



## **MOBILITY MANAGEMENT FROM AN ENVIRONMENTAL PERSPECTIVE: PUBLIC-PRIVATE PARTNERSHIPS IN GREEN NETWORK**

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# MOBILITY MANAGEMENT FROM AN ENVIRONMENTAL PERSPECTIVE: PUBLIC-PRIVATE PARTNERSHIPS IN GREEN NETWORK

*Green Network - a partnership between local authorities and approximately 180 private companies in the region of Vejle County in Denmark - is making an effort to integrate transport matters in the environmental management schemes of enterprises and to put sustainable mobility on the agenda in the region. This paper describes Green Network as a platform for co-operation between the economic community and public partners on sustainable mobility for people and goods.*

## 1. Introduction

The Green Network association is a voluntary co-operation on environmental matters. Members are private companies, public institutions and the public authorities. The driving idea behind the Green Network is to set up - on a regional level - a professional forum for dialogue, the communication of knowledge and the exchange of ideas on environmental questions.

Green Network is constantly developing and one of the recent projects has been to include transport in environmental management at the company level. Green Network has proven to be a good platform to involve companies in the solution of transport related environmental problems. The existing network has built up high-level skills in preventive environmental protection and has at the same time been ready to look outside the fence surrounding the company in order to tackle problems occurring from transport. This approach and the methods used are quite similar to those known from mobility management.

The Green Network project on transport has shown that transport can be a substantial part of energy consumption and emissions related to the company. Furthermore there is potential for reductions by simple measures, which of course varies from company to company, but potential reductions of 10–20 percent are common. Finally the project has shown, that private companies can be motivated to act and implement solutions for the common good.

## 2. History and background

The Green Network association was established in the mid-nineties. Geographically the association is situated in Vejle County and part of the Island of Fyn. It covers a region with approximately 300.000 inhabitants. As for today there are 250 members of Green Network. 177 of these are companies, which have committed themselves to document and improve their environmental performance. The *core* of the Green Network-concept therefore is environmental accounts. An environmental account documents the environmental performance of the company and states an action plan for the coming two years. Green Network has developed its own manual describing the requirements to be fulfilled in the account. It is similar to the standards of environmental management like ISO 14001 and EMAS but simpler as regards system requirements. The environmental account is submitted for approval every second year. Green Network has set up a list of themes that must be described in the environmental account and furthermore the account must document improvements in the environmental performance in order to get approval. Green Networks environmental account has often been described as a stepping stone towards a certified environmental management system.

Keywords in Green Network are voluntarism, co-operation, prevention and improvements beyond national standards. In order to achieve this Green Network is based on an organization involving both public and private partners. Green Network is led by a board with an equal number of members coming from private companies and authorities. The chairman is always chosen among the private companies. Beneath the board are a number of groups taking care of different tasks in the association. A small secretariat serves the association and publishes a newsletter 5-6 times a year. One of the effects of this organization is that the private sector actually defines their own tasks: which projects do we want to participate in,

what should be the main themes for the effort in the coming years etc. This brings a strong commitment to work for the common goals.

Important to the goals of prevention and improvement is that the local authorities in Green Network have committed themselves to be more involved in the environmental protection effort carried out within the companies. Authorities are still inspecting companies according to national environmental legislation in Denmark, but in addition to this new members of Green Network receive help from environmental officers from the local authorities to map consumption of resources, emissions of greenhouse gasses etc. The officer is also a member of the task group that is set up in the company to lead the project. This way the local authorities gets a opportunity to contribute to the process, when the company is setting up the action plan for the coming year and thus the chance of a fruitful dialogue is much improved.

Green Network is financed by member fees. Public authorities contributes with 2 Dkr. per capita annually (approximately 0,27 Euro), and the fee for companies is Dkr. 2.000 per year (approximately 270 Euro). The companies are willing to pay for membership as they gain some advantages:

- Improved corporate image. The company receives a diploma and a flag when their environmental account is approved. In addition they are permitted to use the Green Network logo in their letterhead.
- Reductions in emissions and consumption of raw materials often leads to improved earnings.
- An open dialogue with the environmental authority gives better knowledge of existing and future regulation and therefore a higher level of security in investments.
- A forum for the exchange of ideas and experiences with colleagues in other companies since Green Network sets up different arrangements throughout the year (usually free of charge for members)

The main target group for Green Network is companies that need an operating approval according to the national environmental protection act. Of these about 30 percent are members now.

