

Wood'Art-La Canopée



A showcase for Icade's low-carbon expertise and a precursor to the RE2020, Wood'Art-La Canopée is a true demonstrator of wood construction. Mixed-use, inclusive and with a reduced carbon footprint, Wood'Art-La Canopée is directly in line with Icade's raison d'être, which is to design, build, manage and invest in places where life is good.

Starting date of the project	2016 : Call for expressions of interest for a pilot site for a wooden living building led by ADIVbois-PUCA. 2017: OPPIDEA competition won by Icade. April 2019: Start of construction		
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	Wood'Art-La Canopée is located in Toulouse, within the La Cartoucherie eco-neighborhood, which will eventually include 33 hectares, 2.6 km of bicycle paths, 10,000 m2 of retail space and 3 meeting places. This eco-neighborhood is being developed by OPPIDEA, which, along with the City of Toulouse, has chosen Icade to develop Wood'Art-La Canopée.		
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	This project aims to build a series of demonstration buildings using wood construction (Wood'Art-La Canopée), whose carbon footprint (construction and operation) is greatly reduced compared to that of a conventional building.		
Detailed project description	<p>The Wood'Art - La Canopée building complex, located in the heart of the Cartoucherie eco-district in Toulouse (31), has a major particularity: its structure is 76% wood.</p> <p>The project, which aims for a very low energy and carbon footprint (level E3C2 of the BEPOS and E+C-label) compared to a conventional construction project (steel/concrete structure), calls on local know-how, such as the local wood construction company Maître Cube in design-build with the Toulouse architecture firms Seuil Architecture and Dietrich Untertrifaller, all with bio-based and local materials (French CLT wood transformed by a French company and implemented by a company in Occitania). It participates in this sense in the structuring of the local wood industry.</p> <p>The complex will eventually include a 100-room hotel, 2,750 m2 of shops at the foot of the building, a social building with 42 apartments and 95 homes, for a total floor area of more than 13,000 m2 on 10 floors. Wood'Art-La Canopée is the most advanced project of the ADIVbois-PUCA competition, which aims to present operations with a high wood component and a minimum carbon footprint.</p> <p>The completion of this project will also allow Icade to develop its know-how in terms of off-site prefabrication.</p>		
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers	Details on the aspects of the project	
	<input checked="" type="checkbox"/> Energy and resource efficiency (including behaviour)	Use of bio-sourced materials (local wood)	
	<input checked="" type="checkbox"/> Energy Decarbonisation	Use of renewable energy: photovoltaic production with self-consumption and resale	
	<input checked="" type="checkbox"/> Energy efficiency improvements	Connection to the green urban heating network of La Cartoucherie	
	<input type="checkbox"/> Improving efficiency in non-energy resources	High performance building envelope (BBIO max RT 2012 - X%)	
	<input checked="" type="checkbox"/> Emissions absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)	Creation of carbon sinks via the wood used in the building structure	
	<input type="checkbox"/> Financing low-carbon producers or disinvestment from carbon assets		
Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope	<input type="checkbox"/> Reduction of other greenhouse gases emission		
		Aspects of the project contributing to the reduction of emissions by emission category	Quantification of associated GHG emissions by emission category

