Sustainability In The Workplace

In our generation, thinking about the climate crisis is more important than ever. People all around the world are coming together and making changes to reduce their impact as well as help bringing awareness to what we are doing to our planet. In Architecture, practices are thinking more about sustainable strategies that can be applied to each design and thinking about the impact that each structure will have on the environment. This is something that needs to be considered and applied now in order to make a difference. There are other considerations about the climate crisis that need to be assessed, thinking about reducing carbon emissions in user interactions with our company as well as changes we can make to our working environments.
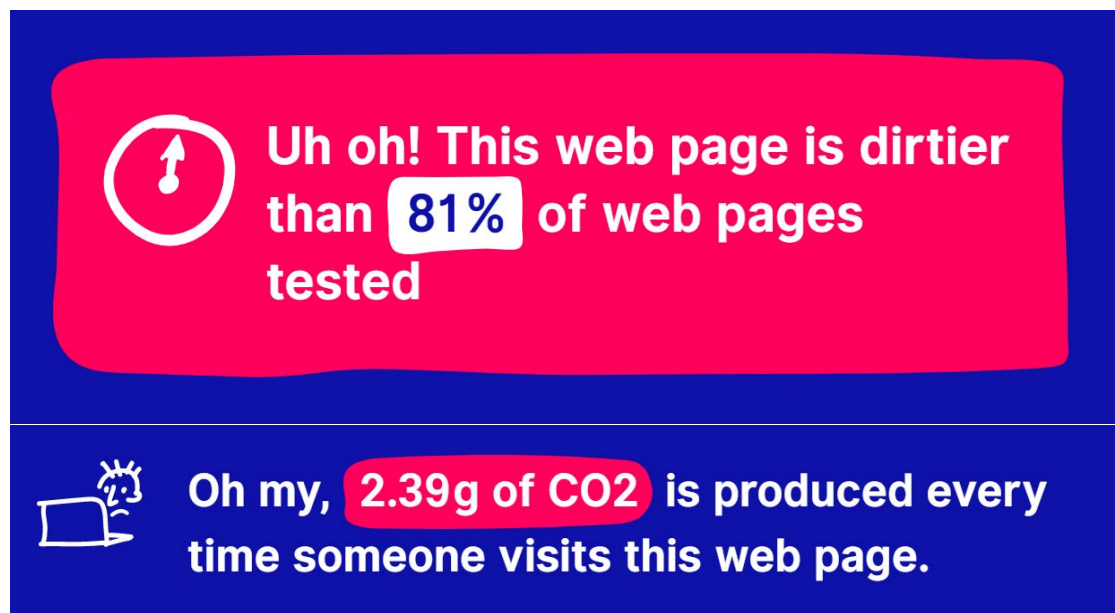
Making our Website Carbon Neutral:

When we use websites, we do not initially think about the impact that this might have on the environment, however, "the average website produces 1.76g of CO2 for every page view; so a site with 100,000 page views per month emits 2,112kg of CO2 every year" (Chan, 2021) This amount of CO2 is the same amount that 97 trees absorb in a year. It has been calculated that 3.7% of global greenhouse gas emissions are from the gadgets we use along with the internet. This is about the same amount that is produced globally by the airline industry. This statistic has been predicted to double by 2025. (Griffiths, 2020)

Our websites current impact:

Currently, we are working towards creating a website that is easy to navigate as well as it clearly explaining our practice and our beliefs. However, we have had few discussions on ways in which this website could be altered to fit into our ethos and reduce the carbon emissions.

By putting our website through a carbon calculator, we are able to assess how we can improve.

Uh oh! This web page is dirtier than 81% of web pages tested

Oh my, 2.39g of CO2 is produced every time someone visits this web page.

