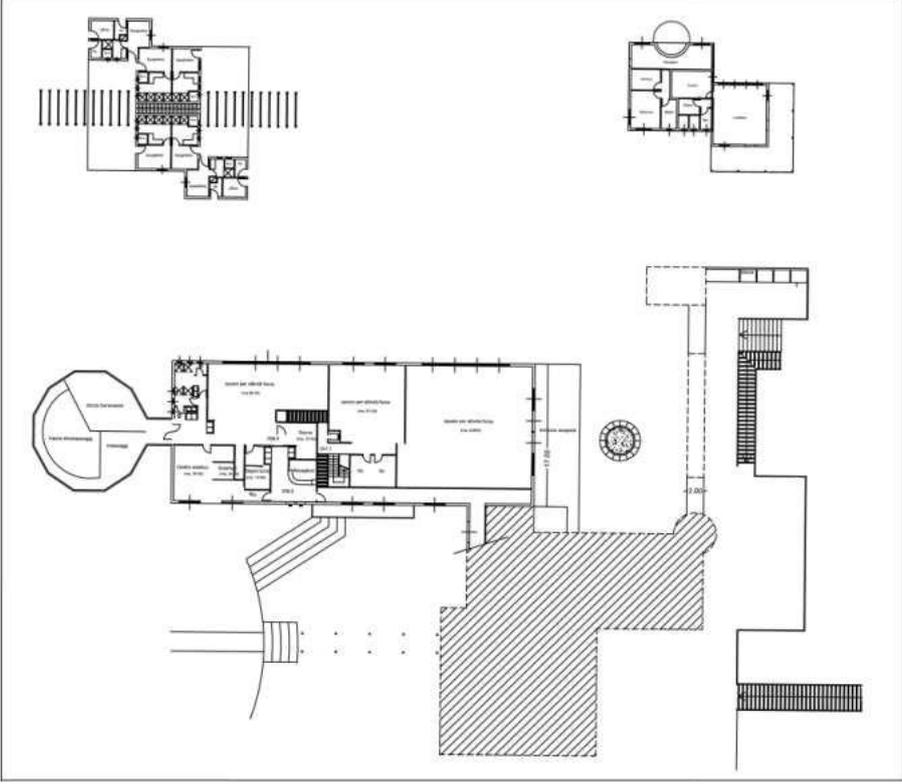
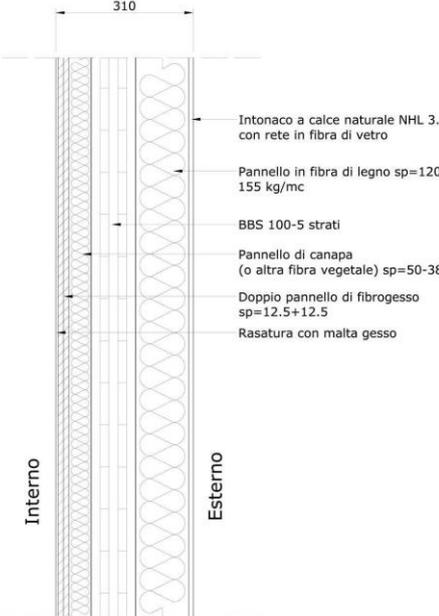
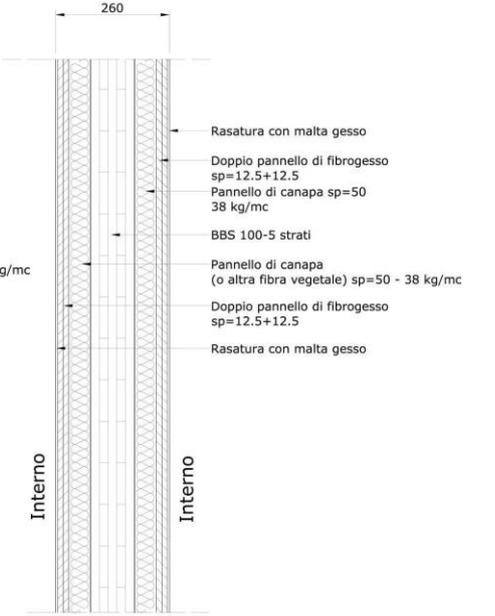


