

# IUSES

## Intelligent Use of Energy at School

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15 organizations from 12 countries

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- CIRCE Foundation - Centre of Research for Energy Resources and Consumption, **Spain** (<http://circe.cps.unizar.es>)

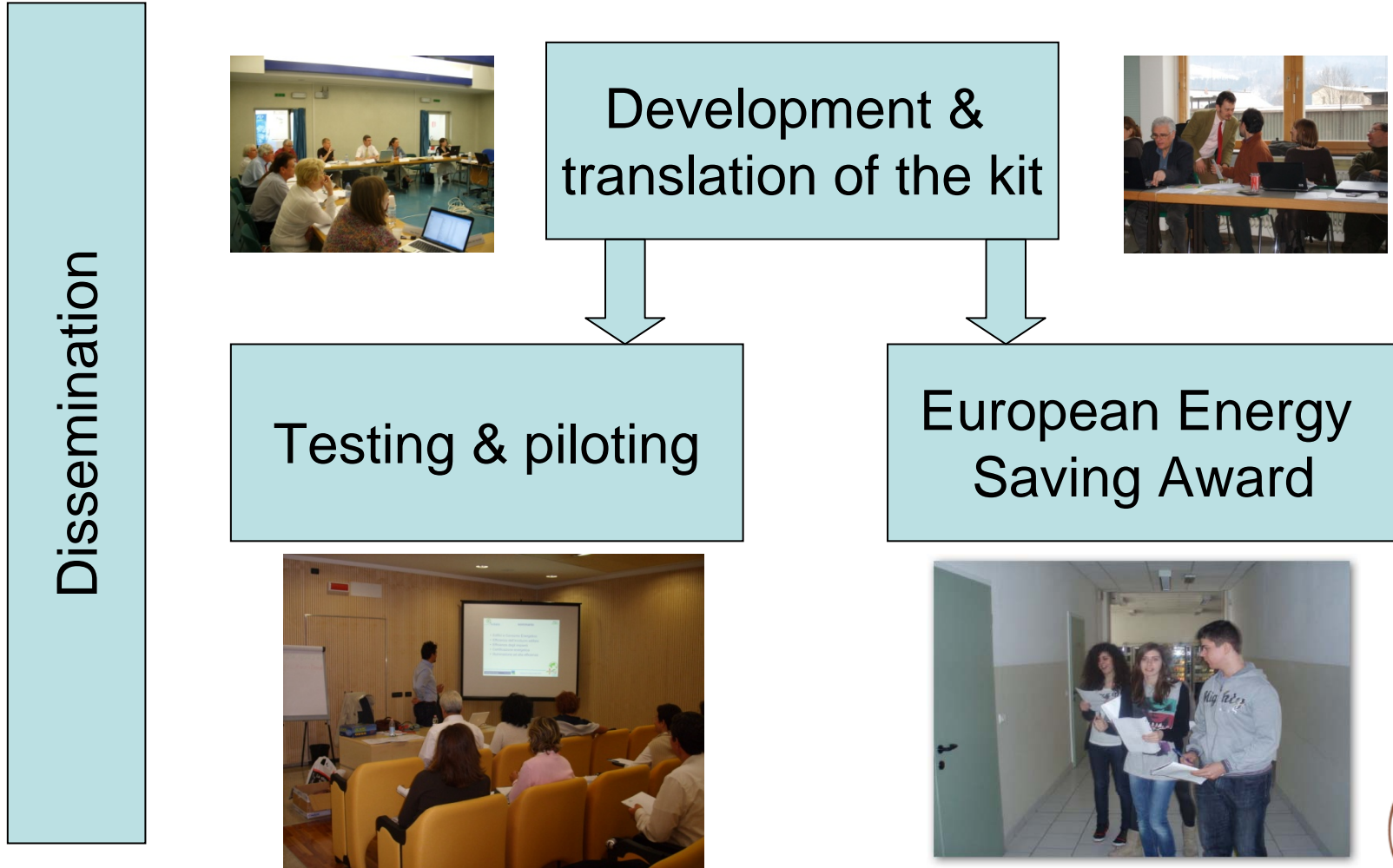


# Objectives

- Teaching energy efficiency to secondary school students
- Improve energy efficiency in schools



