Edition 1 August 2023

THE CONISBEE CARBON CIRCULAR

The *Conisbee Carbon Circular* is bought to you by the Sustainability Group. Here we cover Conisbee's sustainability journey as well as global stories on carbon in construction. Stay informed, inspired, and invested as we navigate the path to a greener future together.

Find out what we as a company have been up to in the section
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SPOTLIGHT STORY ON....
7 Trumpington Road p.3

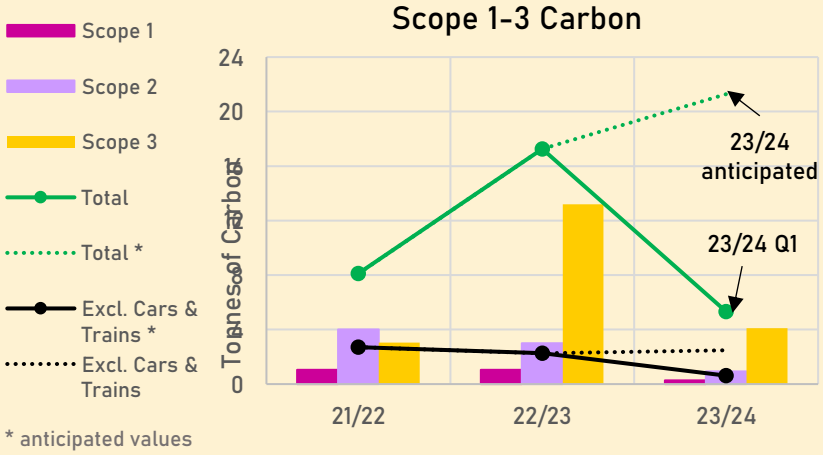
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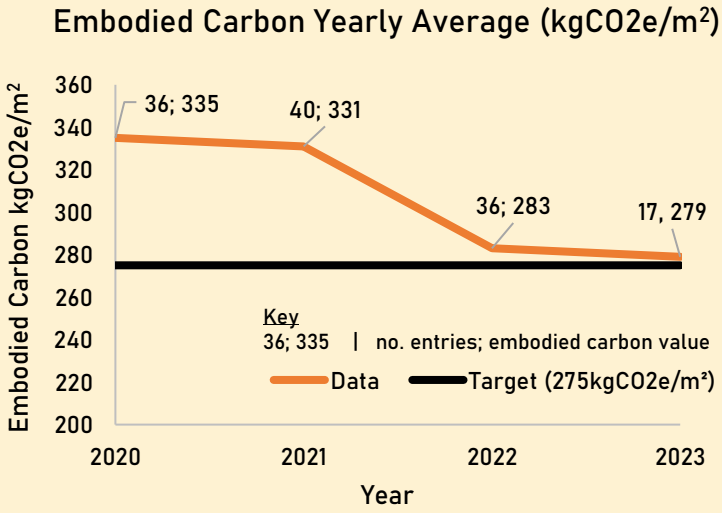
The Sustainability Scoop...
...brings you notable stories about carbon in the construction industry across the world – keeping you up to date with the latest technology, most recent updates to legislation / guidance and other interesting news. p.4

STATS

Scope 3 figures have been updated – the chart below shows the current and anticipated trends of our scope 1-3 carbon emissions.

- The chart shows that car use makes up the bulk of the figures (difference between green and black lines).
- 2021/22 did not record all car and train travel – meaning our other scope 3 emissions are fairly consistent (black line).
- Current trend so far for 2023/24 appears to be upward and looks around 20t of carbon. This is a result of increased work activity, more face-to-face meetings, and increased car use. All staff members are encouraged to minimise car use where possible or use EVs.





Dataset - between 2020 – 2021 our *'business as usual'* baseline was just above 330kgCO2e/m². In 2022/2023 this has fallen to circa 280kgCO2e/m² and we are not far from our current target of 275kgCO2e/m². With continued effort to design efficiently, and with the correct design decisions, we should easily reach our target before the end of the year.

