Experiences on projects promoting sustainable lifestyles in Nordic countries

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Preface

Sustainable Consumption is a focus theme in the Environmental Action Plan 2009–2012 of the Nordic Council of Ministers. As stressed in the Plan, the Nordic countries form a joint market with the same product range and similar patterns of consumption. Hence, the countries can together contribute to developing environmentally adapted production methods and stimulating the interaction between environmentally conscious consumption and an environment oriented product range. Sustainable consumption is also highly prioritised in sustainability strategies and environmental policy in Denmark, Finland, Iceland, Norway and Sweden, and sustainable lifestyles have well been in the agenda of the Nordic co-operation of the Faroe Islands and Åland islands.

This report presents 22 different projects, implemented recently in the Nordic countries, that have promoted sustainable lifestyles. The project was funded and supervised by the “Sustainable Consumption and Production group” (HKP group) of the Nordic Council of Ministers. Group member Ari Nissinen initiated the project idea and guided the project together with the group member Tuija Myllyntaus. The HKP group wishes to acknowledge the consultant Sanna Ahonen for the inspiring and coherent report.

On behalf of the HKP group,
Inger-Grethe England, the chair of the group

Summary

The mitigation of climate change creates huge demands on the lifestyles of individuals. In today's societies, a sustainable lifestyle is not easy to achieve, even with reasonable effort, and there is a need to evaluate the instruments used to promote sustainable lifestyles and human behaviours. There is also a need to create new policy tools and projects that would make a sustainable lifestyle easier to achieve and more desirable.

The aim of this study was to find successful projects promoting sustainable lifestyles in Nordic countries and to analyse how and why they had succeeded. This study also discussed the theories regarding human behaviour and behavioural changes. The framework of the study was anchored to the social science approach and, more specifically, to the model in which behaviour is viewed in light of the different contexts influencing it.

In this study, 22 different project descriptions were used to show the various ways in which a sustainable lifestyle can be promoted. The focal points of the project ranged from sustainable supply and mobility to social learning and cultural change.

The conclusions identified a need for a sustainable infrastructure and new sustainable products and services. Good examples are crucial, as human behaviour is basically a social action. It is also important that sustainable solutions are not considered to be something extraordinary and only practised by a green minority, but as practices that can also be adopted by the mainstream consumer. Cooperation between actors is essential, as well as spreading the lessons learned.

1. Introduction

The mitigation of climate change creates huge demands on the lifestyles of individuals. Many people in Nordic countries are conscious of environmental issues and willing to change their behaviour in order to be ecologically sustainable. Governments are committed to emission reductions and they produce and provide information on the environmental problems as well as direct and indirect policy tools for promoting sustainable lifestyles.

There are many structural changes going on in Nordic societies to increase the possibilities and incentives to behave in more ecologically sustainable ways: spatial planning promotes eco-efficiency in traffic; opening the energy markets increases the supply of green electricity; and environmental and energy taxation changes energy production and consumption behaviour, to mention but a few. There are also many types of projects promoting sustainable lifestyles organised by governments, the EU, non-governmental organizations (NGOs), private companies, and informal groups.

Even though many consumers are more and more socialized to aim for ecologically sustainable lifestyles and there are a variety of policy instruments and projects to promote them, lifestyles in Nordic countries are far from being ecologically sustainable if measured by their ecological or carbon footprint. This is due to the northern location of the countries, which demands a lot of heating energy, but also due to the high living standards, which require high energy and material usage. One can argue that in present societies a sustainable lifestyle is not easy to achieve even with reasonable effort and there is a need to evaluate the situation and the instruments used to promote sustainable lifestyles and human behaviour. There is also need to create new policy tools and projects that make sustainable lifestyle easier to achieve and more desirable.

2. The aim and structure of the report

The aim of this study was to find successful projects promoting sustainable lifestyles and to analyse how and why they succeeded.

The study

1. Offer an overview of the different ways that lifestyle can be influenced and its sustainability promoted.
2. Present particular successful projects, and describe and analyse how and why they have succeeded.

This study also discusses the theories on human behaviour and behavioural changes. As an outcome of the study some success factors and influence mechanism are outlined. The study thus provides information and “lessons” from successful projects for others to utilize.

The structure of the report consists of three main parts: theoretical part, empirical part, and conclusions. The theoretical part provides a framework to understand human behaviour and possibilities to change it (chapter 4). The next two chapters are about different projects. In chapter 5 different projects promoting sustainable lifestyles are described, and chapter 6 concentrates on one lifestyle sector – mobility – by giving an overview of projects promoting sustainable mobility. Altogether 22 projects are introduced in this study. In chapter 7 the focus is on the influence mechanisms and lessons of the projects.

3. Material and methods

The concept “project promoting sustainable lifestyle” is understood in a broad sense as organised action aimed at changing behaviours and lifestyles to more sustainable ones. It can refer to conventional projects organized and administrated by the EU, governmental institutions, municipalities, or NGOs. It also refers to actions organized by informal social groups, commercial enterprises, and research projects, if they include elements that other actors and projects can copy or use to their advantage.

Systematic information retrieval about different projects has not been possible since there are a large variety of projects but not many databases in which to look for them¹. Material for the study, specifically the various successful projects, has been sought from different sources:

- National as well as EU-level project funding databases and official environmental administration Internet pages
- Former studies about projects promoting sustainable lifestyles
- Information retrieval from Internet search engines and social media sites such as Facebook
- Personal contact to experts on sustainable lifestyles. The requests to send information about successful projects has been spread to the members of the Nordic Council of Ministers Working Group for Sustainable Consumption and Production, researchers on sustainable lifestyles, and some environmental NGO members.

In this study promoting “sustainable lifestyle” refers to promoting ecologically sustainable ways to behave. The focus is not so much on economically, culturally, or socially sustainable lifestyles although their sustainability is also important. The aim is not to formulate or characterize a particular sustainable lifestyle, since there is not just one way to be sustainable, but rather a variety of ways to act in a sustainable manner. Thus the study is actually about projects promoting sustainable behaviour or projects influencing different lifestyles to make them more sustainable.

There are no formal criteria for the successfulness of a project since a project can be successful in many ways. The successfulness is clear in projects that have been evaluated and verified as having met their goals. There are many interesting projects that have not been evaluated but it is clear that they do have an influence on behaviour and have the potential to be remarkably successful. While not specifically analysed for this stu-

¹ The time scale for the project has been compact; the project lasted less than six months as a full time job.

dy, their influence was outlined in other ways. The evaluation of the successfulness or outlining of the influences was based on:

- measurable environmental impacts of the project
- estimations of behavioural changes and their theoretical environmental impacts
- estimations of how well the project was able to change attitudes towards sustainable lifestyles
- presumed potential that an innovative and well-designed project can have in the future

The projects chosen for closer study were selected such that, all the Nordic countries were represented in the examples and as a whole, they represented a variety of ways to influence the way people behave. Thus I was not trying to define and find the most successful ones, but rather used purposive sampling in order to create an expedient collection of projects that were successful in a variety of ways. The outcome of this project is an overview of the different projects and an overview of different impact mechanisms used to change the behaviour of people.

4. Framework for changing behaviour

4.1. The sustainability of lifestyle

One way to evaluate the sustainability of lifestyle is to examine the *ecological footprint* of a person or country. Footprint compares human demand with the planet's ecological capacity to regenerate. Ecological footprint is defined as the area of productive land and sea required to sustain one individual, as measured in hectares (ha).

The ecological footprint of Nordic countries is large and these countries are at the top of the list when comparing footprints internationally. While the theoretical sustainable level would be 1.8 ha, in the year 2005, Denmark had a footprint of 8.0 ha; Norway 6.9 ha; Finland 5.2 ha; and Sweden 5.1 ha. There are no available figures for Iceland. The highest ecological footprints were in the United Arab Emirates (9.5 ha) and United States of America (9.4 ha), whereas the lowest was in Malawi (0.5 ha). (Living Planet Report, 2008.)

The sustainability of a lifestyle can also be evaluated by calculating its *carbon footprint*. A carbon footprint is a measure of the impact our activities have on the environment. It reveals the amount of greenhouse gases produced through everyday living from burning fossil fuels for electricity, heating and transportation, as well as indirect energy use related to commodity production, for example.

A Finnish ENVIMAT research project outlined the main contributing elements that make up a typical person's carbon footprint in Finland. These elements are: housing, transportation, food, consumption, leisure time, and travelling (see Figure 1²). Housing proved to be the major factor in *the* footprint, comprising one-third of the total, followed by transportation, food, and consumption.

² Source Ilmari <http://www.ilmasto.org>. Data used from project www.ymparisto.fi/syke/envimat

Figure 1. The carbon footprint of Finns

When reviewing lifestyle from the “footprint” point of view, it is interesting that there are certain key decisions that influence the size of the footprint: where and how a person lives (housing and transportation), how he or she commutes (transportation), and what he or she eats (food). Many issues traditionally considered important in sustainable lifestyle, like waste sorting, shopping habits, and – the classic – the use of plastic bags, seem quite marginal if compared with the practices forming the majority of the carbon footprint like housing and mobility. This is why mobility was chosen to be a special group of projects in this study.

4.2. Understanding human behaviour

A key issue in changing lifestyles to be more sustainable is to understand human behaviour. In economics the consumer has been seen as a *rational* consumer, who maximises his or her utility by exhausting a given budget. Also, in consumer studies, behaviour of the consumer has been explained by concentrating on individual choices of a *rational* consumer. The motives for a rational consumer’s actions can be economic, but can also be attributed to others factors such as positive environmental attitudes. To simplify, human behaviour has been seen to develop or change in the following manner: Consumers are given information about the issue (the ecological impacts of the present lifestyles); their consciousness about the issue rises; their attitudes towards sustainable lifestyles change as they understand the consequences of their behaviour; and finally, their behaviour changes (Figure 2.). This is

called the attitude–behaviour paradigm (Massa and Haverinen 2001) and emphasizes the attitudes of a person as explanatory factors.

Figure 2. Traditional model to understand behavioural change

Two big challenges in this paradigm are the linkages between information and attitudes on one hand, and attitudes and behaviour on the other. Many research projects have concentrated on understanding the gap between them since information alone does not always change attitudes, and positive attitudes towards an issue do not always create the expected behaviour. While the first gap is explained by emotional factors (sensitivity towards the issue), the second is explained mainly by situational factors like available resources, abilities to act, and competing interests.

This paradigm has dominated consumer research for decades. Lately it has been criticized in part because it simplistically considers behaviour to be individual choices and intentional actions. New approaches have emphasized that behaviour is in many ways social by its nature, and that not all actions are intentional and reflected but can be also habitual and unconscious. (Jackson 2005; Shove 2010; Heiskanen et. al 2010)

In social science, behaviour has been seen to be social by its nature since people learn how to behave and perform practices when they are socialised to the society as a child. In order to understand behaviour and the possibilities to change it, one has to understand the cultural meanings it embodies, and that behaviour is not just individual choices but also social practices, culturally shared ways to deal with things. Social practices and commonly adopted behaviours and attitude patterns – like requirementing that a “proper meal” include meat and small children should be driven to their kindergarten or hobbies by car – do not change easily, since they are deeply rooted in the present culture. Also, many people are not willing to change their behaviour if other people do not do so as well, even if there are strong social norms favouring behavioural changes. (Jackson 2005.)

In figure 3. behaviour is presented after adding social and unintentional elements to the model. Intentional behaviour is not solely based on attitudes, but is also influenced by social factors like social pressure as well as emotions and affects. In the figure the behaviour is not considered

to be exclusively intentional but also influenced by past behaviour and culturally shared social practices.

Figure 3. Behaviour as intentional and habitual action

Sociological research has emphasized that behaviour has a strong social dimension and is influenced by the structures of the society. In the following figure (Figure 4, Framework for changing behaviour), behaviour is outlined with the help of different contexts that have influence on how people behave³. Contexts are presented in the first column and are: “Structure”, “Zeitgeist”, “Life world”, “Lifestyle”, and “Personal and situational contexts”.

Figure 4. Framework for changing behaviour

³ Outlining is based on Karl-Werner Brand (1997).

It is possible to understand human behaviour by:

- taking into consideration the possibilities and obstacles that structures provide to consumers (Structural context)
- reflecting on the connections between behaviour and commonly shared norms and trends (“Zeitgeist” context)
- studying behaviour as part of a wider unity of practices shared by a special group (Life world and Lifestyle contexts)
- concentrating on the personal motives and situational factors (Personal and situational context)

In many cases behaviour can be understood best by reflecting on several contexts. In the following section, these contexts will be discussed and some examples will be given. Examples are described in more detail in the chapters 5 and 6.

(1) Structure

Social, cultural, and ecological structures are historically shaped and commonly shared conditions that constitute “the system of provision”. Services like the public transport system provided by the community and institutional possibilities to use renewable energy in the housing sector can be considered as the supply that the structures provide to the consumer. Structures are not just material or institutional entities like infrastructure, but also culturally shared mentalities and specific consumer ethos as well as ecological structures like ecosystem services. A good example of a project influencing lifestyle at the structural level is urban planning in Copenhagen, which has been promoting sustainable city planning since 1947 (Project 10).

