

MARIE TRAINING PROGRAM FOR IMPROVEMENT IN ENERGY EFFICIENCY (EE) OF EXISTING BUILDINGS

**F1 | BEST PRACTICES COLLECTION**

Best Practice Name:	Energy efficiency audit and comprehensive energy efficiency approach
Code:	FR_MX_CO_34

Best Practice Description:

Type:	<input checked="" type="checkbox"/> Action for improvement in the EE	<input type="checkbox"/> Training experience (*)
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Description:	Thermal renovation of Valabre agricultural college staff accommodation <ul style="list-style-type: none"> <li>• Energy audit and feasibility study of wood heating</li> <li>• Thermal insulation from the outside</li> <li>• Thermal roof insulation</li> <li>• Replacement of joinery</li> <li>• Single flow self regulating mechanical ventilation</li> <li>• Building of a brick-made wooden tablets boiler, with heat network, and substations in staff apartments.</li> <li>• Installation of a wood pellet stove in the headmaster's apartment.</li> </ul>
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Location:	Gardanne	Country:	France
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Contact (team):	Maxime DULUC, bureau d'études SOL.A.I.R, 47 bd de la République, 13001 Aix en Provence +33 4 42 26 41 17
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Type of building:	<input type="checkbox"/> Tertiary	<input type="checkbox"/> Residential	<input checked="" type="checkbox"/> Mixed
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Property:	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Private	<input type="checkbox"/> Mixed
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Management:	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Private	<input type="checkbox"/> Mixed
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Fields of action:	<input checked="" type="checkbox"/> Construction	<input type="checkbox"/> Maintenance	<input checked="" type="checkbox"/> Use
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<input checked="" type="checkbox"/> Energy generation and distribution	<input type="checkbox"/> Other
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<input checked="" type="checkbox"/> Replacement or implementation of renewable energies	Wood energy
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Please, evaluate if the following processes take place in the Best Practice that you are describing in this form:

	Yes	No
The <b>data collection</b> has been complete and rigorous	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Communication and awareness</b> processes have been developed to disseminate this practice	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Training actions</b> have been provided	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Product and services</b> have been improved	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Jobs</b> have been created	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Sustainable financial models</b> have been applied	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Agreements or <b>collaboration models</b> have been defined between parties	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Positive impact tested in the following fields (add quantitative data if you have):

<b>ENERGY EFFICIENCY IMPROVEMENT (EE)</b>	Reduction of energy consumption by more than 50%
<b>FINANCIAL COVERAGE</b>	Rehabilitation with controlled costs (316 € excl. tax / heated m <sup>2</sup> ) thanks to the energy audit that allowed targeting the most efficient refurbishments.
<b>EMPLOYABILITY POTENTIAL</b>	No job creation as part of this operation. However, engineering offices able to do good quality energy audits and recommend refurbishments on a comprehensive level are not numerous, even though the demand is growing. Hence a real potential of job creations.
<b>OTHER</b>	<ul style="list-style-type: none"> <li>• The operation was the opportunity to exchange views with wood boiler manufacturers in order to improve the wood silo filling system.</li> <li>• The operation benefited from the advices of an association charged with adding value to wood energy exploitation. The building now serves as a demonstrative example.</li> </ul>
<b>DIFFICULTIES</b>	<ul style="list-style-type: none"> <li>• During the first winter, the fuels needs were under-estimated</li> <li>• The imperfect training of the company in charge of the exterior thermal insulation (not accustomed to this technique) resulting in poor finishing work.</li> </ul>

Agents involved in this experience:

	Legislation agencies
X	Public promoters
	Private promoters
X	Technical public institutions
X	Technicians of the private sphere (professional associations ...)
	Builders
X	Industrial
X	Facility Managers (property managers, cleaning companies ...)
	Energy supply companies
	Users/owners (homeowners association, schools ...)
	Other:

<b>GAPS</b>	<ul style="list-style-type: none"> <li>• Training needs regarding exterior thermal insulation for the concerned companies, and for those interfacing with these companies so that this technique can be better anticipated.</li> <li>• Training needs regarding ventilation systems for heating engineers, particularly on the calculation of extraction flow rate.</li> </ul>
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(\*) RR\_BB\_FF\_NN

RR Country: *CY* (Cyprus), *FR* (France), *GR* (Greece), *IT* (Italy), *MT* (Malta), *PO* (Portugal), *SL* (Slovenia), *SP* (Spain)

BB Type of building: *RE* (residential), *TE* (tertiary), *MX* (mixed)

FF Field of action: *CO* (construction), *MA* (maintenance), *US* (use), *EN* (energy generation and distribution), *OT* (other)  
(in case of affecting more than one field of action choose the most relevant)

NN Number of the practice: *01, 02, 03...*

**(\*)IN CASE OF A TRAINING EXPERIENCE:**

Course name:	
Duration:	
Web:	
Director/a:	
Who is it aimed:	
Objectives:	
Program:	
Methodology:	

I agree to bring this experience to the database of the MARIE project, which will create a comprehensive training program for improving the energy efficiency of buildings in the area of the Mediterranean.