



Benefits of small scale projects such as Ekokoti on the Environmental Status

Youssef Edahbi

Degree Thesis for a Bachelor of Natural Resource Management

Degree Programme in Sustainable Coastal Management

Raseborg, Finland- 2014.

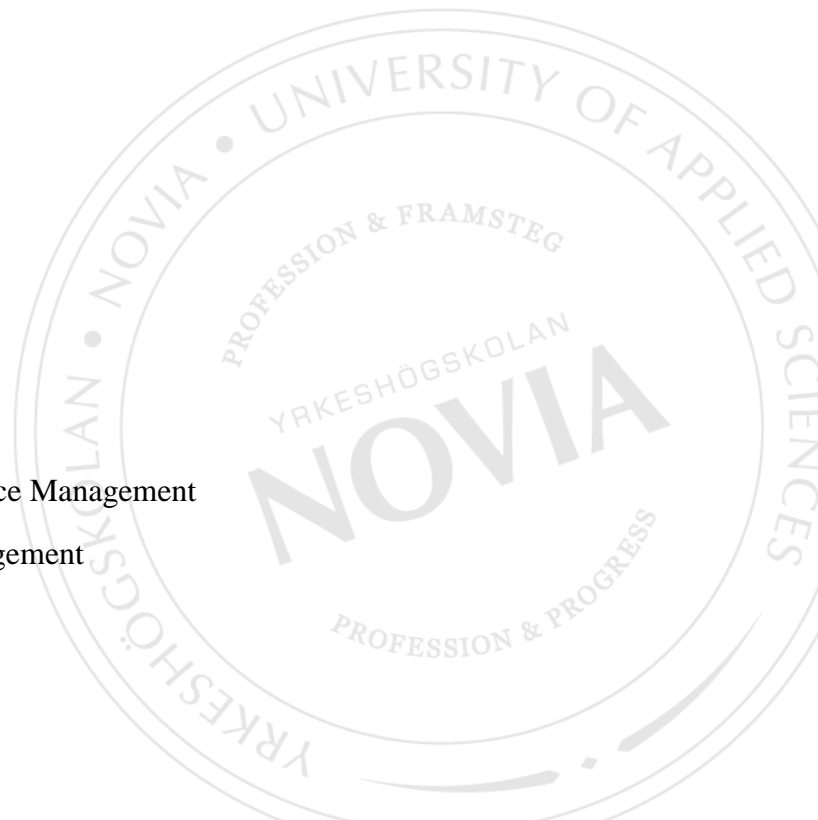


Table of Contents

ABSTRACT.....	3
ACKNOWLEDGEMENT	4
1 INTRODUCTION	5
1.1 BACKGROUND	6
1.2 AIM OF THE STUDY.....	13
1.3 RESEARCH QUESTION.....	13
2 METHODOLOGY	13
3 RESULTS.....	14
4 DISCUSSION	19
BIBLIOGRAPHY.....	21
APPENDICES.....	24

BACHELOR'S THESIS

Author: Youssef Edahbi

Degree Programme: Sustainable Coastal Management

Specilization: Natural Resources Management

Supervisors: Anna Granberg

Title: Benefits of small scale projects such as Ekokoti on the Environmental Status.

Date	14.05.2014	Number of pages	24	Appendices	2
------	------------	-----------------	----	------------	---

Summary

Understanding the household behavior on its consumptions patterns has become an indispensable tool to achieve sustainability (Mohan, 2010). Therefore many countries started taking into consideration household lifestyle choices. In Finland, Finnish Ministry of Environment has launched programmes of sustainable consumption and production.

Ekokoti is a small scale project, where the authorities will try to help the households to understand the connection between their lifestyle choices, behavior and the environment status. With close monitoring, it is possible to estimate household environmental effects, to identify the most essential development procedures and to follow the changes (Valonia, 2013). In this Study we found that the household have learned a lot about their actions on the environmental status, although the effect of the project was not that big on their behavior. Thus, the motivation to adapt the changes did not last for a long time.

Language: English. Key words: Household, Consumption, behavior, sustainable consumption, Ekokoti, development producers.

ACKNOWLEDGEMENT

My sincere gratitude goes to my supervisor Mrs. Anna Granberg for all her critical comments and guidance that helped me to improve my work. Equally, I am also indebted to Ms. Martina Uotinen at Valonia - Service Centre for Sustainable Development and Energy of Southern Finland- for her enormous support and guidance, and for providing me with all necessary information regarding Ekokoti project's activities

1 Introduction

The average temperature of earth's climate continues to rise. "Many places have seen changes in rainfall, resulting in more floods, droughts, or intense rain, as well as more frequent and severe heat waves, oceans are warming and becoming more acidic, ice caps are melting, and sea levels are rising" (UNEP,2014). For decades, scientists and authorities have agreed that some actions should be taken to rescue lives and nature from all risks that have or will occur.

Principle 2

"States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."

REPORT OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT
(Rio de Janeiro, 3-14 June 1992)

The main action that we have been focusing on is the use of natural resources. Many studies have been done to assess the environmental impacts of each production unit, in order to find the best solutions to reduce the emissions. "As a result we have made a lot of laws, regulations and recommendations to force the producers to respect the limited levels of emissions allowed. After many years, we are still missing the adaption of these agreements by the some of the biggest countries (producers) in the World, when some other countries are withdrawing from these agreements "As Canada withdrawal from the Kyoto Protocol on 2011". (UN, 2011).

In a world where the style of life is based on consumption, the economic growth is based on the exploitation of natural resources, and where money is considered as the most valuable thing. Moreover, the environment's impacts of this economic growth are not considered as a serious issue for many people around the planet. It is clear that humanity is risking its survival with such living way. It became clear that something should be done to mitigate and/or adapt to the natural phenomena that are appearing or will appear in the nearest future. (Brewer & Porter; 1993)

The size of the economy is typically measured using Gross Domestic Product (GDP). An increase in GDP would not be a problem, except that economic activities are tied too very closely to energy and resources use. The flow of materials and energy is what impacts ecosystems, not the exchange of dollars and cents. (Dietz & O'neill; 2013)

Many strategies that are implemented for this reason have been considering the consumer as a part of the problem. We have been investing a lot of time and energy to invent technological devices to reduce emissions no matter what consumers do. The other way was the approval of new regulations and laws to limit the individual's emissions. (Mohan, 2010)

Nowadays, many researchers consider the consumer as an important solution key, that he could have an important role in the development of better ways to reduce emissions and help in developing a better life quality, not only for himself and a small circle around him, but for the whole planet by making choices in his daily life that would enhance the biodiversity and maintain a sustainable economic growth.

"The future is not predetermined and there is no way of knowing for sure which choices we should make. The world around us is simply too complex to anticipate its evolution. However, we humans are interconnected with the world around us, and over time, we co-evolve with our environment. Perhaps, our actions will not determine our future, but we most certainly will influence our future with our actions -or our inactions. We all have choices to make and our choices will have consequences" (Ikerd, 2003)

This thesis will try to study one case of how authorities affect consumer's behavior to ensure a sustainable development.

