



**Your website:**

**Faster. A wider audience.**

**Better user experience.**

**A lower carbon footprint**

Leverage web performance outcomes to deliver both business and sustainability benefits.

# What is web performance?

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Web performance refers to how fast a site loads and is ready to use from a visitor's perspective. It asks questions such as, how do visitors experience your site? Does it load fast or slow? How quickly is it usable? Slow and unusable sites are a turn off for visitors and they will quickly leave.

Web performance optimisation is about improving your site's performance. Things affecting the performance of a site include images, the code used on the page, hosting and the network. Web performance has documented business impacts and improving performance has clear business outcomes.

# Performance & website carbon

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The carbon footprint of the internet is a new area of concern and research as it is estimated to be responsible for up to 8% of global emissions by 2030. All of our websites contribute to this figure, and currently it is not possible to avoid this.

However, while a large part of these emissions are out of our control, we can significantly reduce the amount of carbon our websites create by improving our site's performance as they are closely linked. Ultimately, it is possible to improve site speed and user experience while reducing your site's carbon emissions; effectively achieving three desirable outcomes for a win-win-win.

# Why improve the performance of your website?

**A slow site is bad for your business and can lead to a higher carbon footprint.**



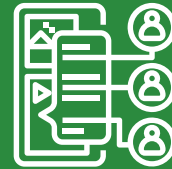
Created by dDara  
from the Noun Project

Improve user experience  
Increase page load speed,  
engagement and conversions  
Reduce bounce rate



Created by dDara  
from the Noun Project

Lower site carbon  
Increasing page load speed,  
reducing data transfer and other  
performance improvements have  
direct sustainability benefits.



Created by dDara  
from the Noun Project

Improved accessibility  
and visibility gains  
Increase audience and market,  
SEO benefits such as  
improvements in page ranking

# What can this mean for my website?

A wider audience, with older tech and slower internet connections catered for.

Improved visitor conversions for more of the actions you want on your site

A lower bounce rate: more visitors moving past the first page they visit

Improved engagement with visitors spending more time on site

SEO benefits, better page ranking, Google likes fast sites

The carbon footprint of your website will be reduced



# What affects performance?

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Web performance is about how and what your web pages or app loads. This can get complicated but there are some general rules.

**File size, format and compression of files.**

All files including code, styles, images and other media should be compressed and correctly formatted.

**Files that are loaded but are not used.**

This is common for platforms such as Wordpress.

**Custom fonts.**

Subset fonts so that only the letters used are included. Host fonts locally if possible.

**How and where your site is hosted.**

This can have a large effect on performance.

**The order in which your files are loaded.**

**Number of requests for files your site makes**

This includes requests to other sites. This is a common feature of modern websites.

