



One Kingdom Street

**Client Name:**

Development Securities

**Activity:**

Commercial building developer

**Project:**

One Kingdom Street, Paddington Central,  
London, UK

**Dates:**

January 2007 – September 2007

“ This forms our benchmark going forwards, allowing us to reduce the footprint of our buildings, and recognise those in our supply chain with our own high sustainability aspirations. ”

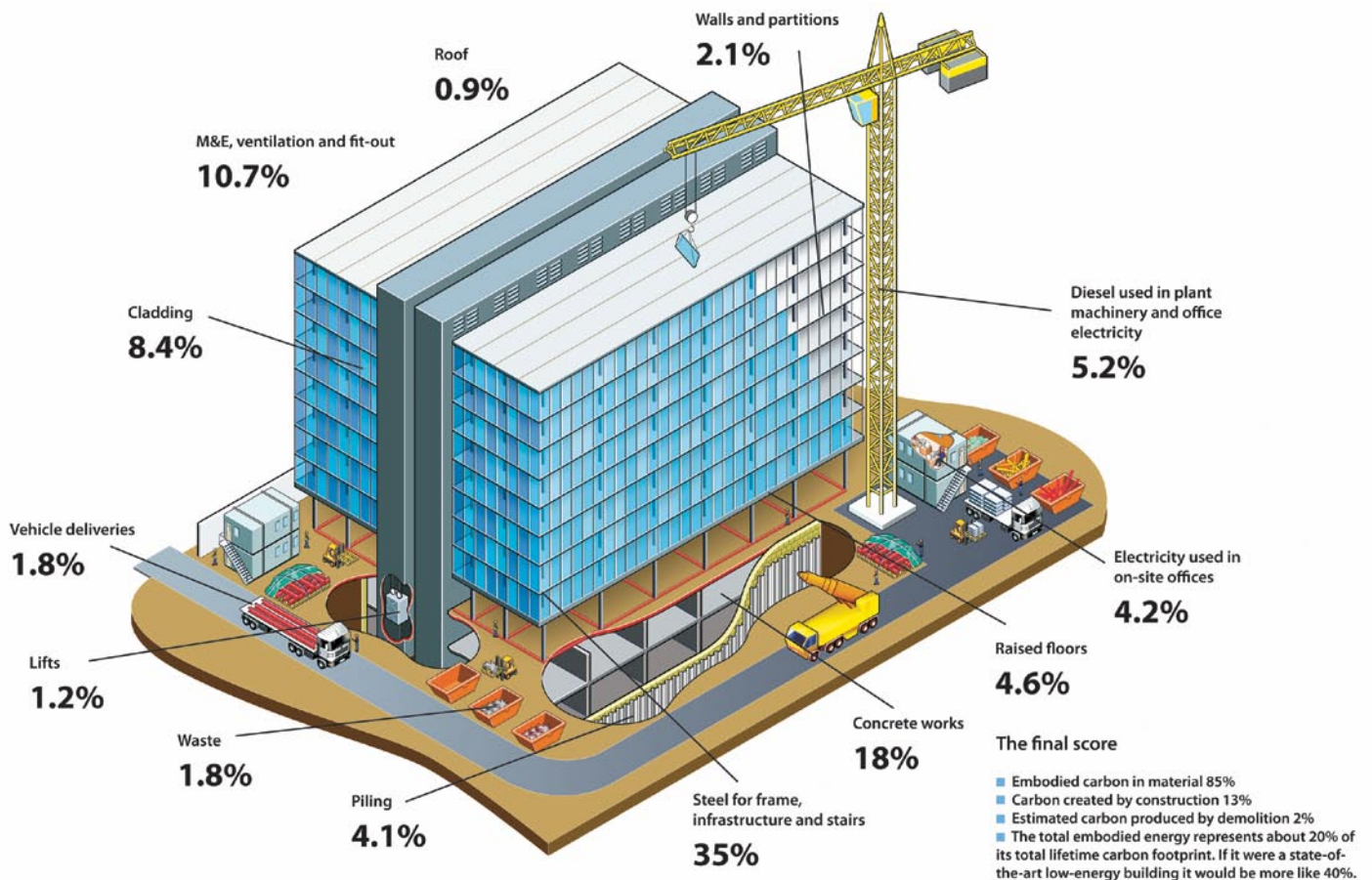
Julian Barwick, Managing Director,  
Development Securities

**Summary**

This project forms an ongoing embodied carbon benchmark for Development Securities, allowing them to target embodied carbon reductions and responsible supply chain members for future developments.

