

TAKING  
**COOPERATION**  
FORWARD



Project TOGETHER Closing Conference  
Zagreb, Croatia | 10.04.2019



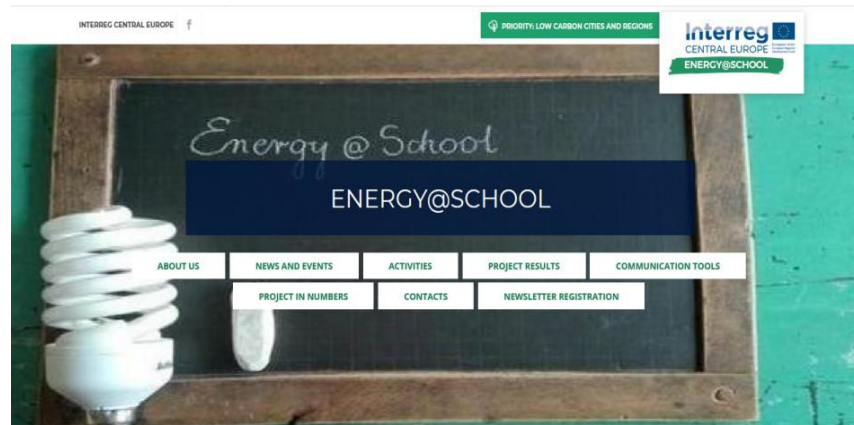
***GUEST PROJECT***

**ENERGY@SCHOOL: ENERGY OPTIMIZATION AND BEHAVIOUR  
CHANGE INTO SCHOOLS OF CENTRAL EUROPE**



**ENERGY@SCHOOL - CE744 | LP UCBR | Nadia Carboni**

# E@S project and the Interreg CE programme



## Priority 2 Cooperating on low carbon strategies in CENTRAL EUROPE

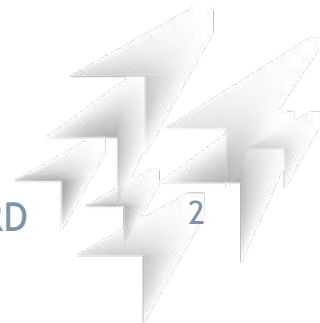
### Specific objective 2.1.IMPROVING ENERGY EFFICIENCY IN PUBLIC INFRASTRUCTURE



**Budget: 2,58 mln EUR**  
**ERDF: 2,13 mln EUR**



TAKING COOPERATION FORWARD



# The E@S team and partners



1. The Union of BASSA ROMAGNA Municipalities, IT
2. CertiMaC, IT
3. City of Bydgoszcz, PL
4. Agency for energy development KSEENA, SI
5. City of Karlovac, HR
6. University of Bologna, Industrial Chemistry Dept., IT
7. Municipality of Szolnok, HU
8. Municipality of Újszilvás, HU
9. City of Stuttgart, DE
10. City of Klagenfurt, AU
11. Graz Energy Agency, AU
12. Municipality of Celje, SI

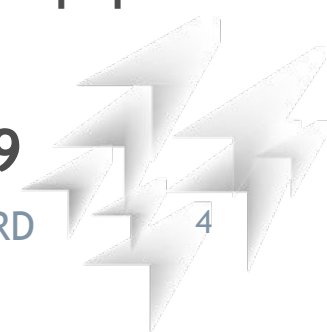


The building sector has a high potential for energy optimisation. In terms of public buildings heritage, energy consumption in schools is the second highest expenditure of municipalities' total running costs. This sector offers potentially remarkable achievements in terms of energy efficiency and the application of renewable energy sources (RES) and carbon footprint reduction.

At the same time, disparities exist in central European regions regarding planning and implementing performances of proper sector-based strategies, action plans and managerial capacities.

ENERGY@SCHOOL aimed to increase the capacity of the public sector for implementing energy smart schools. The project achieved this by applying an integrated approach that educates and trains schools staff and pupils to become Senior and Junior Energy Guardians (EGs).

▣ **Starting date: 01/07/2016 - Closing date: 30/06/2019**



The project aimed at promoting Energy Smart Schools, to improve the EE and to increase the use of RES in the school sector, with an integrated approach strongly characterized by education and training.

The project provided:

- transferrable and customised strategies for smart schools;
- joint and customised energy smart-school management plans;
- smart phones APPs for EGs;
- 8 tested pilot solutions of energy efficiency and RES application in schools under direct contribution of EGs
- guidelines, toolbox, best practices as reference documents and experiences.





## WP1

ANALYSIS PHASE  
AND DEFINITION  
OF ENERGY  
GUARDIANS  
SMART-SCHOOL  
MANAGEMENT  
PLANS

See more...



## WP2

DEFINITION OF  
SMART SCHOOL  
STRATEGIES AND  
PILOT  
APPLICATIONS

See more...



## WP3

SENIOR ENERGY  
GUARDIANS:  
CAPACITY BUILDING,  
OPERATIONAL  
INTERVENTIONS AND  
JOB CREATION

See more



## WP4

SET UP OF JUNIOR  
ENERGY  
GUARDIANS  
SCHOOLS TEAM AND  
TRAINING DELIVERY:  
CREATING  
"ENERGY CULTURE"

See more...



