



## **Title of the best practice : Eco-calendar as a strategy manual**

**Precise theme/issue tackled by the practice:** Eco-calendar as a strategy manual

**Objective of the best practice:** To encourage inhabitants to improve energy efficiency, to reduce pollution in the immediate surrounding area and to reduce emission of CO<sub>2</sub>.

**Location:** Niepolomice Municipality and the wider public

**Detail:** This best practice was identified through discussion between partners. The inspiration for the discussion on this practice was the calendar issued by Enköping Municipality in 2008 concerning environmental protection. We concluded that a calendar as a form of communication can be effective in transferring information on energy issues also.

The Eco calendar has been developed to explain in detail how to become more energy efficient, reduce pollution in the immediate surrounding area and reduce emission of CO<sub>2</sub>. Each month of the Eco calendar deals with a different topic, for instance, lighting, water consumption, waste, equipment and household appliances, transportation, heating and air-conditioning. The Eco calendar had been produced in an attractive format, the graphics and photo are designed to inspire and blend in with the theme of the month. The calendar was designed to be attractive to a wide range of groups and provides useful information without being too technical. The calendar also provides the reader with key tips to reduce their emissions. At the back of the Eco-calendar an energy calculator table is attached in which the inhabitants can compare financial savings made by using the calendars' energy tips and results without using them. For example, it compares an energy efficient family using an A+ class refrigerator and freezer which results in 300 kWh/year to a standard family with use a C class appliance which uses double the energy, 600 kWh/year. It is very important that in addition to energy savings, it shows the amount of money saved.

Five thousand copies of the Eco-calendar were produced and distributed to households in Niepolomice Municipality. We calculated that by publishing 5,000 copies of the Eco-calendars, Niepolomice Municipality would provide information to 70% of our inhabitants (approx. 3 people in one household). Two hundred copies of the calendar were also published in English and disseminated to our partners. The calendar was divided into twelve months and consisted of 12 main topics on how to save energy.

A survey was conducted to find out if and how people use the calendar. The web-based questionnaire ([www.niepolomice.com](http://www.niepolomice.com)) showed a very positive result with 68 percent stating that they used the energy saving tips provided by the calendar. The results obtained during the preliminary research suggest that the chosen form of communication, the Eco-calendar, is working and worth investing in in the future.



The Calendar attracted much attention not only in the Municipality of Niepolomice, but also in other regions and countries (Estonia, Latvia, Sweden). The calendar was circulated at the meeting of PEA Baltic project in Niepolomice, at the SEECA Partners meeting and also during the Energy Week in Brussels.

Since the start of the project it was planned to publish a second edition of the calendar. The positive reception of this form of education by our inhabitants allows us to assert that it is a good practice that can be tested in other countries.

For the next edition of the eco-calendar it is planned to produce 6000 copies by September 2011. In the 2nd issue there will be a short description of the Niepolomice Energy Strategy and information on how our inhabitants have used the guidelines from the previous edition of the eco-calendar to improve energy efficiency and what kind of savings they reached. Just as in the first edition, the form will be attractive with new photographs and accessible to a wide cross section of the population.

**Evaluation:** The best method of presenting the results of a good practice is a survey, it can be a direct survey or a survey posted on the website. Difficulties that can be encountered are: incorrect filling out the questionnaire or providing false information. Surveys can be so complex that will give us answers to such questions: Which month's recommendations do you find most useful in everyday life? Have you started using tips contained in the Eco-calendar?

The results collected in the survey are analyzed, and on this basis we can estimate the number of inhabitants with increased capacity and awareness of reducing carbon footprint.

**Lessons learnt from the best practice:** the work on these issues have to be continued (eco-calendars should be issued annually)

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**Other possible interesting information:**

<http://www.niepolomice.eu/pl/articles.php#3,327,99,403,10>; copy of the Eco-calendar

**Best practice transferred:** Eco-calendar has been translated into English and disseminated to our partners from Uppsala, Tallinn and further to other EU countries, regions.



## **Title of the best practice : Eco-driving techniques**

**Precise theme/issue tackled by the practice:** Eco-driving techniques in heavy trucks (MAN) and buses (MPK)

**Objective of the best practice:** Eco-driving is driving in a manner which helps to reduce fuel consumption, for example by not stopping suddenly or choosing the correct gear. This objective of this best practice is to provide information on research conducted into eco-driving techniques in heavy trucks (MAN truck) and buses (MPK) and how by applying eco-driving techniques it is possible to reduce petrol consumption and emission of CO<sub>2</sub>.

**Location:** Niepolomice Municipality MAN heavy truck which was tested in Niepolomice area, MPK bus which has most of its route in Niepolomice area.

**Detail:** Through discussions with the partners and regional experts, Niepolomic municipality identified that the implementation of eco driving techniques was worthy of further exploration. The lead SEECA partner in Uppsala had informed them of research into eco-driving within Uppsala and the benefits of educating public transport drivers such as buses. The results from an eco-driving training programme implemented by Gamla Uppsala Buss AB was so encouraging that the Niepolomice Municipality commissioned "EKO-EXPERT" (environmental educational experts from Cracow University of Technology) to analyze whether fuel savings and reduction of carbon dioxide could be achieved in Niepolomic Municipality.

Niepolomice Municipality and "EKO-EXPERT" discussed the development of a pilot program aimed at establishing guidelines for implementation of the principles of eco-driving in companies with significant share of heavy vehicles. A meeting was held with companies with a large number of heavy machines who were operating in the Niepolomice Municipality. It was decided that the pilot program will be developed in collaboration with MAN trucks, acting within the special economic zone in Niepolomice. MPK Krakow (Krakow bus connection lines serving-Niepolomice) was also chosen to be involved at certain stages of the pilot project.

