



DHL Supply Chain GoGreen Agenda:

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GoGreen: Part of our commitment to Corporate Responsibility

GoTeach



Education

GoGreen



Environment

GoHelp



Disaster Relief

GoGreen: Our commitment to the challenge of climate change

Our Industry

The transport sector...

- ...represents 14% of global carbon emissions
- ...is faced with increasing legislation
- ...experiences growing customer pressure
- ...plays an important role in finding solutions



Our Goals

Improving the carbon efficiency of DHL and its business partners by:

30 % by 2020

and

10 % by 2012



Our Program



Is active in all business units worldwide.

Focuses on all opportunities for carbon efficiency, including:

- Driver training
- Vehicle technologies
- Network optimization
- Efficient lighting and other real estate activities
- Employee engagement
- Customer engagement



GoGreen Programmes in UKIFEEMEA

1. Transport: How DHL are reducing fuel and carbon emissions



Fuel Management

One of the most effective short term improvement tools. Every litre of fuel saved is 2.6kgs less carbon emitted

Driver Training

Improve fuel efficiency by training drivers in defensive and economy driving



Speed Reduction:

Reduction of artic trucking fleet to 85kph / 53mph has improved fuel efficiency

Aerodynamics:

Tuning of aerodynamics and new designs such as Teardrop Trailers have Improved fuel economy



Alternative fuels:

Assessment of first generation liquid bio-fuels led to discounting them for the time being.

Alternative technologies:

Electric and hybrid vehicles pilots are in progress.



2. Real Estate: increasing the efficiency of our warehouses and offices



Our initiatives include:

- “Smart” energy meters
- Energy efficient lighting
- Natural Daylight (Roof lights)
- Air tightness (Rapid Lift Doors)
- Building management systems
- Renewable energy provision
- Switch off campaigns and Green Office Programs

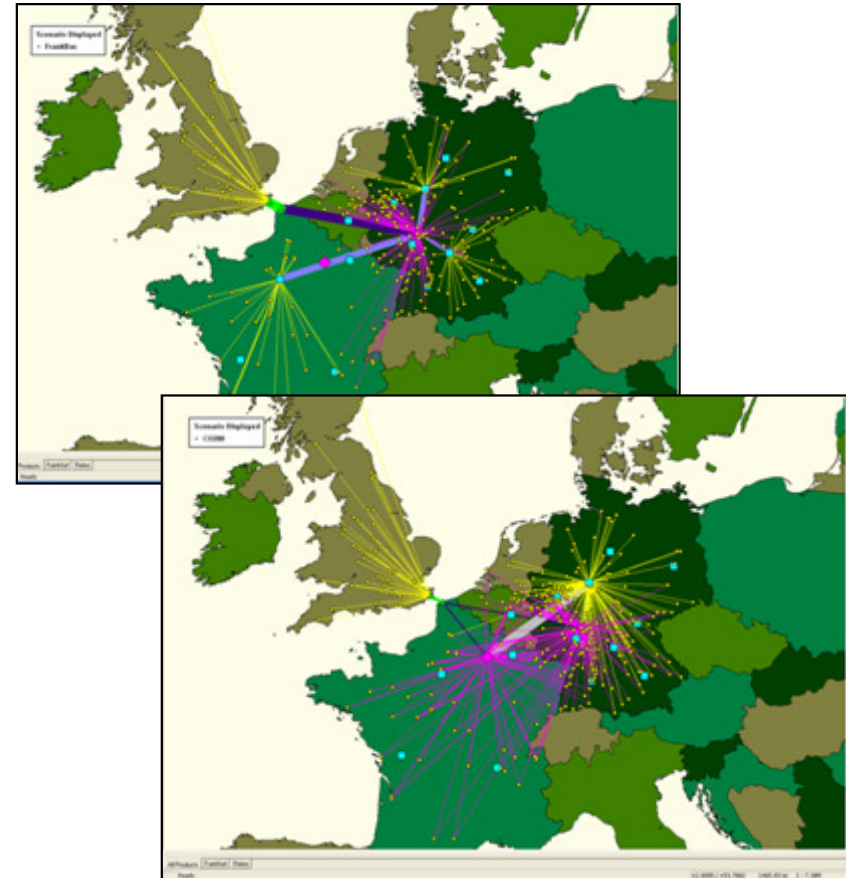


3. Network Design: reducing carbon emissions through network design

Allowing for carbon emissions can make significant differences to network design decisions:

