Rev. 6/7/2021









SOLE WP5 - Capacity Building and Behavioral Change







by Regional Agency Resources Recovery. WP5 objectives, activities and approach

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High Energy efficiency for the public stock Buildings in Mediterranean

THIRD (VIRTUAL) TECHNICAL SEMINAR – July 7th 2021











NEW Timeframe: March 2021 – December 2022

O 5.1 - Training Package: SOLE the Big Switch Off	 A 5.1.1 Preparation of SOLE Capacity Building pack (m 9-9) start on March 2021 A 5.1.2 - Capacity Building to SOLE partners (ex 16-18 now 10-12) start on April/June 2021 	
O 5.2 - Technical Report: Reports on the SOLE Big Switch Off	 A 5.2.1 - SOLE Big Switch Off in Pilot Territories(ex 19-30 now 13-30) start on July 2021 => Dec 2022 A 5.2.2 - Cross border exchange on the Big Switch Off (ex 19-30 now 13-30) start on July 2021 => Dec 2022 	

> Partners' involvement : A.5.1. 2 - A.5.2.1 – A5.2.2 – All partners









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SOLE What is The Big Switch Off (Best Practice from Durham City Council imported by ARRR Rebus Project)

During various interregional exchange workshops and a Rebus staff exchange in Durham in 2018 the Big Switch Off campaign was discussed in detail.

In the framework of REBUS project ARRR decided to go further and plan an *Action Plan* and a *Pilot Action* inspired by the **Big Switch Off Good Practice from Durham County Council**.











As we have listened from Tiziano this morning, the experience within REBUS had already shown the importance of well-trained staff dealing with energy efficiency and of well-informed building users.

Thus, the Rebus pilot action tested a full capacity building programme with the Local Council of Greve in Chianti in Tuscany.

Following a cycle of capacity building events, an energy team was trained to assess the status of the pilot building.

Improved behavior of building users led to energy savings amounting to -<u>11.55% compared to 2019 and -33.68% compared to 2015</u>.







What is The Big Switch Off?

- A Two-week staff awareness campaign (campaign preparation lasted 5 weeks – a lot of initial work for team identification, collection of documents etc)
- Aims to reduce building energy consumption by encouraging behavioural change in building users
- Uses «social marketing» techniques and insights from practice theory











Success factors for encouraging behavioral change

- Management buy-in and a team of volunteers
 - Having managers and volunteers on board stimulates new social interactions through which energy-saving behavior is encouraged
 - Involve people who feel the office like a second home, something which they feel responsible for (better if they are enthusiastic!)
- Receiving feedback on the impact of actions on the energy consumption of the building («What have you done so positive yesterday that so much energy was saved?»)
- The light-hearted design of the campaign materials
 - Staff remark that the style of materials make it feel like a game and so they are inclined to participate in it









Tips after many years from the campaign...

On June 3rd 2021 we had a bilateral call with The Big Switch Off Campaign responsible people from Durham City Council, and they said that:

- Covid-19 must teach us that when we go back to the office after the lockdown, this is the right moment to show that we are new people
- Now in 2021 many offices have been renovated, automated and smart(i.e. they have automatic lights) so the campaign would give different results
- For a perfect campaign we must pay attention to the weeks we choose (with no holidays, with similar weather, not during elections, not compare same months in 2019 and 2020 covid year)

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Tips after many years from the campaign...

- It's important to point out to the team who is paying electricity bills: if this is a public body (owner), reductions will affect positively the whole community
- Involve «facility managers» and «site managers» who know very well the building
- Different teams obtain different results (organize competitions)

The results

Savings of up to 18% of building electricity consumption have been \bullet achieved through the campaign, with these savings being maintained for over a year following +2ª Baserine -2% -2= +2% Basetine -2% 13.5% +2% -2% -44 6.5% Baseline +2% .1% +4%-4% Basesine -2× +1% -1% .2 +2% -2% 3% +3* .4x-.4% 4% +4%-











