MARIE
INFORMATION
AND TRAINING

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

F1 | BEST PRACTICES COLLECTION

Best Practice Name:	Implementation of "Solution Technique de Référence" (Standard technical solution) – Individual house located in Burgundy (township of Bonnard)
Code:	FR_RE_CO_10

Best Practice Description:

Type:	x	Action for improvement in the EE		Training experience (*)

Description:

The approach:
Considering that it is necessary to massively renovate existing housing in order to reach the goals of reducing GHG emissions, the cabinet Enertech though about and developed a reference solution or "solution technique de référence".
It consists, after making numerous dynamic thermal simulations, in determining a general solution that is easy to implement and to monitor for all the buildings of a neighborhood or a determined geographic area.
Individual houses representing more than half of the existing housing in France, the "Solution Technique de Référence" has also been tested on this type of housing.

Specifications:
In this case, the renovations answered the following specifications:

- Loft insulation: 30 cm of bulk cork - R = 7,5 m^2.K/W
- Insulation of internal slides of pitched roof: 32 cm of wood wool - R = 4 m^2.K/W
- Thermal insulation from the outside of the walls: 14 cm of polystyrene – R = 3,75 m^2.K/W
- Double flow ventilation
- Installation of a wood pellet boiler – Nominal power 12 kW
- Central and distinctive regulation – Heater Programming
- Joineries: wood-aluminum in double glazing, triple glazing for north and east facing sides - U_w = 0,9 W/m^2.k
- Installation of a solar water heater – 5 m^2 of panels

Guidance of workers intervening at each stage of the renovation: working with prime contractors/project managers during study phases, controlling the work quality directly on the construction site, keeping tenants aware and informed, following up on energy consumptions.

Location:	Bonnard (Yonne department)		Country:	France
Contact (team):	ENERTECH – 26160 Félines sur Rimandoule 04 75 90 18 54			

Type of building:		Tertiary	X	Residential		Mixed
Property:		Public		Private	X	Mixed
Management:		Public	X	Private		Mixed
Fields of action:	X	Construction		Maintenance		Use

	Energy generation and distribution		Other
X	Replacement or implementation of renewable energies		For some renovations: installation of solar water heaters.

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	X	
Communication and awareness processes have been developed to disseminate this practice	X	
Training actions have been provided	X	
Product and services have been improved	X	
Jobs have been created	X	
Sustainable financial models have been applied		X
Agreements or **collaboration models** have been defined between parties	X	

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

ENERGY EFFICIENCY IMPROVEMENT (EE)	**Results:** • Initial energy consumption: 300 kWh/$m^2_{living\ space}$/year • Consumptions targeted: 83s kWh/$m^2_{living\ space}$/year **Renovation costs:** 118 K € including fees, in other words 519€/$m^2_{living\ space}$ in order to respect the specifications of the "solution technique de référence", including the reproduction of ornamental features on existing frontages
FINANCIAL COVERAGE	Financial participation of the owner: 83 K €; Public financings: 26,4 K €; Tax credit: 8,6 K €.
EMPLOYABILITY POTENTIAL	No job creation may be directly attributed to the construction program, however it creates additional revenues for companies appointed to the rehabilitation market and, as such, allows companies to develop.
OTHER	
DIFFICULTIES	

Agents involved in this experience:

X	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	Difficulties to reproduce this renovation at a large scale. Poor work management for one of the companies. Necessity to guide companies in their energy efficiency renovation up-skilling.

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

☑*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.*