**Objectives**

- Engage with the supply chain to gain quantities for site enabling, building envelope and fit-out
- Measure material delivery methods and distances
- Measure onsite waste, fuel, electricity and office visitors
- Provide a full embodied carbon footprint from cradle to grave for the building and onsite contractor activities
- Provide geocarbon maps demonstrating carbon intensities of delivery emissions
- Map the supply chain to two levels, including the relative carbon contribution for each supplier
- Recommend reductions of the embodied carbon footprint for future builds
- Provide an embodied carbon benchmark for future builds



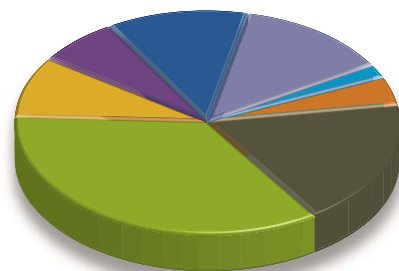
### Strategy/Delivery:

This project engages the supply chain to provide data to Development Securities on the carbon intensity of the building. Suppliers were engaged through onsite meetings and presentations to demonstrate the importance of embodied carbon. Full carbon emissions were measured for onsite activities using well-established environmental management systems of the main contractor, Skanska.

The supply chain was fully mapped with regards to carbon, including the impact of varying delivery distances and methods. The costs of offsetting were also compared to the full financial costs for the build – carbon costs were under one percent of the total cost of this development.

### Results:

Total embodied carbon emissions (cradle to grave) 24,815 tonnes CO<sub>2</sub>e.



- Steel 35%
- Roofing and cladding 9%
- Raised floors, walls and partitions 7%
- Lifts, M&E and fit-out 12%
- Onsite works 13%
- End of Life 2%
- Piling 4%
- Concrete works 18%



Kingspan Visitor Centre, Holywell

**Client Name:**

Kingspan Insulated Panels

**Activity:**

Composite cladding manufacture

**Project:**

Sustainability Strategy & Reporting

**Dates:**

On-going

“ dcarbon8 has provided education, marketing and technical support to Kingspan Panel’s Sustainability Strategy. We are proud to be one of dcarbon8’s founding members, knowing that our impacts on climate change will be minimised as a result of our partnership.”

Mark Harris, Divisional Building Technology Director, Kingspan Insulated Panels

**Summary**

Kingspan Insulated Panels is one of the most highly recognised brands for insulated cladding panels in the markets which it services across Europe. dcarbon8 has assisted Kingspan Insulated Panels to achieve their vision of becoming an industry leader in sustainability performance.

**Objectives**

- Assist Kingspan in the setting of their Sustainability Strategy, to include their Vision, Objectives and Implementation Policy
- Develop the first Annual Sustainability Report for Kingspan using the Global Reporting Initiative (GRI) framework
- Establish Kingspan Insulated Panels as the leader in sustainability within their sector
- Create a sustainability communications plan to inform and educate Kingspan’s stakeholders

## Sustainability Vision

"To be a global leader in sustainable business and establish a leading position in providing sustainable, renewable and affordable best practice solutions for the construction sector."



### Strategy/Delivery:

dcarbon8 has assisted Kingspan in the development of their Sustainability Vision, far-reaching sustainability objectives and the policy to implement the Strategy internally.

Key to achieving their sustainability aims, dcarbon8 was commissioned to develop the first Annual Sustainability Report for Kingspan Panels. This report sets out their corporate policy and how they propose to meet their sustainability objectives. The Report utilises the Global Reporting Initiative (GRI) framework, the global standard for Sustainability Reporting and the Construction Products Industry Key Performance Indicators (KPIs). The report has achieved a GRI Application level C, which signifies that Kingspan have reported on 10 sustainability KPIs.

dcarbon8 has assisted the communication of Kingspan's Sustainability Strategy through supporting their participation at leading trade conferences and also assisting with the development of their new 'responsibility' web portal.

Furthermore, dcarbon8 has written the script for two sustainability-related animations that have been delivered to numerous stakeholders and placed on the Kingspan website to educate a wider audience.

