

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

F1 | BEST PRACTICES COLLECTION

Best Practice Name:	Comprehensive renovation of collective housing
Code:	FR-RE-CO-29

Best Practice Description:

Type:	<input checked="" type="checkbox"/> Action for improvement in the EE	<input type="checkbox"/> Training experience (*)
-------	--	--

Description:	Rehabilitation of 3 residential buildings R 10 (ground floor + 10 floors) - 125 units: <ul style="list-style-type: none"> • Energy audit prior to organizing the project. • Wall insulation from the outside: 20 cm glass wool + wooden cladding • Roof insulation: 10 cm polyurethane • Replacement of joinery • Renovation of heating network (emission, regulation): replacement of radiators operating at temperature 40/60 ° C. Returns are favored at 30/40 ° C for condensation. • Renovation of gas condensing boiler • Production of solar hot water and solar photovoltaic electricity: 36 solar panels on the roof with storage heating. Creation of a glycol network in rubbish storage shed and gas heating backup. • Hygro-adjustable ventilation Class B
--------------	---

Location:	AIX-EN-PROVENCE	Country:	FRANCE
-----------	-----------------	----------	--------

Contact (team):	Alexis GRIZARD , PLB énergie conseil 8, route de Galice 13090 Aix-en-Provence a.grizard@plbenergieconseil.fr 04.42.95.77.90
-----------------	---

Type of building:	<input type="checkbox"/> Tertiary	<input checked="" type="checkbox"/> Residential	<input type="checkbox"/> Mixed
-------------------	-----------------------------------	---	--------------------------------

Property:	<input type="checkbox"/> Public	<input checked="" type="checkbox"/> Private	<input type="checkbox"/> Mixed
-----------	---------------------------------	---	--------------------------------

Management:	<input type="checkbox"/> Public	<input checked="" type="checkbox"/> Private	<input type="checkbox"/> Mixed
-------------	---------------------------------	---	--------------------------------

Fields of action:	<input checked="" type="checkbox"/> Construction	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Use
	<input checked="" type="checkbox"/> Energy generation and distribution		<input type="checkbox"/> Other

<input checked="" type="checkbox"/> Replacement or implementation of renewable energies	Solar boiler
---	--------------

Please, evaluate if the following processes take place in the Best Practice that you are describing in this form:

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

Agreements or **collaboration models** have been defined between parties

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

ENERGY EFFICIENCY IMPROVEMENT (EE)	Energy consumption decreased by 50%
FINANCIAL COVERAGE	<ul style="list-style-type: none"> - Private funding including subsidies from the AGIR (Support for the Management of Regional Integration) program of PACA Regional Council. - ERDF and ADEME (Agency for the Environment and Energy Management) financing. - Resale of photovoltaic production to EDF (french electricity board).
EMPLOYABILITY POTENTIAL	
OTHER	Awareness of the project owner (contracting authority) of the importance of reducing and monitoring energy consumption. In operation, monitoring is carried out directly between the Project Owner and the operator with instrumentation and EPC (Energy Performance Contract).
DIFFICULTIES	<p>Difficulties with some residents, and project even stopped after an altercation:</p> <ul style="list-style-type: none"> • When replacing radiators, need not to show defects left by old radiators because the walls and paint jobs are not getting redone. • Moisture and infiltration areas to be treated for each apartment according to their original conditions. • Creation of a ventilation duct in each building and need for residents to accept a loss of space. • Establishment of monitoring sheets for each home allowing each resident to note his remarks during the renovation work, which represents a guarantee for quality work. • Most residents who have closed their balconies have at the same time caused obstruction to rainwater, which had to be unblocked and / or replaced. <p>Communication difficulties within the project management regarding regulation, architect vision and performance: real need for constant exchange in regard to cladding.</p>

Agents involved in this experience:

	Legislation agencies
	Public promoters
x	Private promoters
	Technical public institutions
	Technicians of the private sphere (professional associations ...)
	Builders
	Industrial
	Facility Managers (property managers, cleaning companies ...)

	Energy supply companies
	Users/owners (homeowners association, schools ...)
	Other:
GAPS	Communication needs and needs to educate and make residents aware before the project starts to avoid altercations during the construction. Training and education needs for the project management team and the operating companies to ensure a better coordination of the work.

(*) **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:	<i>Training hours/ECTS</i>
Web:	
Director/a:	
Who is it aimed:	<i>Profile of trainees</i>
Objectives:	<i>What enables this training?</i>
Program:	
Methodology:	<i>Format (face-to-face, on-line), structure of sessions, visits, case studies, evaluation systems, dynamic sessions, other aspects ...</i>

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.