



## CAST-CO<sub>2</sub> for Carbon Emissions Modelling & Optimisation

### Carbon Emissions Modelling

As consumers become increasingly environmentally selective in their purchase decisions, companies are recognising that they need to optimise their supply chains, not only in terms of the traditional levers of cost and service level, but also in terms of carbon emissions.

Aggressive carbon targets are being set at board level and logistics managers need to ensure that their supply chains are able to achieve them. Unfortunately for most companies, simple operational changes alone will not be sufficient to meet these targets and before companies start making sweeping changes to their supply chains, it is critical that they plan and understand these changes properly.

The supply chain is a key area where companies can reduce their carbon footprint, but the bottom line is that over 80% of this target is only achievable at the supply chain design stage.

Barloworld Supply chain software has worked with a wide

cross section of companies on projects designed to analyse and reduce carbon emissions. Our CAST-CO<sub>2</sub> software can calculate the carbon footprint of any supply chain and provide the optimal network configuration based on cost, service and / or carbon emissions.

### About CAST-CO<sub>2</sub>

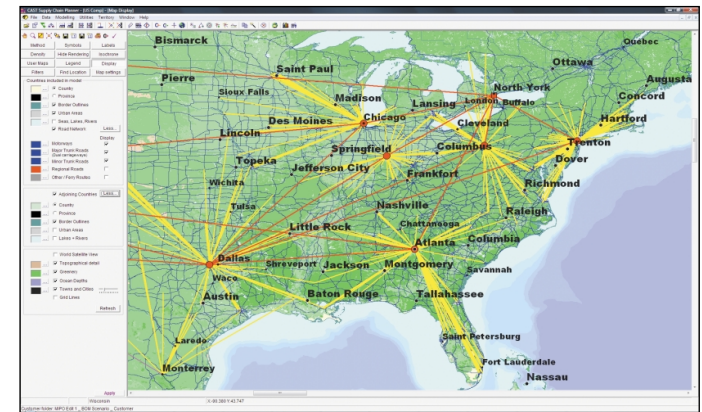
CAST-CO<sub>2</sub> is an optional module of our leading supply chain design system CAST that calculates the environmental impact of any supply chain modelled in CAST.

CAST-CO<sub>2</sub> incorporates industry standard data together with user input to calculate the carbon footprint of a distribution network. The carbon footprint is defined as the CO<sub>2</sub> emissions produced as a result of operating the supply chain concerned, taking account of all modes of transportation including road, rail, air & sea as well as all types of warehouse operations by country.

Users can see how the future market cost of carbon will

influence the optimal supply chain configurations suggested thereby future proofing the supply chain against rising carbon costs.

The software can also provide a detailed allocation of carbon costs to individual customers or customer groupings. Subsequently, manufacturers can calculate the carbon contribution associated with particular customer accounts such as individual retailers.



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

**“...optimise your supply chain in terms of its carbon footprint, carbon cost, supply chain cost or service level.”**

**Benefits**

Companies are able to analyse the carbon footprint of their supply chains and then consider different design configurations and transportation options before making operational changes. For example, a business running its own dedicated distribution fleet could evaluate the cost & carbon impact of switching to alternative fuel sources. Alternatively, a company might review opportunities for consolidation of freight across the network, thereby reducing the number of deliveries as well as the resulting carbon footprint and operating costs.

By optimising the carbon footprint of any supply chain together with cost and service levels, companies normally find ways to reduce costs and carbon emissions at the same time. In a recent example, a global industrial manufacturer modelled their European distribution network and identified savings of 9% in supply chain costs with a 28% reduction in carbon emissions by switching significant road freight volumes on to rail and short-sea shipping options across Europe.

CAST-CO<sub>2</sub> offers a comprehensive approach, at the supply chain design stage, that enables companies to look at a range of supply chain strategies and configurations that optimise both cost and carbon emissions.

**Current initiatives**

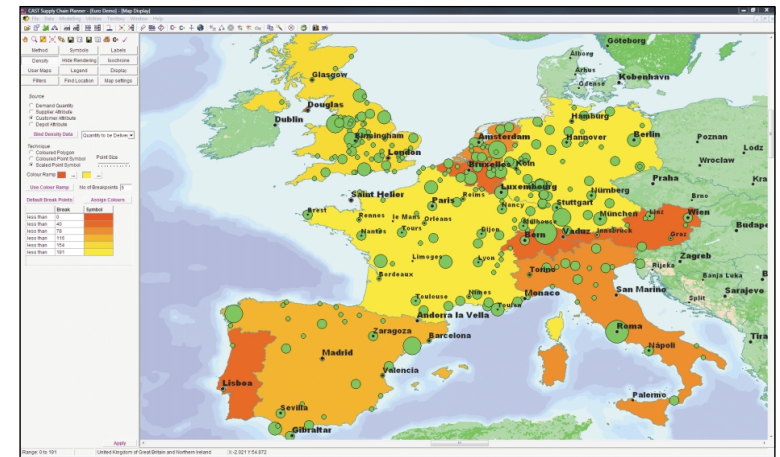
Since the early aspirations of the Kyoto Protocol, a significant number of other international initiatives have converged to drive companies towards a greater focus on their carbon footprint. These include the Carbon Disclosure Project which, representing over 300 institutional investors who manage over \$50 trillion in investment, require that the world's top 2000 companies report annually on their carbon emissions.

Governments are also beginning to set the agenda with the UK Climate Bill requiring a 60% reduction in carbon emissions by 2050, whilst in the EU the target is set at a 20% reduction by 2020. These drivers and the increasing adherence to Corporate and Social Responsibility (CSR) policies mean that all responsible organisations will be looking at reducing carbon emissions as an integral part of their supply chain planning process.

CAST and CAST-CO<sub>2</sub> represent leading technology to model both the supply chain and its environmental impact in one software solution.

“For companies in the 21st century, tackling carbon exposure is more than good environmental stewardship; it could also protect a company's share price and create a long term competitive advantage”

*McKinsey.*



To understand how we could help you evaluate and optimise different supply chain configurations and transportation options please contact your local office:

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