(2) “Zeitgeist” (“the spirit of the times”)

“Zeitgeist” refers to the general cultural, intellectual, ethical, spiritual, and/or political climate within a nation. It defines commonly shared norms and what is meaningful and desirable at the moment. Although norms are commonly shared, they are not as steady as structures and are thus more like trends. Nowadays, environmental issues are trendy and so mainstream consumers are interested in them. Sustainable lifestyles can be promoted through popular media (e.g. TV series) and by using celebrities and identifiable role models. A good example of a project influencing people by encouraging normative sustainable behaviour is a TV series where interesting and well known people try to reduce their CO₂ emissions with the help of experts (Project 6). Also employers can facilitate some practices becoming norms if they introduce them to their employees at work.

(3) Life world

There are special settings and outward circumstances that outline the ways in which people live their lives and behave. Different living surroundings (city vs. countryside) and phases of life (childhood, old age) form different life worlds. While structures and zeitgeists are common to all, life world is a group-specific context. There are some sensitive periods or turning points in consumers' lives which are interesting from an environmental perspective since they cause economic, social, or temporal changes in the everyday life setting; for example, when a child is socialized in the community, when a couple have their first child, and when a person retires. Projects focusing on these periods and turning points might reach good ground for fruitful change. A good example of this is an Internet site providing user information for parents using cloth nappies for their children (Project 7).

(4) Lifestyle

Lifestyle is the group-specific way a person lives his or her life. It is a bundle of behaviours and practices that constitutes some kind of unity. A lifestyle typically also reflects an individual's attitudes, values, or worldview. Sustainable elements like waste recycling have begun to be part of "mainstream" or "ordinary" lifestyles and there are a variety of ways to live sub-cultural "green" lifestyles in city or countryside communities. A sub-cultural lifestyle can be a base for new sustainable innovations or practices. Some practices might remain marginal and practiced by just a small group of lifestyle "activists", but some of those practices can also be adopted by a larger audience. Hitchhiking remains a practice carried out by a small, specific group, but car pooling via special companies is also possible for the "mainstream" consumer (Project 20). It is not always clear when a marginal behaviour might actually be adopted by the "ordinary" consumer.

(5) Personal and situational

Besides these commonly shared contexts, there are also personal and life historical issues that influence people's behaviour. The traditional understanding of behaviour focuses on attitudes, motives, resources (time, economic), knowledge about alternatives, impacts of present behaviour, abilities to reflect on behaviour and implement alternative practices, and so on. Changing behaviour requires both positive environmental attitudes as well as information about more sustainable ways to behave. What people need is context-specific information that is customized in a usable form for them. A good example of this is an Internet based route-planning system that provides information about door-to-door routes and time tables (Project 15).

I have emphasized the influence of the structures and social contexts of behaviour. These structures define what kind of alternatives there are

to perform practices and what kind of behaviour is supported by these structures. Even though consumers have freedom to choose how they behave, the society, structures, and culturally shared practices influence what kind of behaviour is desirable, motivated, encouraged, supported, enabled, and accepted by the society and thus is culturally suitable for them.

4.3. Promoting behavioural change

In previous chapters, two different perspectives on human behaviour were introduced: the intentional consumer perspective based on attitude-behavioural paradigm, and the “context of the behaviour” approach based on the idea that structures and different social contexts influence the way people behave. As mentioned earlier, the traditional way to understand human behaviour has concentrated on the intentional behaviour influenced by knowledge and attitudes. In order to change behaviour some influence mechanism is needed, and widely used means have been *information spreading and attitudinal education* (Figure 5.)

Figure 5. Influence mechanism

When the environment emerged as a new topic of discourse, consumers did not know much about the environmental impacts of their behaviour. Informing them about environmental issues, as well as the environmental impacts of then-current behavioural patterns, seemed to be the way to influence their behaviour. Many projects promoting sustainable lifestyle produced information, leaflets, and Internet pages to spread the information and provide attitudinal education.

Nowadays many people living in Nordic countries are willing to behave in a sustainable way. Thus there is demand not so much for general awareness-raising, but for concrete opportunities, possibilities, and “peer shared experiences” on how to behave in a sustainable way. While the traditional influence mechanism was a form of intervention on the knowledge and attitudes of individuals, there are now projects that make sustainable lifestyle choices easier to achieve and more desirable. In this study the focus is more on the latter type of projects.

Tim Jackson, a professor specialized in sustainable consumption, has listed factors required to make behaviour change easier: Policies encouraging incentive structures and institutional rules favour pro-environmental behaviour; enabling access to pro-environmental choices; engaging people in initiatives to help themselves; and exemplifying the desired changes within the government’s own policies and practices (Figure 6.) (Jackson 2005).

Figure 6. Factors for changing behaviour

Changes can be *enabled* by removing barriers, giving information, providing facilities and viable alternatives. Changes can also be enabled by providing skills, education, and training.

Changing behaviour is easier if people are actively *engaged*. This can be done by socialising people to the change by using social networks to promote community action and co-operation as well as co-production. Personal contact and official commitments given by participants are important. Creating a feeling that the participants are proud of what they are doing is an important motivator of action.

The social aspects of behaviour are important also when the favourable behaviour change is promoted by *exemplifying* the new sustainable practices. This can be done by exemplifying the desired changes within the governments’ or municipalities’ own policies and practices, and thus achieving consistency in policies. Also ordinary people with real life

obstacles, opinion leaders and formers, and celebrities can be used as role models or identifiable examples of new practices.

Traditional policy tools like taxes, penalties, and fines, as well as grants and rewards, can be used to *encourage* behavioural change. Social pressure can also encourage changes in behaviour.

In this chapter I have gone through some approaches to human behaviour and change. In the following section some interesting projects will be introduced and described, and their success factors will be highlighted. In the concluding chapter, those success factors will be summarised.

In this study, the aim was to find projects that influenced behaviour, but did not concentrate just on “information spreading” or “attitudinal education”. Critical views towards the attitude-behaviour paradigm have been presented, but this does not imply that attitudes are not regarded as important factors in behaviour, or that “information spreading” or “attitudinal education” are not interesting or relevant. These two perspectives are complementary, not exclusionary, to behaviour and highlight different aspects of it.

5. Projects promoting sustainable lifestyles

In this chapter a variety of different projects will be presented. They have been grouped by different themes: (1) sustainable supply, (2) new modes of information, (3) social learning and (4) cultural change (Table 1).

Sustainable supply <ul style="list-style-type: none">• Empowered gatekeepers (1)• Hammarby Sjöstad - Residential area where the sustainable living is easy (2)
New modes of information <ul style="list-style-type: none">• Climate change on the menu - CO₂-labelled burgers• One-stop shop - Portals for sustainable lifestyle (4)
Social learning <ul style="list-style-type: none">• City dwellers on a public climate diet (5)• Reality TV about lifestyle change- Families competing in Krafttak (6)• Database promoting the use of sustainable nappies (7)• Ilmari- peer-to-peer information in schools (8)
Cultural change <ul style="list-style-type: none">• Projects promoting new sustainable city culture (9)

Table 1. Projects promoting sustainable lifestyles

As mentioned in Chapter 4, people are willing to behave in sustainable way at least when asked about it by opinion polls, but do not always have the opportunities to choose environmentally better commodities or services. The first projects introduced here have increased “sustainable supply” by promoting low CO₂ products and services to consumers. The Peloton project in Finland was aimed to create new business ideas for low CO₂ products and services by empowering the providers to innovate tho-

se themselves (Project 1). A second example of sustainable provision is Hammarby Sjöstad, a residential area in Sweden that provides sustainable solutions for its citizens with their everyday life practices (Project 2).

There are also many projects promoting sustainable practices by providing information for, or support to, sustainable lifestyle choices and decisions. Max Hamburger in Sweden has been providing information about the CO₂ footprint of its products (Project 3). This is done to make customers aware of the impacts of food on climate change.

There are a variety of internet portals making sustainable choices easier by giving information on sustainable lifestyles, commercial enterprises providing sustainable products and services, NGOs, and also mapping these services on virtual maps (Project 4).

There are also various internet-based opportunities to test a person's ecological footprint. These services help consumers examine their consumption and living habits by providing easy-to-use tests and calculators that reveal the sustainability impact of their lifestyle. These new modes of information have been combined with projects based on social learning.

The next group of projects are those based on social learning and peer-to-peer information exchange, as well as comparison. Climate families are voluntary citizens whose journey to a more sustainable lifestyle is aided with the help of the experts, and followed by the local peer group from local media and internet pages. Peers are provided by opportunities to reflect on their own lifestyle decisions and some solutions made in families are based on local possibilities and adjustable to other inhabitants of the municipality also (Project 5).

The same idea about example families, is applied at TV-series where either famous persons and families, or ordinary and thus more identifiable people, are helped to change their lifestyles to a more sustainable direction (Project 6). These "climate families" concepts have utilised footprint calculators similar to those mentioned earlier.

Social learning also takes place in informal social groups that have risen around everyday life issues like the use of cloth nappies (Project 7). These peer-to-peer groups can provide user information, place for exchanging experiences, databases about the products, producers and retailers and a market place for used nappies. The ILMARI-project (Project 8) is a traditional "information spreading and attitudinal education" project aimed at informing schoolchildren about climate change and possibilities to mitigate the effects by changing certain lifestyle habits. Information was disseminated by young adults from different environmental NGOs, and one successful factor was determined to be the peer-to-peer experience the visits provided.

The last group includes projects promoting sustainable city culture (Project 9). These movements promote sustainable lifestyles by finding innovative ways to form and take over city space, promote social interaction and exchange between consumers, and question traditional ways to

consume. In order to make really a difference, a sustainable lifestyle has to be adopted by the majority of citizens, and the solutions have to be culturally acceptable to the “mainstream” consumer. Time will tell whether these movements do have impact on the society and environment, and whether they do spread to larger audiences or remain marginal initiatives.

Projects chosen for this chapter were successful because they were not just aimed at influencing consumers’ attitudes, but because they provided infrastructure, communities, services and target-specific knowledge that enabled sustainable lifestyle choices. Next, these projects will be described in more detail and the success factors will be discussed in chapter 7.

5.1. Sustainable supply

5.1.1. Empowered gatekeepers (1)

In 2009 the think-tank Demos Helsinki launched a three-year project encouraging companies and consumers to develop all-round, everyday energy consciousness. The project was funded by the Finnish Innovation Fund Sitra. Peloton (“fearless”) aims at helping organizations create products, services, and social innovations that lower the energy needs of the Finnish lifestyle.

The project is based on the idea of energy gatekeepers. These are groups that hold the keys to the most significant energy choices people make – living, transportation, and eating. When ordinary consumers make routine consumption decisions, they are dependent on the products and services these gatekeeper groups provide. Peloton aimed to empower these groups to realise their remarkable situation as potential providers of sustainable products and services. The project also aimed to encourage the gatekeepers into developing and offering sustainable solutions. This was done by organising workshops that brought together about 20 representatives from different gatekeeper groups. The first four groups of gatekeepers were lifestyle media, hardware stores, lunchtime restaurants, and parents with small children. The idea was to recruit participants from many big companies and let them implement the new ideas to their co-workers. Using methods of “peer production” the facilitators developed, together the participants, ideas on how to lower the energy usage of their customers and peers, and also how to incorporate this way of thinking into business models.

The project is still ongoing and only a pre-evaluation has been carried out. Still, the project shows a lot of potential, and gatekeepers who had participated in the workshops were pleased and felt empowered to find new

solutions. As a result of the project at least one big lunchtime restaurant chain will launch “climate-friendly” lunch options marked with a special label in 2010. The 20 participants in the lunchtime restaurant workshop are responsible for the daily lunch options of 600 000 people and believe that this would not have happened without the Peloton project.

The mechanisms to influence consumers were designed so that the project was not simply educating or providing information to consumers as traditional projects do, but rather aimed at influencing the structures and the supply that was provided for the consumers (see figure 7). By influencing the structures and energy gatekeepers it is possible to form better supply for the customers, as well as target specific information about these products and services to be used at the moments when consumers make their choices, such as when choosing lunch options from lunchtime restaurant menu.

Figure 7. Influence mechanism of project Peloton

The project also organised a contest for innovative low CO₂ products and services. The contest winner was social travel agency Nopsa, which is promoting local travelling experiences. More information about Nopsa can be found in project description 12 regarding low carbon holidays.

More information

- Peloton Project www.peloton.me/peloton_english.html
- Pre-evaluation of Peloton project (only in Finnish)
<http://www.sitra.fi/julkaisut/Selvityksiä-sarja/Selvityksiä%2018.pdf?download=Lataa+pdf>

By empowering and training energy gatekeepers, the project promoted better supply of “climate-friendly” products and targeted specific infor-

mation about these products and services to be used at the moments when consumers make their choices. The project had an innovative project design and it promoted social learning and peer production.

5.1.2. Hammarby Sjöstad – Residential area where the sustainable living is easy (2)

Hammarby Sjöstad is a new city district in Stockholm located on a former industrial and harbour area beside lake Hammarby Sjö. When planning of the area began in 1996, the overall goal was that the district's environmental impact should be 50% lower than those districts applying technology used in the early 1990s. The project did not quite reach its target, but thanks to an ambitious goal and integrated planning, the project managed to create good practices and was noticed internationally. When the area is fully developed in 2017 there will be over 11,000 apartments for more than 25,000 inhabitants, and a total of about 36,000 people to live and work in the area.

The planning focused on technical solutions that would lower the environmental impact of the residents. Also, options for sustainable lifestyle were taken into consideration in city planning and information services.