### Results:

Kingspan are well-known leaders in sustainability performance within their sector and are now working to encourage members of their supply chain to improve their sustainability credentials.

#### **Best Sustainable Business Practice**

Sustainability Awards 2007 - Construction Industry



#### **dcarbon8**

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[www.dcarbon8.com](http://www.dcarbon8.com)



Sainsbury's Oakley, Cheltenham

**Client Name:**  
J Sainsbury plc

**Activity:**  
Food retailer

**Project:**  
Sainsbury's Oakley, Cheltenham, UK

**Dates:**  
June 2007 – September 2007

“ Embodied carbon is a vital consideration in construction activities. This benchmark will accurately quantify carbon reductions in future stores by using sustainable materials such as wood, limecrete and pulverised flue ash. ”

David Penfold, Sustainability Project Manager,  
J Sainsbury plc

### Summary

dcarbon8 was commissioned by Sainsbury's to provide a full life cycle (LCA) analysis from cradle to grave of the building activities and materials for Sainsbury's new retail store in Oakley, Gloucestershire.

### Objectives

- Engage with the supply chain to gain material quantities for site enabling, building and full fit-out
- Measure material delivery methods and distances
- Provide an embodied carbon footprint from cradle to grave for the building
- Compare operational carbon emissions to embodied carbon emissions
- Recommend greenhouse gas emissions reductions of the embodied carbon footprint
- Provide an embodied carbon benchmark for future stores



### Strategy/Delivery:

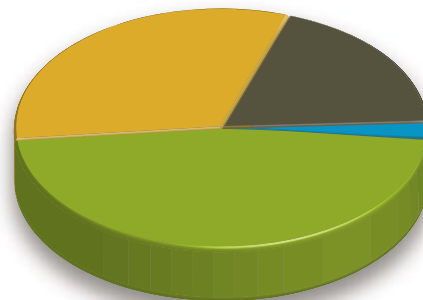
The first project of its kind on a commercial retail store, dcarbon8 spent two months gaining information from the supply chain and calculating the embodied carbon footprint. It was decided that this store would form a suitable benchmark for Sainsbury's due to its standard build specification, and as Sainsbury's most recent store, contractors still had the relevant information available.

The final project delivered a benchmark that is now used by Sainsbury's to measure the performance of the embodied carbon in their buildings. It also demonstrates their commitment to carbon targets and continued research and development in sustainable building design.

### Results:

Building lifecycle carbon (% between site enabling, construction, fit-out and end of life demolition):

#### Embodied carbon tCO<sub>2</sub>e.



- Site Enabling (Including contractor carbon) 47%
- Construction (Including contractor carbon) 32%
- Fit-out (including contractor) (30 years) 19%
- Demolition 2%

Wooden frames and pulverised flue ash in concrete represent large future carbon reductions.



ProLogis Sideway, Stoke-on-Trent, a low-carbon sustainable development

Client Name:

ProLogis

Activity:

Owner, manager and developer of distribution facilities

Project:

Sustainability Strategy & Reporting

Dates:

On-going

“ Sustainable development is at the heart of ProLogis’s company ethos. dcarbon8 continues to help us embed sustainability into our corporate policies and practices, enhance our image and attract new customers for our developments. ”

Ken Hall, Managing Director Global Development, ProLogis.

Summary

ProLogis is the world’s largest owner, manager and developer of distribution facilities, with 446.9 million square feet (41.5 million square meters) of industrial space in 105 markets across North America, Asia and Europe. ProLogis is committed to becoming the global leader in sustainable warehouse design and construction, and is committed to responsible business practice.

Objectives

- Support ProLogis in becoming a leader in sustainable warehouse design and construction
- Ensure ProLogis becomes recognised as a champion of responsible business practice globally
- Engage ProLogis’s sustainability commitments to their stakeholders
- Ensure ProLogis’s supply chain is actively involved in the process



24 hour energy efficient intelligent lighting



Insulated closed doors policy to prevent energy leakage

### Strategy/Delivery:

ProLogis recognise that climate change has become a top public policy issue in countries across Europe, Asia and North America. Regulators in all three regions are moving toward tougher standards for real estate development projects, and are requiring builders to account for carbon emissions and other environmental impacts in a more holistic manner.