Since we started recording in 2020, we have had a total of 133 entries to the dataset. Group A have submitted the most with a whopping 29 entries! Keep adding your projects into the data set which can be found here on cowshed - Carbon Dataset.

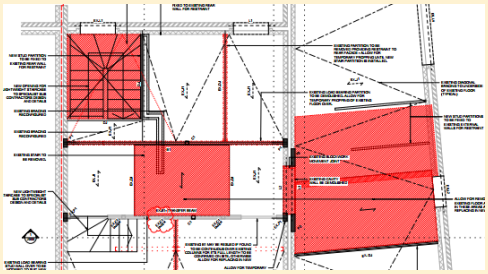
SCORS SPECTRUM

A B C D E F G

220170 404AB Caledonian Road & 70A Tollington Way

162 kgCO2e/m²

Minor internal alterations - no new foundations required as existing foundations could support new loading arrangement.

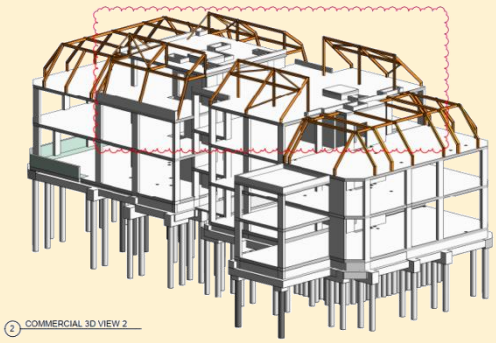


221111 Salisbury Square, Old Hatfield

316 kgCO2e/m²

Mixed use redevelopment scheme with office and retail units.

RC + Steel Frame with basement with circa 8m long spans in areas. Design Team currently reviewing options to reduce basement size or undertake a full VE exercise so hopefully reductions can be made.



ECO-ENDEAVOURS

Read what Conisbee as a business are doing to achieve carbon targets as well as what your colleagues are doing to help drive change!



Electric Car Scheme

Launched in 2022, we have chosen Love Electrics to offer Conisbee employees to lease a fully electric car from the practice as part of a salary sacrifice scheme – click HERE to find out more.

Civils Carbon Tool

Joel and Matthew have been developing the civils carbon tool. Currently we are struggling to get basic embodied carbon values from manufacturers. Hopefully we can get a WIP tool running soon that covers the large items such as highways and cut/fill. Keep up the good work both – this will a very useful tool that will benefit us immensely. In the meantime – estimates for civils carbon can be made using information from the ICE Database V3.0 found HERE and the National Highways carbon tool can be found HERE.

Dataset Changes

The selectable groups have now been updated and additional GGBS % added as it is commonly used in the industry.

Document Updates

Our environmental policy and carbon reduction plan to PPN-0621 are being updated. The documents can be found on CS HERE (EP) and HERE (CRP).

Dunsmore on the mic

Allan was interviewed by Will North for his podcast 'Engineering Matters' on the West Kentish Town Estate with discussion on the viability of altering existing concrete panel structures from the 60s and 70s. COMING SOON – so keep an 'ear' out!





Dave the Eco-Warrior

Dave Richards has been presenting a number of sustainability talks to a range of companies to improve the knowledge of others. Well done Dave keep up the good work!

Challenge Carbon Box

We are looking into including on drawings a section on carbon that details the current embodied carbon of the design and then suggestions for more sustainable options or information on the carbon savings of the current design in respect to alternatives to help inform clients and other members of the design team and help keep sustainability in the foreground when making choices.

UKGBC Scope 3

Steve Marks participated in the UK GBC Scope 3 Guidance Development Scheme with the aim of creating a clear reporting method. The results are still be finalised however it is likely that project carbon will need to be included as a separate item within our scope 3 emissions.
To find out more of what UKGBC are doing visit their website HERE.

Carbon CPD

Dave organised a bunch of great CPDs this year – past CPD sessions recordings can be found on CS under *The Herd > Training > Courses & Presentations*

Upcoming CPD sessions on sustainability topics:

- 06/09 Low Carbon Concrete



Have you got any ideas for how we can improve our carbon reduction response?
Have you done any work promoting sustainable practises?