If we assume that our webpage is going to reach 10,000 people each year it will produce:

- 286.93kgs of CO2 equivalent – this is about the same amount of CO2 needed to boil water for 38,876 cups of tea

- 667kWh of energy – this is enough electricity to drive an electric car 4,266km (2650 miles)
- 14 trees – our website produces the same amount of carbon that 14 trees absorb in a year

These calculations highlight the problem of websites and have shown us the importance of making changes to reduce our impact. Ways that we can reduce our impact include:

Switching to a green host

> a green host is defined by a host that is committed to using energy as efficiently as possible as well as reducing electronic waste from the businesses (Greenwood, 2020). Switching to a green host would allow us as a business to reduce our negative impact through the use data centres that use large amounts of power to store data as well as using it to keep these warehouses cool through air conditioning. (Greenwood, 2020)

Making our website more efficient

> There are many ways in which a website can be more efficient, both for the consumer as well as energy efficient. Making these changes to the website can greatly reduce our carbon footprint as a business. A lot of the points that help towards a cleaner website include changes to the design and content. This includes things like reducing videos, choosing appropriate fonts as well as thinking about navigation through the website to reduce the time people spend browsing. (Greenwood, 2020) All of these points bring up the question of 'does it effect the users experience?' and if the answer is no then these are changes that need to be made.

Planting trees to reduce our footprint

> As trees are the best way for us to reduce the planets carbon emissions, we can invest into planting trees to offset the effect that our website will have. The company Trees for Life is one that is dedicated to helping businesses make a difference and have so far have planted nearly two million trees.

The design and its effect:

An example of a company that has researched and made changes in order to reduce their carbon impact is Formafantasma. They are a research-based studio that creates products with sustainability in mind. Key features of their design include a standard font, simple design and layout as well as links to open up existing work (closing down the one you are one if you click on another) Linking back to the point about the effect of website design on the environment, I think it is important to understand that sometimes a simpler design can be more effective as well as having a lesser impact.
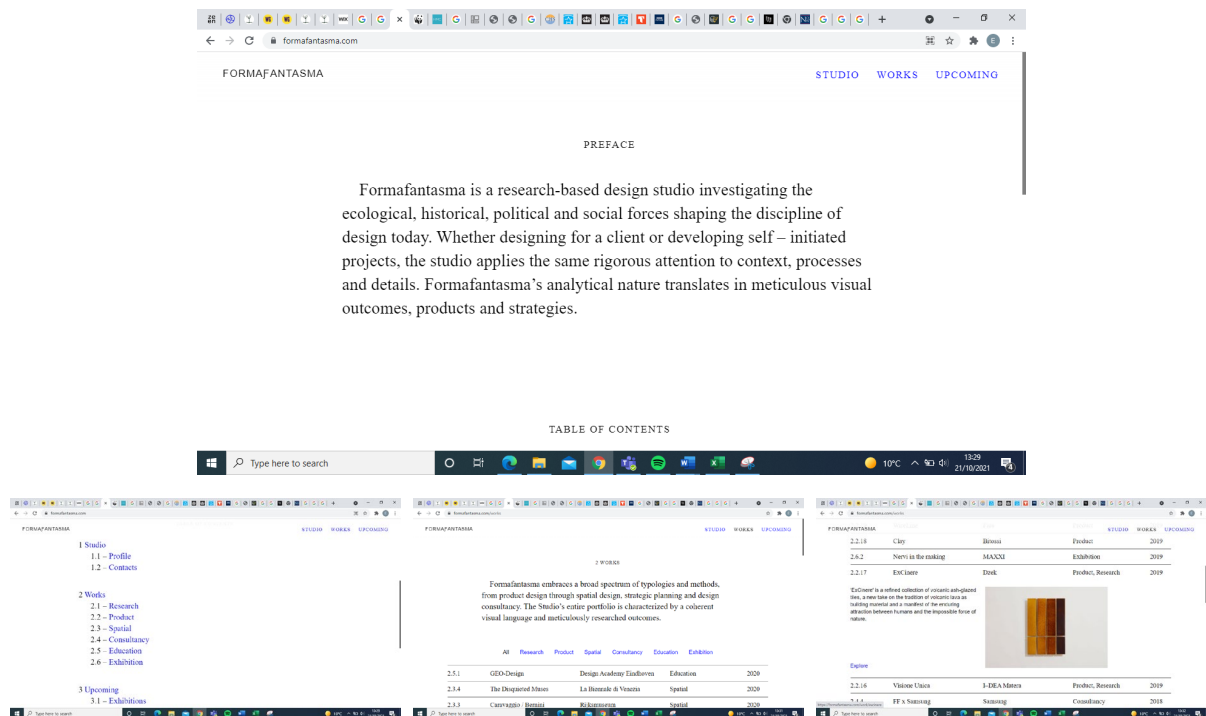
What are other companies doing about their websites impact?