As a result, a meeting was set up with the purpose of implementing a pilot program with the goal developing guidelines for the introduction of driving technique that allows fuel savings. A further goal was to explore the impact of eco-driving so to raise interest in participating in the project.

The most important benefits of participation in the pilot project are as followings,

- a) reduction of CO<sub>2</sub>,
- b) significant fuel savings,
- c) lower costs of vehicles maintenance,
- d) lower insurance premiums,
- e) reducing the stress level of the driver,
- f) increasing the skills of the driver's handling of the vehicle,
- g) to increase job satisfaction,
- h) a higher level of road safety.

Following is an overview of the implementation of the pilot program – further details can be found in the report

- a) On 2 June 2011 the general objectives of the pilot project were presented to the vehicle driver. It was planned that the driver would first drive using the general principles of testing vehicles used by MAN trucks. After this, the driver would apply the agreed guidelines for eco-driving ("eco-driving Decalogue") developed by ECO-EXPERT .
- b) from 7 to 9 June 2011 (3 days) the license driver of a MAN tracks performed a test drive in accordance with the general principles of testing vehicles used in MAN. Test drives were conducted mainly in the areas which are not built up. The distance covered was 481 km, the fuel consumption was 130 liters of diesel, with an average fuel consumption **27,03 [l/100 km]**.
- c) On 10 June 2011 the measurements of the specified vehicle were made in the headquarters of MAN Truck in Niepolomice - tests were performed using a gas analyzer MADURO GA-60. Data on actual emissions of CO, CO<sub>2</sub>, SO<sub>2</sub>, NO, NO<sub>2</sub>, NO<sub>x</sub> for the three frequencies of engine idling have been obtained. Training in which the driver was acquainted with the technical rules of eco-driving has been implemented. The application of the guidelines of eco-driving for heavy vehicles has been discussed, and it was agreed to modify the rules in relation to the vehicle used in the pilot program. As proposed by MAN, the training was attended by two test drivers of the company - the first version of the technical rules.
- d) From 13 to 15 June 2011 (three days) the license driver of a MAN performed the test drive in accordance with the eco-driving techniques.  
After the test drives in accordance with the principles of eco-driving we received the following results. Distance 446 kilometers, fuel consumption 107,5 liters of diesel, average fuel consumption **24,10 [l/100 km]**.

**Evaluation:** The results of the pilot program were achieved in cooperation with MAN trucks. Reducing fuel consumption: 10.8%, identical to the value of reducing CO<sub>2</sub> emissions  
Detailed test results can be found in the report.

The lower emission values may depend on two factors:

- Tests were performed on the factory-new vehicle,
- The vehicle was very fuel efficient, a MAN TGX 18.400, with the most modern Exhaust gases cleaning systems was selected for the pilot test. This vehicle has won first place in the "Green Truck 2011" competition, organized in Munich by VerkehrsRundschau within Trucker Supertest.

The relatively low value of fuel efficiency can result from two conditions:



- A relatively short time to master and apply the principles of eco-driving, which is associated with major changes in driving technique,
- Standard test drives were performed outside built-up areas and eco-driving test aspects were performed in the urban agglomeration, which results in an increased fuel consumption in relation to eco driving.

**Conclusions to be taken into consideration:**

- Develop an incentive scheme for drivers to implement eco-driving techniques
- Driving standard and eco-driving should be performed on the same route.

**Lessons learnt from the best practice:** The most important aspect of eco-driving is to drive smoothly attempting to maintain a constant speed to optimize energy management of a moving vehicle by the exclusion of unnecessary acceleration and braking

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**Other possible interesting information:**

<http://www.niepolomice.eu/pl/articles.php#3,327,99,403,10>; Report developed by „EKO-EKSPERT”( Annexes Print Table of Measurement and Fundamental Principles of Eco-Driving)

**Best practice transferred:** The results will be disseminated to our partners from Uppsala, Tallinn and further to other EU countries, regions after the completion of work on the development and introduction of the principles of eco-driving in municipal communications (buses MPK).





## **Title of the best practice :**

### **1. Encourage businesses to sign up to energy saving measures (Climate Agreements)**

#### **2. Precise issue tackled by the practise:**

Encouraging business to sign up to energy saving measures (in this case through the Climate Agreement) is a difficult and also time consuming task. In some cases business have implemented energy saving measures but in most cases businesses are not aware of how much they are really saving and if the measures implemented have saved them money. This is because they do not have a reference point e.g. a reference year in which they compare their data to.

It goes without saying, if businesses pay a high price for energy they are more inclined to reduce their energy consumption. But this does not necessarily drive businesses to sign up to energy saving measures. One reason is that they are not confident that they will save energy, as they do not have figures as evidence.

#### **3. Objectives**

The purpose of the Climate Agreement is to encourage public organizations, enterprises and other actors in the county to implement voluntary emission reduction measures which will both strengthen their economy and their environmental efforts.

Commitment to signing up to a Climate Agreement contract is likely to be the most difficult step in the process. The contract is written to give the company

- an impetus to start emission reduction,
- to gain control over their energy use,
- to use the correct energy for the right purpose,
- and perhaps eventually to succeed to save even more.



If a participating company fails to save 10% by 2012 the company must come up with a short action plan for how it intends to succeed in saving the 20% by 2016<sup>1</sup>

#### 4. Location

The Climate Agreements are currently being developed in Uppsala County/Municipalities however, they are also being developed in Tallinn, Estonia and Niepolomice Municipality in Poland.