## PROJECT IN ... NUMBERS



**12**

PROJECT PARTNERS



**8**

PILOT ACTIONS



**41**

SCHOOLS INVOLVED



**246**

TRAINED PEOPLE



# E@S CULTURAL CAMPAIGN and TRAINING

E@S is a tool to increase awareness and change behaviors of students, teachers, families and the general public on energy efficiency issues



# E@S CULTURAL CAMPAIGN and TRAINING

- Senior Energy Guardians

Thanks to the ENERGY@SCHOOL project, 41 schools in Central Europe created energy teams. There are teachers and school staff who are eager to develop energy management skills. They take part in trainings, workshops and study visit.

- Junior Energy Guardians

Junior Energy Guardians teams have been created in order to make students aware of the role energy plays in their own lives. Senior Energy Guardians engaged students to lead energy cultural campaigns and contest connected with saving energy at school.

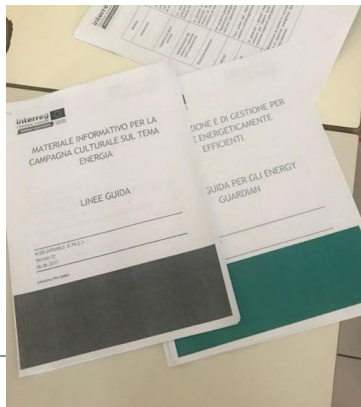




# E@S TOOLS for CULTURAL CAMPAIGN and TRAINING - Italian Pilot Action

- Guidelines and tutorials on how to train EGs
- Classes and labs: classes and labs about what is energy, how it is produced, how to save energy and why
- Junior energy guardians tools: drawings, stickers and video motion to share the message with other school mates.
- Energy Ghost simulation game

The simulation game - Energy Ghost Busters is a kind of the form of a training exercise to develop Junior Energy Guardians skills in reducing energy consumption in everyday life (starting from schools and later at home). Video Tutorials are available and downloadable from [E@S website](#)



Just by making small changes in behavior, schools could save up to 20% of their energy use (and bills). This amount can noticeably increase if **energy retrofit interventions are associated to behavioral changes**

## Pilot actions included:

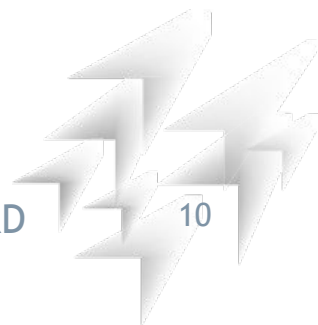
### 1. The instalment of:

- Smart meters;
- Thermostatic valves;
- LED lights;
- Smart TVs;
- Devices for monitoring consumption;
- Sensors for collecting environmental data
- Tablet Installing and configuration / Smartphones install and configuration (ANDROID)

### 2. Energy Audits Upgrade (after the smart meter monitoring: from algorithm to real data)

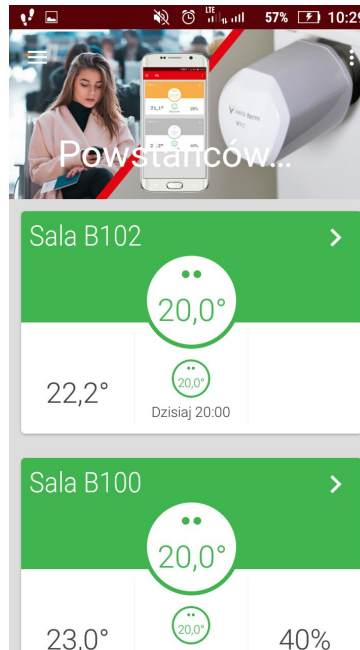
### 3. Instalments have been integrated with EDUCATIONAL and TRAINING INTERVENTIONS:

- Training on the use of smart meters;
- Training on reading and archiving of environmental data and energy consumption
- **Energy Ghost simulation game**



# E@S PILOT ACTION

## PILOT ACTIONS AND SMART SCHOOLS: SMART METER INSTALMENT



Thermostatic valves and monitoring APP  
Smart meters have been configured to interact with  
the apps and with the game



All these interventions allowed to CUT ENERGY WASTE and the BUDGET, but the most important project impact is that E@S STAFF AND PUPILS ARE NOW COMPLETELY AWARE

Pupils are the best ambassadors of energy saving:

- *With this project we have learned about the different forms of energy, what renewable and non-renewable sources are and what we can do every day to reduce energy waste. Even at home we can save energy resulting in saving money too.*
- *Now I can suggest better habits to my parents and friends! I won't stop telling them to switch off lights when they leave home or school!*
- *I learnt that energy is the basis of all our activities, it allows us to move, study and grow up. Wasting energy means wasting our future!*

The Italian Pilot Project aims to capitalise E@S results by involving other schools of the area.





**Thank you for you attention!**

**Nadia Carboni**

[carbonin@unione.labassaromagna.it](mailto:carbonin@unione.labassaromagna.it)

**More about the project:**

<https://www.interreg-central.eu/Content.Node/ENERGYATSCHOOL.html>