The idea was that everybody who lives in Hammarby Sjöstad is a part of an eco-cycle and a special eco-cycle solution called the Hammarby Model was created in order to connect district heating, sewage system, biogas production and waste treatment.

The goal is to create a residential environment based on sustainable resource usage. Energy consumption and waste production are minimized while resource saving, reusing and recycling are maximized. The model handles energy, waste, sewage, and water for both housing and offices. The model has been developed by Fortum, Stockholm Water Company, and the Stockholm Waste Management Administration.

As a practical example of this eco-cycle, the waste generated in the area is utilised as combustible waste to produce both electricity and district heating. Also, the waste heat from the treated wastewater is used for heating the water in the district heating system.

Sustainability was also taken into consideration in regional planning. The idea was to build a “compact city” with good public transportation and a high level of varied local services. Local services provided “urban qualities” and were considered ecologically important since they would reduce car dependency.

Transportation in the area was planned on sustainable mobility. This was promoted by good public transportation connections via a new light rail link “Tvärbanan” and bus traffic. The parking space standards were lowered from the standard 0.5 parking spaces per household to 0.25 per household in order to reduce car ownership in the area (later, this limit was lifted). This lower service standard was compensated with additional

public transport and cycling possibilities by providing options for car pooling with parking lots in essential locations.

Green public spaces were favored by preserving valuable natural features such as hill with oak trees and by forming green corridors.

As part of the program an environmental education centre, Glashuset, was founded in order to promote sustainable lifestyles. It has focused on influencing the behavior of the residents by spreading information on energy use, organizing exhibitions, and functioning as a meeting place for discussions and conversations about the sustainable city. It has also provided an important place for business visitors interested in the Hammarby model.

The project has been studied and the results are as follows:

- The environmental impacts of the residential area are 30-40 percent smaller than a typical town from the 90s
- Water consumption per person is 25% lower than in the rest of Stockholm.
- Private car use is 14 percent lower than in comparable districts in Stockholm
- When the area's location is completed, it will manage to produce half of its energy itself

Hammarby Sjöstad is an attractive and popular residential area with green corridors, nice shorelines and good services that promote sustainable living.

More information:

- Hammarby Sjöstad's internet pages www.hammarbysjostad.se/
- Hammarby Sjöstad – a unique environmental project in Stockholm
http://www.hammarbysjostad.se/inenglish/pdf/HS_miljo_bok_eng_ny.pdf

In Hammarby Sjöstad sustainable living is made possible by technological solutions as well as by providing opportunities for sustainable lifestyle. The comprehensive ecological and land use planning has been successful and the old harbor area has turned into a popular residential area with sustainable image.

5.2. New modes of information

5.2.1. *Climate change on the menu – CO₂-labelled burgers (3)*

Max Hamburgerrestauranger (Max) is a nationwide hamburger restaurant chain in Sweden that began in 1968. It is the second largest hamburger chain in Sweden and had 67 restaurants in 2008.

Max has a long history of working to reduce its environmental impacts and the newest innovations are carbon labelling and carbon compensation. Max was the first restaurant chain in the world to calculate the carbon emissions of the entire product range. This was done with the help of a non-profit organisation specialised in sustainable development, The Natural Step. Calculating the emissions was easier than in lunchtime restaurants with changing menus would have been since the options remain the same from day to day. Max shared the carbon emission information with their customers by clearly labelling carbon emissions for the various products on their menu boards. The purpose of this action was to inspire customers to choose climate smart alternatives on the menu and activate them to reflect on the climate impact of food in general. This is important since customers in hamburger restaurants are not those most deeply committed to environmental issues.

The total carbon footprint for all of the Max locations was estimated to be approximately 27,000 tonnes of carbon dioxide per year. Around 70 per cent of the total emissions are produced by the production of beef. The company compensates their carbon emissions by planting trees in Africa. This translated into approximately 89,000 trees planted each year, equivalent to an area the size of 890 football pitches. Using trees as a carbon offset method, they provided their customers understandable information about what carbon equivalents means in practice.

The company also produced calculations on home cooked meals, and several common Swedish family meals were analysed to provide a base reference for the climatic impact of Max's products. The result was that meals cooked at home produce around the same quantity of carbon emissions as traditional Max hamburger meals.

Besides the climate action the company has made several other environmental achievements:

- All restaurants are powered by 100 percent wind energy
- All new restaurants are equipped with low-energy LED lighting instead of neon lighting
- All company vehicles are environmentally friendly
- Max has opened the world's first bike-in restaurant
- All restaurants recycle cardboard and electric equipment
- Only eco-certified fish is served
- All employees receive training from the Max Environment School

The impacts of the climate actions have been evaluated and results are as follows:

- There was a 15% relative increase in sales of climate smart alternatives from the menu
- Opinions about Max being “very committed about the environment” rose from 3% to 11% (Swedish population) and 5% to 15% (Max customers).
- Max gained a lot of publicity which had high PR-value: A number of awards and prizes were collected, 131 articles were written by journalists, and there were around 80 invitations to give high level speeches at food or sustainability events.
- The market position improved and a food preference survey showed that the amount of consumers considering Max as “first choice in fast food increased from 18% in 2007 to 21% in 2008 (which is higher than McDonalds). (It is not clear whether the climate action is the only reasons for the increase).

More information:

- Max and climate action www.max.se/en/environment.aspx
- Carbon labelling of the entire menu (in Swedish): <http://www.max.se/klimatdeklaration.aspx>

Max hamburger has a “mainstream” target group and product, but is a vanguard in CO₂-labelling. This is a new way to spread information about the carbon emissions of different products. The information is given at the moment when the purchasing decision is made.

5.2.2. One-stop shop-portals for sustainable lifestyle (4)

In every Nordic country there are different portals providing information about sustainable lifestyle. These portals are organised by governmental or municipal organisations, registered NGOs, informal groups, or private companies. One such network is the Icelandic Nature.is portal. Nature.is is an eco-conscious information portal about sustainable lifestyle. It provides information and maps to help find items, services, and places that are all related to nature or the environment in some way. It is a limited company and has both companies and organizations as the stakeholders.

The initiative for Nature.is came from visual artist Guðrún Arndís Tryggvadóttir in 2002. The idea is to “use the World Wide Web as a tool for those who want to learn about the wonders of nature and to make all kinds of environmentally sound solutions visible and more accessible”.

Developing Nature.is has been a long process involving cooperation between many parties throughout its existence. The prototype of the website Grasagudda.is (Nature-Nanny) was launched in the autumn of 2005.

On the Nature-Nanny website the main focus was to assemble information about environmental issues from various sources. Since then the focus has been on establishing a network of contacts and to get cooperating partners and sponsors in order to develop the various components of the website. Nature.is Ltd. was founded in 2006 by 12 shareholders, both individuals and companies wanting to increase environmental awareness and see environmental goals established and met in the business environment as well as in common households. The Nature-Nanny website merged with Nature.is on 2007. The English version of Nature.is was launched in 2008 and it also serves tourists.

Nature.is provides all-round services for the consumers. The main structure is that it provides short articles on issues like kitchen gardening and nourishment, community and mobility, environmental education and cultural events, ecological companies and products, and ecological housing and recycling. The service also provides maps offering geographic information: “Recycle map” about places where used items are collected and “Green map” providing geographic information on green companies, products and services along with natural and cultural sites.

A Green Map is a locally-made internet-based map that uses the universal Green Map® Icons to highlight the social, cultural, and sustainable resources of a particular geographic area. By viewing the map it is possible to get an overview on different sustainable hotspots in Iceland. Green Map® is a registered trademark and service mark of Green Map System, Inc. and is used with permission. Green Map System is a not-for-profit organisation and its mission is to promote sustainability and community participation in the local natural and built environments. Green Map System has been developed collaboratively since 1995, and the movement has spread to over 600 cities, towns and villages in 55 countries.

Nature.is portal also includes Nature’s Market, an online store dealing in fair trade, eco-labelled and other “green” products. Nature.is is funded and sponsored by many governmental, national, and international organisations as well as by companies and advertisement selling. Instead of having several portals concentrating on different sustainable lifestyle issues this all-round internet portal provides practical information about a variety of environmental issues, products and services. With one well organised and resourced portal it is easier to keep the links working and content up-dated than having several portals on specific issues.

More information:

- Nature is –portal www.nature.is/frettir
- Green maps www.greenmap.org/

Eco-conscious information portal Nature.is provide easy “one stop shop” access on information needed for sustainable living in Iceland. It is a

network combining commercial service and product providers and NGO's, and is funded partly by governmental organizations.

5.3. Social learning

5.3.1. *City dwellers on a public climate diet (5)*

In Sweden many cities have worked to mitigate climate change by organising projects where a number of households are helped to change their lifestyle and minimize domestic energy consumption and subsequent carbon emissions, to put it simply, go on a climate diet. Other city dwellers can follow the process and learn from it. The objective of the project was to achieve media coverage in many ways.

Different cities had different projects and different numbers of households involved. In Stockholm's "Konsumera smartare" project, 50 households were involved; in Kalmar's "Klimatpiloterna", 12 households were involved; in Kristianstad's "Klimatbantarna", 11 households were involved; and in Karlstad's "Miljövardag", originally 10 – and then another 100 – households were involved. The aim was to select different types of household so that they represented a cross-section of residents. In this way, every citizen would find a peer with whom they could identify.

The projects had strong educational objectives. It is thought that people nowadays know about carbon emissions from direct energy use, such as electricity, transport, and heating. Indirect energy, on the other hand, is "hidden" in all products and services such as food, clothing and accommodation, and is more difficult to estimate and be conscious of in the middle of everyday life actions.

The participants were sought through advertisements and those chosen for the project promised to inform the project leaders about their progress. The first step with the chosen households was to measure the overall energy consumption of the household. Stockholm's "Konsumera smartare" project used an energy- and CO₂-database developed by The Royal Institute of Technology in Stockholm (KTH) and the Swedish Defence Research Agency (FOI) with the help of Dutch Energy Analysis Programme, EAP. The database consists of more than 230 different products and services giving information how much energy has been used during their lifecycle.

The result of the first measurements was the household's current carbon emission profile. Using that as a starting point, the project facilitators met household members to discuss an appropriate plan of action to reduce emissions. The participants decided themselves what kind of changes in their behaviour they would make. For example, in Kristianstad, households were focusing on one lifestyle theme each month. At the end of the

project another measurement of each household's carbon emission profile was done, and indicated how much the project had lowered energy usage.

In the aforementioned projects, both the families and other residents were helped, activated, and inspired in their process in many ways:

- The projects provided information on what a consumer can do in order to reduce carbon emissions and organised meetings where participants could discuss the issue. In Stockholm, the dialogues with and between the participating families happened in the form of an interactive web-based study circle. Participants had regular contact with the project managers and gained instant feedback on their efforts.
- Projects had special media plans and gained media coverage in local newspapers and radio. The project produced advertisements, reports, articles, newsletters, press releases, seminars, as well as study visits. They also built internet pages providing all-round information on climate diet, and it was possible to get to know the participating households and their carbon emission profiles.
- Projects worked in cooperation with local companies and organizations. Products and services helping the shift to more sustainable lifestyles were introduced and some local companies gave reductions on their "sustainable" products to participants. This raised awareness of the various possibilities and options available to all city dwellers.

Households participating in the project were reported to be successful in their actions. For example, in Stockholm the average reduction in CO₂ emissions was 22% reduction from the first emission profile. Also projects got a lot of good publicity and were followed by large audience.

More information:

- Konsumera smartare:
www.stockholm.se/KlimatMiljo/Klimat/Konsumera-smartare/Info-och-pdf-arkiv/
- Klimatpiloterna: www.klimatpiloterna.se
- Klimatbantarna: [www.kristianstad.se/sv/Kristianstads-kommun/Miljo-klimat/Klimat/Information/ Klimatbantarna/](http://www.kristianstad.se/sv/Kristianstads-kommun/Miljo-klimat/Klimat/Information/Klimatbantarna/)
- Miljövardag: [www.karlstad.se/apps/symfoni/karlstad/karlstad.nsf/\\$all/0F844F45DB884E63C125761F0043E9FC](http://www.karlstad.se/apps/symfoni/karlstad/karlstad.nsf/$all/0F844F45DB884E63C125761F0043E9FC)

The "climate families" projects showed what kind of lifestyle changes people can make in real life in order to lower their carbon emissions. It was exemplifying the desired change and promoted it by using peer-to-peer co-operation and social learning. The project also brought out local level solutions for more sustainable everyday life.

5.3.2. Reality TV about lifestyle change (6)

The entertainment industry is an important factor influencing people's lifestyles, and through television the entertainment community can affect change in environmental awareness. One way to promote sustainable lifestyle for mainstream consumers is to use mainstream media like television, and mainstream TV-formats like reality TV-programs. A good example of this is the Norwegian TV series *Krafttaget* produced for the Norwegian Broadcasting Corporation NRK (Norsk Rikskringkasting) in 2008 and 2010.

Krafttaket (Power roof) was a 6-episode competition between some of Norway's largest cities, Bergen and Trondheim in the first season, and Oslo Vest and Drammen in the second. The competition was about which city managed to cut more CO₂ emissions. The series followed the changes of two families, the local soccer clubs, and the city councils.

