A new and greener alternative to public transport in Copenhagen


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INTRODUCTION

Traffic is increasing, and within recent years the Danish governments has been focusing more on reducing the traffic in the Copenhagen Region and thereby reducing CO2-emissions from private transport. The Danish parliament passed in to 2009 an agreement called “En grøn trafikpolitik”, here it was determined that reduction in CO2-emissions were to be achieved by getting more motorists to use public transport and thereby reducing the traffic and pollution in Copenhagen. To achieve this requires an efficient and reliable public transport that gives users a high level of service.

Benefits of light rail in public transport

This project examines how the implementation of light rail in Copenhagen and the surrounding municipalities can have a positive effect on travel time spent in the Copenhagen Region. Light rail is primarily powered by electricity, making it possible to operate them with renewable energy rather than fossil fuels, which today is the primary energy source for buses. Studies from the French city of Angers, shows that CO2-emissions from light rail can be brought down to 2.4 grams of CO2 per passengerkilometre, when light rail is powered by renewable energy. For comparison, the busiest bus line in Copenhagen 5A, emits 85 grams of CO2 per passengerkilometre and a Chevrolet Spark, the best selling car in Denmark in 2011, emits 90 grams of CO2 pr. passengerkilometre under the assumption of an occupancy of 1.3 persons per car. These comparisons show that there are significant environmental benefits from the use of light rail over buses and private cars.

To evaluate the effects of light rail in Inner and Outer Copenhagen, several different projects have been studied. These studies are based on route calculations to estimate the changes in the transport patterns with the implementation of different light rail systems. Furthermore, the results of the route calculations are used for economic analysis and to assess the profitability of the light rail projects.

The projected light rail systems all have the same objective of improving the public transport, reducing travel times and move travellers from cars to public transport and thereby reducing the overall CO2-emissions. Results of route calculations and economic analysis will be presented at conference, along with the expected improvements to the environment, globally and as well as locally.

Environmental Impact Associated with Unsolicited Mail

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INTRODUCTION

The project was formulated in collaboration with the campaign “Reklamer Ja Tak” and the purpose of the project is to study how unsolicited mail affects the environment.

A study was conducted based on three environmental myths, in which The Graphic Association of Denmark’s (GA) environmental campaign was based on. The aim is therefore to study the validity of the 3 myths about the environment and unsolicited mail as well as the related claims. Additionally the environmental effect of the electronic alternatives where studied. Furthermore the environmental impact from unsolicited mail and that from the electronic alternatives were compared, in order to assess whether there is an environmental benefit by using the electronic alternatives.

The three aspects discussed in connection with the three myths are:
1. Does paper production cause an environmental burden on the forest?
2. Is there an environmental burden associated with unsolicited mail?
3. The environmental benefits related to the disposal of unsolicited mail.

METHOD

The evidence of the myths where analyzed and compared with other analyzes regarding the unsolicited mail’s impact on environment and climate. The electronic alternative is also analyzed based on current knowledge.

RESULT

It is not sufficient to only account for the extent and development of forestland to conclude whether paper production has a burden on the forests, as this is a complex issue requiring the involvement of many elements. Sustainable forest management includes these elements. However, it has not been possible with the available data to conclude whether Swedish, Finnish or European forests are sustainable. GA changed their climate campaign and replaced “sustainable forestry”, with “well-managed forestry”, this weakens the myth since well-managed forestry only implies that the forest is subjected to a forest management plan. In Europe, 92% of forest area is subjected to forest management plans.

Production of unsolicited mail involves the use of paper, chemicals, energy and transport, therefore a certain amount of environmental impact is anticipated. Based on the two Life Cycle Assessments (LCA) (Pihkola et al., 2010) and (Larsen et al., 2006), it has been possible to assess the extent of the environmental impacts caused by the annual amount of mails a Danish household received in 2010 (55 kg). It is estimated to be in the range of 50-55 mPE and 70-75 kg CO2eq regarding the CO2-emission.

In Denmark, unsolicited mail are used as a resource in both the recycled products and energy production, however, recovered papers in the form of used mail is considered as being of inferior quality due to the amount of ink. 60-70% of the mails are recycled and approximately 28-32% is incinerated. When reused, which can be done up to 7 times, it is possible to produce egg boxes, toilet paper, etc. According to Sanchez and Møller (2011) and Larsen et al. (2010) the benefits of recycling and incineration does not outweigh the environmental burden caused by unsolicited mail. Therefore the production of unsolicited mail is not environmentally beneficial, but involves an environmental impact and consumption of renewable and non-renewable resources.

Deseselecting the unsolicited mail can lead some consumers to seek information elsewhere, such as the Internet. According to Sanchez and Møller (2011), though subjected to some uncertainty, if the unsolicited mails are replaced with electronic mails there is an environmental benefit.

The campaign “Reklamer Ja Tak” has, since the beginning of this project, worked hard towards a change in the current system and this project has provided them with solid arguments for why a change is necessary to reduce the amount of resources and the environmental impact from the unsolicited mail, furthermore the report has concluded that an internet based alternative is the favorite option.

Furthermore the government will now according to the government platform investigate the feasibility of establishing a “Ja tak til reklamer” system.