

# **The Significance of Carbon**

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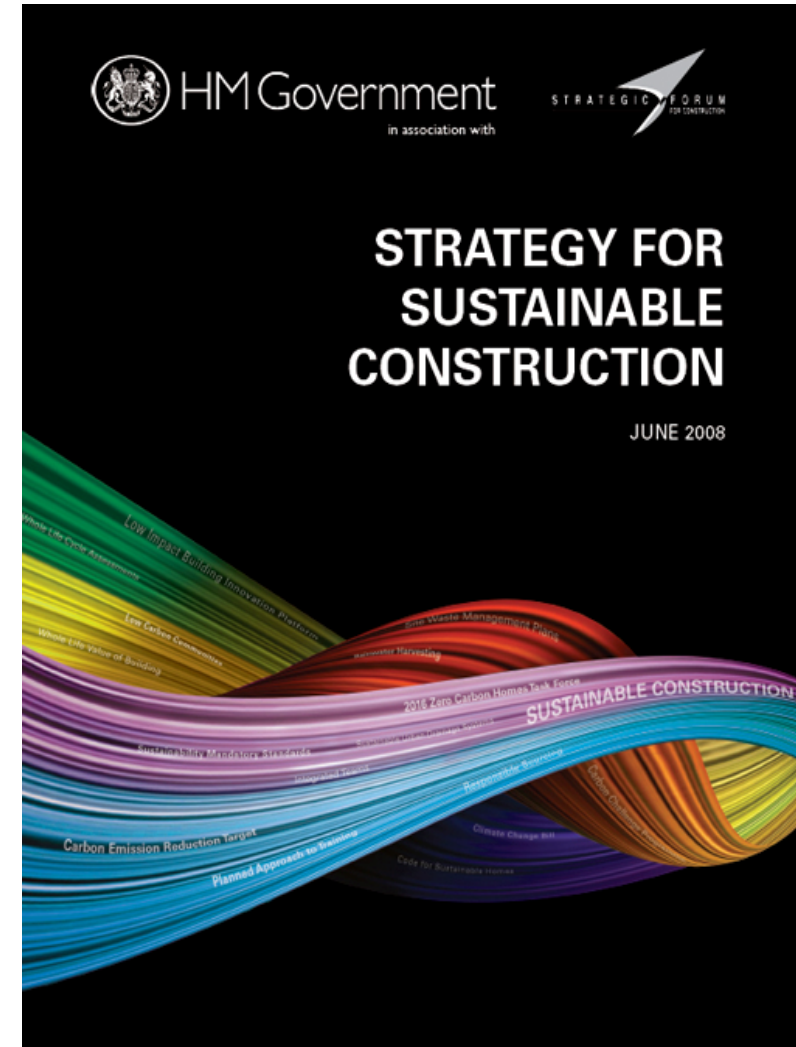
## The World Around Us; Our Environmental Footprint

- Stern report of 2006
- Greater focus on recycling, energy and carbon dioxide
- Agenda has moved on from ozone layer and the Amazon
- Merging of different areas
  - ▶ Biodiversity
  - ▶ Environment
  - ▶ Corporate Social Responsibility