A team of experts provided advice on reducing power consumption while maintaining quality of life both at home and at work. The participants were able to change their habits and they became content with their new low-emission lifestyle.

Krafttaket was also a guide for anyone who wanted to reduce their emissions of greenhouse gases, but did not quite know where to begin. The program had internet pages providing practical tips on how to reduce the carbon footprint of various actions as well as a calculator to evaluate the current footprint. It also had useful links for those who wanted to know more about a particular issue.

In Finland a similar program was on air in 2010 and the households chosen included well-known media-personalities.

More information

- <http://www.krafttaket.no/>
- <http://teema.yle.fi/ohjelmat/juttuarkisto/ilmastodieetit>

The entertainment industry is an important factor influencing people's lifestyles, and through television the entertainment community can affect change in environmental awareness.

Consumers can identify with the featured households, the changes and challenges related to greater environmental awareness, and be tempted to emulate similar changes in their own lifestyles. The potential influence is based on social learning and role models example.

5.3.3. Database promoting the use of sustainable nappies (7)

Kestovaippainfo ("cloth nappies info"), an information portal about cloth nappies, represent a new user-based information channel. It is organised and maintained by a group of private cloth diaper users in Finland and the

work is mainly on a volunteer basis. The service is funded by selling advertisements on the pages.

The aim of the project was to spread information about the environmental impact of disposable nappies and about the more sustainable alternative, cloth nappies. Target groups are parents planning to test cloth diapers and parents wanting to have more information on diapers or having problems in using them.

One baby use approximately 5000 nappies during the period nappies are used (approximately 30 months) and that makes approximately 1,500 kg waste. Washable cloth nappies do also have environmental impacts, mainly in the manufacturing and washing of them, but still they are the more sustainable alternative.

In Finland all new parents are given some cloth nappies as part of a “maternity package”, a box full of clothes and other useful material and equipment for the newborn baby. It is provided by the KELA, The Social Insurance Institution of Finland and is free for everybody. Since 2006 the package has included some cloth nappies. A survey done in 2008 has revealed that even though the number of families using mainly or always cloth nappies is only 7%, the number of families who had never used them decreased from 88% in 2004, to 70% in 2006, and to 64% in 2008. This means that 36% of families have at least tried them. Cloth nappies do divide opinions since they were considered a remarkably useful part of the package by 25% of the respondents and remarkably useless by 30% of the respondents.

The user-base of Kestovaippainfo is quite large. There are 5500 registered users and 290 000 page views a week. Even though the use of cloth nappies is not very common, there are many people interested in testing them. Besides providing information, Kestovaippainfo can also provide social support. Since so many people do find them useless, testers can find prejudices and other social challenges when using them.

The portal provides very practical and clear knowledge for those who want to test cloth nappies.

The portal provides:

- Information about why and how to use cloth nappies
- Databases of cloth nappies (1115 items), detergents suitable for different diapers (75 items), and Finnish retailers (215 items).
Databases also include user evaluations; users can score the nappies they have tested and give written evaluations on them.
- Discussion areas for parents using cloth diapers. The topics vary from difficulties in finding a suitable nappy to social challenges and prejudices met when using cloth nappies.
- Do-it-yourself instructions for sewers and weavers.
- Market place for used nappies.

Kestovaippainfo provides all-round user knowledge to the cloth nappies users and testers. Since many of its functions are based on the active users and the user knowledge given by them, it is kind of social community providing peer-to-peer knowledge and exchange of experiences. Peer-to-peer experience exchange focus on those issues for which it is difficult to get information through “official” sites and other information sources.

More information:

- Kestovaippainfo www.kestovaippainfo.fi (only in Finnish)

An informal internet portal on one specific topic can grow into a remarkable source of information including user knowledge and evaluation on the products. A site can focus on those issues for which it is difficult to get information through “official” sites and other information sources. It is based on social learning and distributes peer-to-peer experiences and support.

5.3.4. Ilmari-peer-to-peer information in schools (8)

Ilmari, a climate change and energy information project, aimed to enlighten primary and secondary school pupils and teachers both about climate change as well as their own role as consumers to influence it. The project had activated young people to reflect on the issue and supported pupils in their school projects.

Ilmari was started in 2002 as a demand-oriented project, as many schools were asking members of various environmental NGOS to visit their schools. On the other hand, there was a definite limit for providing such visits, due to the high number of (potentially) interested schools. In addition, schools did not have financial resources to pay for the school visits. The content of this project, climate change, was not discussed in the school curriculum widely and if it was mentioned it was merely a natural science issue. There was a need for knowledge on the means of how individuals and pupils can act against climate change through their own choices and actions.

At the same time different environment and youth organizations had overlapping aims to collect and spread information about climate change to different schools, but none of them had enough resources to do it themselves. The Ilmari program was launched as a joint program by three environmental NGOs, Dodo ry., WWF Finland, the Nature League, and one youth organization, the Youth Academy. When the project had lasted five years, and resulted in over 800 school visits throughout Finland. The project trained two hundred volunteer climate envoys, and 30 000 students have been educated. Besides being massive by its volume, the project applied new teaching methods. The NGO members had strong belief

that a behavioural change could best be achieved by face-to-face contacts and communication.

The core activity in the program was the climate change envoys. They were recruited from the organizations involved and they were given a one-day education about the content as well as about how to present the issue in the schools. The envoys were quite young themselves, aged between 20–30 years, since the organizations involved were youth organizations and because the organisations were looking for young envoys to give peer-to-peer influence campaigning to the pupils.

The program both provided information and promoted empowerment of the pupils to realize how their individual and collective actions and choices have influence on climate change. Over the years the emphasis has focused on empowerment strategies, since the general consciousness of climate change has steadily increased and school books are better updated on the issue.

The program established web pages providing services and information. PowerPoint presentations about climate change could be downloaded in three languages⁴, and a computer-based role game on climate change negotiations was freely downloadable from the web page. The program also produced a radio play to be used as a “morning opening” broadcast at primary schools. The program also offered assistance for climate change-related school projects – such as writing a letter to a minister, or writing and playing a theatrical piece. A guide book for such activities was made available on the web pages. These resources were used frequently. The game has been played more than 17 000 times as of 2010. The radio play was downloaded from the Ilmari web pages more than 2000 times a month.

At the beginning of the project there were some marketing activities targeted to schools, but the project gained so much publicity that it was not necessary anymore.

The project collected feedback from the school visits in several ways. The Youth Academy sent annual questionnaires to teachers involved in the project. All school envoys are also asked to write down their impressions of the visits in one or two phrases. An evaluation report was also done wherein pupils were asked about their opinions.

The project was funded by Finnish Climate Change Communications Programme for a one-year period since the program was designed to give “seed” funding for projects that would become self-sustaining thereafter. However the program gained funding for several years since it was so successful. New forms of funding, including business co-operation, are currently under investigation.

An project evaluation as part of the larger Finnish Climate Change Communications Programme was conducted and it found that Ilmari was a successful project because it provided:

⁴ Figure 1 “The carbon footprint of Finns” is from Ilmari-project.

- information on how individuals influence climate change and what can be done in everyday life
- face-to-face communication on multiple levels
- peer-to-peer influencing
- Solutions, rather than problem-oriented information, about severe environmental and societal issues
- Well prepared information and other services for schools to use in their own projects.

The project has been awarded several prizes such as WWF Finland's "Panda" prize in 2005, and national Energy Globe award in 2006.

More information:

- Mikko Rask: Case Study 5 Ilmari, a climate change and energy information programme for schools
- <http://www.energychange.info/casestudies/159-case-study-5-ilmari>

In Ilmari-project climate envoys gave solution-oriented information about climate change and encouraged their peers to change their lifestyle to a more sustainable direction. Co-operation between environmental and youth organizations brought together expertise from different fields of know-how.

5.4. Cultural change

5.4.1. Projects promoting new sustainable city culture (9)

Sustainable lifestyles require societal support as well as cultural changes which are perceived in commonly shared habits and social practices. There are different movements or NGO projects promoting new sustainable city cultures that aim at changing the present city culture, urban planning, and the use of city space. Four international campaigns that have been applied in Nordic countries are introduced in the following section.

- Carrotmob
- Guerrilla gardening
- Transition city
- Community Exchange System

Carrotmob is a type of consumer activism, and can be thought of as the opposite of a boycott. In carrotmob, a network of consumers make businesses compete on how socially responsible they can be, and the network supports the business that has made the strongest offer through their

products or services. The movement was originally founded in the USA and has spread over to Nordic countries, notably Sweden and Finland.

A typical Carrotmob event is about making a store or restaurant more energy efficient. The store that upgrades its energy efficiency the most will gain carrotmobbers as customers.

Guerrilla gardening is gardening on another person's land without permission. It encompasses a very diverse range of people and motivations. The land that is guerrilla gardened is usually abandoned or neglected by its legal owner and the guerrilla gardeners take it over ("squat") to grow plants. This tactic has been applied in Finland and Sweden, and the motives have generally focused on beautification of public space and the growing of food.

More information:

- Tillväxt in Sweden: www.tillvaxt.org/
- Sissiviljely in Finland: <http://kaupunkiviljely.fi/tag/sissiviljely/>

Transition town is about communities working for themselves to find the best way to minimize their impact on the environment and to reduce their future dependence on fossil fuels to meet their everyday needs and sustain their quality of life.

The Transition Network's mission is to inspire, inform, support, and train communities as they consider, adopt, and implement transition initiatives. These initiatives can be about mobility, food, gardening, as well as informative seminars and workshops. A Transition Initiative is a community-led response to the pressures of climate change, fossil fuel depletion, and increasingly, economic contraction. The movement has reached Nordic countries and all but Iceland have their own national movements.

More information:

- <http://www.transitionnetwork.org>
- Denmark: Omstilling Danmark
- <http://transitiondenmark.ning.com/group/omstillingfrederiksberg>
- Finland: Siirtymäliike
- <http://siirtymaliike.org>
- Norway: Bærekraftige liv på Landås
- www.barekraftigeliv.no/forside
- Sweden: Omställning Alingsås
- www.transitionsweden.se

The Community Exchange System (CES) is a community-based exchange system that provides the means for its users to exchange their goods and services, both locally and remotely. The CES has no physical currency; for example, in Finnish Stadin Aikapankki (Stadi's time bank <http://stadinaikapankki.wordpress.com>), services are exchanged among members

on the basis of Time credits. One hour of whichever service performed is remunerated with the currency of Stadin Aikapankki, one tovi. The Timebank operates on a fully online system. Stadin Aikapankki is locally rooted but globally interconnected in a network of community currencies. Examples of services traded are childcare, garden work assistance, baking, language lessons, handicraft lessons and assistance in the solving of problems. There are also Community Exchange Systems in Sweden.

More information:

- www.ces.org.za

There are numerous other movements with similar community or city-based focuses, such as:

- Critical mass: a monthly bicycle ride to celebrate cycling and to assert cyclists' right to the road
- Buy Nothing Day, (also No Shop Day): a day once a year when consumers are advised not to buy anything
- Netcycler: a Finnish swap and give-away service for acquiring secondhand goods. www.netcycler.fi/
- Kuinoma ("almost like my own"): a Finnish service helping people to borrow items for others www.kuinoma.fi/

This is a very brief introduction to different projects, movements, campaigns and services promoting sustainable lifestyles at the local level. Many of them are international and experiences on good practices and ideas are spread via the Internet.

Local initiatives and global movements make sustainable lifestyles more desirable and easier to achieve. Together they can promote a new kind of sustainable city culture based on social interaction.

6. Projects promoting sustainable mobility

As this report stated in its framework chapter (chapter 4), roughly one-fourth of a person's environmental impact is related to mobility, specifically transport and travelling. Measured journeys include commuting and other everyday life mobility, as well as holiday and other recreational travelling. Journeys that are compulsory due to work tasks are not included in these measurements since these decisions are beyond the person's individual authority. It is possible for a person to influence these other trips by choosing certain modes of travel and place of residence or holiday destination. This part of the study presents projects promoting sustainable lifestyles by focusing on mobility.

There are various ways to promote the sustainable mobility: (1) reducing the need to travel, (2) choosing more environmentally sound modes of travel, and (3) reducing the environmental impacts of travelling within a particular mode (Table 2). The following section will introduce and describe several sustainable mobility projects throughout the Nordic countries.

Travelling needs

- Journey reductions
- Reductions in distance travelled

- City planning in Copenhagen (10)
- Ecomanaged teleworking (11)
- Low-carbon holidays (12)

Transportation mode

- Mode choices
- Shared lifts and cars

- Mobility management in Lundby (13)
- Public transport and land use planning in Kristiansand (14)
- Internet based tools for public transport route planning (15)
- Free public transport system (16)
- Test commuters (17)
- Bicycling, healthy and environmentally friendly (18)
- 'All Kids Are Cycling' in Denmark (19)
- Make the most of one car -Car and lift sharing (20)

Environmental impact

- Technical solutions (low-emission cars)
- Compensating emissions

- Electric Cars - Now! (21)
- Compensating Flight Emissions (22)

Table 2. Ways to promote sustainable mobility.

Need to travel

Firstly, it is possible to influence people's need to travel, not only their mode of travel, in order to reduce environmental impact. That is, if people were to make fewer and shorter trips, they would cause less environmental impact. This can be promoted by land-use policy and infrastructural planning. By placing the housing production close to existing public transport system and services, city officials can promote sustainable mobility by reducing the need to travel (Project 10). Commuting can be replaced in some cases with teleworking. People can either work from home offices or use special teleworking offices that are closer to their homes than the actual workplace. In some cases, people can use information and communication technology (ICT) for teleworking and replace in-person meetings with video conferences (Project 11).