### **3. Transport consultants in Green Network**

Green Network has developed its own manual describing how to do environmental accounts. Since 1999 transport has been one of the parameters that should be accounted for if it is a substantial part of the company's total environmental impact. The manual includes different tools that can be used to describe the environmental effects of transport related to the company. The philosophy is that companies actually have an influence on the amount and environmental impact of transport to and from the site.

Transport attributed to the company can be split up in to the following categories:

- Freight of goods (deliverance of supplies, distribution of products)
- In-duty journeys (salesmen, inspections, visits to conferences etc.)
- Internal transport (trucks, movement of parts between sites etc.)
- Commuting

Only a few, mostly "high-profile" companies accounted for transport up until 2000. This is probably due to the fact that environmental regulation of companies in Denmark does not include transport outside the premises of the company. Focus therefore has been on the environmental performance "inside the gate" even among the frontrunner companies in the field of environment (and among environmental officers). But the transport sector is contributing approximately 25% to national emissions of carbon dioxide and consuming one third of all energy, thus being a substantial contributor to national and global environmental problems.

Therefore Green Network established a two-year project starting on the first of January 2001. Two consultants are assigned to help both public and private partners in Green Network to include transport in their environmental accounts. Alongside this activity the consultants are helping the authorities within the network to establish different activities like surveys,

campaigns etc. The aim of this part of the project is to demonstrate new ways to achieve a more sustainable mobility in the region.

Services from the consultants are free of charge. The consultants mainly provide an overview and help initiate the process. Questions of a more technical character are still to be solved by private consulting firms.

The main idea behind the project is to develop knowledge of tools and functional measurements in Green Network by providing consultants who possess adequate qualifications. By the end of the project employees at the local authorities are expected to have achieved a lift in their qualifications through education and experiences and ideas from the project. It is expected this will make them capable of co-operating with companies on issues regarding reduction of the environmental impacts of transport.

The project has been announced in the Green Network newsletter and officers from the authorities are instructed to make transport a part of the initial screening when environmental accounts are made. So far seven companies have volunteered and are directly involved in the project while a similar number of companies have shown interest or have achieved help on the phone to start mapping their transport by themselves.

#### **4. Cases**

In order to establish a picture of what is actually being done three cases are described more detailed below.

##### **ABB A/S**

ABB A/S in Fredericia is a technical contractor serving industrial enterprises, office facilities, railways and so on. The company has a fleet of 550 vans (2-3,5 tonnes) with a mileage of 15-20.000 km/year. The vans are generally sold after a period of five years. Transport in vans alone makes up for approximately two-thirds of total energy consumption in the company.

ABB A/S wanted to reduce both emissions and costs from transport in vans so a project was drawn up focusing on driving behaviour and green purchasing of vans.

First step was a survey of transport and fuel consumption in three departments with a total of 23 vans. The survey showed that fuel consumption varies up to 20 percent between employees driving identical vans. Based on this it is concluded that fuel consumption can be reduced approximately 10 percent if the general level can be improved to the level of "best practice" at the present time.

Second step was to work out guidelines to be taken into consideration when purchasing new vans. The survey showed that the fleet primarily consisted of vans with a rather poor fuel economy. Fuel economy, emission levels and the size actually needed for the purpose are now given a higher priority when purchasing new vans. It is estimated that fuel economy by this means can be improved another 10 percent over the course of two years.

Third step will be to educate employees in "Eco-driving" and motivate them to consistently use these skills as drivers.

The total goal is to achieve a 10 percent improvement in fuel economy the first year. For the company as a whole this sums to 80,000 litres of diesel or about 200 tonnes of carbon dioxide per year. In economic terms it could save the company approximately 50,000 Euro annually. The effort is to be evaluated in summer 2002 by a new survey.

##### **Cerealia Unibake**

Cerealia Unibake in Horsens produces frozen bread products for both supermarkets and "bake-off" in shops etc. The company uses an external contractor for logistics and distribution. Information on incoming orders etc. is shared by Electronic Data Interchange. Products for the domestic market are taken to the contractors distribution-platform and from there are distributed together with frozen food-products from other firms. This should result in more

efficient logistics and a higher level of utilization of capacity of the vehicles since the contractor gets the opportunity to pool orders and to take return-freight.

