helping you to measure, understand and reduce your construction carbons
Is global warming real?

Built Environment contributes 40%
Built Environment contributes 40%
"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Brundtland Commission
WHY FOCUS ON CARBONS
why not?
CASH IS KING
CARBON IS QUEEN
"Getting carbon out of our lives, through every aspect of the economy is now a matter of legal obligation through the Climate Change Act.

This presents the construction industry with a terrific opportunity - not just in terms of immediate business opportunities …

… but also as to our longer term standing in society and our attraction as a career of choice for young people who are increasingly engaged with this great challenge“

Paul Morrell
95% of clients view carbon reduction as essential, very important or important over the next five years.

the client is creating the demand for low carbon construction

@UKGBC
but only 13% clients feel SME's understand the carbon agenda

Carbon reduction is a huge opportunity for the built environment and not just a challenge
John Alker @UKGBC
Low Carbon Transition Plan
- a business plan for construction.

For companies in construction, the task is three-fold:

• to **de-carbonise** their own business, and to encourage the same habits throughout their supply chain

• to provide the owners and occupiers of both new and existing stock with buildings that emit less carbon in their construction, operation and decommissioning – saving them money in the process

• to provide the infrastructure that will supply clean energy and support sustainable practices in other areas of the economy

*IGT Report 2010*
Business Minister Mark Prisk said:

“Meeting the UK’s commitment to reducing carbon will affect every aspect of the built environment and has the potential to provide the construction industry with a 40 year programme of work creating great opportunities for growth in the sector.

“Through this joint Government and industry action plan we are making a clear commitment to the low carbon transition which will create the certainty needed for construction companies to invest in essential new skills, processes and products.”

22 June 2011
Supplier selection based on CO2 emissions

11 October 2011

A study by the Carbon Trust Advisory has been released showing half of multinational companies plan to select suppliers based on their carbon performance.

According to the research 29% of suppliers are likely to lose their approval in the supply chain if they do not perform adequately on carbon. In addition 58% of multinationals will be happy to pay a premium in the future for low carbon suppliers in order to reduce their overall carbon footprint.

In the U.K., 56% of multinationals said that in the future it is likely they will change suppliers in order to work with proactive carbon reducing suppliers, this is compared to just 28% in the U.S.

The Carbon Trust research included 100 interviews completed by European, Middle Eastern, and North American multinationals.
how much co$_2$?
Current CO2 Benchmark

95.75 Kg/£K
ConstructCO2 Benchmarks

Benchmark Emissions
Percentage Emmissions By Type

Deliveries, 55.6%
Operatives, 22.9%
Management, 4.8%
Utility, 3.4%
Plant, 5.9%
Visitors, 2.8%
Waste Disposals, 4.6%
USING

CONSTRUCT CO2
Understand Construction Carbons

Address Standards + Assessments

Address Evidence

Develop KPI / Benchmark

Engage Contractors
PLAN  approach and targets for CO2 reduction

DO  manage to reduce/minimise ‘energy’

CHECK  measure and understand CO2

ACT  use measures to set approach and targets
Welcome to ConstructCO2...

The practical construction carbon measurement tool and the place to:

Measure
- Measure and benchmark your construction carbon footprint
- Map your supply chain to demonstrate construction carbon miles footprint
- Understand your footprint to enable improvement

Improve
- Read how ConstructCO2 has helped Frank Halsam Milan to achieve immediate savings of £69,000

Get Support / Contact Us

If you would like to use ConstructCO2 or have a trial please use our request form. For support and advise on reducing your carbon on construction projects, using ConstructCO2.

