

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

F1 | BEST PRACTICES COLLECTION

Best Practice Name:	Renovation of the multi-dwelling (social housing) building, Ljubljana
Code:	SL_RE_CO_02

Best Practice Description:

Type:	<input checked="" type="checkbox"/> Action for improvement in the EE	<input type="checkbox"/> Training experience (*)
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Description:	<p>The housing Fund, public fund of the Municipality of Ljubljana, carried out this energy efficient renovation as its own personal case study. This particular building offers home for people with low financial incomes. This is mostly why investor put some extra focus on design stage and relied on energy analysis accompanied with LCC (life cycle costing) analysis in order to select the most suitable solution.</p> <p>Their goals were to reduce operating costs, which had often been a cause of disputes between tenants and managers, and to improve the quality of life of users.</p> <p>With extensive early stage studies investor got an insight in three key decision criteria:</p> <ul style="list-style-type: none"> - the economic aspect (LCC analysis) + sensitivity analysis, - environmental aspects, and - assessment of thermal comfort.
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Location:	Ljubljana	Country:	Slovenia
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Type of building:	<input type="checkbox"/> Tertiary	<input checked="" type="checkbox"/> Residential	<input 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 checked="" type="checkbox"/> Maintenance	<input checked="" type="checkbox"/> Use
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<input type="checkbox"/> Energy generation and distribution	<input type="checkbox"/> Other
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<input type="checkbox"/> Replacement or implementation of renewable energies	
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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 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 checked="" type="checkbox"/>	<input type="checkbox"/>
Training actions have been provided	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Product and services have been improved

X	
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Jobs have been created

	X
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Sustainable financial models have been applied

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

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

ENERGY EFFICIENCY IMPROVEMENT (EE)	Before the refurbishment the energy efficiency and state of thermal insulation of the building, although not particularly bad, was inadequate according to modern requirements. In renovation new PVC windows (double glazing), thermal insulation and mechanical ventilation with heat recovery were installed.
FINANCIAL COVERAGE	The carried out refurbishment scenario didn't show the lowest net present value according to LCC analysis. Investor's decision was made on the basis of lowest energy consumption, which was achieved within reasonable financial boundaries, and thermal comfort aspects. The lifelong cost analysis still does not foresee and allow the economic evaluation of positive refurbishment's effects on the environment and health of users.
EMPLOYABILITY POTENTIAL	Employability potential cannot be assessed.
OTHER	Housing Fund activities coincided with the introduction of new legislation.
DIFFICULTIES	Biggest difficulty is high initial investment.

Agents involved in this experience:

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

(*) **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.