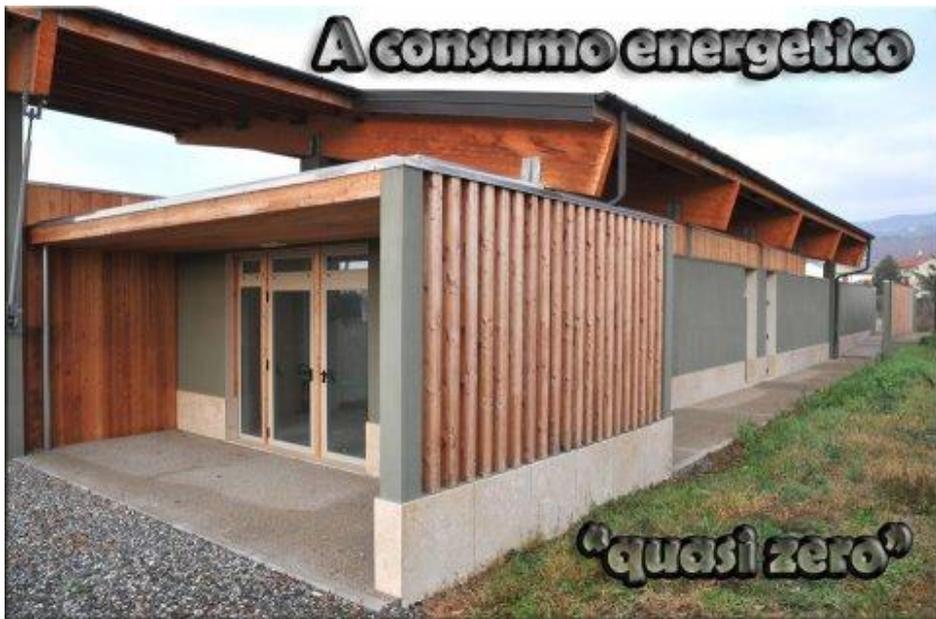


## BUILDING GOOD PRACTICE

### The municipal stadium "S.Barni" – Montale, Province of Pistoia

GENERAL INFORMATION	
<b>Name of the public building renovation:</b>	Wooden building at the municipal stadium "S.Barni"
<b>Building Good Practice number (example BGP n°2 – Florentine Energy Agency)</b>	BGP n.2° Sport - AFE
<b>Sub-group</b>	Sport Facilities
<b>Description</b>	<div style="display: flex;"> <div style="flex: 1;"> <p>Photo</p> </div> <div style="flex: 2;">  </div> </div>
Address	Via F.Coppi – Montale, Pistoia
Public sector contractor	Montale Municipal Proprieties
Architect	Arch. Fabio Zucchi
Engineering consulting	
Date of construction	the flight of steps was built between 1991/95 and the cover laminated wood between 2004/05
Legal aspects	-

	(e.g.: protected property)	
	Date of renovation	Start December 2009; finished June 2011.
	Nature of the work (short description)	The building has completed a series of works initiated some years ago to the municipal stadium. The tribunes were built with the predisposition to be later it closed. was built a wooden building under it that contains the necessary services to spectators at sporting events.
	Budget and financing sources	193 000 euro

<b>AVAILABLE RESULTS</b>	
<b>What were the big problems (in terms of energy efficiency) to tackle?</b>	-
<b>Has this building been already analysed and certified?</b>	Class A, certification according to the Tuscan region
<b>What are the key innovative energy efficiency measures undertaken through the renovation?</b>	This is a new building, and the integrated design has allowed us to take many measures to save energy.
<b>What are the measurable improvements in terms of energy efficiency in electricity and heating (kWh saved)?</b> <ul style="list-style-type: none"> <li>• kWh saved, kWh before/after, kWh given in the studies/real kWh)</li> <li>• carbonated energy kWh substituted by REN</li> <li>• kg CO2 saved</li> </ul>	-