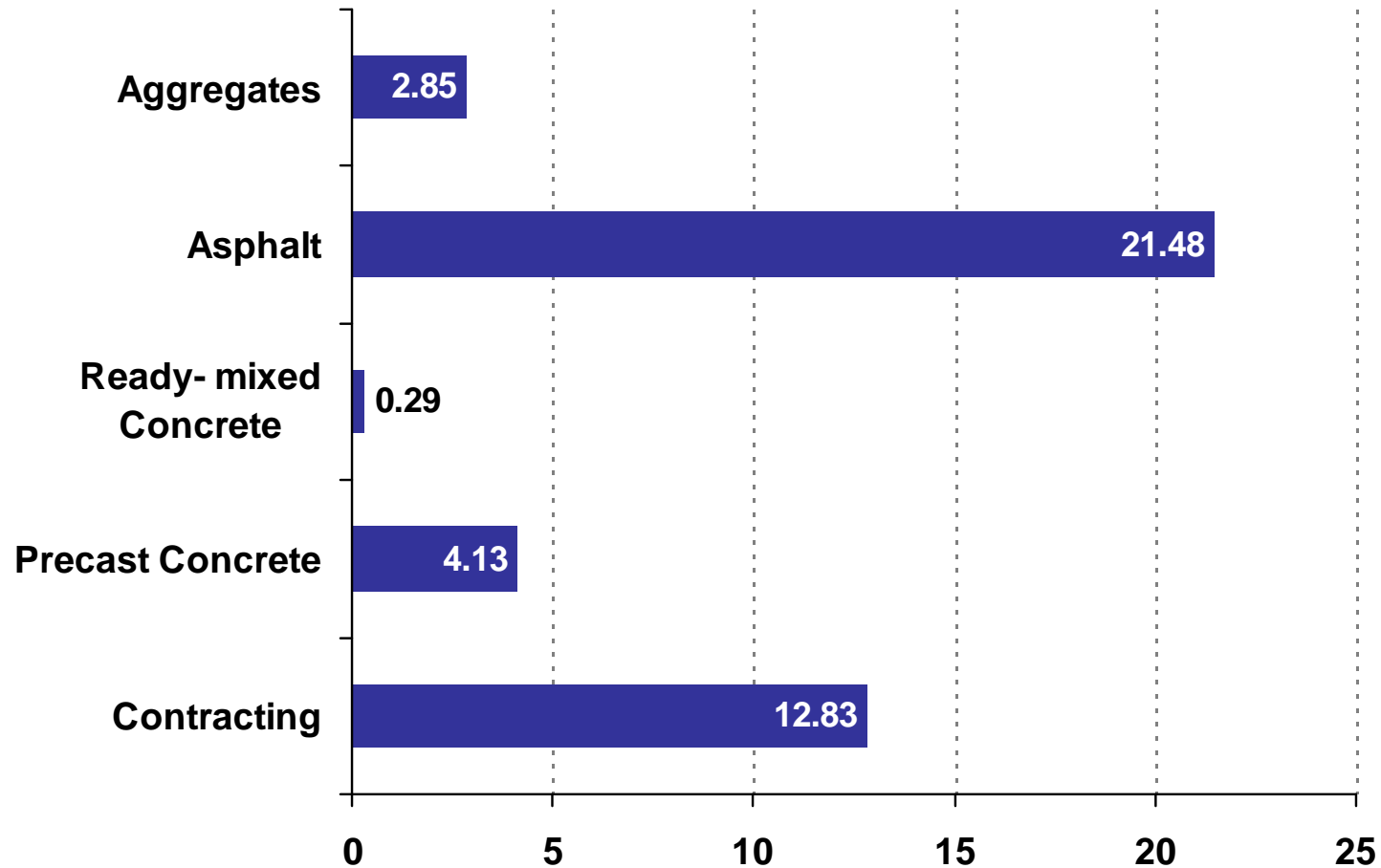
# A Real Commitment to the Government Strategy for Sustainable Construction

- CO<sub>2</sub> per tonne of production has declined steadily over the period, to a figure of 7.16kg CO<sub>2</sub> per tonne in 2007 (including transport)
- The latest (2007) Industry-wide figures from the QPA shows 6.72kg of CO<sub>2</sub> per tonne of production (excluding transport), on a comparable basis (ie excluding transport) Aggregate Industries recorded 4.94kg of CO<sub>2</sub> in 2007
- Considerable reductions have been achieved through:
  - ▶ The use of Good Quality Combined Heat and Power sources
  - ▶ Efficiencies & Economies of scale



## Asphalt contributes the most Carbon per tonne

- Asphalt production is a hot process and consumes energy to dry and heat aggregates and to maintain the bitumen at the right temperature

