

Energy efficiency and Behaviour Workshop
International Energy Agency Headquarters
11-12 March 2015, Paris, France



NO LIFT DAYS
Italian Public-sector initiative



ENEA experimental project



MEASURE and QUANTIFY

achievable energy savings

from

behavior changes

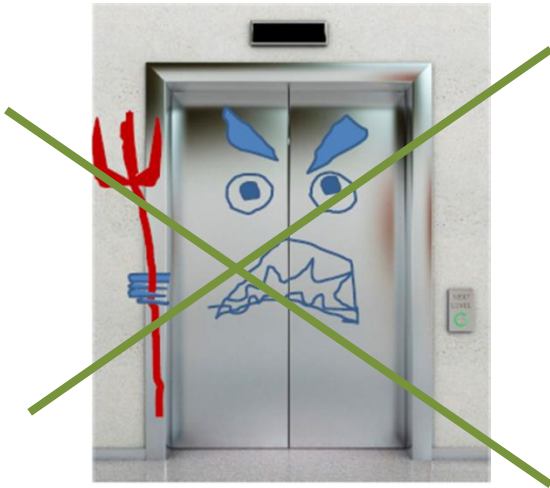
in the use of technologies

within

public buildings/offices

focus on: **ELEVATORS**

pilot project: strategy



?

how motivating people to limit the use of elevator and walk up the stairs, for achieving energy savings?

!

highlighting and raising awareness of the **positive health impact** !
energy savings + health benefits

pilot project: objectives



- Implement a **low-cost awareness campaign** to encourage public employees to use stairs instead of elevators inside office buildings
- **Measure/Verify** the impact of the initiative in terms of:
 - ✓ **energy savings**
 - ✓ **health benefits**



ENEA pilot – awareness campaign

pilot awareness campaign
addressed to **public employees**

NO LIFT DAYS
GIORNATE SENZA ASCENSORE

Sapevi che l'Italia è il Paese con più ascensori installati al mondo e che il loro consumo totale annuo è pari a quello di una città italiana di medie dimensioni?
Ti interessa sapere qual è il potenziale di risparmio conseguibile solo attraverso cambiamenti nel nostro comportamento e quali sono i benefici per la salute che possono derivare dall'uso delle scale al posto dell'ascensore?
"No lift days - Giornate senza ascensore" è una Campagna ENEA per dimostrare come semplici gesti quotidiani, piccoli cambiamenti nelle nostre abitudini, producano quote di risparmio di energia non trascurabili nell'uso delle tecnologie, mantenendo salterato il nostro livello di qualità della vita e, addirittura, migliorandolo.

CONSUMA L'ENERGIA GIUSTA - USA LE SCALE

«NO LIFT DAYS
make a sustainable and healthy
choice, take the stairs! »

Awareness campaign: when, where, who, what



- The pilot campaign was conducted in 2013, involving personnel working at ENEA's headquarters, a **6-floor building** in Rome, hosting **256 employees**



- the **energy consumption monitoring** of **4 elevators** was carried out by ENEA



- the **health monitoring** activity, involving **selected groups of participants**, was conducted by Fondazione S. Lucia IRCCS, a Scientific Institute for rehabilitation and health care

communication strategy overview (1)



<http://webtv.sede.enea.it/index.php?page=listafilmat2&idfilm=738&idcat=25>



communication approach was aimed at:

- making **everyone** feel like
 - ✓ **a pioneer taking on a challenge** based on **measurable and realistic goals**
 - ✓ **one aware and gratified by contributing to a common effort**: **verify whether** taking the stairs and skipping the elevator is really “**sustainable + healthy**”
 - ✓ **an essential and active component of the experimental project**, because **directly involved** in the two simultaneous **monitoring campaigns**

communication strategy overview (2)

the communication strategy has also highlighted the **expected benefits** of the proposed “**behaviour change**”:



○ at personal level

➤ **health improvement**



○ at national level

➤ **energy and healthcare public savings**



○ at global level

➤ **less CO2 emissions**



methodology

Monitor energy consumptions/before



Design and produce communication material



Inform and involve the target



Voluntary online survey

Online Survey



Launch event



Monitor energy consumptions + Health parameters



Periodical newsletter to participants



Satisfaction questionnaire

Online Survey



Results and considerations





methodology



Monitor energy consumptions/before

Monitoring campaign to measure the **daily energy consumption of 4 elevators** in use inside the building. Duration: **2 months before** the NO LIFT DAYS Campaign.



Design and produce communication material

Using the campaign's logo, we produced **stickers** to be applied over the elevator doors and **posters** to be placed next to the main building entrance



The staff of ENEA Web TV realized a **motivational video** : the shooting occurred in ENEA building and some employees played the role of “protagonist” in the movie.

<http://webtv.sede.enea.it/index.php?page=listafilmcat2&idfilm=738&idcat=25>

methodology



Inform and involve the target

A **motivational and involving first message** has been sent by e-mail to the audience (**256 people**), shortly explaining the aims of the initiative and the essential role played by the ENEA staff to successfully carry out the initiative



Voluntary online survey

An on-line voluntary response survey has been carried out to gather information on attitudes, behaviours, and other data concerning ENEA staff.