<b>ENERGY EFFICIENT MEASURES</b>	
<b>Energy efficient measures of the building envelope</b>	<p>The building was built with walls and floors made from laminated wood frames elements of a small section, for a constant distance of 60 cm. On each side of them were connected with nails or screws, structural wood panels OSB3. The thermal and acoustic insulation is guaranteed by panels of insulating material placed between the OSB.</p> <p>The study bioclimatic of the building has brought to these choices:</p>

	<p>- The large window entrance to the bar was screen from the summer sun thanks to a shelter laminated wood dimensioned in a specific way to obtain a edegato shading.</p> <p>- The installation in appropriate positions of windows and skylights which improve the cooling "chimney effect".</p>
<b>Energy efficient measures of the heating system</b>	The heating / cooling is composed monosplit inverter heat pump which along with high thermal insulation performance of the elements, satisfies the class A. The systems are so simple thanks to the attention bioclimatic design. It was also designed a small FV system to make the building energy "NEAR ZERO " in anticipating the EU directive will be in place by 2018.
<b>Energy efficient measures of monitoring energy</b>	No energy efficiency measures for energy monitoring have been taken.
<b>Energy efficient measures regarding behaviour</b>	No measures for energy efficiency in behaviour have been taken.
<b>Stakeholders' involvement in the energy efficient measures</b>	-
<b>Others?</b>	-

<b>SUSTAINABILITY OF THE RENOVATION</b>	
<b>Design and choice of sustainable materials?</b>	<p>The choice of the wooden structure, products derived from wood, made it easy to goal you want to design a sustainable building.</p> <p>The wood has many advantages:</p> <ul style="list-style-type: none"> <li>• natural material;</li> <li>• very low cost;</li> <li>• guarantees a high interior comfort;</li> <li>• a prefabricated enables time saving on building site;</li> <li>• 1 m<sup>3</sup> of wood stock 1,1 ton of CO<sub>2</sub>.</li> </ul>
<b>Sustainable building site management? (sorting waste, water...)</b>	No information on this available.
<b>Application of a valuation method (BREEM? HQE? Others?)</b>	No
<b>Carrying out consultation process with dwellers? Concerted choice on the work</b>	

program? Which external partners?	
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<b>BUILDING MAINTENANCE: life of the building after the renovation</b>	
Is the building object of an energy monitoring? Is there a responsible manager?	-
Who is in charge of the maintenance of the heating system of the building?	-
Who is in charge of the day to day energy management?	-
Are there some specific measures to raise energy awareness and to implicate users in energy efficiency?	-

<b>FUNDING</b>	
What financing plan?	
Innovative or specific aspects in the method of financing (European funds or loan, energy performance contract,...)	-
What is the balanced budget for each stakeholder <ul style="list-style-type: none"> <li>• Energy costs for tenant before /after</li> <li>• Increase in the rent</li> </ul>	-
Is there any specific economical indicators (payback time on investment, global cost, ...)	-

<b>TRANSFERABILITY</b>	
Transferable aspects according to the partner in charge of this example of good practice	Transferability of planning (forming a partnership, choosing priorities, setting up a renovation building teams, etc.)? -
	Transferability of the process of renovation (management structure, monitoring system, implication of end users, participation, etc.)? -

	<p>Transferability of results (good solutions, adaptability, change of behaviour, etc.)?</p> <p>The interesting aspect of the project is the use of an existing external structure, trying to use it as outer space.</p>
<p><b>Transferable aspects according to all the partners of Serpente project</b></p>	<p>The other partners will analyse and validate these good practices. During the process of validation the partners will take on the role of auditors because they will assess and improve the effectiveness and portability of good practices in their context.</p> <p>The validation process will promote a systemic approach in local competent public administrations. Moreover, this process of selection and validation is a peer review and entails the mutual role of experts and auditors depending on typology of buildings and partner's expertise.</p>

<b>SOURCES</b>	
<p><b>Publications</b></p>	<p>The building was reported during "The award Tuscan eco-efficient"</p>
<p><b>Website</b></p>	<p>-</p>
<p><b>Interviews</b></p>	<p>Arch. Fabio Zucchi</p>