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«application of commercial marketing techniques aimed at modifying collective effects, in order to improve the personal well-being and the wellness of society»

These techniques are commonly used to foster sustainable behaviours in different sectors such as: travelling, use of energy efficiency at home, shopping, driving, healthcare addressing sometimes also to employees









SOCIAL MARKETING APPROACH



• Identify barriers to behaviour change

When we try to change other people behaviour, we must educate and motivate them, organizing a specific work according to well-planned phases and intercepting the "barriers" that hinder change

• **Design interventions to target those specific barriers** Point out the benefits deriving from a behavioural change









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BARRIER	INTERVENTION
Forgetting to act (<i>«ops, I forgot the light and the stand by switched on!»</i>)	Prompts (posters, daily emails, display boards) (one good action per day to mental effort)
Lack of awareness of the impact of behavioural change ("my behaviour doesn't affect energy consumption")	Daily building-specific feedback on energy usage (your behaviour does affect the building consumption!)
Lack of concern («I don't care, I' don't pay my office energy bills» - «pc and printers are not mine, they can remain on all day long" – "my colleagues will do it for me" – "that's not my primary concern")	Changing social norms through recruitment of managers and volunteer teams (Facilitators or most suitable people to take the lead, stimulate new social interactions, encourage behavioural changes)
Lack of relevance to daily job role ("that's not my role, the manager will think about energy saving" – "My boss is not controlling me")	Personalised communication with feedback on building energy consumption (targeted campaign)
Environmental issues seen as distant and Vague («what can I do, alone, to fight climate change?» "that happens far from me")	Scientific communications + real images of daily life in the office ("opened windows etc")
Campaign-fatigue ("too many ordinary campaigns, I'm overwhelmed")	Simple, Fun, fresh, light hearted, personalised and captivating communications ("looks like a game, I feel like taking part")









PROJECT APPROACH WP5 Capacity Building and Behavioral Change

Activities will be built around the campaign tested by ARRR into a 3-layer capacity building module for behavioral change that SOLE will adopt:

- Planning: behavioral change in relation to understanding and choosing technologies, processes and methodologies when planning energy renovation works (promoting behaviour change among all necessary staff from the start of renovation measures)
- Management: behavioral change in relation to understanding, applying and using energy rehabilitation technologies, processes and methodologies (behavioural changes of daily habits of those who work, manage and use public buildings)
- Monitoring: behavioral change in relation to data provision and collection during energy renovation works, including evaluation of appropriate monitoring tools (behavioural changes among all staff (users involved in the monitoring process)

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WHAT WE HAVE TO DO.....

WP5 leader transfers knowledge of the campaign to all partners =>

=> Partners implement the SOLE campaign in Pilot Buildings and, where possible, in other buildings (saving results **incorporated in WP4**)

=> Partners monitor the results of behavioural changes campaign (increasing savings to be **incorporated in WP6 - Capitalisation**)

=> As a result of the present seminar each partner, in compliance with **Output 3.4 (Knowledge sharing activities involving public authorities: Knowledge sharing reports),** must issue one report from each territory involved in SOLE, detailing the lessons learned from the knowledge sharing and the decision made for their territory. This represents an input document for the Pilot Actions to be designed and developed in WP 4



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> Monitoring:









SOLE WHAT IS WRITTEN IN THE APPLICATION

"Behavioral change in relation to understanding and choosing technologies, processes and methodologies when planning renovation works (promoting behaviour change among all necessary staff from the start of renovation measures)









LE DEVELOPMENT OF IMPLEMENTATION PLAN

In order for the implementation of project activities to be effective, It is useful to create an Activity Plan with a workflow and implementation timing of specific activity.

Such a document should contain deadlines and analysis that would help identifying the main points to be solved.

A plan of activities should cover the following:











1. ANALYSIS

You can't manage what you don't measure!

If you want to achieve energy saving in a given building, it is essential to know the basic data of the building itself.