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Martin martin@constructco2.com
Mobile: 07776 234702

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Cell: 541.840.7230

David L. Johnson LEED® A.P
david@constructco2.com
Cell: 775.691.4833

ConstructCO2 Benchmarks

Current CO2 Benchmark

95.75 Kg/£K
Companies/Projects Using Construct CO₂

www.constructco2.com  e: vassos@constructco2.com  t: @constructco2
Keep it SIMPLE
Input from Inductions
Site Daily Log-ins / Swipe Entry
  Staff
  Visitors
  Operatives
  Travel Mode
  Energy Bills
Material Delivery Notes
Waste Locations

... not much we don’t already have!
Input Feed from 'Swipe' entry

Add Journey

Manager: Select Manager
Date: (dd/mm/yyyy)
Journeys: 1
    ✔ Return Journey
    ✔ Default Journey
    Add

Vehicle:
Select Vehicle
P: Prius
Hatchback Diesel
Hatchback Petrol
Saloon Diesel
Saloon Petrol
People Carrier Diesel
SUV Diesel
Small Van Diesel
Transit
Bus
Train
7.5 T Lorry
LWB
20 T Lorry
Crane
80 T Lorry
People Carrier Petrol
SUV Petrol
Underground
Aeroplane Short Haul
Aeroplane Long Haul
Small Motorbikes (motorcycle)
Medium Motorbikes (motorcycle)
Large Motorbikes (motorcycle)
Taxi
Walk
Cycle
Car Share

‘Zero’ Carbon Journeys
Madam Tussauds
Promenade, Blackpool
Lancashire, FY15AA

Reference: L2473
Company: Carefoot plc
Class: Other
Client Type: Local Government
Classification: Refurbishment
Contractual Arrangement: Traditional Tender

Budget: £579,944.00
Current Spend: £597,000.00

Management

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<th>Default Origin</th>
<th>Vehicle</th>
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<th>Default Distance Km</th>
<th>Default Total CO2 Kg (2 way)</th>
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<td>48.81</td>
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Add Management

Name:  
Vehicle:  Select Vehicle  
Street:  
City:  
County:  
Postcode:  

Distance (Km):  
Get Distance  
Add
<table>
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<tr>
<th>Week Commencing</th>
<th>Management CO2 Kg</th>
<th>Operatives O2 Kg</th>
<th>Visitors CO2 Kg</th>
<th>Deliveries CO2 Kg</th>
<th>Waste CO2 Kg</th>
<th>Plant CO2 Kg</th>
<th>Utilities CO2 Kg</th>
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<td>48.81</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
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<td>432.33</td>
<td>0.00</td>
<td>17.32</td>
<td>0.00</td>
<td>0.00</td>
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<td>13/12/2010</td>
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<td>2,139.95</td>
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<td>06/12/2010</td>
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<td>651.98</td>
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<td>6,419.63</td>
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Vivian Park Hotel Total Emissions

Total Emissions 222.11 CO2 Tonnes

- Visitors, 6.53 CO2 Tonnes, 2.93%
- Operatives, 59.94 CO2 Tonnes, 26.46%
- Management, 7.48 CO2 Tonnes, 3.36%
- Plant, 30.35 CO2 Tonnes, 13.63%
- Utility, 14.69 CO2 Tonnes, 6.69%
- Deliveries, 92.97 CO2 Tonnes, 42.19%
- Waste Disposal, 10.56 CO2 Tonnes, 4.74%
### Percentage Emissions

<table>
<thead>
<tr>
<th></th>
<th>Project %</th>
<th>Company Average %</th>
<th>Industry Average %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>5.97</td>
<td>4.46</td>
<td>5.13</td>
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<tr>
<td>Operatives</td>
<td>21.09</td>
<td>10.85</td>
<td>19.94</td>
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<tr>
<td>Visitors</td>
<td>3.22</td>
<td>1.58</td>
<td>3.22</td>
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<tr>
<td>Deliveries</td>
<td>36.54</td>
<td>60.00</td>
<td>50.33</td>
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<td>Waste Disposal</td>
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<td>7.67</td>
<td>7.24</td>
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<td>Plant</td>
<td>8.74</td>
<td>14.20</td>
<td>8.93</td>
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<td>Utilities</td>
<td>3.06</td>
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<td>5.22</td>
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### Emissions By Cost