As result, **150 questionnaires** have been completed and **70 people** enlisted as volunteers for the health monitoring activity

methodology

Launch event – March 2013

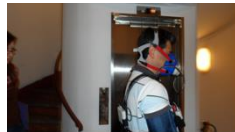


The launch event has been held at ENEA headquarters in Rome, starting with the projection of the **motivational video**. In a playful atmosphere, participants (**160/256 employees**) have been informed about **objectives and program** of the campaign, **their fundamental role in the pilot project** for achieving the expected results and outcomes. At the end of the event, the employees found next to elevators the “**point of decision**” stickers and posters.

methodology



+



Monitoring of energy consumptions

A monitoring campaign has been conducted to measure the **daily energy consumption** of **4 elevators** in use inside the building **during the campaign**.

Duration: **2 months from the launch event**.

Monitoring of health parameters

The S.Lucia Foundation's researchers have subjected **40 volunteers** to cardiometabolic and limb strength tests inside the office building **to check the health benefits** arising from the use of stairs instead of the elevator. The volunteers have pledged **not to use the stairs for a period of 3 months**. Then they have been visited again to verify the improvements.

methodology



Periodical newsletter to participants

During the first month of the campaign **almost every working day** a short message was sent to all ENEA employees, containing **aphorisms, images, stories, videos on the theme of “walking “and “stairs”**, to enhance **sensitization and reliability** towards the initiative in an amusing way.



Also the **final positive results** coming from the **monitoring campaigns** have been shared with participants through the newsletter.

methodology



Satisfaction questionnaire

A questionnaire was administered at the end of the initiative. **145 employees** responded, showing a **very high level of satisfaction**, especially for the renovated **sense of community** that the initiative had aroused.

The stairs have become an **unusual meeting place** for people sharing the goals of reducing energy consumption and improve their quality of life.



results and impact of the awareness campaign

Some numbers:

- **10,000** e-mails sent
- **63%** employees present at the launch of the initiative
- **300** questionnaires filled
- **40** volunteers involved in the health campaign
- **145** ENEA employees changed their daily mode to move up and down inside the buildings: from lift (electric) to stairs
- **25,000** Euro the total costs of the initiative
- **27%** of energy savings

results and impact of the health monitoring

■ Health improvements

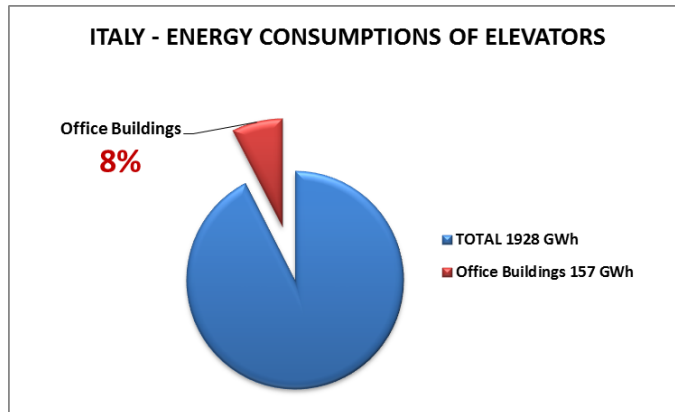
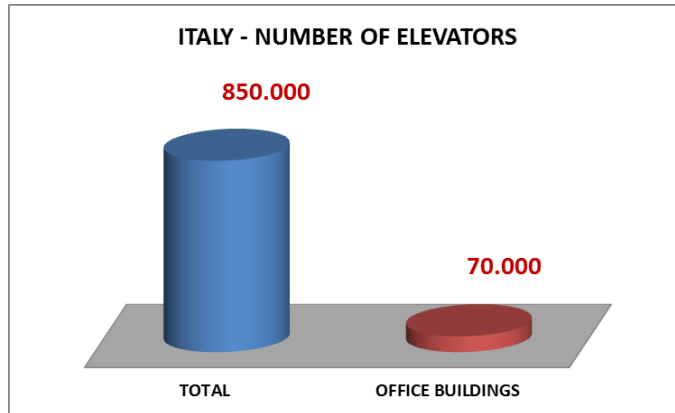
Data related to **control groups** show that at workplace **the exclusive use of stairs** instead of the elevator, **produce significant improvements** of the following human health parameters:

- Basal and immediately after effort blood pressure
- Stairs ascending energy cost (i.e., improved energy efficiency in stairs ascending)
- Stairs ascending speed
- Individual effort perception (during stair ascending)
- Segmental muscle strength
- Body composition (reduction of fat mass)

Lesson learned

- **"habits"** and **"behaviours"**, from **marginal players**, can **become dynamic and powerful subjects** in the process of EE improvement
- **with minimal operational costs** it is feasible to enable people to change habits and to act together to create, in their workplace, a **"COMMUNITY OF AWARE CONSUMERS"**. Community members may also become potential **"teachers"** in **"behaviour changes"** and play an important role in multiplying the effect of the awareness campaign
- the **impact of the behaviour change** on energy consumption reduction **is significant**. The savings registered by the ENEA pilot, if multiplied by the estimated 850,000 elevators installed in Italy, can give an important contribution to the **improvement of energy efficiency at national level**.