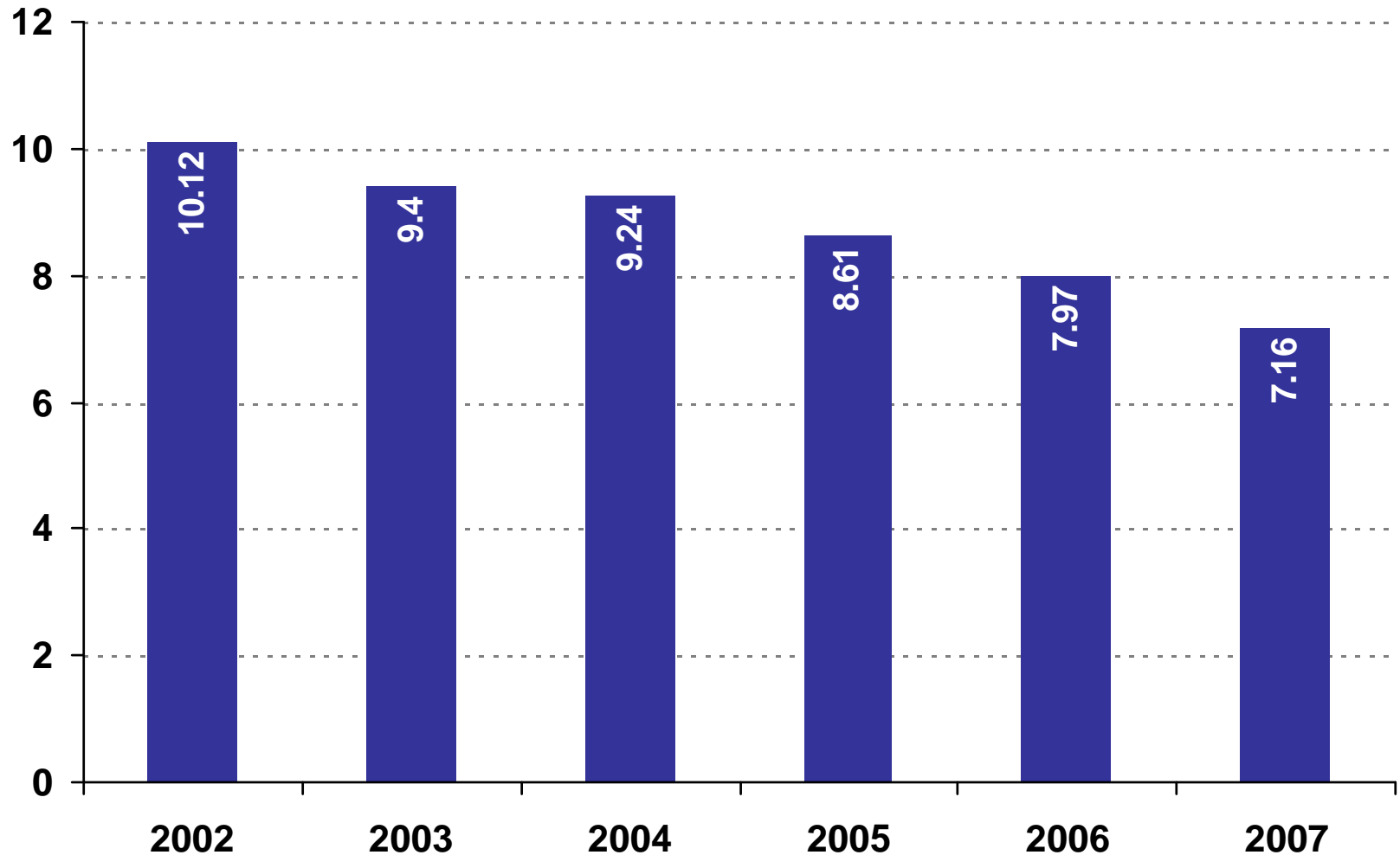


Kg CO<sub>2</sub> per tonne by business activity 2007

# Aggregate Industries continues to reduce Carbon year on year

