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Report on 2 LIFE EconomisE innovation events

Introduction

This report covers two innovation events organized by the LIFE EconomisE team in the framework of Action C1. The large-scale innovation project for the Green Office network members had its culmination at the innovation workshop. The other innovation event took place on 23 January 2019 in the premises of Kuntarahoytus (Municipality Finance). The aim of the workshop that gathered around 30 participants was to match energy efficiency solution providers and municipalities representatives to discuss why municipalities do not take bigger steps in improving energy efficiency of buildings and create ideas what energy efficiency solutions can be taken on-board.

Green Office innovation project and the event

Preparatory works for the organisation of a large-scale innovation event for the Green Office network members started in spring 2018. WWF Green Office guides workplaces to function sustainably and helps them build an efficient environmental management system. Green Office helps offices reduce their ecological footprint, use natural resources wisely and protect biodiversity. Energy efficiency is naturally a crucial part of the Green Office system. The LIFE EconomisE team has been actively involved in the process of reforming the Green Office network system. The main replicable product of this process is the new real estate EE indicators' tool and the EE improvement projects implemented or planned by the GO members. The culmination of this work was the introduction of the new tool to the GO members during the Innovation Workshop which was organised by the LIFE EconomisE project and took place in the premises of Kojamo (15 November 2018). 37 persons participated in the workshop and another 25 followed online. After the introductory part, the participants were divided into four groups and worked over the following subjects with the discussion moderators: (1) effective use of office space; (2) how can the Energy Leap platform serve the needs of the GO members; (3) EE indicators for real estate; (4) environmental aspects of real estate investments. The LIFE EconomisE project manager also challenged Green Offices to share their energy efficiency projects on the Energy Leap website. This would make GO experience available to all as there still is a burning need in Finland for more successful energy efficiency projects to inspire others and to get closer to the Paris agreement and the EU buildings emissions targets. The EconomisE team has been involved in the development and implementation of 10 EE projects already implemented or planned to be implemented within the GO framework.



The environmental certificate WWF Green Office was updated by the LIFE EconomisE platform expert team during 2018 to better serve the offices. New criteria and tools are taken into use with new Green Offices immediately and will be deployed in the current Green Offices during 2019. In July 2018 in Finland there were 143 Green Office organizations with a total of 382 offices and 59 000 employees. The Green Office is suited for small and big workplaces: companies, public sector and NGOs. In 2017 WWF's Green Offices in Finland reduced greenhouse gas emissions by 7 680 t CO₂. Since 2007 the total reduce has been 63 000 t CO₂. In 2017, 57 % of Green Offices used electricity from renewable sources.

The Green Office certificate takes into account the entire work environment as seen in the picture 1. The most important thing is to commit the whole work community to act sustainable way. The Green Office work is guided through seven themes: management, communications and engagement, energy and water, procurement, recycling, sorting and cleaning, travel and food. Themes were also updated, and one new were added: management. It's important to commit company management to achieve markable changes in the workplace.



Picture 1. Green Office includes all aspects of working life

The aim of the WWF Green Office is to guide offices to act sustainably and reduce carbon footprint. The certificate encourages continuous improvement. When an office decides to take part to Green Office, there is gathered Green Office team from the company employees. The team makes an assessment with provided tools to gain information about the current situation in the workplace. What should be done is then quickly seen and after that next steps to achieve sustainable workplace will be planned. WWF helps the teams to identify development targets.

Other annual tasks of the teams are plan, monitor and implement actions. The offices can freely choose what themes they focus on, but the minimum is three defined actions annually. Before the update the offices had to define one action per criteria. The offices felt that it was too heavy for them to implement so many

actions and secondly people nowadays are more environmentally aware and now with the updated system, the offices can decide yearly on what theme/themes they focus.

The offices report achievements through My Green Office portal to WWF and calculates their carbon footprint annual. At the same time, they can make comparison to see how they are doing compared other offices in the same segment. The offices get support, tools and information from WWF and the selected offices cooperate with the LIFE EconomisE project. WWF experts also audit offices every third year. After passing the audit, the office receives the Green Office certificate.

