulative insights and trends are based on the data point series, whereas page-by-page comparisons are calculated using the most recent page weight as determined by either methodology.

For more information on the technology methodology, read this article on Supercool's website: https://supercooldesign.co.uk/blog/deep-dive-into-measuring-website-carbon-footprints

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supercooldesign.co.uk

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