Holiday and long-distance travel form a large portion of the environmental impact of mobility, especially if flight travel is required. The amount of aviation kilometres has increased and some travel agencies have paid attention to the environmental impacts of the concept. There are alternatives to long-distance travelling, namely domestic and nearby tourism, and plenty of projects promoting them as a line of business. There are also initiatives emphasizing the ecological and cultural sustainability options for travelling, especially local tourism (Project 12).

The choice of transportation mode

Most of the projects promoting sustainable mobility aim at changing the transportation modes to more sustainable ones like public transport or cycling. Mobility Management is a concept to promote sustainable transport and manage the demand for car use by changing travellers' attitudes and behaviour. This can be done by full-service agencies spreading information and also providing possibilities to choose a suitable and sustainable alternative to private car use (Project 13).

Many projects concentrate on one mode of mobility. Public transport, especially bus travel, can be promoted in many ways; for example, by providing shelters and seating at bus stops, real-time schedule information boards at bus stops, easy access to buses, bicycle parks next to major connection stops, tidy and unbroken equipment, reasonable ticket prices, increasing the bus routes and frequency, announcing the next stop on a screen on the bus, and providing good information about the schedules to the citizens and especially to the newly moved ones and to those who have recently changed their jobs. Sustainable modes can also be favoured by using economic policy instruments like road tolls, congestion taxes, and taxes on motor vehicles. In Kristiansand, Norway, the public transport system was developed alongside the urban planning project (Project 14). ICT has created new opportunities for public transport route planning as the various public transport schedules can be found in one service (Project 15). This is especially helpful in planning a longer route where there are no direct or straight connections, and promotes the shift to a more sustainable mode of transport. Innovative experiments like providing free public transport can also influence mobility options and promote greater sustainability (Project 16).

When creating new public transport services or developing the existing infrastructure, it is important to engage and solicit feedback from users. "Test commuters" are provided with free public transport tickets, and in return they provide information on their experiences to those planning the public transport systems (Project 17). This information can be integrated into official planning initiatives in order to better address the needs of current and potential users.

Promoting bicycles as a sustainable transportation option requires identifying the advantages of their use, the potential benefits to both cur-

rent and non-users, and removing obstacles that could limit or hinder their adoption as a viable mobility alternative (Project 18). Promoting cycling depends on the availability of the necessary support infrastructure, such as places to park bicycles safely, dedicated bike lanes and traffic laws protecting cyclists. Beyond simply providing the necessary infrastructure to support cycling, it is possible to promote a distinct “bicycle culture” in order to better ensure wide-spread adoption and acceptance of this sustainable transportation mode (Project 19).

The use of passenger cars can be environmentally effective by sharing the car or the lift. Car sharing and pooling are ways to lift the utilization rate of a car manufactured or journey travelled (Project 20).

Environmental consequences

Apart from limiting or replacing the use of traditional transportation modes, there are a number of ways in which their environmental impact can be reduced while still being utilized. Vehicles can save energy by adopting environmentally effective driving style or use other than fossil fuel such as bio-ethanol or electricity. For example, the Electric Cars Now! – project in an open-source community initiative that aims to develop conversion kits to transform traditional gasoline cars into electric vehicles (Project 21). The last example is about calculating and compensating flight emissions (Project 22).

There are many ways to reduce the environmental impacts mobility have. Usually projects concentrate on the transportation mode and aim at increase cycling and the use of public transportation. In this study the projects have been chosen so that they reflect the **variety of ways** to influence mobility. Next, these projects will be described in more detail and the success factors will be discussed in chapter 7.

6.1. Need to travel

6.1.1. City planning in Copenhagen (10)

Copenhagen is famous for its urban planning concept which has promoted sustainable lifestyles and sustainable modes of mobility. The Finger Plan for Greater Copenhagen was introduced in 1947 when a group of town planners realized that Greater Copenhagen was beginning to spread uncontrollably. Greater Copenhagen is a vast area consisting of 34 municipalities. The spreading of the area created difficulties for the public transport system, which was in danger of reaching its capacity. It was necessary to control the urban growth and develop a citywide network of railways and arterial roads. The idea of the plan was to concentrate the urban development of Greater Copenhagen in the urban “fingers” created around the railway network. At the same time, the green wedges between

the fingers would remain undeveloped. Greater Copenhagen resembles a hand where the city of Copenhagen covers the palm and five larger cities and their railway routes represent the fingers. Since 1947 the Finger plan has been the main guiding principle of city planning in Copenhagen.

In 1989 the planners for Greater Copenhagen implemented a “Close to Station” structure, where the areas for additional building developments were limited to within one kilometre from a railway station. Building would thus be concentrated closely around the 25 large railway stations in Greater Copenhagen. The aim was to favour public transport at the expense of private car use. This “Close to station” structure of city planning allowed for sustainable lifestyles and minimized environmental impact since transportation and developments were concentrated in conveniently accessible areas. People moving to area might even not notice how much the city planning structure provides them opportunities for sustainable lifestyle.

In 2007 the Danish Ministry of the Environment created Finger Plan 2007, where this proven concept was written into national law and had judicial binding over Greater Copenhagen and its planning initiatives. The impacts of this “Close to Station” principle were estimated in an environmental report on Finger Plan 2007. It was calculated that it was possible to save up to 100,000 tons of CO₂ per year in the coming 30 years, or 2,000,000 kilometres driven per day. The 100,000 ton CO₂ reduction is only a small part of the potential of the Finger Plan, because they have only included future growth in the calculation and not all expansion since 1947.

More information:

- City planning as a tool to reduce the CO₂ in Greater Copenhagen.
http://www.mim.dk/eng/COP15/Environmental_planning/

The “Finger Plan” and “Close to the Station” structure reduced the need for travel and promoted sustainable lifestyles without requiring direct, intrusive action by the citizens of Copenhagen. These planning concepts can be used as good examples when discussing city structure and urban planning options in other cities.

6.1.2. Ecomanaged teleworking (11)

Telework (also called telecommuting, e-commuting, e-work, and working from home) is a work arrangement in which the daily commute to a central place of work is replaced by telecommunication links. It has several advantages such as employees’ ability to enjoy flexibility in working location and hours, environmental benefits like lower CO₂ emissions from reduced travel, and advantages for traffic flow like reduction of congestions and accidents. There is currently also a wide range of ICT tools available that allow people to organise “virtual meetings”. The po-

tential benefits of teleworking have been estimated in a Finnish research project “Ecomanaged Teleworking” organised by VTT Technical Research Centre of Finland. The aim of the project was to provide information and good practices for implementing teleworking.

The project collected examples of teleworking initiatives that could serve as guidelines for organizations interested in both the planning and practical applications of teleworking. For example, such initiatives included a model for a teleworking contract between employer and employee.

The potential benefits of teleworking were estimated as follows:

Table 3. The potential benefits of teleworking

The potential reduction of emissions (measured in tons/year) through teleworking per year (200,000 tele- workers on one day/week)		The potential yearly savings gained from teleworking (200,000 teleworkers on one day/week)	
Emission reductions	tons/year	Type of savings	Amount of savings
Carbon monoxide (CO)	1300	The number of commuting round trips	8.8 million
Hydrocarbons (HC)	190	The time used for commuting	6 million hours
Oxides of nitrogen (NOx)	360	Commuting mileage	170 million kilometers
Particles	12	Driving expenses/socio-economy	24 million €
Carbon dioxide (CO ₂)	29,500	Driving expenses/private households	50 million €
		Accident expenses	3.4 million €
		Emission costs	1.7 million €
		Infrastructure expenses	Postponement of investment decisions

Teleworking, however, does not fully eliminate the need for transportation; employees may still be required to travel for everyday activities like shopping or appointments that would have been done while commuting to or from work. And naturally teleworking is not an option for every occupation. Still, teleworking does reduce needless travel for those who are able to work at home.

In Sweden there have been many projects promoting “teleworking by substituting business travel by virtual meetings, which is more a work-life issue than a matter of lifestyle choice. Naturally an employee can also take the initiative on the issue and promote virtual meetings and sustainable working habits at the workplace. A project concentrating solely but very wholeheartedly on virtual meetings, Resfri, provides information on the technical solutions and concrete experiences.

Teleworking is not yet a well know practice, its environmental impacts are not clear, and there are some administrative challenges when applying it (e.g. working time control). Still, it has the potential to be a beneficial initiative and support a low impact sustainability lifestyle.

More information:

- Report on the project Ecomanaged Teleworking, only available in Finnish <http://www.ymparisto.fi/default.asp?contentid=310679> (Heinonen et. al 2004).
- Information on the calculation model: Sirkka Heinonen: Analysis of the Finnish Telework Potential – Calculation model. <http://www.mol.fi/esf/ennakointi/raportit/telework.pdf>
- Project ResFri: <http://www.vv.se/Startsida-foretag/Trafiken/Transporter-och-resor/Hallbart-resande/Vad-ar-resfria-moten/Vagverkets-projekt-resfri/>

Teleworking is not yet a well know practice, but do have potential to support sustainable lifestyle. Practical guidelines and good examples about new innovation help to adopt them.

6.1.3. Low-carbon holidays (12)

There is a need for services providing low carbon holidays. Air travel vacations are increasing since they provide different benefits such as luxury, exoticism, excitement, and alternation from the everyday life. However aviation results in high CO₂ emissions, and heavy travelling can increase a person's CO₂ footprint so much that it is not possible to compensate for it by low-carbon practices in other lifestyle sectors. There are alternatives to air travel vacations and car-dependent recreational trips, such as domestic and local tourism. There are some projects promoting low-carbon holidays that specifically promote sustainability. There are also projects and services promoting the ethical aspects of sustainability with regards to travel and accommodation in the destination country.

The need for low-carbon holiday services is clear, but there are not a wide range of options available at this time. Projects found for this study tend to offer “local luxury” and agrarian experiences.

ECEAT

The European Centre for Ecological and Agricultural Tourism offers information about domestic bed-and-breakfast services that provide nature and agricultural experiences. It promotes downshifting exoticism or agricultural experiences using the “learning by doing” method. Finland and Sweden are members of ECEAT and have national websites which present resorts available.

Internet pages: <http://www.eceat.org/>

Nopsa

Nopsa is a Finnish non-profit social travel agency. It promotes local travel experiences by creating innovative packages customized to the needs of the customer. The aim is to highlight “local luxury” and provide

ecological, humane, and aesthetic small scale services. It is newly founded and not yet fully functioning. Nopsa won the contest looking for low-carbon products or services organised by the Peloton campaign (see Project 1).

Internet pages: <http://www.nopsatravels.com>

Ecotourism

The International Ecotourism Society (TIES) is a non-profit organization promoting responsible tourism practices that benefit conservation and communities. The aim is very different from those of the previous examples, since this organization does not aim at reducing travel distances but informs that “TIES wants you to travel more”. It encourages people to choose eco-destinations and act in sustainable ways in the destination countries.

Internet pages: <http://www.ecotourism.org>

There is not yet a large number of success stories in this area, but this is a much needed service sector for people who look for more sustainable ways to behave, but who value the experiences provided by traditional “aviation-vacations”.

6.2. Transportation mode

6.2.1. Mobility management in Lundby (13)

The Lundby district in Gothenburg is a former inner-city harbour currently undergoing a large redevelopment. The number of people working and living in Lundby is estimated to reach 50,000 by the year 2022, twice the amount in 2000. The area was found to be good testing ground for sustainable transport solutions. The “Vision Lundby” project started in 2000 by the Traffic and Public Transport Authority and run by seven permanent workers. The project was funded by Gothenburg city, Vägverket (Traffic Committee) and the EU, and collaborated with the District Administration of Lundby, the City Planning Authority, Västtrafik (Regional Public Transport Authority), Norra Älvstranden Utveckling AB and the Swedish National Road Administration.

The aim of the project was to develop and test methods aimed at influencing residents’ and businesses’ active travel and transport choices, and fulfil all mobility needs with appropriate sustainable means. The objective was to draw attention to the choices available and to develop and test transportation alternatives, in order to help travellers to be proactive in their modal choice. The project identified the various options and their respective factors of time, money, environmental impact, and health.

The Lundby Mobility Centre was created and organised several events. The idea was that car-dependency cannot be replaced by just one

mobility mode, but rather a variety of sustainable mobility modes are required to address diverse mobility needs. The main tactic was information dissemination, specifically regarding the wide range of transportation and mobility options available, with a strong emphasis on user friendliness. This project was actively aimed at influencing and changing behaviour, and not just attitudes to travel.

The Mobility Centre operated from 2000 to 2007, at which point the Traffic and Public Transport Authority continued its work. The project was a pilot and the results were evaluated in many ways.