#### 5. Detailed descriptions of best practice

##### Origin:

There are some similar emission reduction projects in other parts of Sweden and the implement of the Climate Agreements is not unique. It complements other emission reduction projects however, unlike some others it covers the entire county.

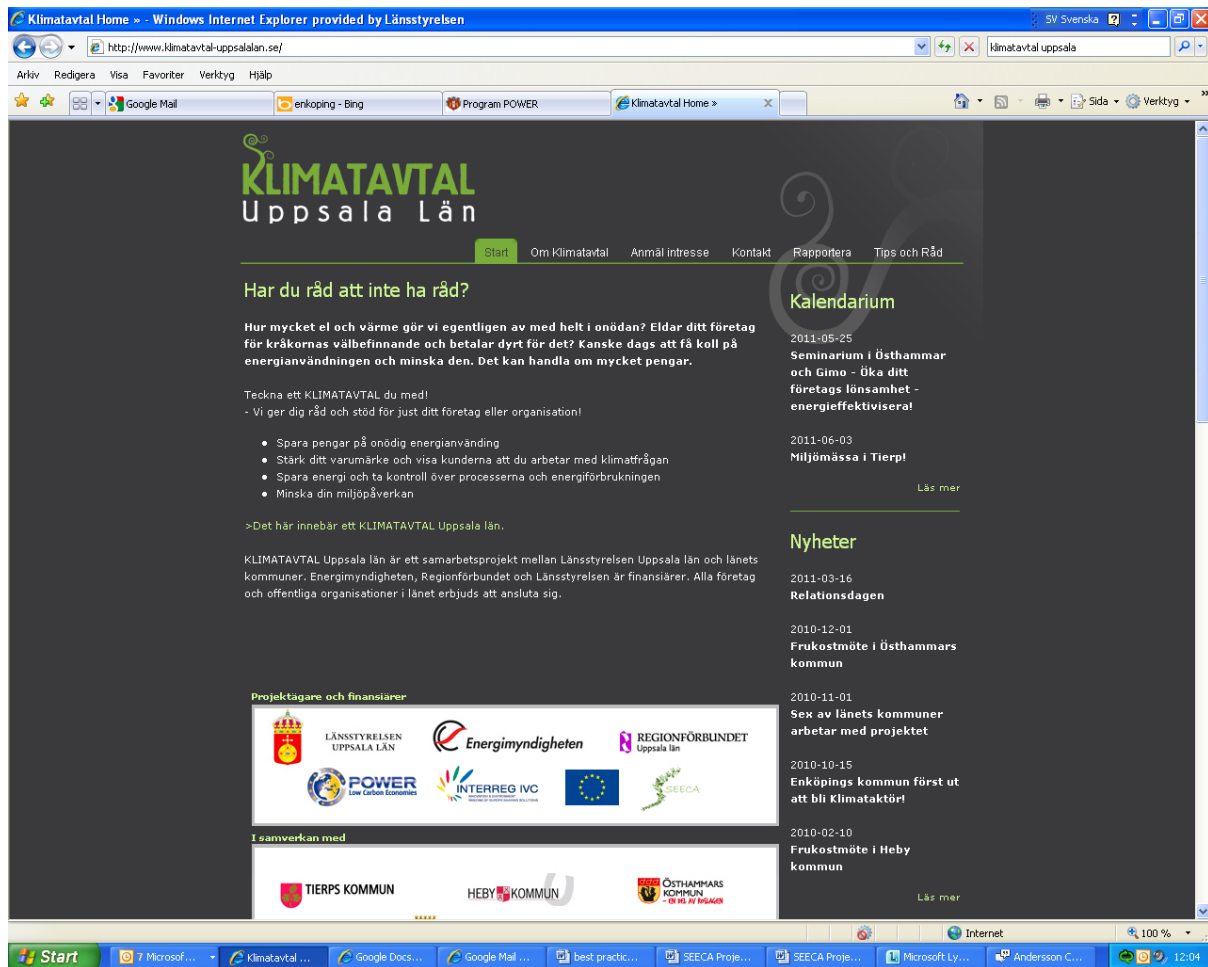
The Climate Agreements project is also unique as it focuses on energy savings and not just on carbon emission which is primarily the focus of other schemes. It makes clear the connection between the goal of emission reduction and economic gains and is also has better benefits for participants. Other differences which exist between this scheme and others lies in the notification, reporting and presentation of results. The Climate Agreement project will report via a website and using the same structure as used in the SCB's (Sveriges BostadsrättsCentrum) annual survey of industry's energy use, which develops the majority of reporting parameters previously tested by a large number companies all over Sweden. This project has added to the parameters requesting data on transport and business travel.

The project website <http://www.klimatavtal-uppsalalan.se/> has been designed to allow Climate Agreement signatories to log in and input their data, it provides information on upcoming events which may be of interest to participants. It also support the companies by promoting the businesses who have signed the agreement.

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<sup>1</sup> This is not applicable for those who signed up to a Climate Agreement in 2012.





## Timescale:

The goal is to sign 500 businesses up to the Climate Agreements within the next 2.5 year. The goal within the SEECA project is to achieve 100 signatures by 2011.

## Bodies involved/implementation:

The project has been set up by Länsstyrelsen Uppsala (regional government) with the cooperation of the municipalities within the county (who formed Working Group). One municipality was identified as a test municipality to develop a process of working together and developed how to approach businesses. The Climate Agreements project has been presented at breakfast meetings for business within municipalities and invited experts have presented on the need to implement energy savings.

## Process and detailed content of the practice:



Corporations, government organizations and other stakeholders in the county are invited to sign a Climate Agreement. It gives them the right to

- use the name "Climate actor Uppsala county" in their marketing material,
- have their logo on the Climate Agreement project site
- receive promotion of their business through advertisements placed in local or regional newspapers.