- Improved operational efficiency
- Focus on modal shifts
- Sourcing strategies
- Site locations and serving areas
- Service level strategies
- Improved consolidation
- Reverse logistics
- Carrier/vehicle shifts

We are developing a consultancy service based specifically around optimising supply chains based not just on cost and service but also on carbon





Success in 2009

Successful UKIFEEMEA Initiatives in 2009

- Fuel Management Programme across UK fleet showing 4% improvement in fuel economy, equating to some 35,000 tonnes reduction in carbon
- Site energy awareness “switch off” programme etc delivering 20% saving in electricity consumption
- Low carbon lighting programme with savings in the order of 2,000 tonnes of carbon and almost €1m per annum
- Steady roll out of Teardrop trailers and other aerodynamic fleet enhancements
- Development of Environmental Improvement Programmes and award scheme for better employee engagement as piloted by UK Industrial





2012 & Beyond

DHL Electric & Hybrid Vehicles Assessments

Product Summary

- ❑ Battery electric trucks have the potential to replace diesel vehicles in low mileage urban operations.
- ❑ EVs are quiet, zero emission in operation, and much reduced in CO2 output even on National Grid recharge figures.
- ❑ DHL UK have 11 Smiths electric trucks under assessment in operation, two of which are working to complement the Retail Consolidation Centres.
- ❑ More development is needed in electric drive-trains, particularly in power storage, whether batteries, super-capacitors, etc.
- ❑ Parallel Hybrid trucks use a combination of diesel engine and electric motor to provide performance and capture braking energy in order to give improved fuel economy. This allows a theoretical potential reduction in diesel usage up to 30% on the right application
- ❑ Hybrids allow us to capture some of the benefits of electric trucks but with no restrictive range limitations



Facts and figures

- ❑ Pure EV performance and driver acceptance generally all very positive, but limitations on range and fall off in power at higher speeds and low battery charge must be recognised. Reliability has been acceptable, but some issues with zebra battery failures and charging of standard 24v system. After sales support from Smiths is weak. Range limitations vs battery size/cost can be an issue. Savings up to 45% in fuel costs plus 30% carbon reductions.
- ❑ HEVs offer better flexibility in operation. Fully evaluated figures to date suggest economy benefits (and hence emission reductions) averaging **18%** over the past 12 months. Results from other operators on similar tests have showed up to 23% on more intensive City work.

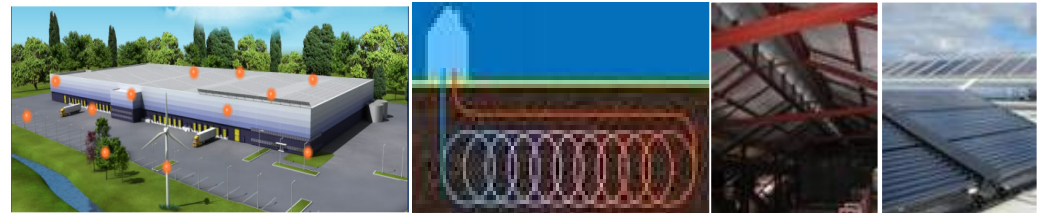


High capital cost means neither option is yet commercially viable

DHL Real Estate Interventions

Product Summary

- Grey water harvesting
- Building management systems
- Air & Ground source heat pumps
- Solar heating walls
- Solar panels
- Mini Wind Farm Solution



Facts and figures

- Applications of most of the above interventions are being trialled within DHL, commercial viability varies, and roll out will be dependent on these assessments.
- PV Solar panels and wind turbines are unlikely to prove viable in the short-medium term, but all others are likely to start featuring in our carbon reduction programmes

New Fuel Options

The other area for reducing carbon is changing the fuel we use:

Whilst we do not believe current bio-diesels are sustainable, nor will they give us the levels of performance and carbon reduction, DHL are actively assessing other more promising future fuels:

Biogas...used in a pure gas engine or as a dual fuel in modified diesel engines this may provide a solution, but we have yet to find a system that gives sufficient gas substitution levels.

GTL/BTL Synthetic Fuels...manufactured from biogas or from cellulose based waste products, promise to be sustainable and efficient, but processing is costly at present

Hydrogen....for use either as a complete fuel in IC engines, or as a burn enhancer blended with intake air on diesel engines, or eventually within Hydrogen Fuel Cells.