1.1 Background

At the United Nations Conference on Sustainable Consumption and Production (Rio+20), the state members adopted in the final document a framework programme for promoting sustainable consumption and production. The article 226 of the document "The future we want" stated that sustainable consumption and production is an important requirement for the sustainable development. (UN, 2012).

"Adopted by the European Union in December 2008, the climate and energy package sets the following targets for 2020: member states will reduce their greenhouse gas emissions by at least 20% from 1990 levels, increase the share of renewable sources in final energy consumption within the EU to 20%, on average, and improve energy efficiency by 20% on average, in comparison to the business-as-usual trend" (Finnish Government Report, 2013).

The government of Finland has a clear goal, a decrease of the greenhouse gas emissions by 20% by the year 2020 (Finnish Government Report, 2013). In our study case, in order to reduce 20% of the household emissions, we need to reduce the monthly electricity consumption by 226 Kwh or reduce the amount of Kilometers driven each month by 366 km.

It is possible as well to combine these two, by giving more attention to one more than to the other one. The main goal is to reduce the CO2 emissions by 67 kg per month.

Table1. The EU's energy and climate targets for 2020 (2013)

Targets for 2020	The EU	Finland
Reduction of greenhouse gas emissions ¹⁾	-20%	EU-level target
ETS emissions ²⁾	-21%	EU-level target
Non-ETS emissions ²⁾	-10%	-16%
Share of renewable energy sources in final energy consumption	20%	38%
Share of biofuel in transport fuels	10%	20%
Improving energy efficiency ³⁾	+20%	EU-level target
¹⁾ base year 1990 ²⁾ base year 2005 ³⁾ in comparison to development as estimated in 2007		

In addition to inventing energy saving devices and passing regulations and laws to reduce energy consumption, we need to control and affect consumers behaviors, as Mohan (2010) stated in his studies.

“Throughout the 2000s, the European Union and its Member States have aimed to improve the environmental quality of products. Means of achieving this have included Ecodesign, environmental management systems, environmental labelling and public procurement.

In 2008, the EU approved a communication on Sustainable Consumption and Production and on a sustainable industrial policy” (Finnish Ministry of the Environment, 2013).

For the Finnish Government, the long-term goal is a carbon-neutral society, for that strategies as increase in the energy efficiency and the use of renewable energy are promoted and encouraged to be implemented in many small projects (Finnish Government Report, 2013).

As outlined in the Government Programme, the consumer should be advised on the efficient use of energy and energy saving, they should also be advised on promoting the use of renewable energy. The report states that there is a need to develop tools and services to assess the consumer's own choices.

“76) Advisory services, tools and best practices will be compiled to improve the energy and material efficiency of consumption and encourage the adoption of new solutions.

77) Public steering regarding housing, nutrition and transport will be developed, with the aim of encouraging consumers to make choices that reduce greenhouse gas emissions.”

Finnish Government Report, 2013

Electricity consumption

According to the World Bank, the electricity consumption per capita in Finland for year 2011 was 15,738 kWh /capita (World Bank, 2011). This Number measures the production of power plants and combined heat and power plants less transmission, distribution, and transformation losses and own use by heat and power plants. Therefore, it won't be possible for us to compare the energy consumption of the household with this number.

In the other hand, on its latest research about the electricity use in Finland, The TEM (Ministry of employment and the economy) has published a report where a national average for the consumption of electricity in both year 2006 and 2011 was presented.

According to TEM's report the consumption of electricity has increased between year 2006 and 2011.

In this study we have taken only the case of a terraced house with three members (Figure 1). The total amount of electricity used was 4000 Kwh/a, that means that about 1330 Kwh/person/a.

The report gives detailed information about the different purposes that the electricity was used for. We have to mention that the sample that has been taken in the TEM's report has underfloor heating.

Kolme asukasta rivitalossa - tavallinen varustelutaso 2006 ja 2011

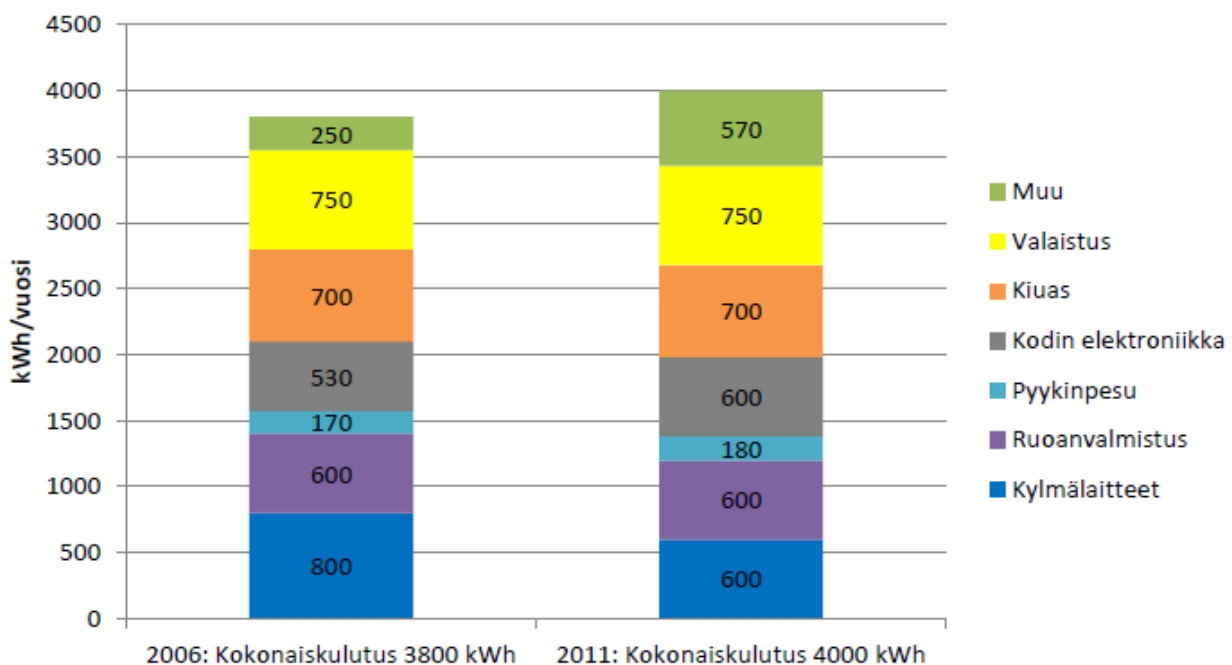


Figure 1: Terraced house's electricity use (Where the green color means others, yellow is lighting, orange is Heater, gray is home electronics, blue sky is laundry, violet is cooking and blue is refrigeration equipment).

The effectiveness of feedback

Giving feedback on household energy consumption could help to them to understand the effect of their behavior on energy consumption (Darby, 2006). On her study, Darby describes different forms of feedbacks that could be used: Direct feedback (such as meter reading), indirect feedback (data processed), and inadvertent feedback (learning by association, where the household becomes a site for generation as well as consumption of energy) (Darby, 2006).

