



Net Zero Carbon

Mike Raven



Sustainability

- **Introduction**
- **Context**
- **YORhub activities**
- **YORhub Net Zero Carbon strategy**
- **Workshop summary**

Introduction



- **Mike Raven, YORhub Sustainability Manager and Digital Lead**
- **National Association of Construction Frameworks Sustainability Lead**
- **Carbon Reduction Code Advisory Group**
- **ISO 14001 auditor**
- **Head of ERYC Project Management team and award-winning construction project manager**



Context

- **Over 300 local authorities have declared a climate emergency**
- **Two thirds of councils have targets more ambitious than Government in terms of reaching carbon neutral**
- **Construction is the largest emitter of greenhouse gases – approximately 40% of global emissions**



YORhub activity

- **Embedding NACF carbon reporting requirements in our frameworks**
- **For over a decade have gathered data and worked to reduce construction waste to landfill**
- **Sponsored a PhD student to develop ways for contractors to reduce their carbon impact**
- **YORhub Sustainability Special Interest Group – free to attend for YORhub users, next meeting 3rd December 2024 (email me – Michael.raven@eastriding.gov.uk)**
- **Signing up to Carbon Reduction Code**
- **Developing YORhub Net Zero Carbon strategy (with your help today!)**

NACF Embodied Carbon Benchmarking



UK WIDE COLLABORATION

NACF member frameworks, including YORhub, have joined forces to enable benchmarking of the carbon emissions arising from our public sector building projects.

Our focus on embodied carbon, aims to rapidly share learning on what construction methods and materials are most rapidly delivering results in terms of lowering the footprint of our projects.

Who is already involved?

NACF Frameworks	Contractors		
Southern Construction Framework	MACE Construct	Wates Construction	Equans
SCAPE	BAM	Bouygues	Esh Construction
North West Construction Hub	John Sisk and Son	ISG	Henry Boot
Construction West Midlands	Kier Construction	Tilbury Douglas	Hobson and Porter
YORHub	Willmott Dixon Construction	Stepnell	RG Carter
Infrastructure and Projects Authority	Morgan Sindall Construction	Lindum	Sewell
	McLaughlin and Harvey Construction	Balfour Beatty	William Birch and Sons
	Graham Construction	Bowmer and Kirkland	United Living
	Galliford Try		

NACF Embodied Carbon Benchmarking



HOW IT WORKS

Frameworks such as YORhub are introducing the benchmarking scheme to their contractors through their sustainability working groups.

Contractors capture data about the projects they deliver through the framework in design stage and after construction.

Data at each stage is submitted through a simple e-form.

An NACF website provides contractors, frameworks (and project stakeholders) with a self-service benchmarking report on their performance.

NACF Embodied Carbon Benchmarking



SCREENSHOTS OF DATA ENTRY FORM

Create New Project

Section 1 - Project Information

Please provide the following project information for context and benchmarking purposes.

Project Name*	<input type="text"/>
Contractor Name	Morgan Sindall
Client Name	<input type="text"/>
Project Reference Number	<input type="text"/>
Project Location (Region)*	Select...
Project Sector*	Select...
Framework / Procurement Route*	Select...
Project Stage at which Contractor Appointed?	Select...
Form of Assessment*	Select...
Date of Assessment*	<input type="text"/>
Stage of Assessment*	Select...
Was a client target set for embodied carbon?*	Select...
Was a client target set for operational (in-use) energy/carbon?*	Select...
What is the main structural form of the building?*	Select...
What is the gross internal floor area (GIFA) of the new build elements of the project in m ² ?*	<input type="text"/>

Section 2 - Assessment Information

Please provide the following details about the carbon assessment completed.

Carbon Data Source (Primary)*	Select...
Carbon Data Source (Secondary)	Select...
Material Data Source (Primary)*	Select...
Material Data Source (Secondary)	Select...
Anomalies to note	<input type="text"/>
Carbon Measurement Tool	<input type="text"/>
Part of a RICS whole-life Carbon Assessment?*	Select...

Section 3 - Embodied Carbon Data (mandatory)

Please enter you embodied carbon for each building component. (Including '0' when required) Carbon data (kgCO₂e, A1-A3 except where specified, no sequestration, no PV panels).

Foundations*	<input type="text"/>
Frame (including any prefabricated structures)*	<input type="text"/>
Upper Floors*	<input type="text"/>
Roof*	<input type="text"/>
Stairs and Ramps*	<input type="text"/>
External Walls*	<input type="text"/>
Windows and External Doors*	<input type="text"/>
Internal Walls and Partitions*	<input type="text"/>