During the Green Office update energy efficiency got a bigger role as the energy consumption usually accounts for the biggest share of the environmental impacts of an office. The new criteria focusing on the energy use are listed in the table 1. The criteria are more detailed as previously the aim was just to improve energy efficiency continuously in order to mitigate greenhouse gas emissions. In addition, new tools were added to toolbox to help offices. In the table 2, there are introduced the tools which has a role in reducing energy consumption.

Table 1. New Green Office criteria focus on energy efficiency

Criteria	More information about the criteria
Promote the energy efficiency of the premises	Discuss the development of energy efficiency with a representative of the property owner on a regular basis, at least once every three years. You can make use of the Green Office property scorecard. Aim to promote the identified development needs.
Prefer electricity generated using renewable energy sources	Regularly discuss the possibility of switching to electricity generated using renewable energy sources. Prefer solar or wind power or generate electricity in-house.
Reduce electricity consumption	Take energy efficiency into consideration in lighting solutions. Update the energy-saving settings of devices and ensure that lights and devices are switched off after use.

Table 2. Tool palette for the Green Offices to reduce energy consumption. Marked with X if new tool, without updated.

	My Green Office	Previously named Kompassi, now My Green Office. My Green Office is reporting and information portal for Green Offices. The site is completely redesigned. There are e.g.: <ul style="list-style-type: none"> - revised self-assessment form - reporting portal where actions, targets and after the year also assessments of success is made - example list of actions, at least 10 actions per criteria: offices can use these or plan their own - materials for the campaigns and sustainable procurement guide
x	Green Office property scorecard - see annex A	Aim of the tool is increase discussion and exchange of information between property owner and tenant (office). Tenant can influence property owner to do energy efficiency renovations and changes in the premises. Scorecard includes: <ul style="list-style-type: none"> - basic information - electricity use in office and building - heating and cooling - water use

		<ul style="list-style-type: none"> - recycling and sorting - motivation
x	Management review	To Green Office teams is provided power point - presentation with what they can report the achievements and actions to company management.
x	Guide for sustainable procurement	Introduction to sustainable procurement in several sectors e.g. electricity, ICT appliances, investments and what to take into account when invite tenders.
x	Campaign materials to spread information, commit and activate employees	For the Green Office teams to promote different themes in their offices. WWF provides materials on average twice a year through My Green Office. First campaign was in autumn 2018 and theme was energy efficiency, see picture 2.

EconomisE -project: Energy efficiency projects in Finnish municipalities -workshop

The aim of the workshop that gathered around 30 participants was to match energy efficiency solution providers and municipalities representatives to discuss why municipalities do not take bigger steps in improving energy efficiency of buildings and create ideas what energy efficiency solutions can be taken onboard.

Participants were divided into three groups with a facilitator, municipality representatives and energy efficiency solution providers. Two introductory speeches by the energy expert Tero Viander from Valonia (Service Centre for Sustainable Development and Energy of Southwest Finland) and the energy expert Tero Hirvelä from Jyväskylän Tilapalvelu launched the workshop. Tero Viander focused in his speech on what are the challenges concerning energy efficiency improvements in municipalities. Municipalities have done several actions e.g. invested energy saving renovations and renewable energy. One challenge is that municipalities have a large building stock which includes buildings from different decades and with different purposes like schools, rest homes and residential buildings. Although plenty has happened, there are still many barriers. Mr. Viander pointed out what kind of small problems there are in municipalities. These need to be solved before bigger changes are done. Luckily problems are easy to solve if they are noticed. One common problem is uneven heat distribution in buildings caused by e.g. jammed thermostat and problems in building services like ventilation. In addition, property users must do their share: shut down the lights and close the doors. Mr. Viander summarized the challenges:

- in buildings: problems aren't noticed or founded
- in building management: time is prioritized to basic tasks
- in policy-making: projects that are "politically right ones" go first
- in practice: resources are limited, and public procurement act makes tendering harder

Tero Hirvelä, Jyväskylän Tilapalvelu, introduced ESCO (energy service contracting) procurement and its possibilities as one solution to promote energy efficiency in municipalities. ESCO projects are funded with realized energy savings and service provider is responsible that the targets are met. The ESCO procurement is heavy and time-consuming process and this is probably why there is not yet many implementations. Mr. Hirvelä encouraged municipalities to try ESCO procurement as there is also room for innovation.