By working together towards a common goal, the project creates a platform, positive activity and allows for the development of energy networks in the municipality / county.

The goals of the Climate Agreement will be disseminated by industry organizations, through business meetings in the municipalities and directly to the operator. A well-executed and successful project could result in the development of national and international projects.

From a competitive perspective, energy efficiency makes a positive contribution to Swedish industry, both from a cost, profitability and 'goodwill' point of view. It is hoped that this project will help stimulate and encourage the introduction of new energy efficient technologies, this in turn may assist Swedish industry to develop and gain a competitive advantage.

The energy service sector, consulting sector and companies that develop and provide new technology are impacted positively by this projects ambitions. It also benefit companies in the installation and maintenance sectors, as well as all the companies which introduce new, more efficient and profitable technologies in their operations. This project will result in positive impacts from the environmental perspective through the expected reduction in energy use. It may also bring health benefits as new technology often provides a better indoor climate.

Although the project does not impose any requirements on businesses or organizations to adopt policies which increase their energy efficiency, we know that some companies are at the forefront of efforts to develop them.

#### **Legal framework:**

Under environmental laws, municipalities are legally required to advice larger business to take energy savings measures. It is also the posible to advice smaller business to take measures.

#### **Financial framework:**



The project has a limited budget spanning 2.5 year. We believe that this is a good start and hopefully there will be a possibility to continue developing this project beyond this timeframe. There is a need to continue the project until the goals are fulfilled and therefore the project will apply for further findings.

## **6 Possible demonstrated results (eg indicators):**

There are not yet any statistics to present but from communications with companies there is an interest in the project and they recognise that there is a great potential for energy savings. The project has also experienced positive results from the legal framework within the municipalities who have worked closely with this project, having the regional and municipal governments working under the same umbrella has increased the capacity of this project.

As of 13 June 2011 there 20 companies had signed up to the Climate Agreement. However, we are confident that we will achieve 100 signatories by the end of 2011.

## **Possible success factors:**

We believe the Climate Agreement has built a good structure in terms of the developing networks, the web based system and materials developed. It is likely to take time to encourage participants to sign up to the agreement but we are confident that we will increase our Climate Agreement signatories to achieve 100 Climate Agreements by the end of 2011.

Although we have not been able to generate results from the reporting system that has been built (website) this system has potential to enable business to keep track on there statistics and in a simple manner which will hopefully be an eye opener.

## **Difficulties encountered:**

The challenge at present is to keep the companies who are participating in the project interested throughout the period. This can be done by organizing networking events through the municipalities, with support from the SEECA project team. At network meetings, we anticipate that the companies will share their experiences on energy efficiency and will also participate in , or listen to lectures by companies who are involved in good practice. This often requires that there are people who are strongly committed to energy efficiency in order to manage to keep these networks alive and therefore it is essential that local authorities are involved in driving at work. We have not yet had time to implement the strategic work in all municipalities, but all the knowledge gathered to date allows the implementation to be faster for the remaining municipalities.

A major hurdle is to get business interested and especially those who have not yet started to act for energy savings. Using established networks is a good start but there are always a number of questions which needs to be answered and that has not been possible to straighten out at these meetings.



This project has been presented at different trade fairs but we have concluded that these fairs are not the correct forum for this kind of project.

It is difficult to know why companies have a low level of interest in participating in the project. In some cases, companies reported that they had already implemented many energy efficiency measures and they believe that this project does not add anything. However, they rarely demonstrate how much they have saved through the energy efficiency measures they have implemented. The project provides the opportunity to monitor how much you save through the measures they choose to implement. There are other eco-labels that you can participate in (the Nordic Swan, ISO, etc.) and these include energy conservation as a part. In cases where companies are already involved in these eco labels, there is less of an interest to participate in the Climate Agreement project.

However in an initial phase, it is good that companies with good environmental practices are involved so to increase the participation of other companies. Some companies are resistant to participate even if they do not know what it is about, they are reluctant to take on additional work, they believe that they will not save enough through efficiencies, ie, there are still many myths remain about potential savings and how to react to different electrical / electronic equipment. There is also a concept that everything costs money and so also to participate in climate change project, which is a barrier even though the project is clear that it is free to join so it is sometimes difficult to get companies to pay attention to this. To increase interest in climate change project, we believe is possible by expanding the website to some form of benchmarking, where companies can compare their work with other companies within the same industry. Should this happen, we can not say with certainty in the current situation.

## **7. Lessons learned**

Other difficulties are that business have a different timeframe for there equipment and subsequently it can take several years before these business can start to introduce energy saving measures.

Education is very important in this project. There is a need for better education of the business community with regards to the benefits of joining the Climate Agreement project.

## **8. contact information**

Details: Website, email

## **9. other possible interesting info**

Rapporter, presentationer etc.. Här kan vi lägga Powerpoint presentationer tillsammans med våra Tips och råd men även det övriga som vi har tagit fram.



10.





**1. Title:**

Creating dynamic networks to promote Climate Agreements

**2. Precise issue tackled by the practise:**

Its purpose of the Climate Agreement is to encourage public organizations, enterprises and other actors in the county to sign up to voluntary emission reduction measures (called the Climate Agreement) which will both strengthen their economy and their environmental efforts.

The Climate Agreements has a very limited budget and the timeframe for this initiative is, initially, 2.5 years. The challenge is to sign 500 climate agreements by 2013. It was decided that the best way to do this was to get 'buy in' from other government bodies and to using existing structures and networks to help disseminate the message and increase the number of signatories.