- When was it built?
- What kind of energy sources does it use?
- Which is the condition of the building envelope and glass surfaces?
- Is it possible to adjust the heating?
- What can the building users do to minimize energy costs?
- Are there any leaks from the water pipes?

The analysis will provide a detailed picture of the building and will identify the weakness points that need to be faced and solved.











2. ROLES

Who does what!

• Who are the key roles who have the power to make the difference? When implementing a large change in a building, the better way to act is to identify first the "animators" of that place.

If the behavior has to change and this change must take roots, you need to correctly identify "who" will be the most helpful in the process.











• Are they sufficient? Otherwise, what else do you need?

The tools are necessary to promote the change and also to fix it.

They can be a kind of **"soft" measures and suggestions** (training and awareness campaigns, economic and financials incentives , brochures, posters, direct feedback system, success stories / newsletters, energy saving tips, social networks - sharing experiences, games and competitions, peer education, social rewards) or **"official rules"** concerning changes in the energy management of a building











STRATEGIES SETTINGS

Each building, like a person, is a subject with a number of **problems** and **advantages**.

It isn't possible to say that there are two buildings in exactly the same situation.

A **crucial** problem in one place can be almost **insignificant** in another (cold in Nothern Europe countries, hot in Mediterranean countries)

Hence, it is necessary to identify the **most appropriate strategy** for each building.

The strategy must be adapted to the situation and provide **answers** to a certain **problem** which has to be solved.









SOLE TO IMPLEMENT AN AWARENESS CAMPAIGNYOU NEED TO:

Identify a building, or several buildings, where to carry out the campaign;





Study the situation of the building, consumption and any waste, and within the **Energy Team**, agree on the measures to be taken;

PLANNING









WHO MUST PROGRAM WHAT?

BUILDING OWNERS => must plan structural actions aimed at improving energy efficiency in buildings and plants

EMPLOYERS => must plan a perfect equipment for offices with efficient devices, provide a comfortable and sustainable workplace, adopt behavior rules promoting consumption reductions

USERS => must plan a virtual life style paying attention not to waste

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9 steps towards energy and financial savings











.....YOU NEED TO:

Make a selection of measures for improving energy efficiency. This can be implemented related both to technology and to users' behavior.

However, it still is more important to **educate** all users of the building to reduce energy consumption and environmental impact.

The purpose of education is to **raise awareness** of building users to the importance and accuracy of their actions and to change all the energy consumption behaviors related to the irrational and inefficient use of equipment, devices, elements and structures of the building.











- WHAT: People must be informed on the tangible long-term goals and nearer-term strategies, providing a pathway from the conceptual energy vision to concrete, cost-effective actions.
- WHY: Clearly defined goals and strategies will form the framework for the rest of the plan's design and will guide decisions about what actions (including policies, programs, and projects) will be proposed.

Goals and strategies also help to communicate the specific value of efforts to key audiences and provide a basis for tracking and measuring progress.









Be sure to frame goal statements so that they provide a basis for understanding progress:

Frame goals by **how progress will be measured** and recognized (the metric or key indicator to be monitored).

For example: attain a defined reduction (actual or %) in a given metric (e.g., kWh, CO_2 savings, vehicle miles traveled, fossil-fuel consumption).











- Evaluate past projects and best practices of higher-performing facilities or programs to determine the feasibility of transferring of these practices to other parts of the users community.
- Review goals of other similar sites to assess potential for your building.
- If appropriate, sign on to regional and national initiatives. They will often provide structure, support, and technical assistance, along with an appropriate target range.









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So..... After our planning......

When making changes in your approach to office energy, always make sure to strike a balance between organizational decisions, technical solutions and change in people's behavior

Now we have to promote energy reduction, through behavioral changes in the daily habits of people who work, manage and use public buildings.

The first step is to find appropriate ways to motivate and raise awareness on daily energy consumption.

Behavioral changes can only be achieved by educating building users about their actual energy consumption.









