

Title of the workshop: Technology, Goal setting and Behavioural nudges: 1000 ways to save energy

Workshop track: Track 3: Affordable & clean energy - Ensure access to affordable, reliable, sustainable, and modern energy for all

Learning Curve: Experimentation

Abstract:

Background, history, context of the workshop

The workshop takes its roots on two different yet similar experiences both aiming at increasing the effectiveness of traditional technology-based methodologies for energy saving in public buildings, and namely in schools. This means reducing energy consumption using non-technological measures, such as proper behaviour of final users, smart metering, rational use of space and time by building managers, and rational use of small scale investments by building owners. To these experiences a quite different experience from large scale energy planning achieved by integrating the energy theme into spatial planning, landscape and socio-economic priorities is added, to demonstrate and manifest that energy turnaround at any level, i.e. from a school to a European region is mainly constrained by non-technological barriers. Measures and action to bridge the gap between perception and reality of energy related projects' impacts is the key of success of any technically sound energy project.

Main aim / objective – what is the workshop about

An alternative approach, based on an appropriate “social” dimension (goal-setting, behavioural nudges) combined (but not necessarily) with even minor technological innovations, may lead to significant improvements in the final result. The main expected objective is raising awareness on how much people can contribute to save energy in public buildings even without the need of important and expensive technological investments.

Expected outcomes, intangible/tangible results to be gained (e.g. is the workshop aiming to:

Participants will be requested to practice a simulation on how to organize and promote energy saving activities, behaviours and operations in a public building. No specific technological or managerial background is required: on the contrary, an open minded and non-biased approach may lead to unexpected and brilliant solution to be put into practice.

Why should the applicant choose your workshop? What is in it for them?

The Workshop is mainly addressed to two categories of potential attendees: Energy professionals developing a particular interest in non-conventional energy-saving, and those who are coming from other tracks and might be attracted by the opportunity to experience new fields of applications for the LL principles. As mentioned above, no specific technological or managerial skill is required to actively participate.

Outline & methods

The organizing LL are:

Energy Living Lab, initially a pilot project of the HES-SO (Switzerland), aims to bring together public institutions, companies, the academy and users in order to imagine and co-develop new viable energy solutions. The aim of the Energy Living Lab is therefore to empower energy users (citizens, employees of private companies, members of the users' association, etc.) and to integrate them into the innovation

process, motivating them to participate, encouraging bottom-up dialogue and turning ideas into sustainable business products or services. The Energy Living Lab is currently working on two projects: The first one, called “UserGap”, tends to measure and understand the influence of users on the performance gap in high energy performance collective buildings. This project is led on a national level and supported by the Swiss Federal Office of Energy (SFOE). Another project has the aim of encouraging the development of decentralized energy community in a high mountain village. To reach this objective, the pupils of the village primary school were integrated into the reflection, at the same level as the municipalities.

Green Schools, developed by the Province of Treviso (Italy) from an experience in Operation and Management of more than 100 school buildings for the upper secondary education. Green Schools aims at involving public buildings users to play an active role in the process of energy management. Since 2016, this process has been strengthened by the participation of the Province of Treviso, as Lead Partner, to two EU funded projects aiming at enhancing the participation of users to save energy in public buildings, and namely in schools: TOGETHER in the Interreg Central Europe programme, and EduFootprint in the Interreg Mediterranean programme.

INTENSSS-PA, project aims to inspire and build capacity to public authorities and societal actors in order to develop integrated, sustainable energy plans, i.e. plans that will be feasible, bankable and most important acceptable by the community. The project is funded by HORIZON 2020 Programme and involves seven European Regional Areas. A Regional Living Lab has been established in each area in order to provide an appropriate environment, where through experiential learning stakeholder groups can co-plan integrated sustainable energy plans, i.e. plans that address the energy theme by taking into account society needs and landscape priorities and constrains supporting in this way regional development. The Energy Living Lab is currently working on two projects: The first one, called “UserGap”, tends to measure and understand the influence of users on the performance gap in high energy performance collective buildings. This project is led on a national level and supported by the Swiss Federal Office of Energy (SFOE). Another project has the aim of encouraging the development of decentralized energy community in a high mountain village. To reach this objective, the pupils of the village primary school were integrated into the reflection, at the same level as the municipalities.