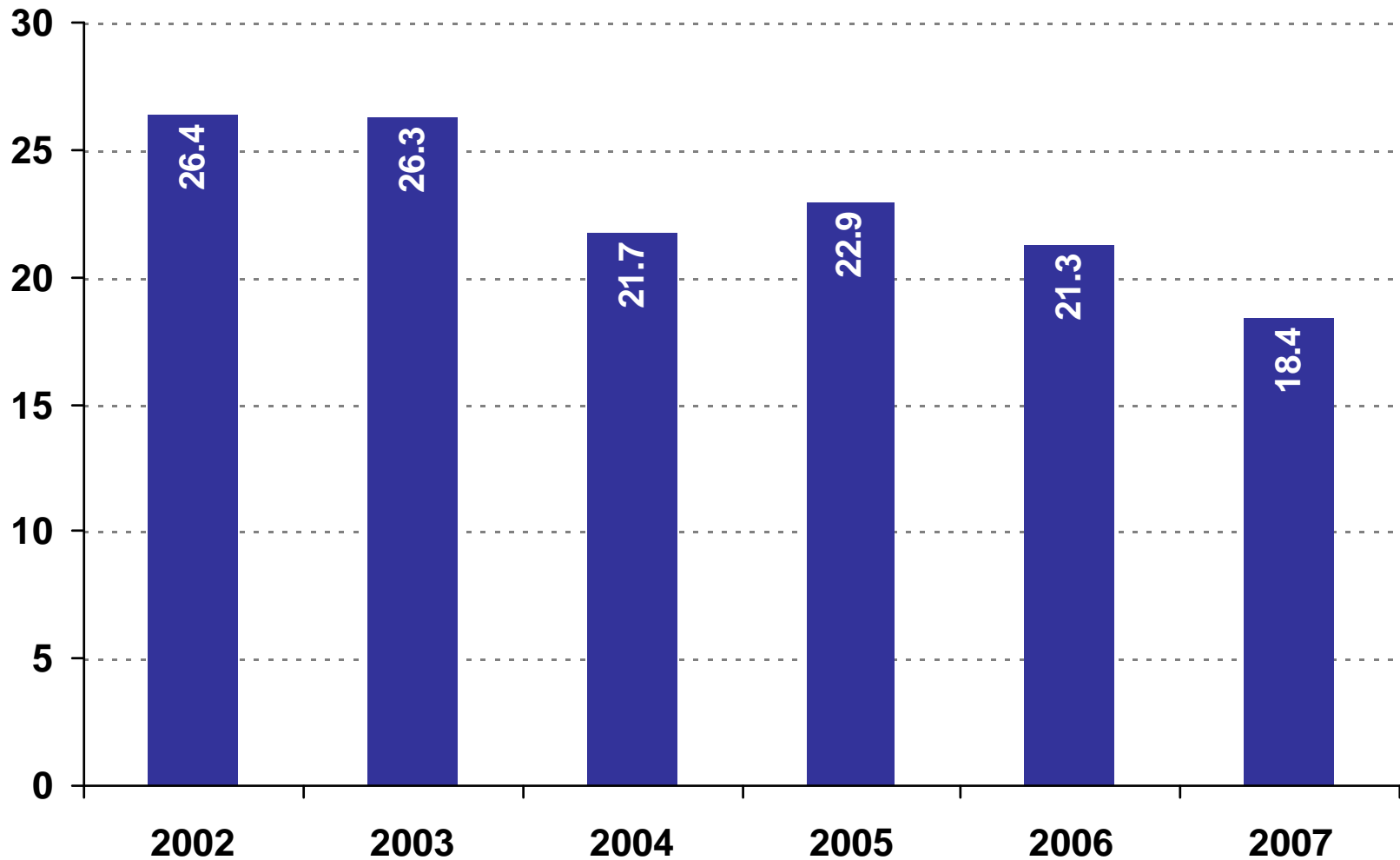
## Kg CO<sub>2</sub> per tonne of production

(comprising process energy and product transport and distribution)