OLE AWARENESS-RAISING AND SOCIAL MARKETING TECHNIQUES

- Display boards, panels, posters and other effective information systems
- Staff surveys (ante and post). *«How would you rate your business's attitude to energy efficiency?»* Good? Not bad? Poor?
- Competitions between teams ex. <u>https://www.seaienergyacademy.ie/users/sign_in</u>
- Volunteers and managers promoting the campaign
- Staff pledges (commitments)
- Daily emails with information, facts, mythbusters and an 'Action for the Day',
- Show funny videos (some examples later)

MANAGEMENT










AWARENESS-RAISING AND SOCIAL MARKETING TECHNIQUES

- Simple tools, such as stickers, signs, email messages with energy saving tips, effective to remind users to implement these simple measures.
- Share details of energy bills with building users
- Make consumption evident "in real time"
- Games, challenges, campaigns that actively involve users
- Information and education
- Consider the best time to kick-off your campaign (don't start at busy periods or when there's low morale)



SOLE







WHICH IS THE BEST WAY?

Behavioural Charge

Best ways to change behaviour

?

What would work best to change behaviour around energy? Select three answers and then press Submit.

Holding an energy awareness day.	Organising an energy-saving competition.
Setting energy-saving goals and tracking against meter data.	Holding a training session that includes a workshop.
Let teams know how their energy use compares to other teams.	Placing labels on equipment and switches reminding people to turn them off.

https://www.seaienergyacademy.ie/users/sign in













SOME STRATEGIES WORK BETTER THAN OTHERS..

What works

Goals and team performance data work well especially when combined with competition or social pressure. So for example, setting energysaving goals and tracking performance against meter data, and giving employees or teams data on how their energy use compares to other teams, are great ways of motivating people to change. But they really work when you build them into an energy-saving competition.

What doesn't work

There are certain things that don't work e.g. doing one energy saving measure on it's own has little effect. Placing reminders or prompts on devices only works if accompanied with some other initiative.

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AWARENESS-RAISING AND SOCIAL MARKETING TECHNIQUES

- Daily monitoring of electricity consumption and comparison with the baseline usage
- Daily feedback to staff on the electricity consumption of the building using a 'speedometer' dial which shows whether the usage has increased or decreased
- Do a quick survey at the end of the day to identify places where lights are being left on and actions required











BARRIER – 1!

Energy waste often depends on wrong habits whose improvement can be obtained with simple and small measures by users.

"Energy saving make me loose the comfort and services of my home/workplace, it is not convenient for me!"

COMPLETELY WRONG! BARRIER TO BE BROKEN! =>









EDIONE AUTOMORIA DELLA SARDEGNA





BARRIER - 1!

COMPLETELY WRONG! BARRIER TO BE BROKEN! =>

It's simply only a matter of making a better use of electric appliances, various systems for air conditioning (both cold and hot) and lighting, that is providing the same service to achieve the **SAME** results with **LESS** energy







SOLE









BARRIER - 2!

Daily behavior is habitual and routine rather than the result of active decision making.

As a result, much of the usual behavior is normally strictly "irrational":

Many people regularly tend to leave electrical devices in stand-by even if know that this means receiving a "heavier" energy bill. Actually there is a common lack of knowledge of energy consumption parameters

People are not aware of quantifying in practical terms how much a correct behavior can reduce of a system or equipment consumption.

COMPLETELY WRONG! BARRIER TO BE BROKEN! =>

MANAGEMENT











EXPLAIN WHAT I CAN DO WITH 1 UNIT OF ELECTRICITY (kWh)?

- iron 15 shirts
- prepare **70** cups of coffee
- watching television for **7 hours**
- use a **300 liter** refrigerator for **2 days**
- bake **1** cake
- 1 complete cycle of washing machine (70-100 min)
- listen to CDs for 40 hours
- **90 hours** of a low energy light bulb (11 watts)
- 17 hours of a normal light bulb (60 watts)
- 4-6 hours watching a 28" TV
- 4-6 hours desktop computer











Do you know how much is

- 1 kg of apples?
- 1 lt milk?
- 1 lt gasoline?
- 1 beer?
- 1 cup of coffee at the bar?