Dezeen is a well-known Architecture and Design magazine based in London. A lot of the interactions that the company has with their clients is on their online blog. The traffic on their website has a big impact on the environment due to their large high-resolution images and encouragement to browse. In September of 2021, Dezeen stated that they have reduced their carbon emissions by two-thirds, (Fairs, 2021) stating to have done this through thorough code improvements. This change not only had a positive effect on the environment but on the users experience too, due to the webpages load time being reduced by 58.3% to 3.5 seconds. These changes are important to realise both as a consumer and a company. Dezeen was called out for their high carbon footprint by listening they have made a real difference whilst they still strive to continue "There's more work we can do." – Dryden Williams, Ecoping Founder. And they have stated that they are committed to become net-zero by 2025. Hopefully, as a business with a high reputation, others will understand the importance and make the changes too.

Making our workplace more sustainable

Here at Infinity Studios, we believe that we need to practice what we preach. Taking our ethos to the next level and applying sustainable strategies to the way we work. The small steps we take in our office can make a big difference, and it is about investigating and investing in these things in order for us to have as little impact as possible on the environment.

Adjustments we can make to create a difference:

Composting Toilet

A composting toilet is one in which breaks human waste down into compost. The waste is mixed with sawdust which can then be used for planting. Composting toilets reduce water waste by 60% (anon., n.d.)

Rainwater Harvesting

Rainwater Harvesting is the collection of rainwater into tanks that can then be used for things like growing crops or domestic use (with proper treatment). This could be used for the water used in the office as it can reduce water consumption by up to 50%. (anon., n.d.)

Solar Panels

Solar Panels can be one of the most efficient ways to reduce our carbon footprint. They convert the suns energy into electricity that can then be used, creating a renewable energy system. As Architecture relies heavily on computing and hardware, it makes sense for us to use solar power to reduce our carbon footprint (anon., n.d.). The electricity produced can also be used to heat and light our office.

Sourcing Paper

A step that we can take in reducing paper consumption is moving to become a more digital company. However, for designing, paper and sketching can be a more efficient method. Therefore, options like recycled or Forest Stewardship Council (FSC) certified paper (which is made out of thigs like wheat straw) would significantly reduce our carbon footprint and the waste we produce. "Today's typical office building generates a kilogram of wastepaper per employee per day, meaning that paper accounts for half of all landfills" (Pawley, M., 1999)

Printing

See above. As well as the paper issue, supplying ink and the cartridges that they come in can significantly increase the waste that offices. Using the printer often in an architect's office means that this is an issue that we should consider.

Kettle

The average kettle is between 2 and 3 kilowatts (kw). The amount of energy that a kettle would use throughout the year is considerably more than you would think, reducing the amount of people boiling the kettle at separate occasions reduces the amount of energy needed to produce hot drinks. Something else to consider could be sourcing the tea and coffee for the company, using ethically sourced products can not only reduce the impact we have but support Fairtrade companies.

Planting Trees

See 'Planting Trees to Reduce our Footprint' above.

Local Furniture

Sourcing furniture from local Nottingham stores means that we can reduce our carbon emissions through transport. As a small company we do not need a wide range of furniture, and this will allow us to support local companies. The company we have chosen to look at is: https://sherwoodwood.co.uk/

Transport to the Office

A car produces 26 million tonnes of CO2 per year, proving transport to our team will reduce this emission. This transport can vary depending on the person but some options include a bus pass to give access to routes around Nottingham city or a bike, which would help with wellbeing as well.