## Energy Consumption...another factor

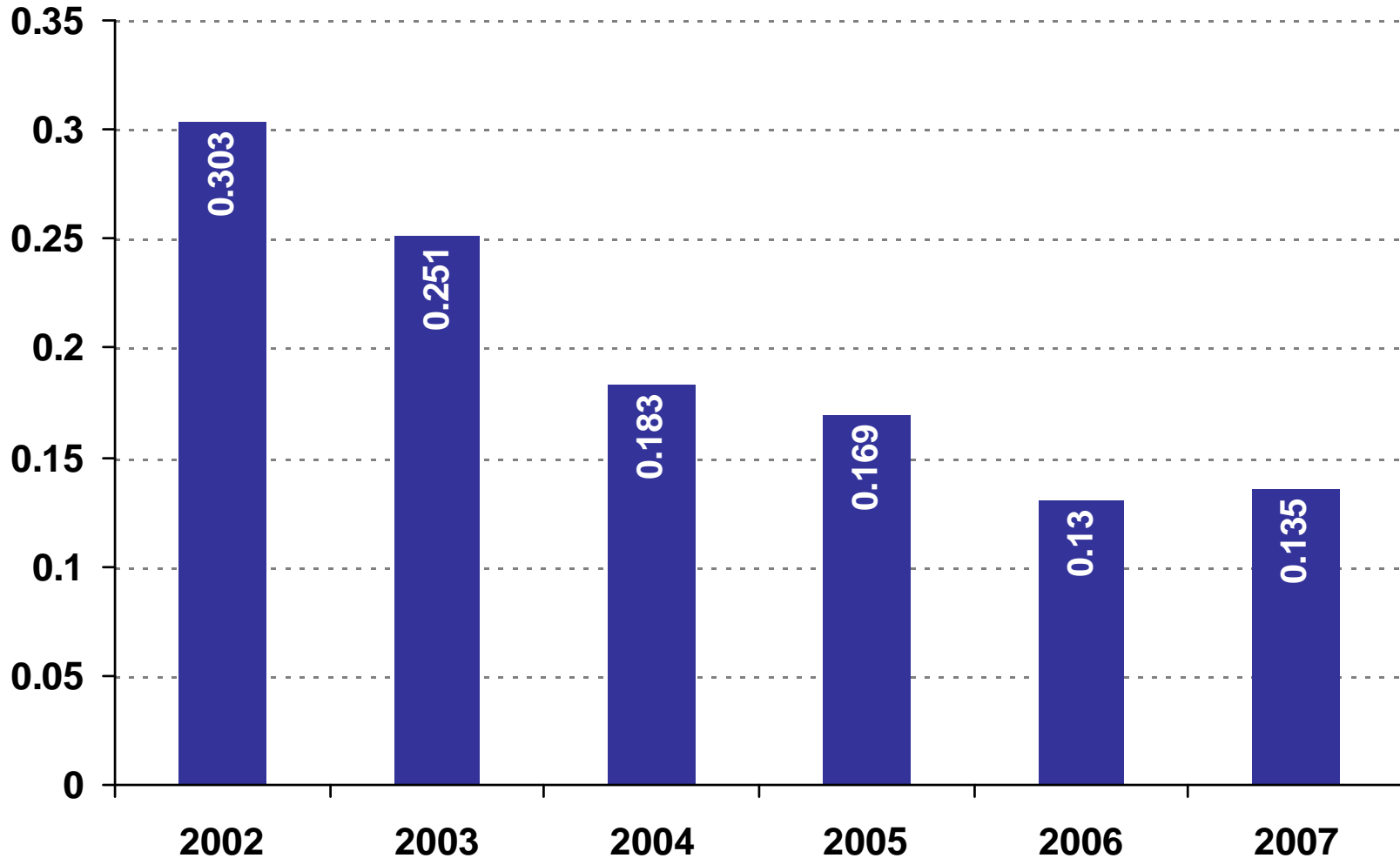
kWh process energy consumption per tonne of production



Improved energy efficiency has direct benefits

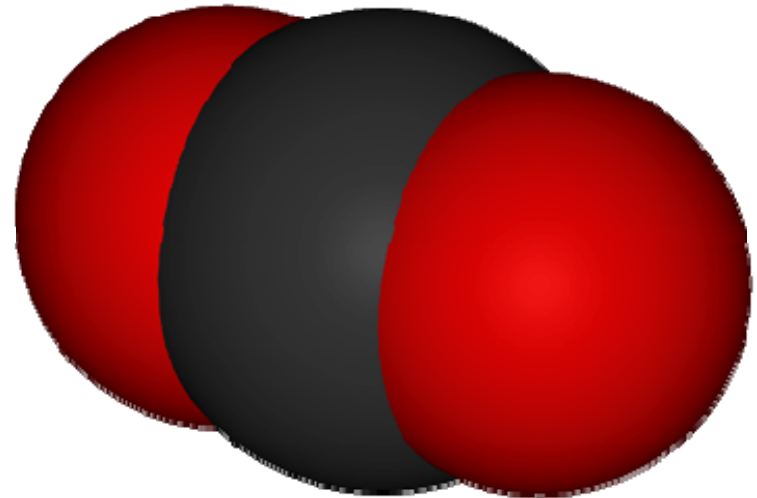
## Water Consumption...the Next 'Carbon'?