Cerealia Unibake wanted data on energy consumption and emissions of greenhouse gasses for their green account so a co-operation between them, the contractor and the transport consultants in Green Network was set up. The goal was to establish key performance indicators for the distribution that could be used as both data for the green account and a useful steering mechanism for the contractor to improve environmental performance.

Based on distribution lists and manual data from the drivers the following performance indicators were computed:

- Utilization of capacity in the distribution chain as a whole. Measured in volume the result was 50% which is rather high for Danish standards, but it is also obvious that it can be improved.
- Litres of diesel used to transport one unit one kilometre. This indicator is used by Cerealia Unibake to compute environmental impact from distribution of their own goods. The indicator can also be useful for the contractor when planning the distribution strategy since it shows that a large trailer is more efficient than a small one *if* capacity utilization is high.
- Fuel economy on each vehicle. This indicator was already known by the contractor and used to monitor the general state of the vehicle, but it can also be useful if it is chosen to try to improve driving behaviour.

Cerealia Unibake is now integrating the results of the survey in their green account and has established a set of demands to be followed by the present and future contractors. These have to report key indicators as described above once a month to the head of logistics at Cerealia Unibake.

The case shows that it is actually possible to document and initiate responsible transport patterns even if a company uses third part logistics.

### **Horsens Kommune (Municipality of Horsens)**

The municipality of Horsens has about 58,000 inhabitants. Through recent years several projects have been carried out focusing on improved cycling conditions, decreased car-use among families with children, green commuter plans and so on. Last year it was decided to establish a comprehensive CO<sub>2</sub>-programme for transport in the municipality over the next three years. Part of the plan is to analyse the municipality in its role as "company". A lot of goods and persons are transported to and from i.e. the City Hall each day.

As a pilot project a survey was done on freight of goods to and from the City Hall, four kindergartens and a home for elderly people. The survey showed that deliverances of office supplies can be reduced just by following existing instructions allowing only two deliverances a week by each company and thereby reduce traffic with vans and lorries in the central part of the city. Further reductions can be achieved by assessing the need for supplies and by increased storage capacity at the City Hall. Deliverances of milk for kindergartens and other institutions can be halved by using the same supplier and so forth.

It is now up to the existing environmental organisation in the municipality, including purchasers, to draw up proposals for new routines and take action on this.

Doing environmental work "at home" as a public partner is a chance to try out new methods and experience the problems that can occur in the process. It also increases credibility and thus makes the public-private partnership easier.

## **5. Conclusions**

The existing network "Green Network" has been an effective platform to work from. By using an existing organisation and in particular the environmental officers it is easy to reach the target group since these officers are in regular contact with companies. Member companies and authorities in Green Network are also used to act in an active partnership on

environmental matters and they have experienced that both parties win by this. Thus the motivation to extend this co-operation to new fields is present.

The challenge in this project has been that it is relatively new to think of transport as an environmental matter in the context of environmental management. Traffic/Logistics and Environment are two separate "worlds" at both companies and authorities and there is not much experience with co-operation between these two worlds. The Green Network consultants have achieved results "by building bridges" and initiating a partnership with a focal point on the environmental impacts usually being surveyed in environmental management schemes (consumption of resources, emissions of greenhouse gasses etc.).

The projects carried out in co-operation with the companies have shown that emissions from transport can be of significant relevance to companies in their environmental accounts and a strong motivation exists for the companies to deal with - at least - those transports they are paying for. It is clear though that there is a bias in this conclusion, since all companies involved in the project have volunteered to participate and it is probably companies with a relatively high amount of transport that have done so.

The means so far pointed out in the cases are simple and of a general nature i.e. "Eco-driving", green purchasing, higher utilization of vehicles and optimisation of routes. On the basis of this a very cautious estimate says that the potential for improving energy efficiency in the transport sector is up to 20% without any major changes in technology.

It is a general experience from the Green Network-association that many companies are motivated to go further than environmental legislation requires, and that they are able and wish to do it by themselves *after achieving support from authorities* during the preparation of their first environmental account. The role of the authorities becomes the role of the "initiator" and later on a contributor to the company's environmental action plan.

So it is possible to establish active and mutually binding partnerships in order to promote responsible mobility. In this case it was useful to have an existing network as platform but if both public and private partners are willing to contribute there seems to be no legal or other barriers to the establishment of new networks of this type throughout Europe.