Darby studies in his paper the issues that are relevant to the debate on the future of energy in the residential sector in the United Kingdom. The study set out the nature and possibilities of different types of feedback (Darby, 2006).

The study which would focus on the energy user rather than the supplier. Thus the concentration is on principles of feedback; basic types of feedback and responses to it (Darby, 2006).

The production of waste

YTV Helsinki Metropolitan Area Council conducted a study in March 2006, which examined the amounts of household waste. Approximately 500 households took part in the study by weighing their household waste during three weeks.

According to the study, the total amount of waste produced ranged from 35 kg to 1300 kg/person/a Figure 2, (YTV, 2007).

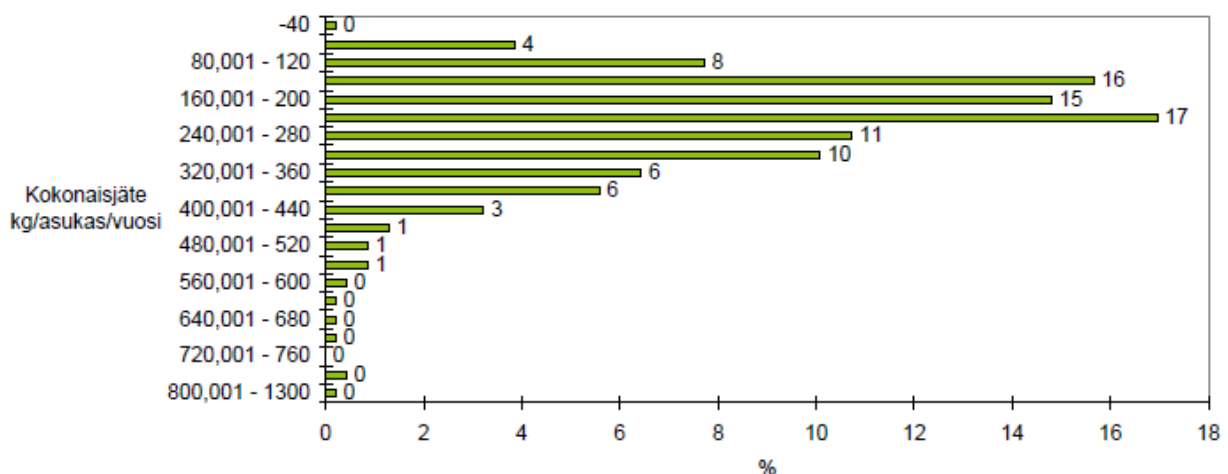


Figure 2: The amount of Waste produced per Kg/person/a.(the green bar present the percentage of persons producing certain amount of waste in kg)

YTV has stated in this study that most factors that affect the production of waste are: the household size, the income level, children's age, educational level and time spent at home.

Ekokoti project

Description:

The aim of Ekokoti project is the development of services and business models that support and motivate households and housing companies in mitigating climate change. Thus, sustain a sustainable lifestyle with the best daily choices and changes needed.

Ekokoti project is one of the KULTU program experiments: Ekokoti project is one of eight sustainable consumption and production programs.

“The KULTU Committee was set up by Finland’s Ministry of the Environment and Ministry of Trade and Industry in November 2003 to draft proposals for a national programme to promote sustainable consumption and production, aiming to increase the efficiency of the use of materials and energy in all stages of product life cycles. Part of the programme will also promote environmental education and the development and adoption of environmental production technologies.” (Getting more and better from less, 2005)

KULTU program aims:

- A wise Energy consumption and comfortable living;
- good quality food with less waste (www.saasyoda.fi);
- Smooth and low-impact caused by transportation.
- The program creates opportunities for green economy and creates jobs while reducing the household or the public sector’s environmental impact of greenhouse gas emissions.

The project’s goal is to provide an example to habitants of a house with minimum emissions and less environmental impacts of a daily life hood. The project aims as well to draw a possible studying program for environmental solutions designers.

Valonia

Valonia is a service center for sustainable development and energy of *Southwest Finland*. Valonia was established in 2008 when the Agenda 21 Agency and the Energy Agency of Southwest Finland merged. The sustainable development strategy, Regional Goals through Local Measures - Southwest Finland Sustainable Development Programme 2011–2014, defines what Valonia does.

“The main goal of cooperation for sustainable development in Southwest Finland has been to support and promote actions for sustainable development within municipalities, especially in sectors that are common for all but where municipal resources have been scarce and where cooperation generates the highest added value for the participants. Based on the joint planning work, the following were selected as focus areas: making water protection more efficient in sparsely populated areas, promoting sustainable mobility, increasing general awareness of environmental issues and developing environmental education”(Jokinen, 2010).

Valonia has several work teams with different interests and fields of expertise. Teams are working with issues related to energy and material efficiency, sustainable mobility, water protection and environmental awareness and education. Valonia offers services to

municipalities in Southwest Finland and its home organization is the city of Turku (Valonia, 2013).

Valonia has more than 20 employees, who are working on several projects. Such as:

-EETU – Energy solutions in favour of Southwest Finland

“During this project we are going to create a network of energy advisors. Our goal is to have an advisor in every subregion. With energy consulting it is possible to cut energy costs and to reduce greenhouse gas emissions. The target groups of the project are the entrepreneurs in Southwest Finland” (Valonia, 2013).

- PLEEC – Planning for energy efficient cities

“PLEEC project – "Planning for Energy Efficient Cities" – funded by the EU Seventh Framework Programme uses an integrative approach to achieve the sustainable, energy-efficient, smart city. By coordinating strategies and combining best practices, PLEEC will develop a general model for energy efficiency and sustainable city planning” (Pleec project, 2013)

Ekokoti

Valonia -Service Centre for Sustainable Development and Energy of Southern Finland- will give advices and motivate people to take the actions and choices that will lead to reduce their emissions and environmental impacts.

Technical programs and calculating methods are implemented to collect information about the household energy, water and fuel consumption, also their generated waste.

The development of calculation, measurement and monitoring tools will help to identify and map the effects of climate change, as well as help the household to take advantage of changes. Moreover, Valonia will organize various events in order to discuss with all actors everyday-life habits to minimize environmental impacts.

The tools that will be used are: <http://www.ilmastodieetti.fi/>, household energy, waste and people transportation measuring system and <http://www.pieniatekoja.fi/> (Figure 3).

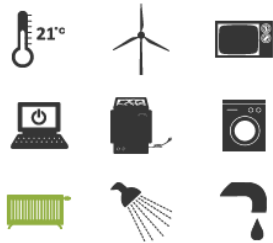


Jo 1757 tekoa

TEOILLASI ON VAIKUTUS

TEE EKOTEKO NYT!

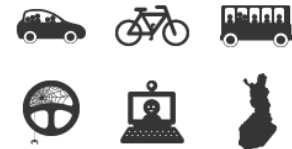
Tykkää 863

**ASUMINEN**

Klikkaa yllä olevia symboleja tarkastellaksesi tekoja.