If so let us know, and it may be featured in the next newsletter.

SPOTLIGHT STORY

By Melissa Nash Group A

7 Trumpington Road

… is a private residential property. The existing structure is a house, separate garage building and an outdoor swimming pool. After the stage 3 design, significant revisions were made to the scheme due to costs and planning. These revisions led to dramatically reduced embodied carbon, reducing from 740 kgCO2e/m^2 to 282 kgCO2e/m^2. The initial scheme demolished the existing garage and pool and built in their place an annex and new indoor swimming pool. In the revised scheme, the predominately timber-framed annex building remains much the same but instead of demolishing the existing pool, the existing pool is retained as an outdoor pool and a new second indoor Endless pool is installed. An Endless Pool is a self-contained prefabricated pool box unit, 4.6m long x 2.4m wide, with a machine generated current for the user to swim against. A summary of the structural changes made that led to carbon savings are contained within the adjacent table.

This project highlights how carbon expensive basements are, particularly when a secant piled wall is used. In the original scheme, the secant pile walls accounted for well over half of the basement structure embodied carbon. The project also shows that there is a balance to be found between permanent and temporary works, in terms of constructability and cost, but also carbon.

Temporary works on the revised scheme account for a significant proportion of the project's carbon, with the temporary works piles alone equivalent to 10% of the permanent design's carbon. However, in this case, the more targeted use of piled walls is more efficient in carbon terms than a permanent design including piles around the whole basement perimeter. The main downside has been the regular pumping of the excavation required on site.

Initial Scheme	Revised Scheme
RC basement box 16m x 8.5m x 1.9m deep, with a second RC pool box inside this 13.1m x 5m with variable depth. (The space in the basement around the pool box is used for services.)	RC basement box 6.8m x 4.8m x 2.0m deep, containing a prefabricated pool box outside our design.
Secant piled wall around the full perimeter of the basement box.	No secant piled wall. Some piles now required for the temporary works, around approximately half the basement perimeter. *
Steel framed pool house, with some fairly large spans.	Pool house predominately timber framed with a few steel beams. Much smaller spans.

**Including these temporary works piles in the revised scheme carbon calculation for a more like-for-like comparison gives 319 kgCO2$_e$/m^2.*

SUSTAINABILITY SCOOP

We've won our case against the UK Government's inadequate net zero strategy

ClientEarth won a landmark case against the UK government's weak net zero strategy, as the High Court ruled it violated the Climate Change Act. Collaborating with other organizations, ClientEarth argued the strategy lacked emissions reduction evidence and transparency. The government has eight months to strengthen the strategy with quantified policies for climate goals. This decision pushes for effective climate action, addressing real-world solutions. The government chose not to appeal. → READ MORE HERE

BS8500:2023 to be updated and published end of this year – keep an eye out.

BS8500:2023

The BS8500 standard is being revised – the concrete centre have recorded a 'a guide to the revision' → RECORDING CAN BE FOUND HERE

SED Meeting

The Structural Engineers Declare meeting was held in August 2023. Steve, who attended, said 'the biggest thing was; the future potential of different concrete mixes that we can specify with the release of the updated BS8500. These include filler and calcined clay, both of which are abundant.'



Engineered timber: we're expanding our underwriting appetite

Aviva expands coverage to include sustainable engineered timber in commercial property development to reduce carbon footprint and promote eco-friendly construction practices in line with Net Zero 2040 commitment. → READ MORE HERE

Materials Passport

Material passports offer a critical avenue for the construction industry to embrace circularity and enhance sustainability. Despite challenges such as costs and material complexity, the benefits of carbon reduction, resource conservation, and informed decision-making make material passports a valuable asset in achieving carbon targets and promoting a circular economy. Industry collaboration and knowledge sharing are pivotal in fully leveraging material passports for a more sustainable built environment. → FOR FURTHER READING SEE ISTRUCTE BLOG HERE

PAS2080 updated in 2023 is a guidance document for managing carbon in building infrastructure.