Examples of the special events Lundby Mobility Centre organised and some impacts of the project:

- Cycling course for immigrant women who were not familiar with cycling.
- Promotion of car sharing with collaboration with a private car sharing company.
- A “Lundby card” experiment, where the card worked as an ordinary public transport card, but also gave discounts for extra services like car sharing and taxi services. The idea was that it would be easier to give up private car use if people were made aware of complementary, and more advantageous, systems.
- “Scrap your old car” campaign: Those giving up their old, high-emission cars were given an annual travel card for the Gothenburg public transport system or one year’s membership in a car sharing scheme. Out of the 100 people who gave up their cars, 28 bought a similar old car, but the campaign was nonetheless considered successful since the remaining 72 either switched to a new, “cleaner” car, or changed their travel mode to bicycle or public transport.
- Mobility coaching: While previous campaigns had aimed to change the attitudes towards travelling, this campaign was actively aimed at changing behaviour. Lundby’s 12,000 car owners were offered coaching for sustainable mobility. 64 people agreed to leave their car home at least three times a week. 20 people received individual coaching, while the remaining 44 were trained as a group. All participants were given a pedometer and a trial travel card for public transport. The participants started to walk more and car journeys to and from work decreased from 62% to 27%. Many of the participants also initiated a discussion at their workplace about different ways of travelling and different routes, and encouraged others to find alternative modes of transport.
- Cycling for health project: 10 habitual drivers experimented with commuting by bicycle at least three times a week. They also received health and fitness tests. This project was similar to Bike busters (see project description 18).

- Cycling catalysts: five companies designated cycling catalysts who acted as intermediaries, providing staff with bike-related information and reporting back the views of the employees to the Lundby Mobility Centre. During two joint cycling days the companies' employees, a total of around 200 people, were offered the opportunity to have their bikes repaired, something which attracted a lot of interest in the activity. A number of companies participating in the scheme have implemented various measures to encourage staff to bring their bike to work. The measures range from new, secure, weatherproof bike shelters to changing rooms equipped with showers. The network meetings have been discontinued but the workplaces are continuing with the scheme.

More information:

- http://www.visionlundby.goteborg.se/english/pdf-english/2008_eng_slutrapport.pdf

Car-dependency cannot be replaced with just one mobility mode, but rather a variety of sustainable options. Lundby Mobility Centre provided these options and included information dissemination, small-scale experiments and tactics, and community-based events. It was based on co-operation and networking with different actors.

6.2.2. Public transport and land use planning in Kristiansand (14)

The public transport system in Kristiansand, Norway, was developed alongside the urban planning project. The region has population of 120 000, and is considered a medium-sized city. Being the main centre of this region, Kristiansand is an important living, working, and service centre. The county needed integrated land use and transport policy in order to reduce sprawl around conurbations, reduce travel needs, and facilitate access to public transport.

The Area and Transport Planning (ATP) program was organized by six municipalities and two counties. The aim of the project was to meet the transport challenges of the region and to integrate environmental considerations and transport services in a more efficient and sustainable manner. The project was organized as two projects, the transport project and the land use project, but they were directed by one political committee. While separate administrative sectors were responsible for the various planning activities, a new policy instrument was needed to combine their efforts. Even though ATP was not a permanent institution, it had the character of a regional governance model. The program was a pilot scheme originally planned to run from 2004 to 2007, but was extended by further two years. The program is still ongoing, and recently the ATP launched a comprehensive land use plan for the region.

The program designed and financed several new bus lines, strengthened existing lines by establishing express routes, and increased “metro busses” that operate as frequently as metros. The project used mainly positive measures such as increased public transport service availability, but also included certain restrictive measures such as road tolls.

The program managed to influence the Road Administration’s investment activities so that “soft parts” such as pedestrian and bicycle lanes were implemented before “hard parts” such as road investments.

However, some of the goals were not reached since many plans and decisions had been made before the project and proved difficult to alter quickly. The project failed to reduce the traffic growth which was one key goal. There were already many land use plans designed before the program started, such as a large shopping centre and trunk road investments. It might be too early to fully evaluate the concrete impacts of the program since the time span in traffic and land use policy is long.

The project established a new arena for regional coordination and co-operation, and created trust between the partners. The project leaders were described as competent and dedicated to the programme goals. The role of the project leaders was crucial to the success of the project, especially as the project required building consensus and networks between different institutions and stakeholders.

More information:

- Kristiansand bremsar biltrafikken
<http://www.regjeringen.no/nb/sub/framtidensbyer/byer/kristiansand/kristiansand-bremser-biltrafikken.html?id=548190>

The ATP project was a regional governance model that build dialog between the different administrative organizations, integrated land use and transport planning, and managed to change the focus of the Road Administration’s investments.

6.2.3. Internet based tools for public transport route planning (15)

One obstacle for using public transport has been the difficulty in getting information about different routes and schedules, especially if the trip requires changes in vehicles, traffic companies, and transportation modes, and if it crossed the county or country borders. The Journey Planner is a website offering integrated public transport schedules to the general public.

This access has been enabled by the various transportation providers opening their databases for consolidated public use. For example, organisations providing transport services produce timetables and other critical transportation-based information. The data can be linked and combined on websites and transportation portals, effectively creating new informa-

tion sources and service provisions that would be impossible using traditional paper-based media.

With route planning software, it is easy to obtain an overview of available routes, vehicle change possibilities, and optimal planning options. For example, the Journey Planner for Cycling in Finland allows the user to search for cycling and walking routes, either by selecting the departure and destination points on a map, or by entering street addresses. Where possible, the suggested route will follow pedestrian and cycle paths. One can also search for the shortest possible route or for routes that favour asphalt or gravelled paths.

The Helsinki Metropolitan Area Council launched a door-to-door Internet journey planner in November 2001. The system provides door-to-door itinerary planning, as well as timetable and route information for the whole public transport system in the area. The idea was to make a rather complex transport system more easily accessible; by combining information from various sources to provide an optimal itinerary, designed specifically for individual needs and preferences.

According to a phone interview study, 28% of citizens over 14 years old in the Helsinki Metropolitan Region have used the service at least once. Use of the service has been constantly growing since its inception. The number of main page access requests is 12 000 per day on average, and total number of accessed pages over 100 000 each weekday.

An Internet survey for users revealed that trip decisions have become better informed and travelling more efficient. 70% of the respondents found travelling easier, 55% found faster routes and 48% found easier transfers. The investment cost was 220 000 Euros and the upkeep of the service costs about 110 000 Euros per year. The evaluation determined that the investment in this system benefitted society greatly. The benefits that were estimated quantitatively were time saving from better route choice, time saving from faster route planning, and decreased external cost of the transport system as some people switched from car to public transport.

More information:

- The Helsinki Metropolitan area public transport journey planner leaflet produced by The Helsinki Metropolitan Area Council.

Other examples about route planners in Nordic countries

Denmark

Rejseplanen <http://www.rejseplanen.dk/>

Rejseplanen A/S is a participant in the initiative for CO₂ neutral websites. This means that carbon emissions from both the website and users of the website have been neutralized by the building of renewable energy sources and by the purchase of certified CO₂ offsets.

Finland

Journey Planner <http://www.journey.fi/>

Service provided by Destia, a Finnish infrastructure and construction service company.

Journey planner in the Helsinki metropolitan area www.reittipas.fi.

The service provides information about public transportation as well as on pedestrian and cycle routes, and comparisons between the CO₂ emissions of the trip by using either public transportation or by private car.

Iceland

Strætó <http://www.straeto.is/english>

Norway

Trafikanten <http://www.trafikanten.no/>

Trafikanten offers route information about trams in Oslo, local trains in the Oslo area, and trains and buses to Gardermoen airport.

Sweden

Separate services for bus and train traffic.

Busstorget www.busstorget.com

Links to companies operating express traffic, local traffic, and tourist journeys by bus.

Resplus www.resplus.se

Links to timetables for Tågplus (rail company), traffic companies, and the State Railways (SJ).

International services

A service for public transportation in northern Europe: <http://www.travel-and-transport.com/>

An EU service, although only Sweden and Denmark are included from the Nordic region: http://eu.connect-info.net/index_en.htm

All European train trips

Deutsche Bahn AG provides European-wide services for travel planning via the interconnected network of rail lines.

<http://www.bahn.com>

User-friendly information services provide customised information on route planning for public transport and cycling and make sustainable mobility choices easier and more tempting.

6.2.4. Free public transport system (16)

The city of Tórshavn, the capital of The Faroe Islands, decided to promote a modal shift from car use to public transport by economic incentives, making the trips free for everybody. The project was aimed to reduce air pollution and the emission of greenhouse gases, oil usage, noise, road maintenance, and parking congestion in the city. Moreover, there was an attempt to enhance traffic safety, both by minimizing the number of private cars in the city and by making the work of the bus drivers less stressful as a result of the experiment. The far-reaching goal of the Tórshavn Municipality was to create an environment in which the children of the municipality consider it perfectly natural to take the bus, rather than being driven to and from school, sports practice, or other free-time activities by their parents or friends. The target group was all citizens and especially children.

In 2007 the capital's town council launched a test period for the experiment, and based on its overwhelming success, made it a permanent programme. The Tórshavn Municipality later increased the frequency of buses on the main routes as a means of encouraging even more use.

Tórshavn Municipality observed a significant increase in the use of the city bus system since it launched the programme. The budget for free public transport has since increased, due to the increased use of public transport. However, it has not risen more than expected and is at a reasonable level.

The city of Torshavn has been satisfied with the programme, but evaluations of the long-term environmental and health impacts, and the expected modal shifts from car users to bus users, have not been carried out. The idea was also to investigate whether this project could influence the thinking of children regarding travel when they reached the age of 18 and gained the right to drive cars themselves, but no research has been done to investigate this.

In Belgium, a similar experiment was introduced, and a survey of bus passengers was conducted a year after implementation. The results were that 18% of bus passengers were former cyclists, 14% were former pedestrians, and only 23% were former car users. This indicates that there were modal shifts that did not promote sustainability, since modal shifts from walking and cycling to use of public transport are not desirable. This study did not evaluate the benefits this experiment could have on the future travelling modes of young people.

Tórshavn city has removed some obstacles for public transportation use by using economic incentives. Free public transportation has at least

increased the amount of bus users and it might also have other advantages like educational values.

6.2.5. Test commuters (17)

“Test commuters” is a Swedish project promoting a modal shift from private car use to public transportation. “Test commuters” are citizens that choose to leave their car at home for one month and use public transport instead. They receive a monthly transit pass, and in exchange are asked to reply to five questionnaires during the experiment. The program is interested on their experiences, and this information is used when further developing the public transport system.

The project is co-organised by the City of Lund and Skåne Trafiken (the regional public transport authority of Southern Sweden). It was designed for those who (1) live or work within the municipality of Lund, (2) commute by car and have been doing so for a long period of time, and (3) those whose public transport connections are adequate. The focus of the project is on public transport system, but if the work place is nowhere near suitable public transport connections, the test commuter campaign offers an opportunity to borrow a bicycle for free during the test period.

The aim is to remove some of the obstacles for sustainable mobility and observe the resulting changes in a person’s transportation choice in the long run. The program has had good results. Approximately 700 people have participated in the test commuter campaign since 2001, and half of them continue to utilize public transport.

More information:

- <http://www.lund.se/Gator-trafik/Resor-och-trafik/Bilist/Testa-alternativ-till-bilen/Testresenar/Test-commuters/?getContact=true>

“Test commuter” programs encourage participants to use public transportation as an alternative to private car use. Their experiences often result in a switch to public transit or other sustainable mobility options, and provide relevant user feedback to the transit authority.

6.2.6. Bicycling, healthy and environmentally friendly (18)

Bike Bus’ters was a project launched by City of Århus, Denmark, aimed at changing the commuting mode of car-drivers to more sustainable modes like cycling and public transport. The Bike Bus’ters program took place from April 1995 to April 1996, and was determined to be a great success.

Bike Bus’ters initially focused on the use of bicycles only. Due to the interest and support of Århus’ public transit provider, Århus Sporveje, the project was expanded to include both bicycles and public transit. This

increased the choice of transportation for participants, and broadened the focus of the program.

The project aimed at changing behaviour and was designed to encourage sustainable transportation using commitments and financial incentives, rather than disincentives such as car tolls. A survey about commuting modes before the project found that out of 100,000 daily round trips, 10,000 were made by bicycle and 20,000 by public transit. The remaining 70,000 were car trips, indicating a great potential for the increased use of bicycles and buses.

Participation in the program was encouraged by using financial incentives and promoting the campaign with an advertisement stating: *Would you like a brand new bicycle and a free bus pass?* 1700 people responded, and 175 were selected for the program. Those chosen had regular routes and worked in the central Århus area. They lived within two to eight kilometres from the city, which was considered to be a reasonable distance one could cycle daily.

Participants signed a contract, which committed them to reducing their car use as much as possible and substituting cycling or public transportation. Participants were given considerable financial incentives to encourage this behavioural change: a bicycle for the one-year test period (4,000 DKK), with the option to purchase it at a reduced rate (1,000 DKK) at the end of the year, along with additional cycling equipment (e.g. a helmet and a lock). They also received a year-long bus pass (5,000 DKK). All participants received a free health check, testing their weight, blood pressure, cholesterol level and general fitness. The equipment and health check were sponsored by private companies and associations.

The project had a secretariat with two staff members, and it published a magazine called *Cykel & Buster*, in order to spread information about the program and its results.

The overall cost of the project was three million Danish Crowns and was financed jointly by the Danish Transport Council, the Municipality of Århus, and the Danish Environmental Protection Agency for one million each.

In order to evaluate the results of the project, information about the travelling behaviour was collected in different ways.