After the speeches, participants were divided to three groups so that in all groups there were facilitator, municipality representative and couple of energy efficiency solution providers. The workshop was organized as follows:

1. Individual brain storming session about the theme of the group.
2. Discussion about the ideas and thoughts brought up by brain storming session.

3. Finding solutions and needs to achieve energy efficient building stock.
4. Municipalities representatives changed the table. In second round the brain storming session was skipped, and the groups focused straight to find solutions and co-operation possibilities.
5. The groups told shortly their thoughts to the other groups.

GROUP 1: How to optimize municipalities human and financial resources? Resource wisdom can mean co-operation between municipalities, when especially smaller municipalities benefit from synergies. Municipalities resources (time, workforce and knowledge) are really limited and it's the main challenge in boosting energy efficiency of buildings. It was noted in discussion that in municipalities there should be one employee who concentrates on co-ordinate energy and climate issues, but now energy and climate issues are divided in most municipalities to several employees. Energy efficiency interests' municipalities, but the implementation has its challenges. Even the zero risk investments are frozen if the future of the building is unclear. Municipalities demand that solutions must provide measurable results because then it's easy to justify the investment. Municipalities want low risk investments with good results. In some municipalities there is also lack of knowledge concerning procurement and planners have out-of-date information concerning energy efficient solutions. It's important to take planners to discussions with municipalities other representatives and solution providers. In addition, it's needed that decision makers and managers in municipalities commit to drive and make decisions to gain energy efficient building stock. They also need more and up-to-date information about energy efficiency and climate.

What is needed?

- More information (training courses etc.) to planners and decision makers in municipalities
- Know-how about different procurement models
- Impartial body who provides information and calculation tool for comparing e.g. HVAC solutions

GROUP 2: Finding ways to document the benefits of investments, will make profitability clearer. Payback-time and interest rate were the core of the discussion. Payback-time is typically directive and accurate evaluation is hard. In addition, the savings cumulated over the time should be included in the calculation as typically, there aren't big savings straight after the investment. While calculating paybacktime, the cost used in calculation is crucial, e.g. the instantaneous electricity price isn't comparable, but the average price doesn't tell the truth. Also, when comparing savings from heating, annual variation (cold vs. warm year) need to be taken into account. After that it is possible to see real savings or cost increases. Data (heating, electricity and water use) is usually available, but how much it is utilized is different story and varies between municipalities a lot. If municipalities open the data accessible to all, the companies and other solution providers may use it to find saving potentials. When planning energy efficiency investment, it is vital to make comparison between different solutions. Standardization of calculation eases comparison and makes offers also comparable.

What is needed?

- Reduce climate emissions
- Better use of data from buildings → open data?
- Financing for green projects
- Standardization of calculation in energy efficiency, carbon foot print, life cycle analysis and life cycle costs → offers are comparable

GROUP 3: How energy efficiency and other aspects of building maintenance affect each other and how they can be organized so that they support each other?

Previously energy efficiency improvements have caused mold and air quality problems in schools and that way much bigger costs. Challenges have decreased as the problems have been identified, the functioning of the structures is better known, and energy efficiency implementations are monitored and

evaluated. Still there are some mistakes that are repeated several times in other buildings and in other municipalities. Information change between the municipalities is needed: what have gone wrong and good practices. E.g. to avoid problems, in some municipalities there are principle that ventilation is all the time on. Building maintenance and early-stage repairing are the basics of healthy and working building. Technology to monitor buildings is available and quite cheap. ESCO procurement is heavy process and the risk is that property managers don't have time, budget or knowledge for that. Could co-operation between municipalities be the solution? In addition, it should be considered whether it is more profitable to repair or build new building.

What is needed?

- Information and motivation
- In municipalities: one employee who focus on energy efficiency projects and implements
- For municipalities: independent service for tendering, e.g. www.energiavalinta.fi where citizens can make quick comparison between different heating systems.



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