**3. Objectives**

To work with municipalities and other existing structures/networks to encourage sign up to, and promotion of, Climate Agreements in a time and cost effective manner.

**4. Location**

The Climate Agreements are currently being developed in Uppsala County/Municipalities.

**5. Detailed descriptions of best practice**



**Origin:**

There are some similar emission reduction projects in other parts of Sweden, however the Climate Agreement project would cover the entire county not just municipalities. The Climate Agreement project aims to work with other municipalities and networks within the country to deliver the Climate Agreements. The Climate Agreements project aims to complement existing emission reduction measures not to replace them.

The Climate Agreements project is unique as it focuses on energy savings and not just on carbon emission which is the primarily the focus of other schemes. It makes clear the connection between the goal of emission reduction and economic gains and it also has better benefits for participants.

**Timescale:**

The goal is to sign 500 businesses up to this scheme by 2013. It is hoped that funding will be found to continue the project beyond 2012.

**Bodies involved/implementation:**

The project has been set up by Länsstyrelsen Uppsala (regional government) with the cooperation of the municipalities within the county (who formed Working Group). One municipality was identified as a test municipality to develop a process of working together and developed how to approach businesses. The following section 'Process and detailed content of the practice' will provide more information on the implementation.

**Process and detailed content of the practice:**

Initially an internal Climate Agreement working groups within the SEECA project team was established. This comprised staff from the County Administrative Board of Uppsala. The main focus was on e.g. the management structure and initiating meetings with municipalities within the county.

All municipalities within Uppsala County were approached and invited to sign an agreement to share the work on the Climate Agreements, promote the project and also to set up municipal working groups. A communication strategy and project organisational strategy were both developed to help implement the project. These have been attached in separate documents.



Seven out of eight municipalities signed an agreement to work with this issue. So far, 5 municipalities have set up functional working groups to help implement the Climate Agreements. These working groups include personnel such as environmental strategist, enterprise developer, energy advisor and environmental inspector. The other municipalities are in the process of setting up similar working group. However, Uppsala municipality has a different approach as they are involved in an existing project which addresses energy saving actions.

The working groups have discussed the establishment of platforms for companies and organisations to use when applying to join the energy savings programmes. Municipalities also have a network of companies and regular meetings (called “breakfast meetings”) that have been used to inform businesses about energy saving actions.

The SEECA Climate Agreement team have also used pre-established networks to promote the project by promoting Climate Agreements to partnership with business associations, e.g. Företagarna and Relation. The SEECA team have also participated at 2 trade fairs in order to promote the concept to businesses. The team is also working with one of the energy suppliers in the county to promote the message.

The SEECA Climate Agreement team also developed brochures which provide advice on how to increase energy efficiency these are being promoted through the municipalities. The team will continue to work with the Municipalities beyond the timeframe of the SEECA project to organise breakfast meetings across the municipalities in the county. Key local business representatives will attend these meetings to encourage participants to sign up to climate agreements.

### **Legal framework:**

Under environmental laws, municipalities are legally required to advise larger business to take energy savings measures. It is also possible to advise smaller business to take measures.

### **Financial framework:**

The project has a limited budget spanning 2.5 year. We believe that this is a good start and hopefully there will be a possibility to continue developing this project beyond this timeframe. There is a need to continue the project until the goals are fulfilled and therefore the project will apply for further findings.



## 6. Possible demonstrated results (eg indicators):

### Possible success factors:

This is a project with a small budget. To involve the municipalities to the extent that we have, with their access to local businesses and industry, provides a good foundation for the projects future.

There is also a flexibility which allows us to develop different solutions in different municipalities. For example, each municipality may work differently and have a different knowledge of their local business community, this project allows them to adopt the best approach for them.

Finally the project has been positively acknowledged by the municipalities. The information materials produced through this project has been very well received as it provides a good introduction and summary to the issues. These will assist someone to begin implementing energy saving measures.

### Difficulties encountered:

- It has taken time for the project to properly get started and it is largely due to the fact that we are working with the eight municipalities in the county.
- It has also taken time to put together the municipal working group of environmental strategist, environmental inspector, business developers and energy advisors.
- Material (such as the Climate Agreements, information on the Climate Agreement and supporting documents) also needed to be developed before the project could be advanced.

## 7. Lessons learned

- There is a need for further development, education and outreach to encourage businesses to engage. A number of workshops have been conducted with municipalities with the aim to develop plans for how to reach out to businesses and get them to sign contracts. Though this method is time consuming, it is important that municipalities are involved in the work. A very important part of the success of this project is involving the municipalities as local support is important for companies. We do not believe that a government agency (such as Uppsala County Administrative Board) is as relevant to businesses as the municipality. Furthermore, municipalities have



already created well established network to support entrepreneurship in the community.

- This project was very ambitious in terms of timescale, there was not enough time to develop all the relevant materials to develop the climate Agreement and the website, disseminate this information, train and educate the municipalities, set up working meetings, engage with potential signatories within 18 months. The Climate Agreement requires a much longer timeframe to become established.

## 8. contact information

Details: Website, email

## 9. other possible interesting info

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**European Union**  
European Regional Development Fund



**1. Title:**

## **District heating in Uppsala City**

**2. Precise issue tackled by the practise:**

The purpose is to minimize emissions of greenhouse gases and reduce air pollution in the town of Uppsala.

**3. Objectives**

The goal is to switch to renewable fuels in district heating plant in the town of Uppsala by 2020.

**4. Location**

The heating plant is located in Uppsala city of Uppsala in Sweden, 70 km north of Stockholm.

**5. Detailed descriptions of best practice**

Origin:

Uppsala city with more than 100 000 inhabitants receive 95% of their heating from the district heating system. The expansion began in the 1960s. The district heating system was to start with 100% oil, but soon household waste was incinerated as a heat source.