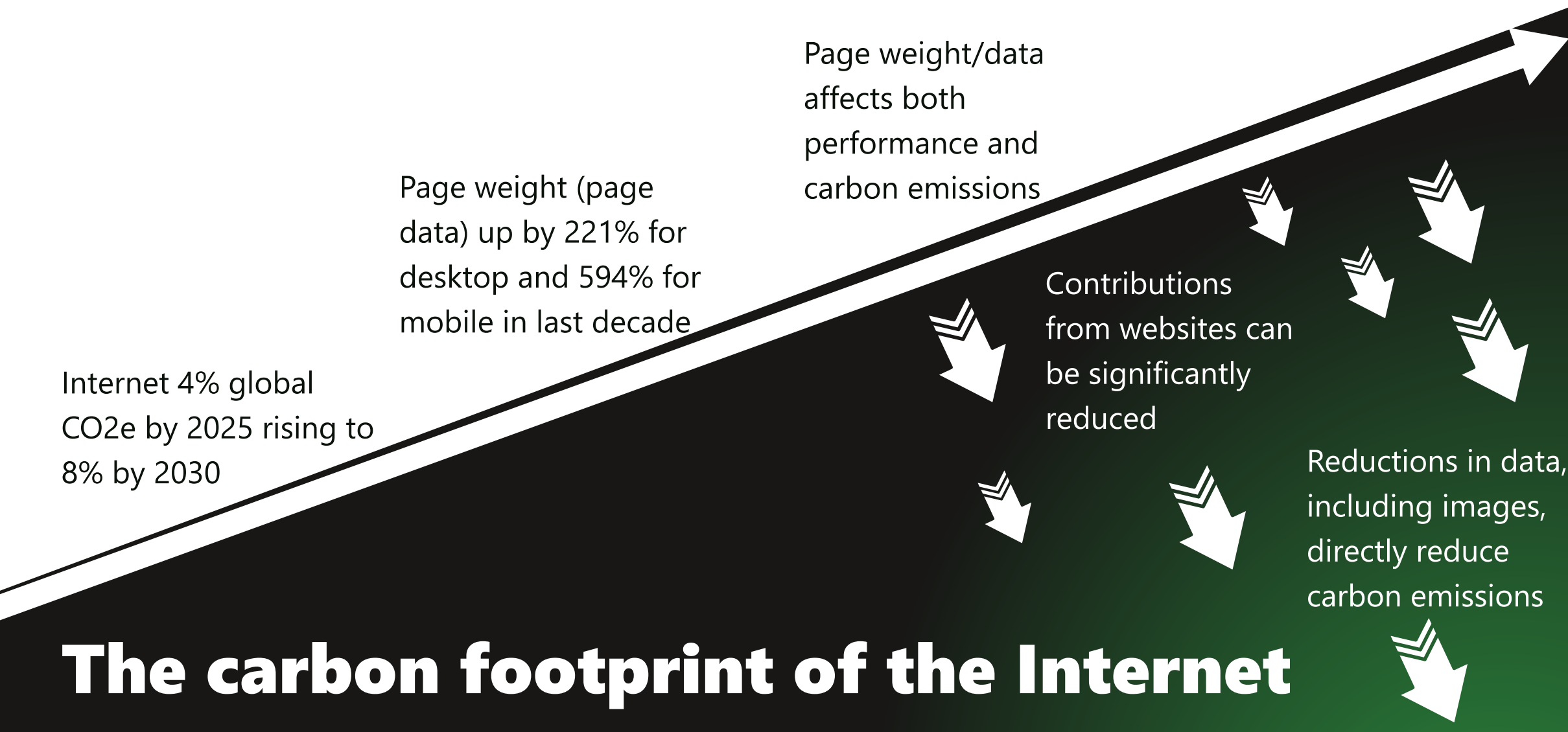
**Code files can affect performance when they are assessed and run after download.**

Especially true for large files and older devices or slow internet connection.

**Some fixes are simple others take more work.**

This can seem confusing but we are happy to explain it in as much detail (or not) as you need

# Why sustainable web design?



## The carbon footprint of the Internet

# What creates website carbon?

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The internet is powered by electricity and the majority of global energy is generated using fossil fuels. Due to this your website generates carbon emissions while being run, stored, transferred and viewed.

Today, it is difficult to make your website zero-carbon. There are many steps that can be taken to reduce its impact.

## File size, format and compression of files.

Reducing the file size reduces the amount of carbon generated in storage and transfer.

## Loading images that are not seen by visitors.

It is possible to load images only when they are scrolled to.

## Custom fonts.

If possible use system fonts stored on visitors devices.

## Hosting

Using verified 'green hosting' means that the servers storing your files are powered by renewable energy or offset.

## Reduce the code your pages require

Simpler pages are smaller and generate less carbon

## Use less code that runs in the browser

This type of code, e.g. Javascript, uses more energy on a visitor's device when it is run.

## Simple changes can lead to large reductions

The functionality of your site does not change unless you specifically request it.

# How do we calculate your website's carbon emissions?

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We use the Sustainable Web Design model as outlined on the Calculating Digital Emissions page ([link](#)). This model breaks the system into four parts and assigns a contribution percentage to each.