**RUOKA**

Klikkaa yllä olevia symboleja tarkastellaksesi tekoja.

**LIIKENNE**

Klikkaa yllä olevia symboleja tarkastellaksesi tekoja.

Figure 3: Description of a tool used to encourage households to limit their emissions.

Through the Ekokoti project, the households will know about their Greenhouse gas emissions and will be offered information, tools and services to reduce these emissions, for this purpose, some companies that have the expertise in fields such as energy management, construction and innovation will be asked to join the project (Valonia, 2013).

The project is funded by the Ministry of Environment and the program will be carried out in cooperation with the Finnish Environment Institute (Syke), and other organizations such as: ekokumppanit, Ekoleima and Valonia. The project will be implemented in 2013-2014 (Syke, 2013).

Ekokoti Project will include the use of electronic devices to follow in real time the consumption of electricity, water (Since it appears that it needed a renovation of the water supply system to follow in real time the consumption of water. Rather than investing a lot of money on that. It has been agreed with all actors that the residents will note down at least 3 times per week their water's consumption) and fuel. These devices will be installed for few weeks (5-8) at the households in order to collect data. Valonia will ensure the availability and installation of these devices.

During the time that the devices are installed, the households should live normally their daily life, which will help to assess their environmental impacts, and therefore identify the best changes to adapt (Finnish Environment Institute, 2013)

Ekokoti project introduces the concept of eco-consultant, and the possibility to have an educative program of an eco-consultant. The eco-consultant will be offering services to householders, resident's associations, and other interested parties in order to reduce households environmental/ climate impacts.

To get information about household consumption, we needed a commitment from the consumer. Those consumers have chosen by their own will to contribute to this research. The benefit that the consumer will get is to be well informed about the real environmental issues and best advices in order to make him reduce his emissions. The actions that would be asked from the consumer to follow might make them save some money, as the main goal is to consume wisely, other way said: "Getting more from less, 2005" (Finnish Ministry of Environment).

In the bases of the framework of the programme for promoting sustainable consumption and production, Finnish Environment Institute has developed a project "Ekokoti" to observe the consumer behavior toward sustainable consumption in a small scale (household). Moreover, the Finnish Environment Institute is willing to try different approaches in order to affect the costumer's choices. Such project is applied in the city of Turku with the help of Valonia -Service Centre for Sustainable Development and Energy of Southwest Finland- (Finnish Environment Institute, 2013)

1.2 Aim of the study

This thesis aims at putting light on the benefit that could be gained from the development and application of projects such as Ekokoti. Where the consumption pattern is studied and influenced on a household level in order to strive for a more sustainable household.

1.3 Research Question

This study will try to answer to the following questions:

Does project such as "Ekokoti" contribute to the achievement of national objectives and strategies? Such as a final energy consumption which is approximately 10% less than the baseline. (Motiva, 2008)

Would the awareness of a consumer about the current issues be enough to make them contribute to a sustainable consumption?

2 Methodology

The project is focusing at the beginning on finding volunteer households that would like to take part of this study. The maximum number was set at 20 households, because the resources wouldn't permit to have more.

All households are living in the southwest Finland region, and they were contacted and asked to join the project through different events that were organized by Valonia service center for sustainable development and energy of southwest Finland.

At a first step the households were asked to fill an application about general information (type of house, mode of warming used at the house, kind of electronic devices used at the house, mode of transportation used...). Then the households will be informing in a weekly bases, how much water, electricity and other type of energy (oil, wood) they are consuming, as well as waste generated. At this phase which would last for several weeks (4-6), the data were collected, automatically with the help of electronic devices (with the use of internet), or by keeping a note book, where all data are saved until it is delivered to Valonia.

Project's workers from Valonia will also visit the household at least once to conduct an interview and observe the electronic devices used in the household.

The data collected were analyzed by experts of energy at Valonia, in order to decide on what are the most beneficial actions to take at the household. This advices will be personal, thus, each household will be getting advices according to their own situation.

In the thesis one family was studied in more details through interviews, internet based collection of data, workshops and personal visits and observations.

3 Result

Until the writing of this research, 15 households have been taking part in this project while it was planned to take 20 households.

All of these households have joined the project by their own will. Over half of these households were single family houses (Figure 4). This has made the collect of the data and the control of the consumption easy, as the house owner had their own meters and they could consult these freely.

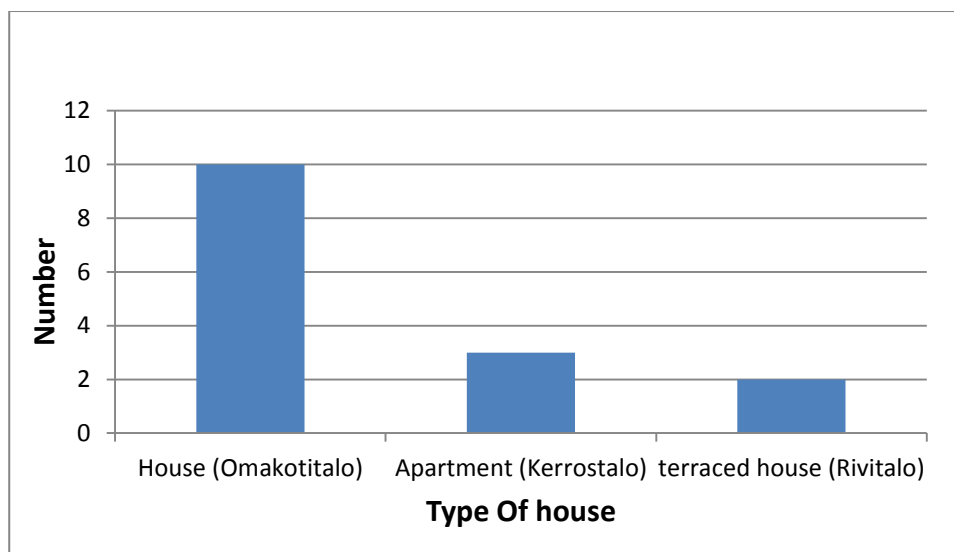


Figure 4: Type of house where the households are living.

As well, we could notice that the most interested households were from the same age interval (Figure 5). To say that almost all other members were living in a house owned by their parents.