1. Participants reported the distance travelled with the help of their car's odometer and the cycle computer as well as the number of trips done by bus.
2. They filled in a logbook four times during the project
3. They were interviewed and asked to identify and comment on the importance of a number of obstacles for using a bicycle or bus for commuting.
4. Health checks were performed at the beginning of the project, after six months, and again at the end of the one-year period.

Results of the program were mainly positive. Participants cycled three times the Danish average (30.7 kilometres) per week. In the winter, 35% of commuting trips were made by bicycle, but during the summer this figure rose to more than 70%. This naturally decreased the use of a private car. After the one-year test period, most participants made their change a permanent one and continued to cycle to work.

The bus was used predominantly in the winter months (23% of trips). However, the research showed that bus use had not increased over the long run. After the project's completion, the proportion of bus trips fell back to its original level before the one-year test period.

In the interviews, participants expressed a greater need for snow clearing in the winter, and better luggage racks on the bicycles, in order to reduce barriers to cycling. The main obstacle for using the bus for commuting was cost and time, as well as the convenience of using one's own car.

Upon completion of the project, 65% of participants experienced improved health and the proportion of participants with unsatisfactory or poor health sank from 65% to 44%.

More information:

- <http://www.toolsofchange.com/English/CaseStudies/default.asp?ID=131>

The project was well-resourced and managed to encourage car users to test cycling and public transportation. It was important to solicit user information about the circumstances for cycling in order to understand and overcome the most obvious obstacles for sustainable transportation modes.

6.2.7. "All Kids Are Cycling" in Denmark (19)

Denmark has a well-developed bicycle culture and it is often stated as a paradise for cyclists. There are several projects promoting bicycling and a positive cycling culture. "All Kids Are Cycling" is a national project that seeks to promote cycling among school children with a yearly cycling campaign. It is held in September and last two weeks. Schools from all over Denmark take part in this campaign and participation is free.

Classes participate in this competition as a whole; that is, the pupils compete together with, rather than against, their friends. Every day the children bike to school during the campaign period they get a ticket. Those having too long a journey to cycle all the way get tickets if they cycle to the bus stop. At the end of the period the total number of tickets is calculated and the results are reported to the campaign website.

The winning classes received new bikes as prizes, while other classes got biking equipments such as helmets.

The project is organised by the Danish Cyclists Federation. Derudover bidrager en række kommuner også til kampagnen. Dansk Cyklist Forbund

arbejder for bedre trafiksikkerhed, bedre miljø og bedre sundhed. This group works to improve road safety, better environment, and better health. Det gør vi bl.a. More than 200,000 children and adults participate in its campaigns each year. Og så er Dansk Cyklist Forbund med til at fastholde vores cykelkultur ved at tilbyde viden om sjov og effektiv cykeltræning for børn og ved at kæmpe for sikre skoleveje

More information:

- Alle Børn Cykler project: www.abc-abc.dk/

“All Kids are Cycling” project has helped to maintain a positive cycling culture. Project was organized as a country-wide competition with potential for great prizes and unity with classmates. With the help of peer and social pressure and influence the pupils were encouraged to cycle. Project included institutional and corporate sponsorship of both the event and the prevailing “cycling culture”.

6.2.8. Make the most of one car-Car and lift sharing (20)

Car sharing or lift sharing (i.e. car pooling) are two ways that the environmental impacts of car use can be reduced. Car-sharing means that a number of people share the use of one or more cars. Use of a car is booked beforehand and the user pays a fee based on the distance driven and the length of time the car was used. The system differs from traditional car rental since the cars are not placed in one rental office, but rather spread as much as possible to places where it is easy for people to get them. A “key” to open the car can be a “smartcard” or a pin code, thus there is no need to collect the actual car keys from a central office. The user only has to complete the contract once, not every time he or she use a car, and some car-share services are open all day, year-round.

There are several car sharing operators in Nordic countries.

- Move About in Denmark (<http://www.moveabout.dk/>)
- CityCarClub in Finland (<http://www.citycarclub.net/>)
- Bilkollektivet in Norway (<http://www.bilkollektivet.no/>)
- Several operators in Sweden with one portal (<http://www.bilpool.nu>)

Car sharing is usually implemented by a private company that owns the cars and organizes the use of them. Carpooling, on the other hand, is based on private ownership of the car, but trips are shared with other people. This differs from the traditional concept of “hitchhiking” as there are internet services that enable car owners and lift searchers to arrange the meeting in advance. Carpooling arrangements and schemes involve varying degrees of formality and regularity. For example, there are many carpooling services on Facebook, and the 2010 volcanic eruption in Ice-

land raised public consciousness about them when people who had never used carpooling were forced to do so because flight connections were not working. (See for example <http://www.facebook.com/carpool>).

Also on European website RoadSharing.com, travelers can arrange to share rides for free. There are also projects that promote carpooling within one company, so that workers sharing the same commute could also share the trip. Many car sharing companies co-operate with the municipalities so that civil servants use the cars during the day when the demand created by private users is low.

Carpooling tends to be used mostly by students and young people who are on a financial budget, whereas car sharing could be more attractive to a mainstream, adult population that is looking for private-use cars for infrequent occasions. Car sharing and pooling have several positive environmental impacts, not the least of which is reduces fossil fuel emissions. These car sharing services reduce the need for private cars since one car serves approximately 10 families or approximately 25 persons (Bilkollektivet web pages). People who join car sharing clubs tend to use more public transportation alongside the shared car (City Car Club web pages). Car sharing also ease the shift from car dependency to a more sustainable lifestyle, as public transit use is augmented by, not a complete replacement for, private car use.

Car sharing and pooling lower the environmental impacts of car use. Car sharing is easy to use “renting” system with ongoing customer agreement and easy access to the car. It is also maintenance free for the user. Car pooling is cheap and social alternative to travel with low environmental impacts.

6.3. Environmental consequences

6.3.1. *Electric Cars – Now! (21)*

eCars – Now! is an open community devoted to developing electric car conversions available for everyone. The aim is to develop the technological know-how required to transform old cars with gasoline engines to electric cars with permanent magnet motors, state-of-the-art lithium batteries, and a computer with an Internet connection, controlling the system.

The social community originated in Finland in 2007 and is the strongest base for the community’s research and development actions. However, the true nature of the open source community is global. The project is an informal and open community, mainly communicating via the internet. The project has brought together people with varying expertise on technical, mechanical, information, and visual arts.

The project aims at:

- developing the technique for transforming a car with gasoline engine to a electronic car
- offering the open source blueprints of electric conversion kits globally and leave the manufacturing of the kits to the markets
- supplying and giving support for those looking for transformable cars
- organizing producers and installers for the new motors
- providing information on environmental impacts of car use, especially on electric cars
- providing a community for people interested in developing low CO₂ opportunities

This is an interesting concept where consumers create innovative sustainable supply themselves. Electric cars produced as described will save significant amounts of energy and resources, compared to manufacturing new cars.

A prototype of first eCar conversion is ready, and the development of a commercially-viable product is continuing.

Theoretical environmental impacts have been calculated as follows:

- One liter of gasoline produces 2.4 kilograms of CO₂. When using renewable energy, electric car can turn car-based CO₂ emissions to zero.
- A quarter of carbon dioxide emissions within the car's lifespan are produced during the manufacturing process. This is saved when converting existing cars to electric drive.

The aim is to reach for a level of mass production that would bring the price of an electric car in line with traditional gasoline-dependent cars. In order to commercialize the process, the volume has to be high and cost-effective to the consumer. The critical mass in order to lower the costs to reasonable level is 500 orders. Conversion process and the new technique for the motor create expenses, but the (running costs) are lower.

Although based in Finland, the organization is willing to help anyone interested in starting up sister projects in their own countries or communities.

More information:

- <http://ecars-now.wikidot.com/>

eCars – Now! is a project producing sustainable product concept for common use with the help of distributed expert involvement, social learning and co-production. The project participants aim to form sustainable supply themselves by utilizing existing material rather than relying on new production.

6.3.2. Compensating flight emissions (22)

The city of Tampere is the first municipality in Finland to have published an Internet calculator to estimate greenhouse gas emissions attributed to air travel. The city uses the calculator to offset the emissions from flights taken by its employees and municipal delegates. Part of the money is used to support local projects promoting sustainable lifestyles, while part is allocated towards funding sustainable development projects in third world countries. It is not a conventional emission compensation process, since it does not calculate exactly how much these projects reduce CO₂ emissions. Still, it is a way to raise awareness about emissions and support sustainable development projects both locally and internationally.

The project has the potential to raise awareness about greenhouse gas emissions, and the opportunities to compensate for these emissions, to both its 16,000 civil servants and the community as a whole. This is one way that a municipality can actively reduce the impact of its greenhouse gas emissions and serve as an institutional “role model” for its citizens.

More information:

- Tampere’s Flight Emission Calculator
<http://www.lentolaskuri.fi/Lentolaskuri/index.php/in-english>

Tampere city has published an internet calculator to estimate greenhouse gas emissions attributed to air travel and applying the system itself. By exemplifying the desired behavior within the municipality’s own policies and practices it gives good example to the citizens.

7. Discussions and conclusions

In this study, 22 different project descriptions were used to show the various ways in which a sustainable lifestyle can be promoted. In this chapter, the factors which led to their success are discussed and some general conclusions about “successfulness” are given, which may contribute to policy making.

In this study, the projects chosen for closer review were either projects which had been proven to be successful using specific evaluations, projects that had an innovative approach or project design or projects which had a potentially effective impact on lifestyles. The concept of “projects” was understood in a broad sense, and taken to include temporal campaigns with a beginning and an end, but also long-lasting schemes like urban planning projects or product ranges that promote environmental awareness.

In chapter 4, different ways of promoting a sustainable lifestyle were introduced. The traditional mechanism of influence was a form of intervention in the knowledge and attitudes of individuals, the means of influence were mainly information spreading and attitudinal education, and behaviour was seen mainly as the intentional actions of a rational consumer.

In social science, behaviour is considered to be social by its nature, meaning that the society, structures, and culturally shared practices influence what kind of behaviour is desirable, motivated, encouraged, supported, enabled, and accepted by the society and therefore is culturally suitable for its citizens. The factors required to bring about changes in behaviour more easily were also listed: policies encouraging incentive structures and institutional rules favouring pro-environmental behaviour; enabling access to pro-environmental choices; engaging people in initiatives to help themselves; and exemplifying the desired changes within the government’s own policies and practices (Jackson 2005)⁵.

In chapter 4, the framework of the study was anchored to the social science approach and, more specifically, to the model in which behaviour is seen in the light of the different contexts influencing it. This conclusion has two chapters; the first one is a reflection on the different contexts and the projects influencing lifestyles. In the second chapter, different lessons from the study are listed.

⁵ A research group from Wuppertal Institute collected a variety of international best practices from consumer oriented environmental projects and initiatives, and grouped the approaches according to the “4 Es”: encourage, engage, exemplify and enable. For readers looking for more lessons in good practices for influencing sustainable lifestyles, I highly recommend the review (Petruschke et al. 2011)

7.1. Projects and their contexts

The context model of behaviour has distinguished different contexts: A) structures; B) “zeitgeists”; C) life worlds; D) lifestyles and E) situational and personal context. The following lessons from this study have been placed in the aforementioned contexts. This chapter will describe how projects influence lifestyles through these contexts. It must be noted that one project can, and usually does, influence lifestyles through several different contexts. The numbers in parentheses refer to the project numbers in this report.

A) Sustainable structures enabling sustainable lifestyle choices

Citizens are already aware of environmental issues and are willing to change their lifestyles so that they become more sustainable – if it is not too difficult. Projects influencing social structures can provide a variety of opportunities for sustainable behaviour and thus make sustainable lifestyle choices possible and easier.

The cases of Hammarby Sjöstad (2) and Copenhagen (10) show that using city planning it is possible to create a sustainable infrastructure for a residential area including, for example, good local services. In order to promote sustainable mobility, it is also possible to invest in smooth public transportation, as has been done in Lundby (13) and Torshavn (16), and in a public transportation route planning system like in the metropolitan area of Helsinki (15).

At the level of social structures, there is also a need for co-operation and networking in order to overcome the barriers against sustainable infrastructures. In Kristiansand, a project promoting integrated traffic and city planning managed to change the priorities of traffic investments to favour sustainable mobility (14).

Influencing lifestyles through structures is not just about expanding the number of concrete products and services such as bus lines, recycling bins and information services. Sustainable lifestyles can also be influenced by empowering those who have the position and power to discern what alternatives there are for citizens. These gatekeepers, experts in their own areas, know best what possibilities and obstacles exist in their own branch of business. The Peloton Project (1) provided good experiences in terms of workshops which empowered gatekeepers to create new products and services.

Structures can also enable sustainable behaviour by providing particular products for the market. There are more and more green products or products promoting environmental awareness available on the market. A good example CO₂-labelled hamburgers providing information about the environmental impact of the product (3). As the whole product range is labelled, it is easy to compare the products on the menu.

The work of non-profit organisations and social enterprises is important as they can act as vanguards providing new and innovative products and services. There are also informal groups that produce new products or concepts which promote sustainable lifestyles, such as the open community eCars now! which is devoted to developing electric car conversions which will be available to everyone (project 21).