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<th>Project</th>
<th>Company Average</th>
<th>Industry Average</th>
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</thead>
<tbody>
<tr>
<td>CO2 Kg / EK Spend</td>
<td>31.23</td>
<td>52.21</td>
<td>95.75</td>
</tr>
<tr>
<td>Description</td>
<td>Value</td>
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<tr>
<td>-----------------------------</td>
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<tr>
<td>CO₂ Kg/m² Gross</td>
<td>28.22</td>
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<tr>
<td>CO₂ Kg/m² Net</td>
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<td>CO₂ Kg/£K Spend</td>
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<tr>
<td>Zero Emissions Travel %</td>
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</tbody>
</table>
project footprint
All Projects

Project Zone Percentages

Zone 1: 0-25KM
Zone 2: 25-50KM
Zone 3: 50-100KM
Zone 4: 100+KM

Percentage of Journeys

Management, Operatives, Visitors, Deliveries, Waste Disposal
West Gorton

![Project Zone Percentages](chart.png)
### Operative Zone Percentages

<table>
<thead>
<tr>
<th>Zone</th>
<th>Zone 1 (0-25 KM)</th>
<th>Zone 2 (25-50 KM)</th>
<th>Zone 3 (50-100 KM)</th>
<th>Zone 4 (100+ KM)</th>
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</thead>
<tbody>
<tr>
<td>Project %</td>
<td>47.55</td>
<td>44.21</td>
<td>6.46</td>
<td>1.78</td>
</tr>
<tr>
<td>Company %</td>
<td>47.55</td>
<td>44.21</td>
<td>6.46</td>
<td>1.78</td>
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<tr>
<td>Industry %</td>
<td>48.43</td>
<td>27.61</td>
<td>19.10</td>
<td>4.86</td>
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</table>

### Waste Disposal Zone Percentages

<table>
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<tr>
<th>Zone</th>
<th>Zone 1 (0-25 KM)</th>
<th>Zone 2 (25-50 KM)</th>
<th>Zone 3 (50-100 KM)</th>
<th>Zone 4 (100 KM +)</th>
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</thead>
<tbody>
<tr>
<td>Project %</td>
<td>88.17</td>
<td>11.83</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Company %</td>
<td>88.17</td>
<td>11.83</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>Industry %</td>
<td>71.94</td>
<td>21.12</td>
<td>5.76</td>
<td>1.18</td>
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</table>
LOW CARBON
CONSTRUCTION
ACTION PLAN

IMPROVING
CONSTRUCTION
CARBONS
... towards zero or low carbon construction

Approach
systems, policies, education,

Deployment
procurement, construction,

CSR
education, capture
CPD Workshop: Reducing CO2 at West Gorton:

Understanding CO2
Measuring
Education *
Procurement *
Equipment
Technology
procurement
localism
appropriate sourcing
corporate social responsibility
TALKING CONSTRUCTION CARBONS

SUPPORT AND DISCUSSION GROUPS
Government Construction Strategy — have we been here before?

Environment white paper lacks policy, ambition and Defra’s backing | Caroline Lucas | Environment

guardian.co.uk — Lakeside Way around Kelsal Water,

OpenBuildings.com crowdsourcing buildings | Extranet Evolution

extranetevolution.com — I have been a long-time editor of Wikipedia and have taken an

Collaborative consumption - Rachel Botsman live Q&A | Guardian Sustainable Business
guardian.co.uk — Rachel Botsman will be online on Tuesday 14 June from 9-10am to take your questions. The advancement of sustainability goes hand-in-hand with innovation in products and services and the way consumers...

The #CnTop100 focuses attention on UK Architects: #AJICn100
tono blog.wordpress.com — The wait is over! We’re delighted to announce that in line with our #CnTop100 series we will next attempt to identify and promote the most effective teachers in UK Architecture.
Thank You

Questions

Vassos Chrysostomou
07889641712