state of the art

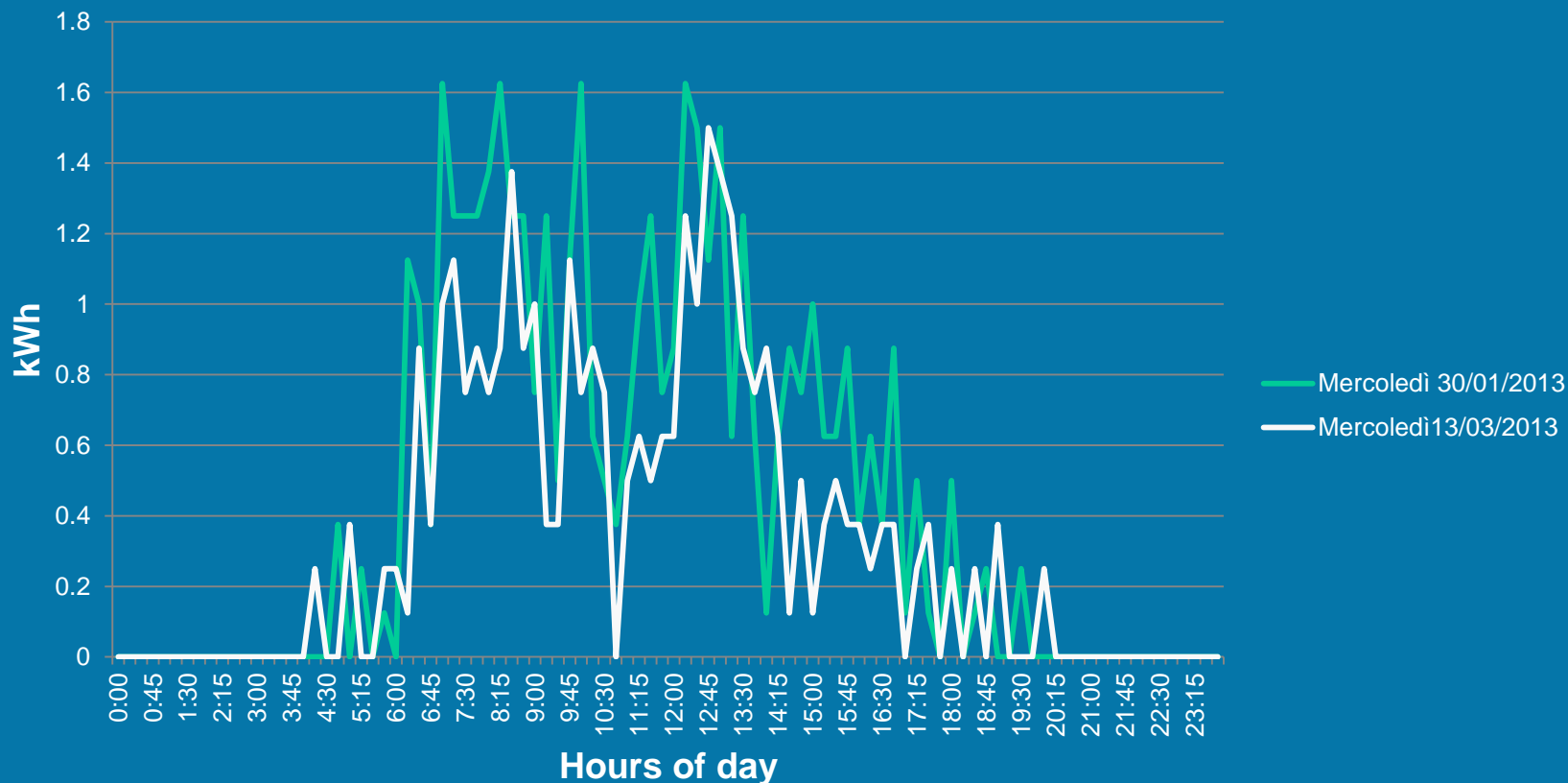


To take **full advantage** of the **energy saving potential**, both the adoption of **innovative efficient technologies** (LED, switch off of non-essential components when the lift is not in use, high efficiency electric engines, variable speed drives, etc..) and **changes in users' behaviors** are requested

results and impact of the energy consumption monitoring

25/30% Energy consumption reduction

Daily electric load profile of the lift





Replicability & Scalability

- **Indirect and multiplicative (and loyalty) effect at home!!!**
 - **BUT... How to quantify?!?!**
- **Cost-effectiveness: only energy savings to offset 25,000€ cost? NO!**
 - **Savings for all Italian office buildings: 40 GWh/year**
 - **Savings for ALL Italian buildings: 500 GWh/year**
- **We have to rely on the multiple benefits!!!**
 - **Health benefits in terms of avoided cost for the National Public Health System**
- **From Project to Programme Level**
 - **3-year Training & Information Programme (implementation of EU EED)**
 - **Incentives to both Public and private organizations**



simple everyday actions, small changes in habits, can really produce appreciable energy savings



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