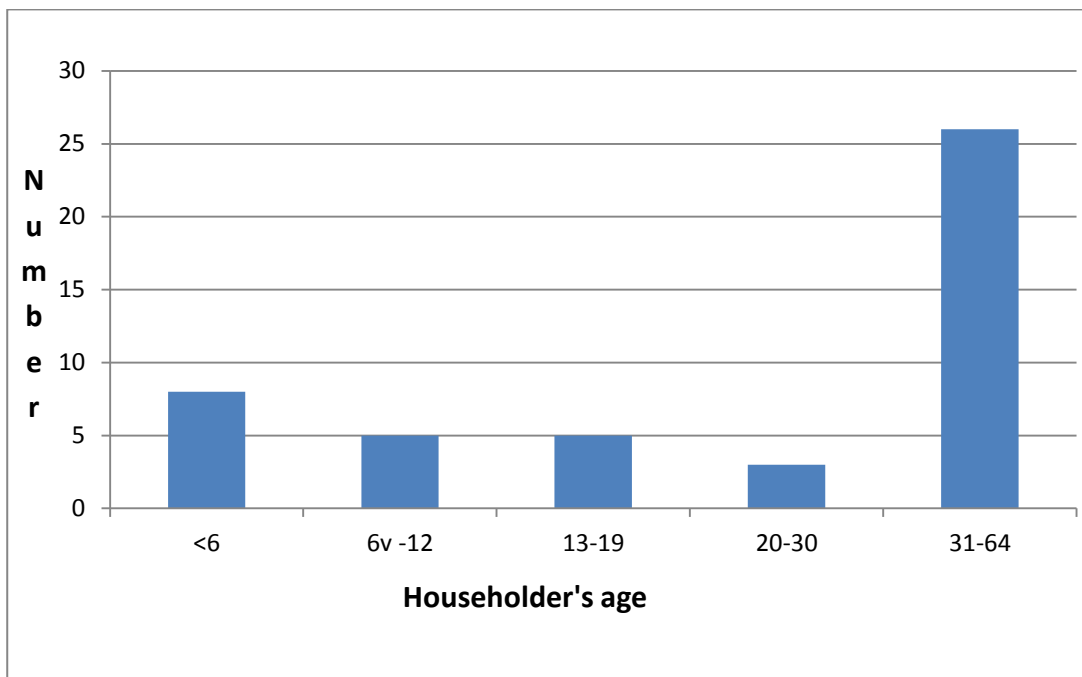


Figure 5: Age interval of household's members.

For most of the households, the consumption differs depending on many aspects. The most important aspects is the number of habitants in the household, but sometimes, the consumption was relatively important depending on other aspects, such as the number of electronic devices used in the household.

In some cases we found that the household is consuming more electricity than the Finnish average consumption that was mentioned in the report *Household electricity use 2011* (Ministry of employment and the economy).

The household example we are taking into consideration in this study is a family of six members. The members were presented in such age group:

Table2. The age distribution of household's members, Ekokoti (2014)

<6	6 -12	13-19	20-30	31-64
2	1	1	-	2

The consumption of this household was:

1. The electricity consumption:

In our Study, the household consumed 500 kWh/months (Figure 6). Thus, we could say that the household consume about 6000 kWh/year.

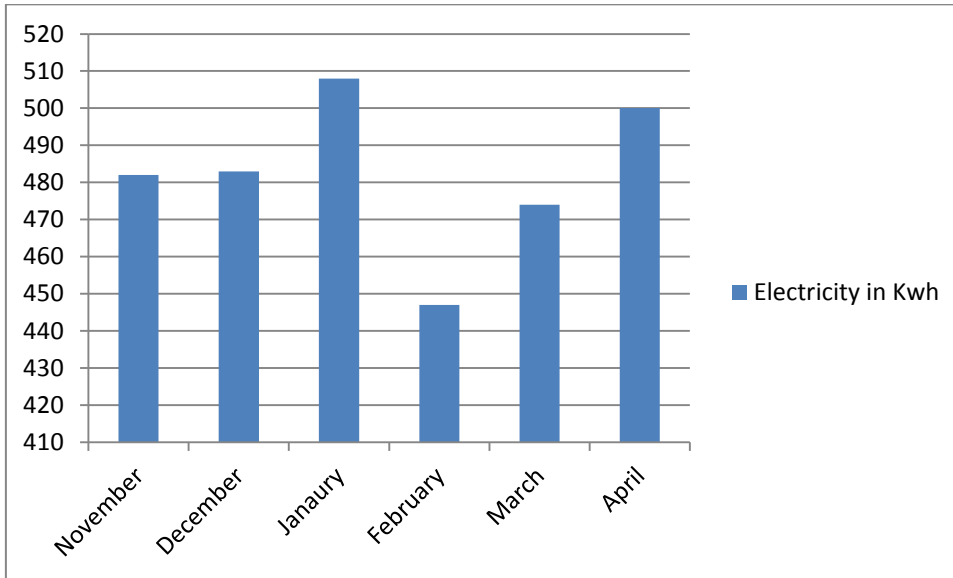


Figure 6: The household's final consumption of electricity between November and April.

This final residential consumption is quite close to the national consumption average that is mentioned in the report of the Finnish household electricity use in 2011(Figure 1).

2. The transportation:

The household that we took in this study was using only one mean of transportation, which was a car owned by the family. All trips to school, markets, and hobby's places were carried by car.

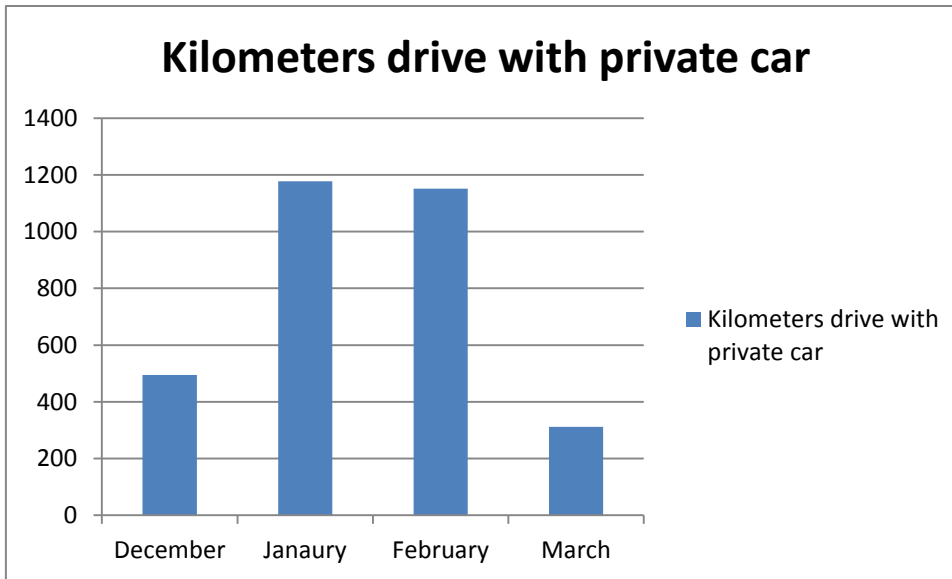


Figure 7: Amount of Kilometers drive with private car by the household.

As you can see from Figure 7, the driver of the car in this household drives about 34 km/day (1044 km/month), while the average of km driven a day is 30,5 km/day(Finland statistic, 2009).