NACF Embodied Carbon Benchmarking

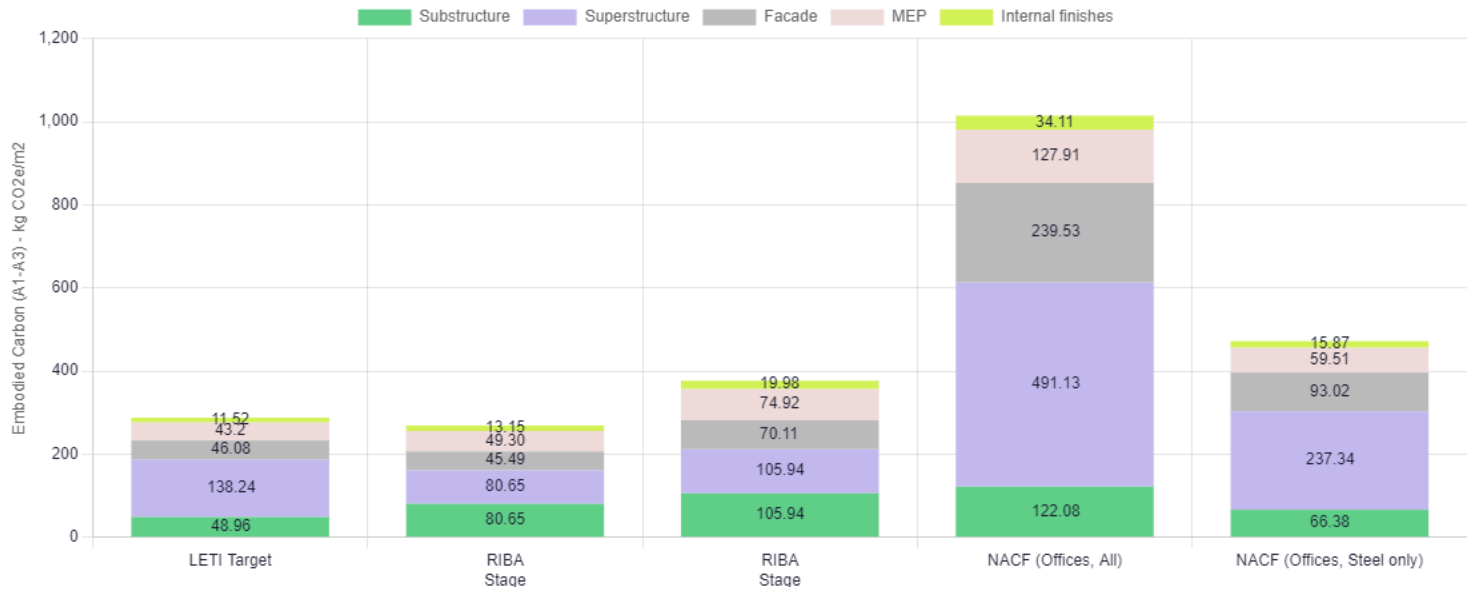
Gorton Community Hub

Back Update

EXAMPLE OF REPORT FROM SYSTEM



Morgan Sindall Construction, Gorton Community Hub (GIFA: 6,733m2, Sector: Offices)





Sustainability

- **Carbon KPIs – rolling out embodied carbon data collection on YORbuild frameworks over £4m, with plans for YORcivil next year**
- **Contractor Behaviour KPIs released and now working with contractors to trial these**



Construction-installation stage carbon KPIs	Units	Formula/Explanation	Frequency of measurement
Services KPIs			
Percentage of energy-efficient lighting system used on site	%	Number of energy-efficient lighting system/Total number of lighting system used on-site. Example of energy-efficient lighting is LED lights	monthly
Number of trips made within construction site by material transporting vehicles			daily
Number of hours devices and lighting are switched on	hours	Time from resumption to last person leaving the site	daily
Number of shifts done by each equipment per unit time i.e work efficiency		Number of shifts/hours worked	daily
Amount of water consumed per project gross floor area (GFA)	m ³	Reading can be obtained from water meter monthly/GFA covered within the same month	monthly
Type of heating equipment utilised on-site		Record the heating equipment used on-site (eg gas boiler, electric radiator, etc.)	monthly
Operations KPIs			
Number of machine/equipment operator trained on fuel-efficient driving			monthly
Percentage of work completed more than once	%		monthly
Percentage of green tiles (tiles made from recycled glass and other minerals) used on site	%	Amount of green tiles/total quantity of tiles used on-site	
Percentage of work completed according to work schedule as detailed in the carbon management plan	%	Amount of work done based on carbon management plan/total amount of work done	monthly
Percentage of suppliers with carbon management plans that was prioritised during the execution of a construction project	%	Number of suppliers with carbon management plan/total number of suppliers engaged in the project	monthly
Product KPIs			
Percentage of nail-laminated timber used during construction	%	Amount of nail-laminated timber used/total quantity of timber used during construction	monthly
Percentage of cross-laminated timber used during construction	%	Amount of cross-laminated timber used/total quantity of timber used during construction	monthly
Renewable energy KPIs			
Percentage of electricity from renewable source	%	Amount of electricity from renewable source (KWh)/total quantity of electricity used (KWh)	monthly
Percentage of fuel from renewable source utilised by machinery/equipment	%	Amount of fuel from renewable source used by machineries (litres)/total quantity of fuel used (litres)	monthly

YORhub Net Zero Carbon Strategy



- **A draft Net Zero Carbon strategy for YORhub has been produced, covering priority areas including:**
 - Embedding sustainability into YORhub clients policies
 - Embedding sustainability into YORhub clients procurement processes
 - Encouraging the use of low-carbon technologies
 - Promoting sustainable procurement practices
 - Encouraging collaboration between YORhub clients, contractors, and consultants
 - Monitoring and reporting emissions on schemes and for YORhub itself

Are these right?

Which are the priorities?

What have we missed?



Interactive Session

Instructions

Go to
www.menti.com

Enter the code

3532 4616



Or use QR code

Thank you!



Your input today gives YORhub priorities which will be used to guide our future activities.

Do engage with our Sustainability SIG – great opportunity to discuss issues with contractors and consultants.

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