The four parts are,

- Consumer device use
- Network use
- Data center use
- Hardware production

The model calculates carbon emissions in grams per visit, a seemingly small figure.

However, if your site has large files such as images and videos then the grams per visit can become relatively significant.

To calculate the monthly total the grams per visit is multiplied by site visitors.

For sites with a large amount of monthly visitors the annual amounts can range into tons of carbon emissions per site.



# Key takeaways



**Web performance goals can help you meet your website business and sustainability goals and make your site more accessible to more people.**

**We will help you get started. Simple changes can have significant results. For example changing image formats can save up to 80% of file size for improved performance and lower carbon results.**

# What is the process?



**1** Meet to discuss opportunities. Initial tests can be run on your site. Receive free basic report.

**2** Detailed report (if requested). This will give you a detailed overview of your site's performance.

**3** Use detailed report to discuss further work. What services will give you your best 'bang for buck'?

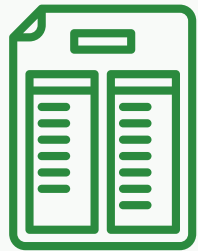
**4** Start work to get you the site performance you are after. See more in 'Services' below.



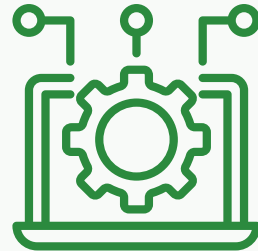
## DO IT YOURSELF:

You can take the basic report or the full report as a starting point to improve your site's performance. Or we can keep working together.

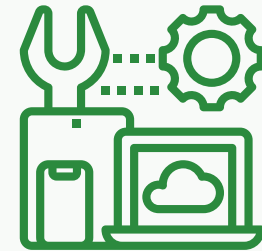
# How do you want to start?



Gather information on performance issues and strategies on how to address them

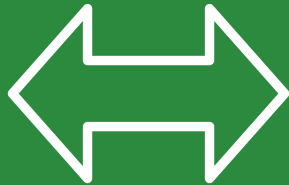


Strategy development for performance goals. What to optimise? Where? And why?



Services that help to achieve your site performance and sustainability goals

# Options for working together



Directly with you  
(smaller projects).  
One to one.



Supporting or  
advising your team.  
Remotely / on site.



Workshops or  
tutorials. Bespoke  
sessions available.

# Services

We offer services that range from supporting your own DIY work to deep and detailed work tailored to improve your site's performance and, importantly, reduce its carbon footprint.



## Basic report

A basic overview of your site's performance. Can be used to start your own DIY web performance work. This report is free.

## Detailed report

Detailed report with suggestions. You can use this to DIY your own web performance strategy or as a starting point for further work together.

## Media Crunch

Files are compressed or reformatted for file size savings of up to 80% for images, video and text. Has both performance and carbon benefits.

## Deep Dive

Targeted work such as:  
Removing unused code where possible.  
Reordering script loading sequence. Caching strategies.

## Workshops

Workshop or tutorial on web performance.  
Introductory sessions or tailored programs for future site resilience.

## Green web hosting

A great way to reduce carbon emissions is to use green hosting or offset servers. We can help you source and transfer to a green host.

# Resources



## Performance

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**WPOStats:** "Case studies demonstrating the impact of web performance optimization (WPO) on user experience and business metrics."

<https://wpostats.com/>

**PageSpeed Insights:** Free Google tool for assessing web page speed and other stats.

<https://pagespeed.web.dev/>

**Webpagetest:** Free tool for assessing web page speed and other stats. Offers a range of tests and more detail than PageSpeed Insights.

<https://www.webpagetest.org/>

## Sustainable web design

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**Sustainable Web Design:** A site of resources to start to understand the issue of the carbon footprinting of the internet.

<https://sustainablewebdesign.org/>

**Website Carbon Calculator:** The original free carbon calculator for websites

<https://www.websitecarbon.com/>

**Digital Beacon:** Free tool for assessing web carbon, similar to above but with more detail

<https://digitalbeacon.co>



# Thanks for your time.

We look forward to working with you.

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