BUILDING GOOD PRACTICE

Bilancino lake – Province of Florence

GENERAL INFORMATION		
Name of the public building renovation:	Bathing establishment of Bilancino lake, Province of Florence.	
Building Good Practice number (example BGP n°2 – Florentine Energy Agency)	BGP n.1° Sport - AFE	
Sub-group	Sport Facilities	
Description	Photo	

		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Pacchetto parete esterna</p>  <p>Interno Esterno</p> </div> <div style="text-align: center;"> <p>Pacchetto parete interna</p>  <p>Interno Interno</p> </div> </div>
Address	-	
Public sector contractor	-	
Architect Engineering consulting	-	
Date of construction	-	
Legal aspects (e.g.: protected property)	Property of Florence Province	
Date of renovation	It's a new building.	
Nature of the work (short description)	<p>The Bathing establishment of Bilancino lake is a new building. The study was designed, just after the first phases of the project, such as a building to be constructed with wooden structures, biological materials and systems with high energy efficiency.</p> <p>In the factory there are planned services, recreational activities, such as space for physical activity, playgrounds, wellness and beauty center, restaurant, bar and game room.</p> <p>This structure, architectural components, systems and finishes compose</p>	

		individually and in an integrated form to produce comfort and indoor environmental quality.
	Budget and financing sources	-

AVAILABLE RESULTS	
What were the big problems (in terms of energy efficiency) to tackle?	-
Has this building been already analysed and certified?	The building has not been certified yet.
What are the key innovative energy efficiency measures undertaken through the renovation?	This is a new building, and the integrated design has allowed us to take many measures to save energy.
What are the measurable improvements in terms of energy efficiency in electricity and heating (kWh saved)? <ul style="list-style-type: none"> • kWh saved, kWh before/after, kWh given in the studies/real kWh) • carbonated energy kWh substituted by REN • kg CO2 saved 	-

ENERGY EFFICIENT MEASURES	
Energy efficient measures of the building envelope	<p>The building is composed of different structural types, all in wood frame with small and large warping, system platform frame and Xlam (Cross-Laminated Wooden Panels).</p> <p>For each type were included different types of insulation: cork, wood fiber, hemp fiber etc., which also have excellent acoustic absorption capacity.</p> <p>The packages consist of wood fiber and hemp fiber are also indicated for spaces with high humidity, due to their high absorption capacity and breathability. These Characteristics allow to reduce the thermo-acoustic conduction without compromising the passage of air and especially the moisture contained</p>
Energy efficient measures of the heating system	In some locals designed, gym, restaurant and other, are simultaneously present many people, they require a lot of energy to satisfy the change of air required. For this reason it has been inserted a irradiation conditioning system, which does not use

	<p>primary air.</p> <p>The building consists of a dual system: the heating and the air system.</p> <p>To reduce consumption of primary energy are used different passive systems (solar) for air changes associated with fans backup.</p>
Energy efficient measures of monitoring energy	No energy efficiency measures for energy monitoring have been taken.
Energy efficient measures regarding behaviour	No measures for energy efficiency in behaviour have been taken.
Stakeholders' involvement in the energy efficient measures	They have been informed through meeting.
Others?	-

SUSTAINABILITY OF THE RENOVATION	
Design and choice of sustainable materials?	<p>The choice of the wooden structure, products derived from wood,, vegetable fibers, natural oils and waxes, air and hydraulic lime, 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"> • natural material; • very low cost; • guarantees a high interior comfort; • a prefabricated enables time saving on building site; • 1 m³ of wood stock 1,1 ton of CO₂.
Sustainable building site management? (sorting waste, water...)	No information on this available.
Application of a valuation method (BREAM? HQE? Others?) Carrying out consultation process with dwellers? Concerted choice on the work program? Which external partners?	No

BUILDING MAINTENANCE: life of the building after the renovation	
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?	-

FUNDING	
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"> • Energy costs for tenant before /after • Increase in the rent 	-
Is there any specific economical indicators (payback time on investment, global cost, ...)	-

TRANSFERABILITY	
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.)? -
	Transferability of results (good solutions, adaptability, change of behaviour, etc.)? The result of this new building was positive both thanks to

	integrated design but also the will to use wood and natural materials.
Transferable aspects according to all the partners of Serpente project	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.
	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.

SOURCES	
Publications	Linee guida sugli edifici in legno di supporto alle associazioni sportive, Regione Toscana, 2011.
Website	-
Interviews	-