Food

Promoting our company to reduce the amount of meat they consume in the office is a good way for us to reduce our carbon footprint overall. Beef alone produces 300kg of CO2 per kilogram of protein produces and global livestock creates 7.1 Gigatonnes of CO2 per year (anon., n.d.) Promoting a meatless Monday, where no meat is consumed in the office at all (or even the whole day) on a Monday, is a small step that we can take to help the climate crisis.

Online meetings

Video calls create much more of an impact than regular phone calls. Therefore, using this more often is a good way for us to be more conscious about the environment. However, it is not about cutting these things out, as in professional setting a video meeting may be the more appropriate option.

Emails

Another professional resource that is sometimes forgotten is the use of email. It has been calculated that the typical business user creates 135kg CO2 from just sending email each year. This is the equivalent of driving 200 miles in a family (cite). A step that we can make is to stop sending unnecessary 'thank you' emails, which would reduce carbon emissions by 16,433 tonnes (the same as if we took 3,334 diesel cars off the road.), or by just unsubscribing to unwanted mailing lists is an easy way to reduced our digital footprints. Something else to consider is the communication throughout the team, switching to WhatsApp or Facebook messenger we can reduce our impact.

Recycling

Recycling in the office is an easy change that can be made to reduce our impact on the environment. This links to our ethos of a circular economy, giving materials another lifecycle rather than them going to landfill. A change that we can make is trying to promote the use of recycling with signs and extra recycling bins.

Composting

"Composting turns feedstock from your office into a product useful for gardening, landscaping or fertilizing office plants" (Young, 2021) Food waste in and out of the company can be reduced with significant composting. This compost can then be used for the use in plant growth, making an office more green.

Chan, D., 2021. *Your Website Is Killing The Planet* [Online]. Google: Wired. Available at: https://www.wired.co.uk/article/internet-carbon-footprint#:~:text=According%20to%20online%20carbon%20calculator,kg%20of%20CO2%20every%20year. [Accessed 21 October 2021]

Griffiths, S., 2020. *Why Your Internet Habits Are Not As Clean As You Think* [Online] Google: BBC. Available at: https://www.bbc.com/future/article/20200305-why-your-internet-habits-are-not-as-clean-as-you-think [Accessed 21 October 2021]

Greenwood, T., 2020. *How to choose a green webhost* [Online] Google: WHOLEGRAINdigital. Available at: https://www.wholegraindigital.com/blog/choose-a-green-web-host/ [Accessed 21 October 2021]

Fairs, M., 2021. Dezeen makes "massive" reduction to its website carbon emissions [Online] Google: Dezeen. Available at: https://www.dezeen.com/2021/09/14/dezeen-website-massive-carbon-emissions-reduction/ [Accessed 21 October 2021]

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Anon., n.d. To Flush or Not To Flush: The Truth About Composting Toilets [Online] Google: HomeMatters. Available at: https://www.ahs.com/home-matters/cost-savers/the-truth-about-compost-toilets/ [Accessed 21 October 2021]

Anon., n.d. How Much Should A Rainwater Harvesting System Cost? [Online] Google RAINHARVESSTING SYSTEMS. Available at: https://rainharvesting.co.uk/how-much-should-a-rainwater-harvesting-system-cost/ [Accessed 21 October 2021]

Anon., n.d. Generating renewable electricity, Solar Panels [Online] Google: Energy Saving Trust. Available at: https://energysavingtrust.org.uk/advice/solar-panels/ [Accessed 21 October 2021]

Pawley, M., 1999. The time has come to give the paperless office a go [Online] Google: Architects Journal. Available at: https://www.architectsjournal.co.uk/archive/the-time-has-come-to-give-the-paperless-office-another-go [Accessed 21 Oct 2021]

Anon., n.d. GHG emissions by livestock [Online] Google: Food and Agricultural Organisation of the United Nations. Available at: https://www.fao.org/news/story/en/item/197623/icode/ [Accessed 21 Oct 2021]

Young, M., n.d. A guide to office composting [Online] Google: Environmental Finance Centre https://sustainability.syr.edu/wp-content/uploads/2013/12/CompostingGuideFinal.pdf [Accessed 21 Oct 2021]