To begin with, the aim was to ensure the city's energy supply and to reduce air pollution. From the 1980s they began to phase out coal and oil use by using a larger portion of waste and peat.

A few years ago, the company, Vattenfall AB, decided that by 2020 they would completely switch to renewable fuels.

It has been decided to build a new district heating plant for biofuel. This will mean that the way fossil fuels will only come from the plastics contained in the waste. Total fossil fuels will thus amount to less than 10%.

**The history**



1960:s District heating in Uppsala starts. Waste incineration starts.

1970:s 95% oil as fuel, co-generation of electric power starts.

1980:s Investments in order to use peat and waste as primary fuels.

Investments also in flue gas cleaning.

1990:s Further improvements in energy efficiency and flue gas cleaning,  
environmental system ISO 14001 and EMAS.

2000 Vattenfall acquires Uppsala Energi.

2005 New waste incineration unit in operation,  
installation of catalytic reduction of NOx at CHP-plant.

2008 Expansion of the district cooling network.

2010 Electricity generation also at the waste incineration plant.  
First installation for local cooling driven by district heating.

#### Bodies involved/implementation:

Vattenfall AB

#### Legal framework:

The responsible for the operation is Vattenfall AB.

#### Financial framework:

The cost of the project are many € 100 000

#### Evaluation

Fuel use has change over the years. Fossil Fuels has decreased while biofuels has increased (Fig 1).



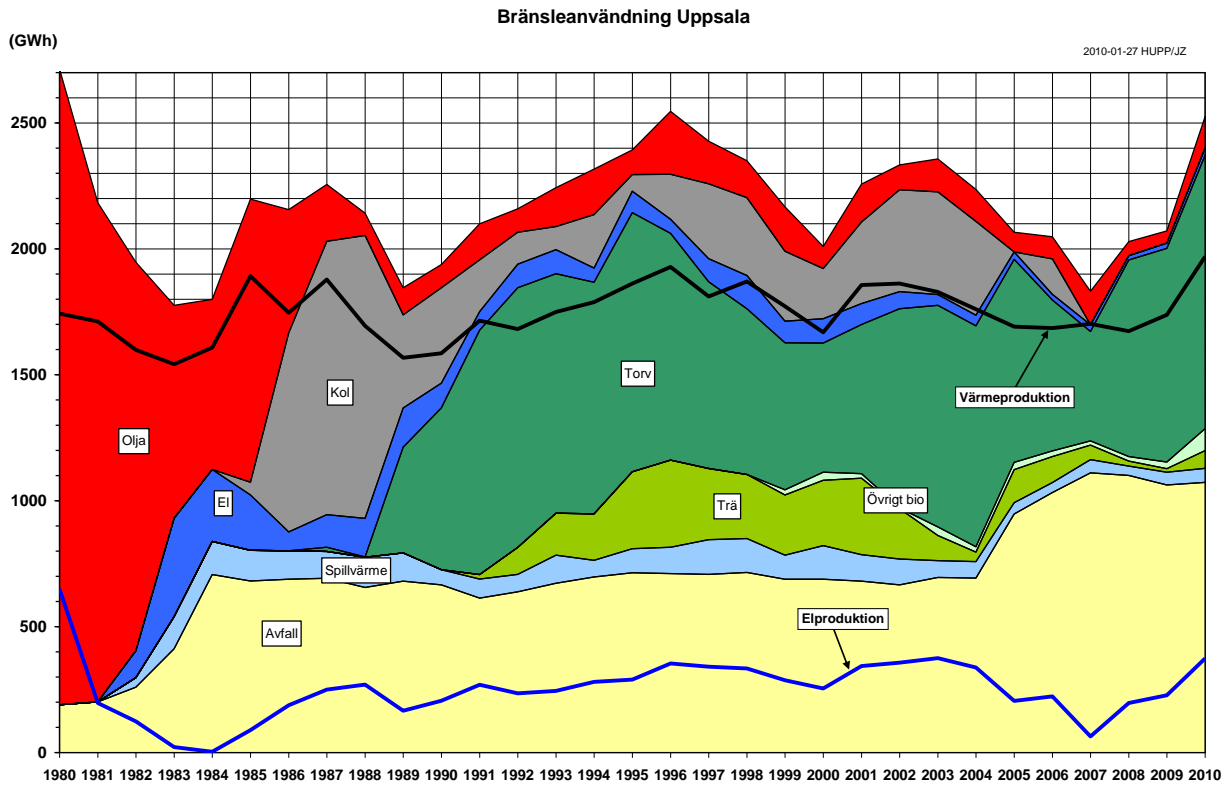
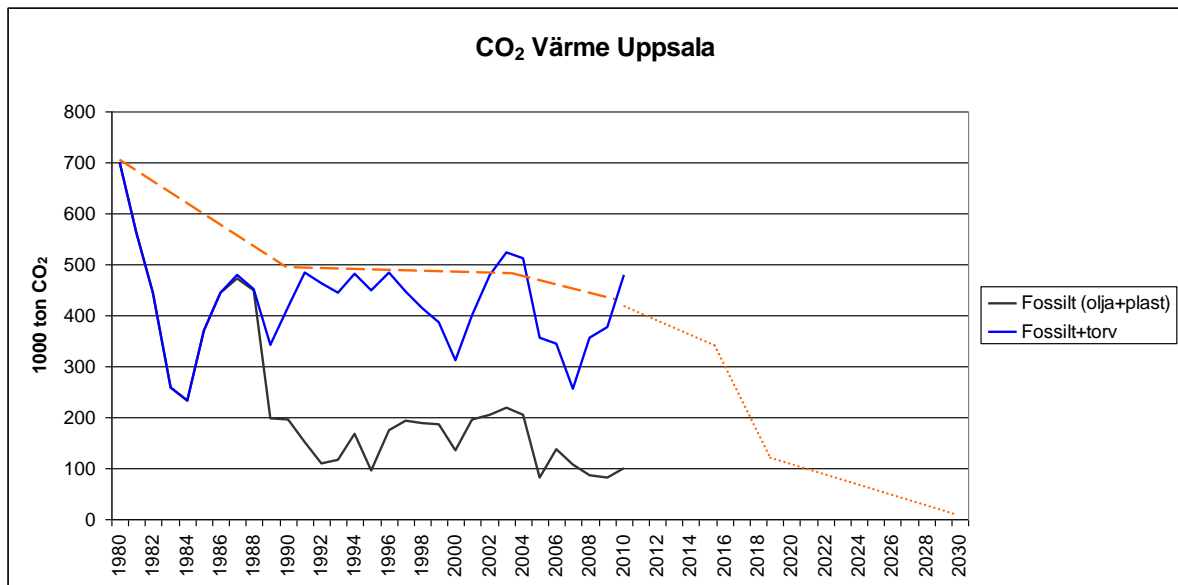