Sustainable structures not only enable people to change their behaviour, but also provide guidelines and exemplify the possibilities, which help to encourage people to try them. This is the idea behind mobility centres (13), which provide a variety of ways to overcome car dependency by exemplifying many different sustainable means of mobility, as well as being the idea behind a project promoting practical information on ecomanaged teleworking (11). In addition, a city can exemplify the desired changes within its own policies and practices, for example, by calculating the flight emissions produced by its civil servants and in the meantime promoting awareness of emission compensating systems (22).

Projects influencing the structural context of behaviour:

- Empowered gatekeepers (1)
- Hammarby Sjöstad – Residential area where the sustainable living is easy (2)
- Climate change on the menu – CO₂-labelled burgers (3)
- City planning in Copenhagen (10)
- Ecomanaged teleworking (11)
- Mobility management in Lundby (13)
- Public transport and land use planning in Kristiansand (14)
- Internet based tools for public transport route planning (15)
- Free public transport system (16)
- Make the most of one car – car and lift sharing (20)
- Electric Cars – Now! (21)
- Compensating flight emissions (22)

B) Zeitgeist: defining “normal” and desirable behaviour

It is impossible to directly influence the “spirit of the time”, zeitgeist, and to make environmental issues fashionable and popular in order to promote sustainable lifestyles. However, environmental issues are now more popular than they were a few decades ago, and there are now people actively seeking out the means to live in a more sustainable way as well as those who think it is desirable, albeit not so tempting that they would implement it themselves.

There are many signals showing that environmental questions are now considered to be important and even fashionable to a certain extent, and these sometimes weak signals can be strengthened, supported and nurtured by promoting the visibility and normality of sustainable solutions. It is important that sustainable solutions are not considered to be extraordi-

nary and only practised by a green minority, but as practices that can also be adopted by the mainstream consumer. If other “ordinary” and “normal” citizens challenge the present mainstream lifestyle and search for a more sustainable one, it puts normative pressure on the others as well

An interesting actor and media in making sustainable lifestyles mainstream is the entertainment industry. Its products, such as reality television series about changing lifestyles (6), have brought environmental issues and an awareness to an audience that might not find it elsewhere. Celebrities, idols and other media persons can also be engaged to help promote sustainable lifestyles. In addition, CO₂-labelled burgers (3) and whole residential areas with a sustainable image (2) are “mainstreaming” environmental questions.

Nationwide campaigns promoting sustainable lifestyles and mobility support the idea of normalising sustainable practices. Good examples of this are projects acting in school environments, such as campaigns about cycling (19) or climate change and lifestyle choices (8).

Projects influencing the zeitgeist context of behaviour:

- Hammarby Sjöstad – Residential area where the sustainable living is easy (2)
- Climate change on the menu – CO₂-labelled burgers (3)
- City dwellers on a public climate diet (5)
- Reality TV about lifestyle change (6)
- “All Kids Are Cycling” in Denmark (19)
- Compensating flight emissions (22)

C) Life world experts: peers with tacit knowledge about everyday life practices

“Life world” was defined as a group-specific context which outlines the way people live their lives. Different living conditions and phases of life form different life worlds and unite people who might otherwise not have much in common in terms of their lifestyles. At this level, peer experience, influence and production which promote good everyday life solutions are especially interesting. Important factors include the civil society and its organisations, as well as informal groups. They provide “places” where people meet each other, learn from each other and produce solutions together.

Infrastructural solutions as well as products and services promoting sustainable lifestyles play an important role in the life world level, but especially interesting are those projects that operate within everyday practices by exemplifying the changes that people can make in their lives. These projects also reveal both new and innovative ways to behave and perform practices as well as the challenges faced during the process. General environmental policy instructions and orders to “turn down” and “switch off” given by environmental authorities do not always have an

effect on complex everyday life situations. Instead of blaming the consumer and concentrating on the problems caused by the consumer, projects aiming to change behaviours should concentrate on positive solutions. The solutions have to be practical and fulfil the same needs that previous non-sustainable products and services did.

Before a new behaviour can be fully adopted, it has to be “reality checked” and tested in order to reveal whether it will really work in real life. These kinds of reality checks are provided in some projects like “climate families” (5, also 6), in which volunteer families agreed to change their lifestyles so that other citizens could follow their example. In addition, in some sustainable mobility projects (17 and 18) people have been given the opportunity to test public transportation and cycling, and this change has been supported by providing products and customised information to help with the process of adjustment of new practices. These projects promoting sustainable mobility also provide information and tacit knowledge about the conditions and terms of these practices.

Today’s consumers search for information from the Internet and also from different peer groups in Internet forums. The Internet can bring people together from different backgrounds, lifestyles and geographical areas to share the same concerns and the need for information. Sometimes they can also provide tacit knowledge about some particular practices, such as the use of cloth nappies (7).

Projects influencing the life world context in particular:

- City dwellers on a public climate diet (5)
- Reality TV about lifestyle change (6)
- Database promoting the use of sustainable nappies (7)
- Ilmari-peer-to-peer information in schools (8)
- Test commuters (17)
- Bicycling, healthy and environmentally friendly (18)
- “All Kids Are Cycling” in Denmark (19)

D) Sustainable lifestyle vanguards promoting and spreading sustainable culture

In addition to different living conditions and phases of life, behaviour is also influenced by group-specific attitudes, values and interests which constitute particular lifestyles. In this study, there are some projects supporting the lifestyle choices of people committed to environmental issues and looking for new ways to act in sustainable ways. These were projects creating Internet portals for gathering information and ideas for new sustainable practices and behaviours (4 and 7) and projects promoting sustainable holiday options (12). In addition, there are many projects promoting new kinds of sustainable city cultures based on social learning and co-production (see projects about different cultural projects 9 and electric cars 21).

Not all solutions have to be fit for the mainstream consumer (or not immediately), as the world needs vanguards to lead the way for others. Some practices may remain marginal, but some of these practices can also be adopted by a larger audience at a later date. Car sharing may be becoming a good example of that (20).

Projects influencing the lifestyle context in particular:

- One-stop shop – portals for sustainable lifestyles (4)
- City dwellers on a public climate diet (5)
- Reality TV about lifestyle change (6)
- Database promoting the use of sustainable nappies (7)
- Ilmari-peer-to-peer information in schools (8)
- Projects promoting new sustainable city culture (9)
- Ecomanagered teleworking (11)
- Low-carbon holidays (12)
- Test commuters (17)
- Bicycling, healthy and environmentally friendly (18)
- Make the most of one car – car and lift sharing (20)
- Electric Cars – Now! (21)

E) Personal and situational factors have the final say on the behaviour

Seeing behaviour through different contexts provides one perspective from which to understand behaviour and different ways to change it. However, personal attitudes and interests also have a significant influence on the ways people behave. Sustainable lifestyles can be enabled and exemplified, but if people are not interested or do not have the opportunity to act differently, the changes cannot be achieved.

Many projects presented in this study influenced people on both personal and situational levels. They encourage people to change their behaviours and attempt to make the change easy and tempting by providing user-friendly services and products, easy-to-use information portals and planning tools, user-evaluated information about the products and opportunities to test new practices. Many of the projects described used information and communication technology tools in order to provide customised information, as well as networks promoting social learning.

7.2. Lessons from the projects

This chapter focuses on the question of how to change lifestyles. Lessons from this study will be analysed and highlighted. These are no general suggestions on how to design a successful project, but conclusions will be drawn regarding the successful elements of the projects outlined above which may contribute to policy making. Lessons from the study are grouped into four categories:

- A) Target group choices;
- B) Project design choices;
- C) Lessons from the context approach;
- D) Spreading the lessons

A) Target group choices

The eventual target for (or the beneficiary of) the projects was, in most cases, ordinary citizens, but in many cases they were influenced via two groups of actors; gatekeepers and peers.

1. Influence gatekeepers and they will provide options for many others

Gatekeepers are groups or actors who hold the keys to significant lifestyle choices that other people make. In practice, this means city and traffic planners, product and service providers and other groups that have a say in the kinds of opportunities that people have to embrace a sustainable lifestyle in their everyday lives.

2. Use peers to influence peers

Peer-to-peer communication and influence are important factors in terms of lifestyle in many ways. Identifiable peers can be role models, as well as exemplifying what lifestyle changes actually are in everyday life. They can provide tacit knowledge that will help people to adjust to a new and sustainable lifestyle. Peer groups can influence behaviour by providing support and helping with emerging challenges, as well pressuring and motivating people to make the effort.

B) Project design choices

3. Concentrate on those practices that have a remarkable impact

Ecological and carbon footprint calculations can provide information on what kind of everyday practices produce the biggest environmental impact and are thus worth changing for in order to get effective results. Many projects described in this study concentrate on transportation, as it is one of the major factors influencing carbon and ecological footprints.

4. Choose targets that have long lasting effects

Projects can have remarkable effects over a long period of time if they create a sustainable infrastructure and good opportunities for local services, such as cycling routes and local shops.

5. Copy smart formats

Environmental problems cannot be resolved with single solutions, as implementing new sustainable solutions takes time and needs commitment and adjustment. However, there are already some smart project formats, meaning projects with a particularly good project design which would be easy to repeat in other cities and countries. The climate family format is a relatively easy way to make the sustainable lifestyle visible and to highlight local possibilities for sustainable lifestyles, and is easy to copy.

The Peloton Project empowered the gatekeepers through another good and easy-to-copy format.

C. Lessons from the context approach

In the previous chapter concerning contexts, many good lessons were outlined which may contribute to policy making and they are summarised here.

Structures

6. Create sustainable infrastructure in order to provide opportunities for sustainable lifestyles
7. Help gatekeepers to produce sustainable products and services
8. Boost co-operation between different actors like authorities and experts

Zeitgeist

9. Strengthen weak signals regarding a sustainable culture by making sustainable solutions visible in mainstream arenas
10. Present sustainable solutions as desirable and “normal” behaviours

Life world

11. Set the stage for peer experience, influence and production
12. Exemplify desirable changes and provide times and places for social learning
13. Provide practical and “reality checked” solutions and opportunities to test new practices

Lifestyle

14. Provide space for vanguard innovations as vanguards lead the way for others

Personal and situational

15. Provide user-friendly customised products, services and information services at the time when decisions are made

D. Spreading the lessons

16. Evaluate and spread lessons and good practices

There have been many successful projects promoting sustainable lifestyles, especially if the concept of “project” is defined very broadly so that it can encompass city planning or product information provided in hamburger restaurant. In order for these lessons and good practices to be spread, two things are needed: the actual impact of the projects has to be known in order to understand which projects have really been successful, and some kind of database of the projects must be created.

It is important that some kind of evaluation should be made of these projects in order to really understand the effects they have had. This may involve the changes in the participants’ attitudes or the environmental impact the project has. The resources which are used to achieve results, both human and economic, are also important. If the project is not cost-effective, the same resources could have been used another way in order to promote the same goal, but with better results.

A good example of one way to spread these lessons and good practices is the database of “green investments in Sweden”⁶. It is a directory run by the Swedish Environmental Protection Agency, showing investments in Sweden in the Local Investment Programmes (LIP) and Climate Investment Programmes (Klimp). There are several search features in the database and it is possible, for example, to perform a thematic search of selected projects in one particular county. For some new projects, the database even has figures on the extent to which CO₂ levels have been reduced. It is also possible to look for “best practice examples” in the database. This kind of database is a great help for those looking for successful projects and best practices. Many great project ideas have already been developed, and now effective means for spreading these lessons are needed.

The lessons from this study contribute also to policy making. Since sustainable lifestyles are not just matter of individual choices, as this study highlights, governmental leadership is necessary element in moving towards a more sustainable society and lifestyles. Governments should take the lead in combating environmental issues and exemplify the desired changes within the government’s own policies and practices. Thus, instead of telling people what to do and demanding changes in the lifestyles governmental environmental policy should facilitate conditions that make sustainable everyday life desirable and easy for the citizens.

⁶ See: <http://klimp.naturvardsverket.se/mir/index.jsp?lang=en>

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Sammanfattning

Att behärska klimatförändringen skapar enorma utmaningar för individuella livsstilar. I dagens samhällen är en hållbar livsstil inte lätt att uppnå ens med rimliga ansträngningar och det finns ett behov att utvärdera de instrument som används för att främja en hållbar livsstil och ett hållbart beteende. Det finns också ett behov att skapa nya styrmedel och projekt som skulle göra en hållbar livsstil lättare att uppnå och mer önskvärd.

Syftet med denna studie var att finna framgångsrika projekt för att främja hållbara livsstilar i Norden och att analysera hur och varför dessa lyckades. I denna studie har också teorier om beteende och beteendeförändringar behandlats. Ramen för studien är förankrad i samhällsvetenskapliga synsätt och mer specifikt den modell där beteendet ses mot bakgrunden av de olika kontexter som påverkar den.

I denna studie användes 22 olika projektbeskrivningar för att visa olika sätt på vilka en hållbar livsstil kan främjas. Tyngdpunkten i projekten varierade från hållbart utbud och trafik till socialt lärande och kulturell förändring. I slutsatserna identifierades ett behov av en hållbar infrastruktur och nya hållbara produkter och tjänster. Goda exempel har avgörande betydelse, eftersom mänskligt beteende innebär social aktivitet. Det är också viktigt att hållbara lösningar inte anses vara något utöver det vanliga som endast utövas av en grön minoritet utan som praxis som också kan antas av en mainstream konsument. Samarbetet mellan olika aktörer är viktigt liksom att sprida lärdomar.