


OIKIA



# An awareness action focused on behaviour change in households who have recently installed energy efficiency measures

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**OIKIA** - *In ancient Greek oἰκία is the house from the inhabitants' perspective*

Community research action on energy demand reduction

In the framework of **Italia in Classe A**, Italian National Energy Efficiency Training and Information and Program

**Objectives:** to spread energy efficiency culture, increase households' energy literacy through a reflexive learning approach and avoid adverse behavioural impacts

**Co-design:**

bottom up approach to develop guidelines on post retrofitting behaviours, to boost the impact of new efficient technologies and increase indoor comfort

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PER UNA NUOVA CULTURA  
DEL RISPARMIO ENERGETICO**



## Background and motivation:

- Interaction between occupants and dwellings, in the control of ventilation, heating, cooling is crucial in the process of energy consumption
- It can be influenced by different factors such as age, education, gender, country of origin, and the perception of indoor comfort.
- Only few studies have been carried out to understand these factors (most half of the building's energy consumption is related to building envelope characteristics and utilization of the building equipment, the crucial remaining half is influenced by occupant behavior)
- New systems and devices (photovoltaic, heat pumps, solar thermal, thermostats, mechanical ventilation, home automation, induction hobs, radiant floor heating systems) need to be understood and managed in the daily routine
- Living in renovated dwellings means acquiring new knowledge and gradually change habits to enjoy a comfortable environment
- Support citizens involved in the energy transition process providing advice, practical tips and a network to share and enhance common values such as environmental sensitivity

The pilot project aims at:

- **testing a methodology** which can be scaled and replicated on larger target group;
- **overcoming non technological barriers** (difficulties, resistance to change)
- **identifying drivers and effective key messages** for information and awareness raising campaign
- **designing new instruments and methods** for capacity building

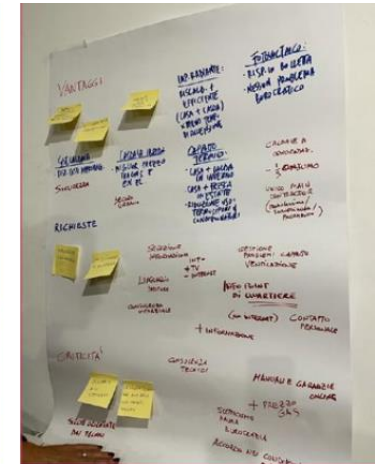
**Tools:** technical and behavioural questionnaire; Survey on the sample

**Engagement strategy:** home visits, workshops, phone calls

Participatory approach ; Timeline: **18 months**

**Key actors involved:**

- ENEA - National Energy Efficiency Agency
- AISFOR - knowledge and training company
- Federconsumatori Lazio - Consumers' association
- RETE ASSIST- Network of Home Energy advisors



### Participants' group:

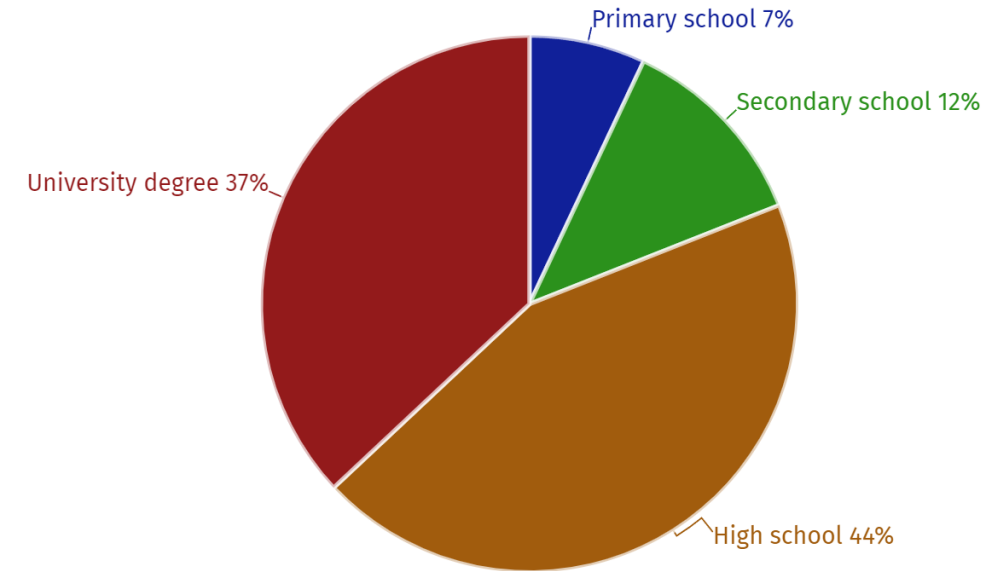
- 72 households living in 28 dwellings located in Rome area,
- homes renovated with thermal insulation of envelope, installation of photovoltaic panels systems, or electricity charging stations

**All private homeowners**, paying energy and operating costs

Type of building:

**Detached houses and apartments**

### EDUCATION LEVEL

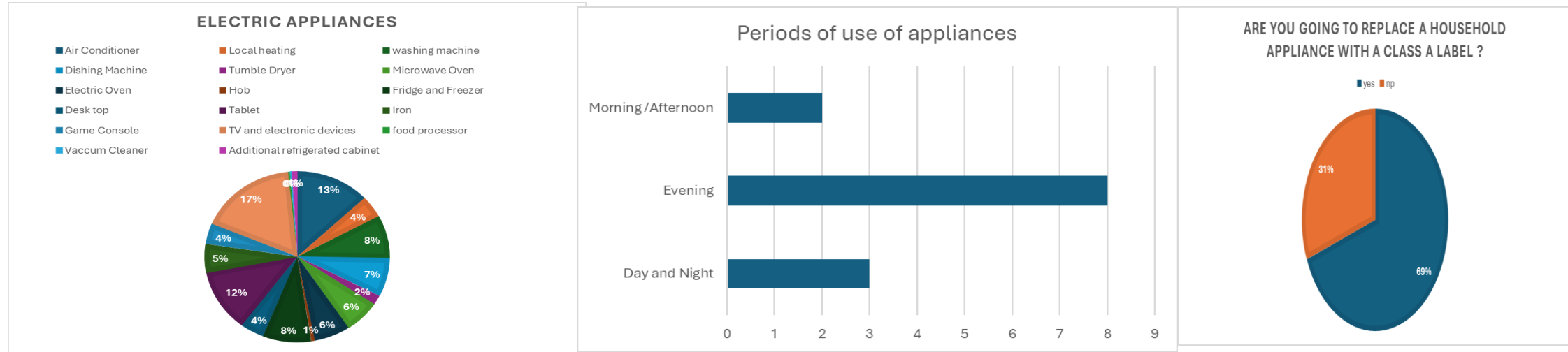


● Primary school ● Secondary school ● High school ● University degree

## Tool: OIKIA questionnaire delivered by Home Energy Advisors

Items on:

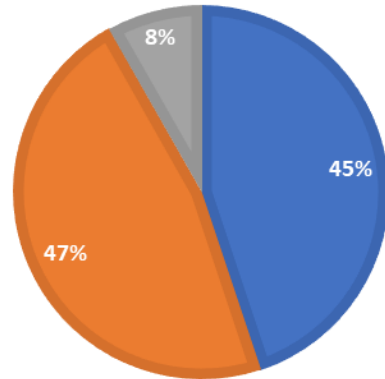
- type of dwelling;
- occupant's profile: gender, age, education level, qualifications, occupation;
- energy behaviour and habits: i.e. number of hours spent indoor, heating and cooling habits, thermostat usage;
- types and number of renovation measures carried out in the dwellings;
- support received after installation/retrofitting
- future renovation projects (e.g. thermal insulation, photovoltaic system, installation of heat pumps);
- domestic appliances owned and their electrical power, labelling, information on daily use (+ cleaning, maintenance, et)
- gas appliances and their daily use.



- Despite their education and economic availability, households were scarcely aware of power and labelling of domestic appliances or existing efficient consumption habits that could impact on indoor comfort and air quality
- Many respondents would like to undertake new projects : replacing boilers and appliances , or installing solar thermal panels or photovoltaic systems

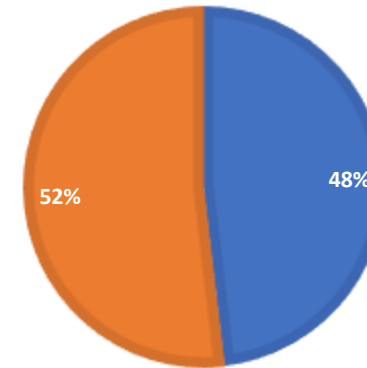
### IMPROVEMENTS

■ Indoor comfort ■ Economic benefits ■ Quality of life



### HAVE THE NEW INSTALLATIONS MODIFIED YOUR HABITS?

■ YES ■ NO



- General satisfaction with instructions provided by installers .
- A few households knew about routine maintenance of new systems.
- A minority of households complained about a lack of support by installers.
- Households changed their daily habits especially in using appliances and their time of usage (e.g new cooking device : from gas to electric hobs).
- Recognition of upgraded indoor comfort after renovation , decrease in energy bills .



## A Practical guide

was issued, drafted using bottom-up approach, providing practical tips to boost behavioural changes after renovation when using new efficient technologies .

The content and the language used in the guide was carefully chosen, following specific requirements given by the households: cooling systems , energy labelling, photovoltaic systems and solar thermal panels, domotics seen as a key to maximizing energy efficiency in homes together with tips to encourage sustainable behaviour to manage energy consumption and to increase indoor comfort.



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## CONCLUSIONS

- OIKIA action explored the household dimension, one of the key sites where energy citizenship is expressed
- Households involved were scarcely aware of power of labelling of their domestic appliances or of existing efficient consumption habits, despite social, educational or economic factors
- To improve energy literacy is essential to empower citizens and enable them to adopt new sustainable habits in energy use in the long term
- Behaviour is not only an individual process, but also a social process with neighborhood and local communities where common values as environmental sensitivity can be shared and enhanced.
- Insights gained from this action will be used to design future awareness campaign on a broader audience to increase energy efficiency culture and meet climate goals.

**Thanks for your attention  
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