Working with dcarbon8, ProLogis have embraced sustainability in the design of their buildings and within their corporate business practice. dcarbon8 assisted ProLogis in the development of their first Annual Sustainability Report, which includes a number of far-reaching performance goals for improvement. Following the recommendation of dcarbon8, ProLogis has utilised the Global Reporting Initiative (GRI) Guidelines as the reporting framework for this report. This report has been externally assured and GRI-checked as meeting the requirements for GRI's Application Level "C+".

dcarbon8 has set up and chairs the ProLogis Sustainability Committee meetings which are held fortnightly. This meeting is regularly attended by Walt Rakowich, COO & President and at least one representative from each of their key markets. At this meeting key emerging issues from the different regions are discussed, media articles are presented to the group and knowledge on sustainability issues and projects is shared.

Through the support of dcarbon8, ProLogis has joined the Chicago Climate Exchange, the world's first and North America's only voluntary, legally binding greenhouse gas emissions reduction, registry and trading program. Membership in the exchange requires ProLogis to completely offset the "carbon footprint" associated with its business operations in the US. In addition; dcarbon8 established an Energy Efficient Protocol for Warehouses which has been accepted by CCX and allows ProLogis to earn tradable credits when it builds warehouses that reduce energy consumption through new technology and high-quality design.

### Results:

With the assistance of dcarbon8, ProLogis are now recognised as one of the leaders in not only the warehouse development sector but also the wider building sector with regard to sustainability.

#### **Best Overall Green Business of the Year**

World Business/ INSEAD Green Business Awards 2007

#### **Most Efficient Green Business**

World Business/ INSEAD Green Business Awards 2007

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ProLogis Pineham, Northampton, UK

Client Name:  
ProLogis

Activity:  
Owner, manager and developer of distribution facilities

Project:  
ProLogis Pineham, Northampton, UK

Dates:  
October 2006 – October 2007

“ Our need to understand and tackle global warming is of vital importance. ProLogis achieves these environmental targets through actions, no better demonstrated than ProLogis Pineham. With dcarbon8, we will establish a legacy of low carbon buildings for the decades to come. ”

Ken Hall, Managing Director Global Development, ProLogis.

### Summary

Pineham sets a new benchmark for environmentally sustainable buildings, considering both energy in operation and the construction process. This development also represents the first carbon negative supply chain globally, and will be used by Sainsbury's, the occupier, as its newest refrigerated and ambient food distribution centre.

### Objectives

- Engage with the supply chain to measure quantities for site enabling, building and full fit-out
- Measure material delivery methods and distances
- Measure onsite waste, fuel, electricity and site visitors
- Provide a full, itemised embodied carbon footprint from cradle to grave for the building and onsite contractor activities
- Source carbon from dcarbon8 Supply Chain members
- Invest carbon vouchers into third party assured carbon offset projects
- Compare operational carbon emissions to embodied carbon emissions
- Recommend greenhouse gas reductions of the embodied carbon footprint for future builds
- Provide an embodied carbon benchmark for future builds



### Strategy/Delivery:

The supply chain was engaged through onsite meetings and presentations to demonstrate the importance of embodied carbon. Following this, data was collected, processed, and openly communicated back to all to share the way forward for greater embodied carbon reductions.

After the embodied carbon footprint was measured and reductions were made, carbon vouchers were purchased from dcarbon8 to cover 110% of the remaining carbon footprint. These carbon vouchers were then passed to Sainsbury's giving them the chance to invest in carbon projects and corporate social responsibility projects in line with their sustainability agenda.

### Results:

From the concept stage, this 650,000 square foot distribution centre was designed for low energy and low carbon. This includes:

- Maximised air tightness and insulation
- Tri-generation combined heat and power
- Low energy PIR lighting
- 50 percent additional daylighting
- Solar wall

Overall, these measures are expected to reduce the annual carbon dioxide emissions by over 4,000 tonnes, which is equivalent to the emissions from heating and powering 700 average UK homes.