So why you don't know the price of 1 kWh of electricity? Check in your energy bill at home!









Improving energy efficiency is not all about investing in renewable energy technology and equipment, closing windows and switching off lights.

It's about embedding this attitude of energy efficiency into the business culture









Energy consumption can significantly increase or decrease depending on two behavioral models:

1) the one used by those who **manage** and **control** the technical systems of the building;

2) the one used by **end users** (public sector employees, students, caretakers etc.)

As for energy management system, appropriate strategies should be identified to motivate and raise awareness among employees about energy consumption.









To achieve effective energy savings, it is not enough to have efficient systems but it must be accompanied by appropriate behavioral habits and conscious way:

The **correct management and regulation** of the functioning of the plants represent, after the structural one, the second source of energy saving. Today this function can be facilitated by modern control systems of plants and technological systems.









The more the building users respect the **simple rules** of energy consumption, the greater energy saving objectives can be achieved.

It is also necessary to **become accustomed** to virtuous behavior in order to be effective in the long term, in order to automate the constant use of efficient behaviors.

There are many things you can do right now to save energy and money









- Encourage your colleagues
- Tell them «I'm turning off my monitor during lunch time», this might be a good idea that other people may have forgotten
- Social pressure: «if my colleagues are saving energy I'll want to as well»
- Improve comfort, protect the environment and save on electricity bills









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START FROM HOME TO BE SUSTAINABLE!





AT WORKPLACE:

TEMPERATURE, HEATING, COOLING, LIGHTING, ELECTRICAL EQUIPMENT, CANTEEN / KITCHEN, WATER SAVING

















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PRACTICAL ACTIVITY



Invite the building users to make their own Carbon Footprint calculation : how much sustainable are you as an energy user? Start with these examples:

> <u>https://footprint.wwf.org.uk/#/results/</u> <u>https://www.footprintcalculator.org/result1</u> <u>https://casaclima.co2-rechner.de/it_IT/</u> (only IT and DE) <u>https://www.footprintnetwork.org/</u>











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VIDEOS





Have a look at this link where there are some thematic videos or cartoons (but there are many others in the Internet)

https://www.arrr.it/video-didattici







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SOLE







BEST PRACTICE TRAINING COURSE FROM SEAI IRELAND

Have a look at this link where there are some modules on energy saving

https://www.seaienergyacademy.ie/users/sign_in



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IN TEN MOVES.....

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- Using the stairs is healthy, for every floor • you consume about 2,8 Kcal.
- Every time you don't use the lift you • save 50W
- Standing still, you consume 1 Kcal / min •
- If you walk, you consume 2,5 3,5 Kcal / ٠ min
- If you go up the stairs you consume over • 5 Kcal / min
- Using the lift 3 or 4 times a day you ٠ produce 120 Kg / year of CO_2
- Going up the stairs 5 floors, up and • down, you consume an orange juice
- With 2 floors only up, you consume a • cup of coffee



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• Standby are a very subtle waste source, their consumption is very low but in every building there are so many: screens, PCs, printers, transformers,

chargers and so on!

• With a single act (off), cut off the power supply and save tens of euros a year!





www.enicbcmed.eu/projects/sole #SoleProjectMed

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- Take an office tour before your work ۲ shift ends
- We are all distracted, always in a ۲ hurry and in the end we leave a lot of lights and appliances "on" or "on standby".
- Hidden consumption due to ۲ carelessness can cost hundreds of euros each year.
- Appoint an "energy manager" within the office!



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- Install a timer to the vending ٠ machines
- A vending machine for snacks or ٠ drinks, in addition to lights, is in most cases also a refrigerator working a few minutes a day, used within about 10 hours, but remaining "on" for 24 hours a day!
- Installing a timer or a timed socket, ۲ for a few euros, allows you to save at least 90 euros per year for each distributor.