The workshop will start with a general overview of the initiative, and a brief presentations of the 3 experiences in which the workshop takes its roots. A reference to the concept of “Demand Side Management” promoted by the International Energy Agency (IEA) will also be made, especially to emphasize the role of the so-called IEA DSM equation: $R = P \times A$, where R is the final result, P the potential saving of a given Energy Saving measure, A its level of acceptance. The meaning of the equation is to represent the fact that even the most effective energy efficiency measure (investment, behaviour, organizational standard) produces a lousy effect without acceptance. Every number multiplied by zero is zero!

How we build acceptance? Experience revealed that this, in all levels of planning and projects size, can be achieved by participation of the impacted groups within the planning process and by considering while planning all different aspects of impacted groups objectives. Express it differently, by developing holistic plans (micro, meso or large scale) through a co-planning approach involving planners and designers as well as projects’ owners, users and adjacent entities impacted by the plan.

Each presentation will emphasize the aspects of the experience which are more closely related with the workshop thematic, (energy saving in public buildings through non-technological and non-conventional methods).

Then the subject of the interactive part will be introduced.

Participants, divided in groups (4 groups will be fine, but the number may vary according to the total number of participants) are requested to draft an energy efficiency plan for a given public building, using a combination of different elements, to be chosen from a list provided by the workshop organizers. (A first draft of the list is attached) The elements included in the list represent the typical tools that may be used for a campaign of behavioural and organizational measures for energy saving, such as the organization of workshops and seminars for students, teachers, caretakers, etc.; the use of posters or stickers or other types of “nudges” to promote virtuous behaviour, the promotion of a School energy team, the installation of smart metering devices and of displays to show the results. Small technological investments will also be included, such as lighting retrofit or thermostatic valves installation.

Each measure has a price, and a budget is assigned to participants to buy a certain number of “energy saving measures” according to the strategy they have chosen.

The following elements will be provided to participants:

- A school building (it’s not important to identify specific technological and dimensional characteristics, but one or more pictures and maps of the building will be useful to give participants the feeling of operating on reality, not only on an abstract and theoretical simulation).
- A price list of available tools.
- A card representing each “purchased” item
- Stationery stuff.

The assigned task will be the draft of an “Energy Saving Roadmap” in which the process towards behavioural energy saving will be shown in its different components. Participants will be requested to select the groups involved in and impacted by their Energy Efficiency Plan, identify their objectives and their capacity to impact the implementation of the “Energy Saving Roadmap”. They need to explain how these groups will be involved in the planning process. A sort of a matching scheme/table describing the correspondence between groups, energy saving measures and impacts will be requested, that will act as a tool for measures prioritization in relation to their potential to gain acceptability by the different groups.

The final part will be devoted to a comparison among the different solutions, possibly including (depending on the time left) a short preliminary SWAT analysis of the main topics included in the participant’s works.

The expected workshop duration is 1 hour 30 minutes.

The workshop will be promoted, besides the ENOLL communication channels, through the websites of the organizing LLs, and through the communication and promotional channels of the projects Interreg Central Europe TOGETHER, Interreg Mediterranean EduFootprint and Horizon 2020 INTENSSS-PA.

Info on Workshop organizers:

Energy Living Lab <http://enoll.org/network/living-labs/?livinglab=energy-living-lab#description>



Green Schools <http://enoll.org/network/living-labs/?livinglab=green-schools#description>



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Summary of the Workshop Breakdown

The reduction operated on the original time duration of the workshop (90 minutes vs. 120 minutes) suggests to make some simplifications compared with the previous workshop structure.

Total WS duration: **90 mins**

1. WS introduction

1.1. What's the WS about? Which is the aim?	5 mins	
1.2. Who are the organizers?	3/4 mins x 3	
Total		15 mins

2. Preparation

2.1. Splitting participants into groups	5 mins	
2.2. Delivery of building plan and list of actions	5 mins	
Total		10 mins

3. Elaboration of proposals **40 mins**

4. Comparison of proposals and discussions **20 mins**

5. Wrap up **5 mins**

Total duration **90 mins**