# Project workflow



# Project products

- Web site [www.iuses.eu](http://www.iuses.eu)
- 3 students' handbooks (on transports, buildings and industry)
- Teachers' guidebook
- PowerPoint slides, presentation videos
- Multimedia CD
- Kit for experiments
- European Energy Saving Award



- Transport
- Building
- Industry



**Definizione:** indica la definizione di un termine e spiega cosa vuol dire



**Nota:** mostra che qualcosa è importante, un'indicazione di un'informazione cruciale. Fate attenzione!



**Obiettivo didattico:** Sono all'inizio di ciascun capitolo spiegano ciò di cui si parlerà in quel capitolo.



**Esperimento, Esercizio o Attività:** indica qualcosa da fare sulla base di ciò che si è appreso.



**Web link:** indica un indirizzo internet dove si possono trovare maggiori informazioni.



**Riferimenti:** Indica la fonte delle informazioni.



**Caso Studio:** diamo un esempio reale di un industria o di una situazione reale



**Punti Chiave:** è un sommario (di norma un elenco puntato) di ciò che si è trattato, in genere posto alla fine di un capitolo.



**Domande:** indica che vi stiamo chiedendo di riflettere, specie alla conclusione di un capitolo



**Livello 2:** questo indica una sezione di approfondimento



# Outcomes of the piloting 1

- Kit appreciated both by students and teachers (more than 90% are going to use it next year)
- IUSES had a positive impact on students' behaviour
- Kit improvements thanks to teachers suggestions



# Outcomes of the testing 2

What's the contribution of each of the following actions in saving energy (1 very low, 2 low, 3 fair, 4 high, 5 very high)	Ex ante questionnaire average	Ex post questionnaire average	Difference
Turning off light when nobody is in a room	3,8	3,9	0,1
Reducing heating	3,0	3,7	0,7
Switching off TV when nobody is watching it	3,6	3,7	0,1
Reducing cooling	3,2	3,5	0,2
Using low consumption light bulbs	3,7	3,9	0,2
Switching off stand-by mode of electric appliances	2,9	3,5	0,6
Choosing energy efficient appliances	3,1	3,7	0,6
Making a shower in spite of a bath	3,3	3,5	0,2
Driving the car in a environmental friendly way	2,8	3,3	0,5
Moving by foot or bike whenever possible	3,8	3,9	0,1
Buying local food	2,6	3,3	0,6

levelling



# Outcomes of the testing 3

## Attitude doesn't match with behaviour

Which of the following actions are you doing in your everyday life to save energy (you can choose more than one answer):	Ex ante questionnaire %	Ex post questionnaire %	Difference
Turning off light when I'm not in a room	77,5%	86,2%	+ 8,7%
Reducing heating	25,3%	34,9%	+ 9,6%
Switching off TV when nobody is watching it	66,7%	70,1%	+ 3,4%
Reducing cooling	17,5%	25,0%	+ 7,5%
Using low consumption light bulbs	41,3%	52,2%	+ 10,9%
Switching off stand-by mode of electric appliances	26,9%	39,6%	+ 12,7%
Choosing energy efficient appliances	20,2%	28,2%	+ 7,9%
Making a shower in spite of a bath	56,4%	62,5%	+ 6,2%
Driving the car in a environmental friendly way	13,3%	20,5%	+ 7,3%
Moving by foot or bike whenever possible	46,4%	52,0%	+ 5,6%
Buying local food	26,8%	29,3%	+ 2,5%

Even simple things are hard to implement



# Some suggestions

- A lot of information is available, more than you can teach in a single school year
- Choose the most relevant issues for your lessons and for the background of your students
- Multidisciplinary approach
- Implement some sort of energy-saving plan or other active actions
- Develop a plan to be implemented in 2 or 3 years



## Final figures and follow up

- About 47.000 students and teachers directly involved
- About 78.000 students and teachers indirectly involved
- About 1.100.000 kWh energy savings
- About 3.400 tons of CO<sub>2</sub> emissions avoided
- Further dissemination at a national, regional and local level.