### Green Award

European Property Awards 2007



*Pineham, the world's first Planet Positive building, has undergone full accreditation according to the Planet Positive Protocol. For a complete summary of the Protocol please see [www.planet-positive.org](http://www.planet-positive.org)*



MindShare, Strand, London, WC2

**Client Name:**  
Maris Interiors

**Activity:**  
Office design, project management, fit-out, refurbishment and furniture supply

**Project:**  
Planet Positive Business, Sustainability Strategy and Reporting

**Dates:**  
March 2007 – April 2008

“ dcarbon8 has provided significant motivation to Maris Interiors employees to embrace the changes in the office environment and provides continued support to Maris on their journey to a more sustainable business. I am very proud of our achievements to date. ”

Bob Davenport, Sustainability Champion and Consultant – Maris Interiors

### Summary

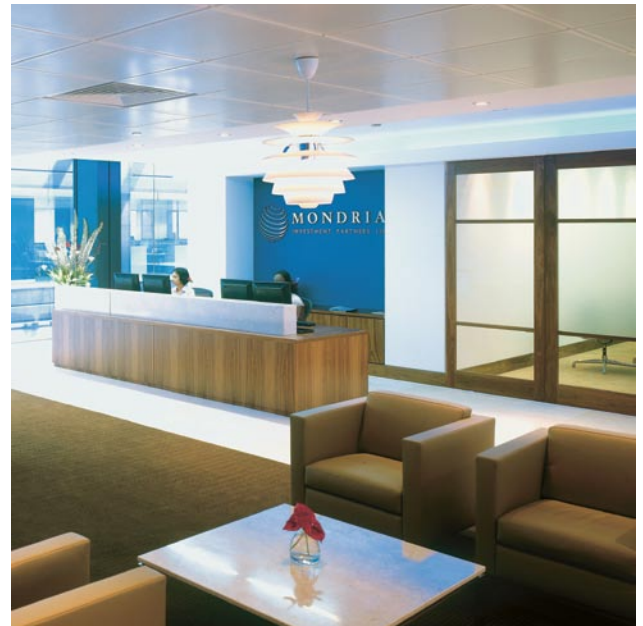
Founded in 1977, Maris was the first fully integrated commercial office design and fit-out specialist to be established in the UK and continues to lead the market in providing businesses with complete interior solutions. Maris Interiors is committed to becoming a leader in sustainable workspace design and fit-out in the UK and are committed to responsible business practice.

### Objectives

- Support Maris Interiors in becoming a leader in sustainable workspace design and fit-out in the UK
- Ensure Maris becomes recognised as a champion of sustainable business practice within their sector
- Certify Maris Interiors business operations as Planet Positive
- Communicate Maris’s sustainability commitments to their stakeholders
- Ensure Maris Interiors’ supply chain is actively involved in the process



Wiggin LLP, Percy Street, London, W1



Mondrian Asset Management, Gresham Street, London, EC2

### Strategy/Delivery:

dcarbon8 has assisted Maris Interiors in the development of their Sustainability Vision, far-reaching sustainability objectives and the policy to implement the Strategy internally in their London office.

Initiatives include energy saving, a paper and toner cartridge recycling scheme, using 100% recycled paper and biodegradable cups, and issuing a Green Bulletin for employees. The company's goal is to reduce energy consumption by 5% by the end of 2007, relative to 2006 levels, and reduce total waste by 5% by the end of 2007, relative to 2006 levels.

The company has also pledged to integrate sustainability criteria into their procurement process of key suppliers and contractors.

dcarbon8 have worked with Maris Interiors to certify their operations Planet Positive. Maris has committed to reducing its footprint, and purchasing carbon credits to cover the remaining 110%. Carbon credits were purchased by dcarbon8 to render the business operations Planet Positive. Maris Interiors selected the Renewable Energy Blend on the dcarbon8 Carbon Exchange to offset their footprint.

dcarbon8 has written Maris's Practical Guide to Creating a Green Office Environment, which is now available. This publication sets out valuable guidance on fitting out or refurbishing workplaces to achieve both cost savings and benefits to the environment. It will be distributed to approximately 5,000 UK businesses, mostly in London.

### Results:

With the assistance of dcarbon8, Maris Interiors are now recognised as one of the leaders in the sustainable workspace fit-out sector with regard to sustainability.

- Developed Corporate Sustainability Strategy
- Measured business carbon footprint, implemented office emission reduction plan and purchased carbon credits to make Maris Interiors Planet Positive
- Helped develop business specific opportunities for GHG reduction
- Wrote first ever Green Guide to Workspace Fit-out