Figure 1



The CO2 emissions from the plant has decreased since 1980 and are and is expected to continue even more until 2030 (se fig 2).

Possible success factors:

Success Factors for the project is that the politicians in Uppsala early, even in the 1960s, decided to build a water-heating plant that would supply the entire Uppsala with heat.

With this facility as a base, it has been relatively easy to adapt fuel use to the best possible. This is much easier than having a large number of small plants.

Sweden has also already is EU legislation pointed out unsorted waste as a suitable fuel. This has also solved the disposal problem.

Sweden has also good supply of various types of biofuels.

Difficulties encountered:

Technically, a transition to renewable fuels is relatively easy. The difficulties are mainly economic. Companies want as long as possible using the old, working facilities. In Uppsala, the old plant will be worn-out by around 2020. To plan, obtain permits and build such a large facility takes almost 10 years, so the timing corresponds well in this case.

## 7. Lessons learned from the best practice

The main lessons from the current project is to achieve success on climate change required a commitment from politicians and officials, businesses and staff, a good law and also engaged residents

## 8. Contact information

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[www.vattenfall.se/upsala](http://www.vattenfall.se/upsala)

[www.vattenfall.se/sv/upsala.htm](http://www.vattenfall.se/sv/upsala.htm)

9. Report:

[http://www.vattenfall.se/sv/file/Engelsk\\_milj\\_redovisning\\_Uppsala\\_2009\\_14968921.pdf](http://www.vattenfall.se/sv/file/Engelsk_milj_redovisning_Uppsala_2009_14968921.pdf)

Powerpoint presentation:



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INNOVATION & ENVIRONMENT  
REGIONS OF EUROPE SHARING SOLUTIONS



**European Union**  
European Regional Development Fund

**Title:**

## **Seminars to Raise awareness on how to reduce CO2 Emissions-**

**(A) EcoDriving seminar on the topic of gaseous fuels.**

**(B) EcoDriving seminar on the topic of EcoDriving techniques**

**EcoDriving seminar on the topic of gaseous fuels.**

**Precise theme/issue of the best practice:** Organization of EcoDriving seminar for companies, who work with large number of vehicles (cars, heavy machines) and for policy makers.

**Objectives of the best practice:** To reduce CO2 emission in Tallinn City by persuading big companies to use alternative types of fuels in their vehicles, such and CNG and Biogas.

**Location:** Estonia, Tallinn City and nearest Counties.

**Detailed description of the best practice:**

*International Training Seminar in Tallinn on the 8<sup>th</sup> of December 2010: "Eco-driving: Gaseous Fuels":*

- The aim of this seminar was to raise awareness among transport companies and companies, who provide communal services in Tallinn city, on the alternative types of fuels, such as CNG, biogas and others: present best examples of using gaseous fuels in Sweden and Estonia, to show them a profitability of using gaseous fuels and its positive impact on saving the environment (CO2).
- During the seminar, experts and researches discussed also obstacles in coordination processes of biogas fuel production and usage.
- About 60 participants from different companies and public organizations took part in the seminar. It shows that a demand of such kind of dissemination events exists. In the same time, the organization of such event is very relevant in terms of making progress in the reductions of CO2 emissions, as CNG emits up to 25% less of CO2 than petrol and up to 12% less than diesel and Biogas is emits up to 100% less of CO2 than petrol or diesel.



**Evaluation:** As a result, after seminar a few companies started negotiations on how to switch their agricultural machines: tractors, to the usage of CNG fuel that is a first step to the usage of biogas.

**Lessons learnt from the best practice:** more such seminars should be organized and more politicians and key players should be invited to them, as it is one of the way how we can affect them.

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**Other possible interesting information:** <http://www.tallinn.ee/est/SEECA-Energiatohususe-strateegia-labi-Kliima-Kokkulepete>.

**Best practice transferred:** SEECA project partners participated in the seminar and the newsletter nr. 3 about seminar was made in English.



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## 2. Title of the best practice:

### **EcoDriving seminar on the topic of EcoDriving techniques (B)**

**Precise theme/issue of the best practice:** Organization of EcoDriving seminar for companies, who work with large number of vehicles (cars, heavy machines) and for policy makers.

**Objectives of the best practice:** To reduce CO2 emission in Tallinn City by persuading them to train their drivers EcoDriving techniques.