3. The water consumption:

In this family case, the household water consumption was 38000 l/month, which means 204 l/day/ person (Figure 8). While the average water consumption in Finland is 155 l/day/person, (Motiva, 2013)

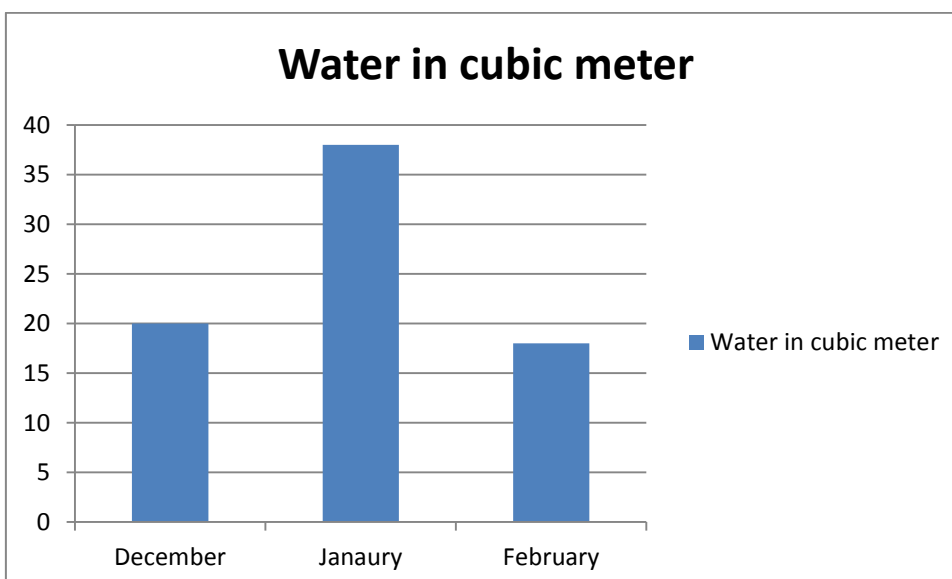


Figure 8: Amount of water in cubic meter used monthly between December and February.

4. The waste generated:

The household waste amount generated at the beginning was over 70 kg per month (Figure 9). Once the family was advised to sort their waste, the amount of mixed waste generated decreased by almost 40%.

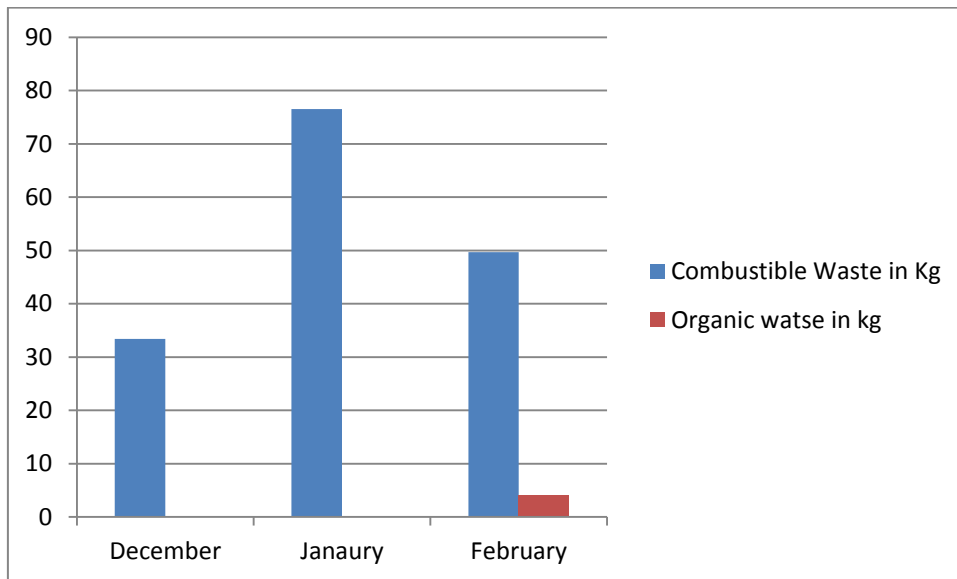


Figure 9: Amount of combustible waste generated between December and February.

In the household we have in this study, the amount of waste generated per capita per year was 160 kg. As this household is composed of 4 kids, the amount of waste generated is small relatively.

5. Carbon dioxide equivalent

The average emissions of CO₂ cited by the Finnish Environment Institute (SYKE) are 1700 kg per capita per year. Most of this emission comes from the transportation (SYKE, 2011).

In our study, the amount of emissions was about 740 kg/capita/ year. To note that in our study the emission were calculated based only on the transport and electricity usage (Figure 10).

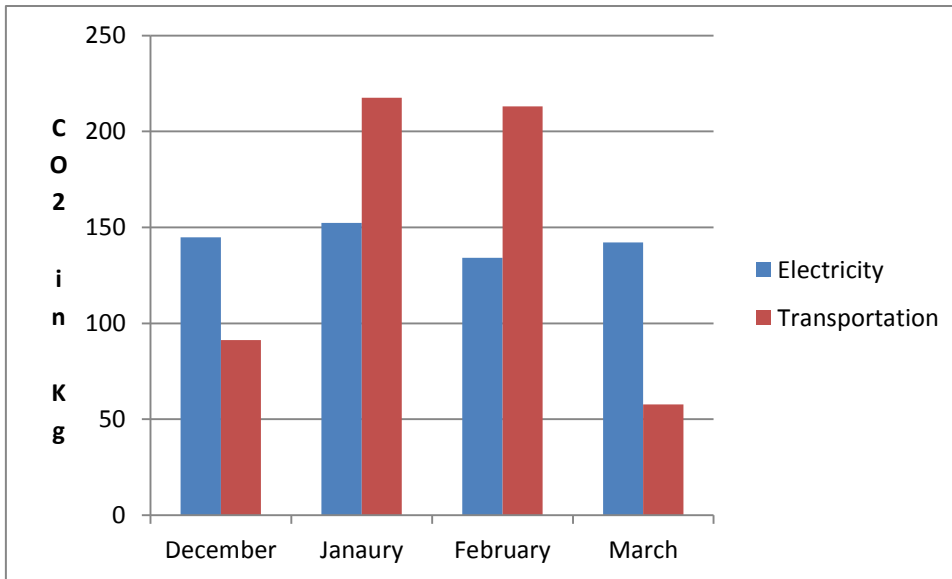


Figure 10: Equivalent carbon dioxide in Kg emitted by the household.

4 Discussion:

Many of household's actions are not sustainable. Households that take part in development program such as Ekokoti tend to adapt their consumption patterns, in order to meet average amounts cited by authorities. Nevertheless, they do not always succeed.

We have advised the household to encourage their children to start using bikes more often, or use public transportation, for instance going to school, instead of driving with car. But it was not easy for them to follow these advices. In father's point of view, one of the kids still too young and the place of his hobby often changes (football halls and or stadiums).

Another challenge for the parents was that the use of bikes or public transport would take extra time that they could otherwise use for more important things, like having more time for kids.

Project Ekokoti alone could not change the household's member's behavior. Nevertheless, it helps them to understand in which part of their daily livelihood they could improve their sustainable living. It is mostly about the awareness that it develops in people minds, and the discussions that start when households meet.

The encouragement of relatives or friends to join this project was a good way to sense the motivation of households that were taking part of the project.