Cubic metres of water per million tonnes of production



## It's Not All About Carbon



- Energy consumption
- Water consumption
- Waste minimisation
- Recycled materials
- Pollution control
- Better management
- Site transport
- Efficient processes
- New technology
- Alternative materials
- Carbon equivalents





# ...but for the time being it is.

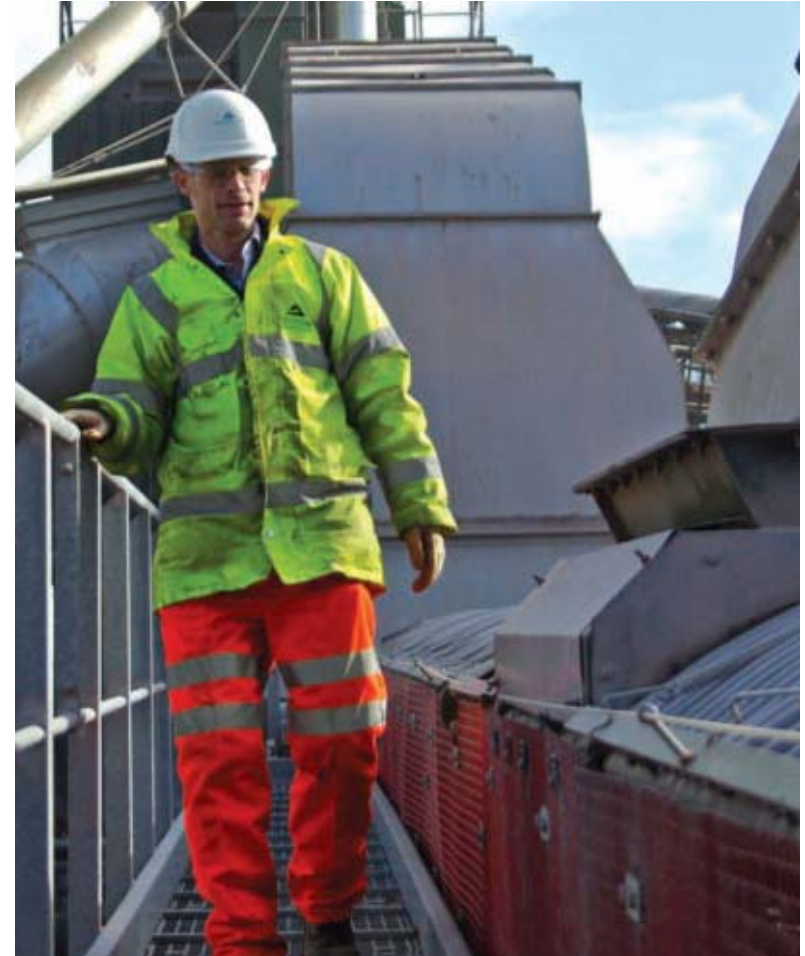
- Carbon Trust
- Carbon Labelling

Fuel Economy		Ford Fiesta 1.4 TDCI ZETEC
CO <sub>2</sub> emission figure (g/km)		
<100 A		 <b>B</b> 117 g/km
101-120 B		
121-150 C		
151-175 D		
176-195 E		
196+ F		
Fuel cost (estimated) for 12,000 miles		£662
VED for 12 months		£85
<b>Environmental Information</b> A guide to fuel economy and CO <sub>2</sub> emissions which contains data for all new passenger car models is available at any point of sale free of charge. In addition to the fuel efficiency of a car, driving behaviour as well as other non-technical factors play a role in determining a car's fuel consumption and CO <sub>2</sub> emissions. CO <sub>2</sub> is the main green house gas responsible for global warming.		
Manufacturer: Ford Fiesta 1.4 TDCI ZETEC Fuel type: Diesel		Engine capacity (cc): 1800 Transmission type: 5 speed manual
<b>Fuel Consumption:</b>		
Drive cycle	Litres/100km	mpg
Urban	5.4	52.3
Extra-urban	3.8	74.3
Combined	4.4	64.2
Carbon dioxide emissions (g/km): 117g/km Important note: Some specifications of this motor model may have lower CO <sub>2</sub> emissions than this. Check with your dealer.		
		



## Haughmond Hill; improving the process

- Key items to reduce environmental impact/ energy consumption
  - ▶ Reduction of moisture entrained with feed stocks
  - ▶ Use of Variable Speed Drives for main Exhaust fan
  - ▶ Digital control of plant burner to ensure metered fuel/air mix giving optimum combustion.
  - ▶ Development of bio-derived fuels with Supplier base now in use. 90% renewable element
  - ▶ Reclamation of energy from the waste gas stream for pre-heating combustion air



## Industry must not lose focus of the Carbon Issue especially in difficult times.

- Sustainability is an integral part of business development
- So called 'Greenwash' is being challenged
- Changing legislation in relation to Carbon trading
- Simple calculator and tools for materials selection





**AGGREGATE**  
**INDUSTRIES**