**Location:** Estonia, Tallinn City and nearest Counties.

#### **Detailed description of the best practice:**

#### ***Info-seminar in Tallinn on the 17<sup>th</sup> of June 2011: "Sustainable way of driving – EcoDriving":***

- The aim of this seminar was to raise awareness and interest among waste management, road cleaning, -building and -maintenance companies for sustainable way of driving – EcoDriving.
- During the seminar a possibility to save at least 10% of fuel using "EcoDriving" driving techniques were introduced, which also results in less money spending on car maintenance and car accident sequential repair.
- Scania Eesti AS driving instructor Margus Sillamaa – introduced: possibilities for drivers to gain new experience and to correct their driving skills; connections between driver and company business interests; drivers influence on machines, road safety and environment; sustainable way of driving training programme for Tallinn Bus Company drivers in frames of European project CIVITAS MIMOSA (objectives and results).
- Niguliste Autokool driving instructor and "Peer Drive Clean" project trainer Henry Arnhold gave an overview of: how through fuel and money economy is possible to keep safety on road and lesser pollute environment while driving; a method of sustainable way of driving and sustainable way of operating vehicles – EcoDriving – method, which is developed and patented in Finland; "Heavy EcoDriving" method;



long-term and comprehensive project for companies with big car parks - method, which is developed by Swedish EcoDriving partners and that has already very good result, is known, as "Development training for sustainable way of driving"

- 14 representatives from biggest companies in Tallinn took part in the seminar: 2 biggest waste management companies, 3 biggest road-cleaning and repairing companies, 1 biggest park service company Scania Company and Tallinn City Buss Company. It shows that a demand of such kind of dissemination events exists. In the same time, the organization of such event is very relevant in terms of making progress in the reductions of CO2 emissions, as an implementation of EcoDriving techniques in companies helps to save at least 10% of fuel consumption and to reduce money spending on car maintenance and car accident sequential repair.

**Evaluation:** As a result, after seminar some companies were very interested in training their drivers EcoDriving techniques and asked more information on it. We believe that some of them will implement these training in nearest future that will give a positive impact on reduction of CO2 emissions in Tallinn.

**Lessons learnt from the best practice:** people and companies are not aware of existing Eco Driving techniques, so that why more such seminars should be organized in order to raise an interest among them.

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**Other possible interesting information:** <http://www.tallinn.ee/Info-seminari-Saastlik-soiduviis-EcoDriving-ettekanded>

**Best practice transferred:** SEECA project partners are aware of this seminar and the information in English of its result will be prepared later.

### 3. Conclusion

These events were unique in Estonia and e.g. such a diverse range of individual had not been brought together before, the material that has been covered was new to the audience. An interactive nature of the events with people giving presentations on the benefits and disadvantages of these technologies with a lively and open interactive discussion, also the demonstration of the technology with the demonstration vehicles outside was unique. These types of events and the format were unique and will be repeated again. Unique element of



carrying out these events is that they are addressed to small, but most important and problematic group of companies, whose impact on environment we want to change.



*Title of the best practice: **Questionnaire to waste management, road cleaning, - building and -maintenance companies on EcoDriving topic before organisation of the info-seminar***

**Precise theme/issue tackled by the practice:** collection of the information

**Objectives of the practice:** To identify the necessity of EcoDriving trainings among heavy machinery users in big companies, who provide services in Tallinn City, such as waste management, road cleaning and repairing and others. Best practice of identifying uncovered and problematic field in terms of reducing CO2 emissions.

**Location:** Estonia, Tallinn City and nearest Counties.

**Detailed description of the best practice:**

- Questionnaire gave overview of: how important is fuel consumption and other related costs in those companies; what kind of techniques are adopted in order to reduce fuel consumption; new drivers additionally trained; how often drivers are trained; awareness of EcoDriving methods; companies attitude and interest for EcoDriving methods; companies interest for free of charge info-seminar; companies number of vehicles and drivers, amount of fuel consumed and number of kilometers driven.
- Questionnaire showed that all of the companies are aware of EcoDriving methods, but only one of them used them to train its drivers. Many companies do not see necessity of EcoDriving trainings and this is a point that should be changed, but more than half would come to the info-seminar to learn more about it.

**Evaluation:** As a result, this questionnaire/survey was very important to understand the attitude and awareness of companies for EcoDriving trainings. Questionnaire/survey showed how many vehicles are companies using and what is their fuel consumption.

**Lessons learnt from the best practice:** if it possible to make a preliminary survey/questioning on the topic that you want to deliver to others, then do it. It will help you to make a success .

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**Other possible interesting information:** <http://www.tallinn.ee/g4128s55610> questioning-survey in Estonian

**Best practice transferred:** Questioning/survey will be translated into English and sent to partners.



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***Title of the best practice:***

**Research investigation “ A reduction of heavy machinery energy consumption and bad impacts on environment ”**

**Precise theme/issue tackled by the practice:** Analyse of the CO2 emissions produced from transport sector and an identification of political recommendations in order to make this situation better.

**Location:** Estonia, Tallinn City and nearest Counties.

**Detailed description of the best practice:**

- Overview of greenhouse gas emissions produced from Tallinn transport: 2000-2009 (heavy machines/trucks, busses, cars, communal service etc)
- Overview of methods and politics, which have reduced greenhouse gas emissions in other cities
- Analyse of Tallinn City transport politics
- Suggestions for implementation methods that could reduce greenhouse gas emissions reduction in Tallinn city

**Evaluation:** Survey will be ready by the end of the project: September 2011

**Lessons learnt from the best practice:** Survey will be ready by the end of the project: September 2011

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**Other possible interesting information:** no additional information is available yet

**Best practice transferred:** will be translated in English and sent to partners.