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- Place the desks near the windows •
- Mediterranean countries are ۲ universally known as the "countries of the sun", so why not take advantage of natural light? Raise the shutters, use light curtains: the environment will benefit and your eyes too!









 High thermal excursions are one of the main sources of discomfort of air conditioning. If we enter a bank or an office in the summer we feel cold and we have to cover ourselves. In order to feel good, the comfort temperature in summer is 24/25 C degrees with a normal level of humidity and with a maximum difference of 7 C degrees between inside and outside











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ESCIONE AUTONOMA DELLA SARDIGNA

- Pamper yourself with a sweater and turn down the radiator!
- In winter, set the thermostat at 19/20 C degrees: for each degree less, you will reduce consumption (and therefore CO₂) and costs in the bill between 7% and 10% (which corresponds to the savings of tens of euros per year). So if you are cold, wear something warmer!













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- If you're too hot in winter, turn the thermostat down instead of opening the windows
- To air out the room, in the case there ۲ is no automatic air exchange system, 5 minutes every 2 hours are enough: CO₂ is reduced and well-being increases.
- So don't use your windows as a ٠ thermostat - it's a waste!



TURN THE THERMOSTAT DOWN

INSTEAD OF OPENING THE WINDOWS









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- Turn off and don't leave electronic devices on standby
- Stand-by is an energy "vampire". ۲ Electrical appliances left on stand-by consume 4-15 Wh. If switched off, but left connected to the power grid, they consume 2-10 Wh. This represents most of the appliance's consumption, but in practice we only need it a few times a day, so when you're not using it ... unplug it!





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• The chargers are not energy-intensive but in the world there are "billions" of them. Count the ones you have at home or in the office, be amazed and remember that even the sea is made up of single drops! UNPLUG THE CHARGER OF YOUR MOBILE PHONE OR LAPTOP FROM THE SOCKET AFTER USE





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MONITORING









SOLE MONITORING OF BUILDING USERS' BEHAVIOUR

Monitoring consumption and cost is the method with a higher impact in end users' behavioural changes, education and motivation. If consumers don't approach their effective consumption in real time,

energy savings are impossible to reach.

Thanks to the monitoring of energy consumption in real time, users get a direct approach to their own consumption and costs trend which represents the first step towards behavioural change



The only cost of MONITORING is the Team's *patience*, *perseverance and good will*

MONITORING









SOLE DAILY MONITORING OF ENERGY CONSUMPTION

- Must be carried out BEFORE and AFTER the awareness campaign
- Enables the evaluation of the success of the implemented actions
- Comparison with average data makes me aware of which «level» of consumer I am
- Presenting and sharing the obtained results as a useful tool to strengthen the new behavioral model recommended
- Find an proper occasion to dedicate to this activity (a special day in the office)
- Submit a questionnaire before and after the campaign to evaluate the real impact of the implemented actions
- Give a daily feedback to the staff relating the building consumption, to show the real trend of data (increased or decreased?)

MONITORING









MAINTAINANCE ACTIONS

In order to guarantee the success of the initiative and obtain real and permanent changes in thoughts and actions, it's necessary to maintain a high level of interest and attention on the matter during a medium/long term (beyond the campaign period) by:

- Making monitoring results and consumption data public both before and after the AWARENESS CAMPAIGN
- Implementing «strengthening» and «reinforcements» actions, such as prize competitions or organisation/participation to events dedicated to energy and environment











DATA COLLECTION BY THE ENERGY TEAM

Manually

- EXAMPLE N.1 by analysing energy bills and recording consumption and cost (monthly)
- EXAMPLE N. 2 by reading energy meters (daily for two weeks)
- EXAMPLE N. 3 k to compare mo





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Automatically (if automatic devises are available)

 EXAMPLE N. 4 by on the market: se monitoring impa



ices (Tools available capable of



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EXAMPLE N. 1 - Analysing Energy Bills (electricity and heating)

- Get yourself a copy Energy Bills (from the proper department office)
- Learn to read the bill in its various most important parts
 => How much did you spend in a 2 months period?
 => How many kWhs did you consume in a 2 months period?
 => Does your bill record different consumptions in different time slots?
- Write these data in an excel sheet





MONITORING

















Analysing Electricity Bills

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Once you get to know your bill, you'll find that there are some charges you can influence

- Tariff => negotiate a better one
- MIC (Max Import Capacity) => is it ok for your actual energy requirements?
- Reading type => is it you or a technician from the supplier who reads it?