			Please follow the quantification methodology used in the Afep guidelines .
	Reduction of the company's carbon dependency		
	Scope 1 <i>Direct emissions generated by the company's activity.</i>		
	Scope 2 <i>Indirect emissions associated with the company's electricity and heat consumption.</i>		
	Scope 3 <i>Emissions induced (upstream or downstream) by the company's activities, products and/or services in its value chain.</i>	Wooden construction for the building structure (instead of a classic concrete structure)	Assuming an average weight of a "standard" building based on the C1 threshold of the E+C-label. The project avoided 9429 TeqCO2 VS "a standard project"
	Increase of carbon sinks		
	Emissions Absorption <i>Carbon sinks creation, (BECCS, CCU/S, ...)</i>	Carbon storage in the wood used for the structure	Total CO2eq sequestered ● 1416TeqCO2
	GHG emissions avoided by the company at third parties		
	Avoided Emissions <i>Emissions avoided by the activities, products and/or services in charge of the project, or by the financing of emission reduction projects.</i>		
	<p>Clarification on the calculation or other remarks:</p> <p>CO2 emissions</p> <ul style="list-style-type: none"> ● <u>Building A1</u> 812 kgCO2eq/m²sdp VS 1542 kgCO2eq/m²sdp (C1 threshold) → Difference 730 kgCO2eq/m²sdp for 1720 m2, or 1256 TeqCO2 avoided ● <u>Building A2</u> 779 kgCO2eq/m²sdp VS 1523 kgCO2eq/m²sdp (C1 threshold) → Difference of 744 kgCO2eq/m²sdp for 1270 m2, i.e. 945 TeqCO2 avoided ● <u>Building B1:</u> 868 kgCO2eq/m²sdp VS 1587 kgCO2eq/m²sdp (C1 threshold) → Difference of 719 kgCO2eq/m²sdp for 1453 m2, i.e. 1045 TeqCO2 avoided ● <u>Building B2:</u> 842 kgCO2eq/m²sdp VS 1568 kgCO2eq/m²sdp (C1 threshold) → Difference of 726kgCO2eq/m²sdp for 2399 m2, or 1741 TeqCO2 avoided ● <u>Building B3:</u> 829 kgCO2eq/m²sdp VS 1491 kgCO2eq/m²sdp (C1 threshold) → Difference of 662 kgCO2eq/m²sdp for 1158 m2, i.e. 767 TeqCO2 avoided ● <u>Building C:</u> 883 kgCO2eq/m²sdp VS 1776 kgCO2eq/m²sdp (C1 threshold) → Difference of 893kgCO2eq/m²sdp for 4116 m2, or 3675TeqCO2 avoided <p>Emission absorption:</p> <ul style="list-style-type: none"> ● According to FDES collective FCBA BLC: 811 kgCO2 eq./m3 for 200m3 or 162 TeqCO2 sequestered ● According to FDES Piveteau CLT: 836 kgCO2 eq./m3 for 1500m3 i.e. 1254 TeqCO2 sequestered 		
Modality of verification of the quantification.	<p>Calculation standard used (ADEME base, GHG protocol, etc.): LABEL E+C- level E3C2</p> <p>Verification of the calculation (internal or external): External</p>		
Other environmental and social benefits of the project	<ul style="list-style-type: none"> - A mixed-use program to meet all of the neighborhood's needs: free and affordable housing, social housing, EKLO hotel, shops, etc. - Co-design of future shared spaces with buyers via the Icade & Nous approach (AMU approach) - Symbiose by Icade offer allowing buyers to create and maintain their own private green space (balconies) - Creation of a garden on slabs for residents (positive biodiversity) 		

Project maturity level	<input type="checkbox"/> Prototype laboratory test (TRL 7) <input type="checkbox"/> Real life testing (TRL 7-8) <input type="checkbox"/> Pre-commercial prototype (TRL 9) <input type="checkbox"/> Small-scale implementation <input checked="" type="checkbox"/> Medium to large scale implementation Remarks: click here to enter the level of maturity of the project
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	This demonstrator project in the third family of housing (R+9/R+10) can be replicated throughout France in local contexts, subject to financial feasibility with regard to the cost of local real estate, with a potential strong climate impact compared to traditional concrete projects.
Amount of investment made (in €)	<ul style="list-style-type: none"> • Housing construction cost: 1600€/m² SHAB Off pk 1800€/m² SHAB pk included • Parking construction cost: 14500€/space <p>The extra cost linked to the low carbon performance amounts to +15% compared to the construction cost of traditional construction (concrete, bricks...)</p>
Economic profitability of the project (ROI)	<input type="checkbox"/> ST (0-3 years) <input type="checkbox"/> MT (4-10 years) <input type="checkbox"/> LT (> 10 years) Remarks: NA
Engaged partnerships	During this construction project, a partnership was established with Maître Cube, a national wood construction operator.
Open comments from the project owner	The Wood'Art-La Canopée operation led to the creation of Urbain des bois, a housing development subsidiary dedicated to wood construction and customized by Icade Promotion.
More about the project	
Contact the company carrying the project	Charlotte Pajaud-Blanchard charlotte.pajaud-blanchard@icade.fr
Project URL links	https://www.icade.fr/projets/operations-mixtes/residence-wood-art-la-canopee
Illustrations of the project	

