



Eight possibilities of combining logistic efficiency and CO₂ reduction

Written by Alain Beerens

The current recession leads to the common idea that corporate social responsibility will be subordinated to efficiency again. How can companies, despite of the credit crunch, reduce the carbon footprint (CO₂ emission) of their logistics? Check the following eight tips:



1. A cleaner cargo fleet

The most popular solution is introducing cleaner engines within the cargo fleet. In case of outsourced transport, it is possible to agree upon specific targets regarding emissions in the contract with the carrier. The air polluting emissions per kilometre of road transport will certainly decrease in the future. This is a result of the introduction of Euro 5 and 6 engines in trucks. Besides that, the government policy is to actively promote alternative fuels. For instance the European Union has set the objective for the transport sector to meet a 10 percent share for bio fuel in the total fuel consumption. Despite the current recession, forecasts of the demand for freight transport still show expected increases up to 40% within the next 10 years. So whether and to what extent this will lead to a net reduction of emissions within Europe remains a question.

2. Shift from road transport to waterways or rail (modal shift)

When transport modes are compared based on CO₂ emissions, invariably the perception is that road transport is the least clean alternative. In figures the CO₂ emission are (grams per tonne-kilometre) for road transport 75 g/tonnekm, electric locomotive 25 g/tonnekm, inland waterways vessel (5500 tonne) 35 g/tonnekm (source: "Studie naar Transport Emissies van alle modaliteiten [Study on Transport Emissions of all modes], CE-Delft, March 2008"). Therefore a modal shift from road to rail or waterways seems CO₂ positive. However in this equation the scale and loading rate of the transport flows should always be regarded. In addition the aforementioned emission figures for waterways and rail have to be extended with the additional emission of CO₂ of the connecting transport.

3. Optimization of your logistics network

The number of warehouse locations and their respective locations has a direct effect on the total CO₂ emission of your distribution network. The concept of one European Distribution Centre (EDC) is efficient for warehouse costs and inbound transport. Such a concept however, will also lead to more transport kilometres and higher costs for the distribution to end customers. This occurs since the distance from warehouse to end customer increases. A concept of one EDC with local warehouses in the regions with many customers seems, from a CO₂ perspective, more logical. The transport flows from the EDC to the local warehouses can be efficiently consolidated on a weekly basis, and are subsequently distributed to the end customers from local warehouse.

4. An improved Sales & Operations Planning (S&OP)

A better coordination between sales, purchasing and production will automatically lead to less short notice orders and backorders. A backorder delivery to a customer leads to at least one additional transport movement for one and the same sales order. It goes without saying that this, from a costs as well as a CO₂ perspective, is inefficient.

5. Cooperation in the logistics chain

Structural cooperation between several shippers (could even be competitors) in the logistics chain leads to more efficient transport flows. As a case study, I would like to mention the logistics cooperation between Kimberly-Clark en Lever-Fabergé. They brought their warehouse and transport activities together in one DC in Raamsdonkveer (the Netherlands).

An organization like ELUPEG (www.elupeg.com) can help you find potential partners. ELUPEG is a European collaboration of shippers and carriers, with the sole objective to initiate and realize logistics partnerships.

6. Creation of return shipments

Generally it is estimated that about 40 percent of all transport movements is carried out empty. This concerns amongst others the empty return trips. These empty trips can be reduced by combining unloading and loading locations. For instance a paper supplier can, after unloading the "virginal" paper at a printing company, load and distribute to another customer.

7. A broader interpretation of customer service

One of the most important CO₂ instruments a shipper has is adding flexibility to the customer service demands. Too often companies assume their customers want 24 hour deliveries. However customers are often more interested in the reliability of deliveries than in delivery speed. Therefore one could extend the delivery lead time to 48/72 hour or introduce fixed days for delivery per region (milk-runs). This added flexibility is not by definition at the expense of customer satisfaction. Such measures lead to wider planning opportunities for a transport planner, which undeniably create a higher loading rate.

8. National and local law and regulations

Also the government has an explicit role in the emission reduction in logistics. Think of specific law and regulations that could enable efficiency improvements for transport. These are among others:

- Allowing road-trains in quiet times (an estimated 3-6% reduction in CO₂ emissions),
- Target lanes for lorries on motorways for a better traffic flow of freight,
- Enlarging the time windows for deliveries in the urbanized areas.

Who will take the initiative?

As the mentioned solutions show, several stakeholders are involved in the reduction of the logistics CO₂ emissions, and they all have their own agenda. So who will take the responsibility? The shipper often has a dominant position in the chain, so at a first glance they are the designated party to initiate changes. Furthermore they, as producer/supplier, possess the tools, service expansion and chain collaboration, to make the difference.

So I would like to challenge the shippers: "Take the initiative for the CO₂ reductions". It not only will bring you a cleaner CO₂ footprint, it will also result in significant efficiency savings for your logistics.

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