The biggest challenge from one hand, was the project scale, as twenty households were definitely not enough to develop a good image of the impacts that Ekokoti project could have or/and the added value that we could conclude. On the other hand, the lack of data on residential/household

consumption leads sometimes to a mismatch in the results. As in many cases, the studies that have already been made, give numbers that are far away from the result found with the Ekokoti project. This could be because of the fact that Ekokoti project is the first of its kind, which calculate the detailed final consumption of electricity, for instance.

As it is to notice the final consumption within the same project was varying without any noticeable trend. On one hand, it increased with higher number of members in a household, but on the other hand, the income, life style and amount of electrical devices played a significant role in the amount of electricity used in a household.

According to the study, the total amount of waste produced ranged from 35 kg to 1300 kg/person/a (YTV, 2007). While in our study the total amount of waste produced was 140 kg/person/a. The household inside the average interval of waste produced because their waste production amount matches with the results found by YTV.

Households could be encouraged to decrease their emissions through the help of different projects such as Ekokoti. This kind of projects could be a great tool for that, as with their participation we help in increasing the awareness of people that they could contribute to save the planet and majorly improve their living environment just by "lowering" the life standard, so they start making changes before new technologies, laws and regulations come into action. Just like Mohan Munasinghe (2010) have explained in his writings.

In order to obtain much more reliable data, it would be necessary to have more than 50 households, that would be selected according to some specific characteristics, e.g. income of the members, level of education and number of members, living in the same household, which would give more meaning to the results and we could make out of them better conclusions.

Second, I would consider taking a longer time for this study, as more time is needed to collect the data I needed for making my final detailed conclusion.

Third, I would try to get some companies involved in my study, as they could provide me with relevant data. Companies as Turku Energia, regional transportation companies and Turun Seudun Jätehuolto –Turun Seudun Jätehuolto is charged to treat the waste produced in the southwest region of Finland, the handling of waste, and the provision of guidelines and advice regarding waste disposal-.

Bibliography

Brewer, J & Porter, R., 1993. *Consumption and the World of Goods*. Oxon: Routledge.

Darby Sara, *The effectiveness of feedback on energy consumption*, 2006. Environmental Change Institute, University of Oxford.

<http://www.eci.ox.ac.uk/research/energy/downloads/smart-metering-report.pdf> (Retrieved 05.05.2014)

Dietz, R & O'Neill, D., 2013. *Enough is enough Building a sustainable economy in a world of finite resources*. Oxon: Routledge.

Finland statistics, *CARBON DIOXIDE EMISSIONS CAUSED BY PRIVATE CARS IN FINLAND, 2009*.
https://tilastokeskus.fi/ajk/poimintoja/carbon_emissions.pdf (Retrieved 24.04.2014)

Finnish Environment Institute, *Ekotehokkuutta kotitalouksien arkeen ja muutostilanteisiin (EKOKOTI) 2013*. (In Finnish)

<http://www.syke.fi/fi->

[FI/Tutkimus_kehittaminen/Tutkimus_ja_kehittamishankkeet/Hankkeet/Ekotehokkuutta_kotitalouksien_arkeen_ja_muutostilanteisiin_EKOKOTI](http://www.syke.fi/fi-Tutkimus_kehittaminen/Tutkimus_ja_kehittamishankkeet/Hankkeet/Ekotehokkuutta_kotitalouksien_arkeen_ja_muutostilanteisiin_EKOKOTI) (Retrieved 16.04.2014)

Finnish Environment Institute, *ilmastovaikutukset, 2011*

http://www.hinku-foorumi.fi/koti/fi_FI/ekokoti (Retrieved 24.04.2014)

Finnish Government, National Energy and Climate Strategy. *Government Report to Parliament on 20 March 2013*

<http://www.tem.fi/files/36292/Energia->

[ja_ilmastostrategia_netijulkaisu_ENGLANNINKIELINEN.pdf](http://www.tem.fi/files/36292/Energia-ja_ilmastostrategia_netijulkaisu_ENGLANNINKIELINEN.pdf) (Retrieved 9.04.2014)

Finnish Ministry of Environment. Programme to Promote Sustainable Consumption and Production.

http://www.ym.fi/en-US/The_environment/Sustainable_consumption_and_production (retrieved 7.04.2014)

Finnish Ministry of Environment. Getting more from less, the committee on Sustainable Consumption and Production, Finland

http://www.ym.fi/en-US/The_environment/Sustainable_consumption_and_production (Retrieved 8.04.2014)

Helsinki Region Environmental Services Authority HSY, *Waste Flows of Helsinki Metropolitan Area, 2012*.

<http://www.pksjatevirrat.fi/?mo=stats&y=2012&rm=3> (Retrieved 24.04.2014)

John Ikerd, Choices and Consequences for the Future of Food and Farming, 2003.
http://web.missouri.edu/ikerdj/papers/Sweden-Revised.htm#_ftn2 (Retrieved 14.05.2014)

Jokinen Mikko, REGIONAL GOALS THROUGH LOCAL MEASURES, Southwest Finland Sustainable Development Programme 2011–2014, 2010.
<http://www.valonia.fi/public/download.aspx?ID=180741&GUID=%7BC38A6875-FE5D-4A51-8052-44289F070F3C%7D> (Retrieved 13.05.2014)

Ministry of employment and the economy: “Kotitalouksien sähkönkäyttö 2011” In Finnish
http://www.tem.fi/files/35856/Kotitalouksien_sahkonkaytto_2011_raportti.pdf (Retrieved 15.04.2014)

Motiva- National Climate and Energy Strategy, 2008.
http://motiva.fi/en/energy_in_finland/national_climate_and_energy_strategy (Retrieved 7.04.2014)

Motiva, Water use in Finland, 2013.
http://www.motiva.fi/koti_ja_asuminen/mihin_energiaa_kuluu/vedenkulutus (Retrieved 24.04.2014)

Munasinghe, M. (2010). Can Sustainable Consumers and Producers Save the Planet? *Journal of Industrial Ecology*, 14 (1), 4–6.

Pleec Project, Planning for Energy Efficient Cities, 2013.
<http://www.pleecproject.eu/> (Retrieved 13.05.2014)

United Nations. Climate Change.
<http://www.un.org/climatechange/blog/2011/12/13/canadas-withdrawal-from-kyoto-protocol-regrettable-un-climate-official/> (Retrieved 7.04.2014)

United Nations. Report of the United Nations Conference on Environment and Development.
<http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm> (Retrieved 7.04.2014)

United Nation, The future we want, 2012
<http://www.uncsd2012.org/content/documents/727The%20Future%20We%20Want%2019%20June%201230pm.pdf> (retrieved 8.04.2014)

United states Environmental Protection Agency. Climate Change: Basic Information
<http://www.epa.gov/climatechange/basics/> (Retrieved 7.04.2014)

Valonia, Sustainable Consumption and Material Efficiency, 2013
<http://www.valonia.fi/public/default.aspx?nodeid=14091&culture=en-US&contentlan=2>
(Retrieved 29.04.2014)

World Bank. Electric power consumption (kWh per capita), 2011.
http://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC?cid=GPD_28 (Retrieved 16.04.2014)

YTV Helsinki Metropolitan Area Council, Pääkaupunkiseudun kotitalouksien jätemääriin vaikuttavat tekijät, 2007.
http://www.hsy.fi/jatehuolto/Documents/Julkaisut/kotitalousjate_julkaisu_2007.pdf (Retrieved 29.04.2014)

Appendices

Appendix 1: Household's information (a questioner used at the first meeting with household to collect general information about the house and habits of people living in it)

TALOUDEN PERUSTIEDOT

- Asumismuoto ja paikkakunta
- Neliöt
- Kuinka monta asuu ja asukkaiden ikäjakauma (miehiä, naisia, lapsia)
- Lemmikkieläimet

ASUMINEN

Energia

Lämmitysmuoto:

Sisälämpötila eri huoneissa:

- olohuone
- keittiö
- makuuhuoneet
- kylpyhuone
- muu lämmitetty tila

Sähköllä toimivien laitteiden lukumäärä:

Kuinka monta laitetta on yleensä valmiustilassa?