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Record Electricity Bills data in an excel sheet

	2010		2011		2012	
	kWh	euro	kWh	euro	kWh	euro
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						
TOTAL	0	0	0	0	0	0

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MONITORING











- Do you know where the energy meter in your building is ?
- Let's take 5 minutes to go and record the instant reading
- Which is the figure you read in terms of kWh?
- Write it down and repeat the reading tomorrow at the same time of the day
- Do this for one week without starting your "energy saving" correct behaviour
- Record these readings every day and calculate daily consumption
- START A TWO WEEKS ENERGY SAVING AWARENESS CAMPAIGN AND WALK ABOUTS (*)
- In the second week, read the meter every day at the same time, by taking care to your and the others behaviour
- At the end of the second week compare the difference in the consumption of the 2 weeks. Was there a reduction between the first and the second week?

MONITORING

• Communicate it within and without the office















PRACTICAL EXAMPLE N. 2 Reading Energy meter for 2 days In ARRR Livorno office (consumption at night)

DATE	TIME	METER - A1 kWh (08:00-19:00)	METER - A2 kWh (07:00-08:00 and 19:00-23:00)	METER - A3 kWh (00:00-07:00 and 23:00-24:00)	TOTAL kWh
08/06/2021	17:00 while leaving	86847	16283	61595	
09/06/2021	08:30 at entrance	86848	16285	61598	
CONSUMPTION IN ONE NIGHT		1	2	3 (6
MONITORING					

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PRACTICAL EXAMPLE N. 2 Reading Energy meter for 2 days In ARRR Livorno office

CONSUMPTION (kWh)

- 6 kWh in one night * 30 nights = 180 kWh (in one month)
- 180 kWh * 12 months = 2.160 kWh (in one year)

COST (euro)



2.160 kWh * 0,20 c (average gross cost of 1 kWh)
 = 432 euro WASTED in one year only for stand-by and server

CO₂ EMISSIONS

- CO
- 2.160 kWh * 0,75 (emission factor of electricity in Italy)

MONITORING

= $1.580 \text{ Kgs of CO}_2$ in one year

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- The campaign must derive from a complete and **taylor-made analysis**
- The success of the campaign depends on the choice of the charismatic team and from the real committment of Managers (must take the responsibility of promoting changes)
- Social Marketing tools (social rules and dynamics) in the implementation of a theoretical and practical approach play a key role in encouraging the change: they allow the development of new roles and interactions. They permit to activate, support and maintain new energy saving activities











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- Show clearly the impact of actions, through a proper communication made of targeted emails, daily poster etc. which can give feedbacks on the building energy consumption. They will encourage the staff who will adopt new ways of working having in mind the impact of their daily actions => cross and multiplying impact that they will bring also at home and in their private life
- The **style of the material** used for the campaign must be particular in order to involve the maximum participation of staff and raise their interest
- Key people who have a significant role in creating the social acceptance of Energy saving make the change easier (relation factors are more influent)

CONCLUSIONS







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Example Trombe wall in a school => curtains white or black? Well trained staff dealing in energy efficiency + well-informed building users

This combination helps to manage energy efficiency measures properly and to get the most from the investments made.

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CONCLUSIONS







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COMMUNICATE ALSO EXTERNALLY



Administrators and public opinion must be properly informed of the opportunities that technological and political choices can offer and of the results that can be obtained with an appropriate behavior.

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CONCLUSIONS









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Thanks for your attention!