Carbon Emissions (Buildings) Bill

A Bill to require the whole-life carbon emissions of buildings to be reported; to set limits on embodied carbon emissions in the construction of buildings; and for connected purposes. The bill was inspired by the Part Z proposal. Which has a huge backing by the industry (including us), and we suspect we will be seeing this introduced into the Building Regulations in the next few years. → READ MORE HERE



Design for Deconstruction

The IStructE have published their 'Circular economy and reuse: guidance for designers' book. We have bought copies for each office and we also have a PDF version → PDF can be found on CS HERE

Part S – Building Control will require 100% of Parking Provisions to have EV Charging Points.

CASE STUDY

THREE PILLARS OF SUSTAINABILITY AT STANMER PARK, ONE GARDEN

A look at sustainability in projects outside of Conisbee.



By Jack Fussey Group K

Sustainability is achieved when a balance between economic, social, and environmental needs are met. The materials used in a building are an important part of sustainability but without economic and social engagement, a project cannot be considered sustainable. Whilst on a relatively small scale, the newest addition to Stanmer Park, One Garden, in my opinion considers the three pillars of sustainability well. One Garden, One Kitchen, and One Market all form part of a revitalised walled garden adjacent to the historic Stanmer House. Existing buildings have been renovated and extended to create light open spaces that are respectful of the garden's heritage.

The gardens are maintained by Plumpton college, providing space for land-based education . There is space for flower gardens and the harvest of crops. The fruit and veg are sold on site at the new market and used in the restaurant. Whilst on a small scale the different elements of this enterprise: education, agriculture, and public spaces, work well together and promote and awareness of our sources of food. The principles of local produce can be reflected across many sectors: Whether it be minimising the distance aggregates have to travel to site or beginning to think about where our food comes from.

The redevelopment of the walled garden has not just revitalised existing buildings, but it has engaged the wider community in sustainable sourcing of food, and a new awareness of the importance of biodiversity. It's a space to learn about our symbiotic relationship with nature.

Upcoming Talks



05 SEP 17:30-19:30 Online
FREE Lecture (IStructE) on Fife College – Pathfinding and embodied carbon (CLT/Steel Hybrid Construction) presented by Malcolm Buchanan and Peter Hendry from Woolgar Hunter → BOOK HERE



20 SEP 12:00-12:45 Online
FREE Webinar (ICE) on Carbon Classification for Concrete presented by Matthew Munro from Arup → BOOK HERE

26 SEP 18:00-19:30 Hybrid (London)
FREE Lecture (IStructE) on the efficient use if GGBS cross-industry paper launch → BOOK HERE

26 SEP 18:00-20:30 Hybrid (London)
FREE Lecture (IStructE) on 'decline to delight – a practical guide to reusing buildings' by Margaret Cooke at Integral Engineering Design → BOOK HERE

04 OCT 18:30-20:30 Hybrid (London)
FREE Lecture (ICE) on Smeaton Lecture 2023 - sustainable development: from Smeaton to the 21st century present by Prof. Peter Guthrie → BOOK HERE

CARBON AWARDS

Don't forget that we have the prestigious Conisbee Carbon Awards at the end of the year with categories such as: Carbon Burner, Carbon Efficient and Wooden Spoon.

Sustainability Group Info

Your Conisbee sustainability group is....

Allan Dunsmore (G)
Beena Doal (H)
Christina Kennedy (A)
Joel Waugh (E)
Holly Morgan (J)
Matthew Quant (E)
Melissa Nash (A)
Romilly Bobby (K)
Sandra Dejczoova (H)
Simon Prior (K)
Steve Marks (N)
Tim Attwood (G)
Yasin Luhar (F)

This edition was edited by:

Romilly Bobby

Thank you to the following contributors:

Steve Marks
Romilly Bobby
Allan Dunsmore
Melissa Nash
Jack Fussey

If you would like to contribute to the newsletter – whether you have a case study of interest, a project that's done really well or really badly, have attended an interesting lecture, or have presented one yourself – then let someone on the sustainability team know.