Valaisimien lukumäärä:

- hehkulamppuja
- energiansäästölamppuja
- LED valoja

Sauna

Kuinka monta kertaa saunotaan /viikko

Saunan lämmitysmuoto: puu/sähkö

Miten vesi lämmitetään:

Talon lämpöeristys

- Mitä eristystä on käytetty?
- Onko eristyksessä teidän mielestänne ongelmia?

Pohdintaa

Kiinnostaako laitekohtainen sähkönkulutuksen seuranta?

Jätteet

Miten taloudessanne lajitellaan jätteet?

Mihin jätteet viedään?

Onko jätteiden lajittelussa teidän mielestänne hankaluuksia?

Onko taloudessa komposti?

Kulutus

Käytätkö ympäristömerkittyjä tuotteita:

- pesuaineet
- vaatteet
- elektroniikka, (energiamerkki)
- kalusteet

Ostatko käytettyjä tuotteita?

RUOKA

Ruokavalio: sekaruoka/ kasvisruoka

- erikoisruokavaliot
- allergiat

Säilytystilat

- jääkaapin koko
- pakastimen koko
- maakellari
- muu

Keräilytuotteiden käyttö

- marjat, sienet
- metsästys
- kalastus
- kasvimaa
- villiyrtit

Käytetäänkö taloudessanne

- luomuruokia
- reilun kaupan tuotteita
- sesonkituotteita

Suositaanko paikallisia tuottajia/tuotteita?

Mitä?

Pohdintaa loppuun:

Oletko valmis näkemään vaivaa ruoan ympäristövaikutusten vähentämiseksi?

Syntyykö ruokahävikkiä?

Mitä ylijäämäruoalle tehdään? komposti/ koira ym./ uusioruokaa/ pakastus

LIKKUMINEN

Työmatkat

- matkan päivittäinen pituus
- millä kulkuvälineellä
- kuinka monta ihmistä kulkee samalla kyydillä
- teetköt etätöitä/ kuinka monta päivää per kuukausi

Kauppamatkat

- matkan pituus
- kuinka monta kertaa/viikko
- millä kulkuvälineellä

Harrastukset

- matkan pituus
- kuinka usein
- millä kulkuvälineellä
- kuinka monta ihmistä kulkee samalla kyydillä (kimppakyydit)

Yhdistetäänkö eri matkoja, esimerkiksi kauppa + harrastukset?

Kuinka paljon polttoainetta kuluu/km?

Pohdinto

Oletteko perehtyneet taloudelliseen ajotapaan?

Appendix 2: Invitation to a work shop held at Valonia the 8 of march 2014.

KUTSU ● ● ●

Ekokoti – työpaja 8.3.

klo 9-14

Valonia, Vanha Suurtori 7, Turku

Tervetuloa viettämään inspiroivaa lauantai aamupäivää Valoniaan!

Nyt perheellänne on mahdollisuus vaikuttaa siihen, millaisia palveluita tulevaisuudessa on tarjolla kotitalouksille. Samalla saatte edistää omaa hyvinvointianne sekä ympäristöystävällistä arkea ja napata itsellenne mukavan palkkion.

Kiitokseksi osallistumisesta yhteistyöyritykset ja Valonia tarjoavat jokaiselle osallistujalle kotitaloudelle pienen lahjan. Lahjan arvo vaihtelee energiapihistä tuotelahjasta n. 120 € arvoiseen palveluun ja ne jaetaan arvonnalla perusteella.

Talo tarjoaa osallistujille lounaan ja kahvit.

Haluamme tuoda saman pöydän ääreen kotitaloudet, jotka käyttävät erilaisia palveluita sekä palveluja tarjoavat yritykset. Yhdessä ideoiden kehitetään kotitalouksille sellaisia palveluita, jotka **tekevät elämästämme mukavampaa ja samalla energiaviisaampaa.**

Päivään osallistuvat mm. Kauppilan Koti ja Piha, Punahilkka kotipalvelut ja Hoppu Halli.

Janne Korhonen aloittaa päivän kertomalla mistä ympäristöjalanjälki koostuu ja mihin kannattaa vaikuttaa. Keskustelemme siitä mikä tekisi elämästämme mukavampaa ja mikä toisi lisäarvoa. Miksi emme tee niin?

Yhdessä yritysten kanssa ideoidaan, miten teidän toiveet voitaisiin toteuttaa. Jos kaikki olisi mahdollista, minkälaisen palvelun haluaisitte?

Mukaan mahtuu yksi henkilö per talous.

Ilmoittautuminen Martina Uotiselle viimeistään 18.3.
050-360 0203, martina.uotinen@valonia.fi



**Ilmoittautuminen viim.
18.3.**

martina.uotinen@valonia.fi

050-360 0203

Päivän asiantuntijat

Janne M. Korhonen (DI, IDBM) on tällä hetkellä viimeistä vuottaan täysipäiväinen jatko-opiskelija Aalto yliopiston kauppakorkeakoulussa. Hänen tutkimuskysymyksensä on tiivistetysti: "onko pakko keksintöjen äiti – ja kuka lieneekään isä?" Väitöskirjatyönsä ohella hän toimii kouluttajana ja konsultoivana ympäristövaikutusten laskijana Seos Design Oy:ssä, joka on kestävään muotoiluun intohimoisesti suhtautuva suunnittelutoimisto. Janne oli mukana perustamassa Seos Designia vuonna 2007.

Tekstiisuunnittelija **Marja Eivola** (MA) on materiaali- ja asiakaslähtöinen co-designeri, jolla on myös markkinoinnin kokemusta. Marjan vahvuuksia ovat sosiaaliset ja visuaaliset taidot. Tuotteiden, palveluiden ja konseptien kehittämisessä on aina mukana kestävä liiketoiminta-ajattelu. Fasilitaattorin ja kannustajan rooli sopii Marjalle hyvin. Tällä hetkellä hän on erityisen kiinnostunut lisäarvoa/elämyksiä tuovien palvelujen kehittämisestä ja tuo niihin palvelumuotoilijan näkökulmaa.