

ENERGY-EFFICIENT RENOVATION OF THE C1C2 BUILDING OF THE VÉSINET SITE OF IRSN (RADIOPROTECTION AND NUCLEAR SAFETY INSTITUTE) (78) FRANCE

OFFICE BUILDING : ENERGY-EFFICIENT RENOVATION – EXTERIOR INSULATION BY BIOSOURCED MATERIALS + TECHNICAL ROOF REFINISHMENT

CLIENT	Institut de Radioprotection et de Sûreté Nucléaire (IRSN)
LOCATION	Le Vésinet (78), France
PROJECT MISSION	Energy-efficient renovation by exterior insulation and roof refurbishment
CONSULTANT	AR ARCHITECTES
AREA	4 000m ²
COST	800 000€ HT
DATE	Laureat 2023 - Study in process



Location of the Vésinet site of the Radioprotection and Nuclear Safety l'Institut Radioprotection et de Sûreté Nucléaire (IRSN)

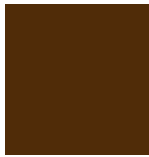


Main facade of the C1C2 building of the Vésinet site of the IRSN

The mission for the energy-efficient renovation of the C1C2 building of the Vésinet site of the Institut de Radioprotection et de Sûreté Nucléaire (IRSN) aims to improve the thermal comfort for its occupants during the summer and winter, as well as to reduce the carbon footprint of the building. Energy-efficient studies have been conducted on each façade in order to propose relevant and cost-effective thermal, architectural and environmental solutions following the High Quality Environmental procedure HQE® : The occupants' comfort, the economic and energy-efficient performance, the respect towards the environment and the responsible management of the building.



Light-toned mineral coating



Brown-toned window and door frames



Wood fiber panels for insulation



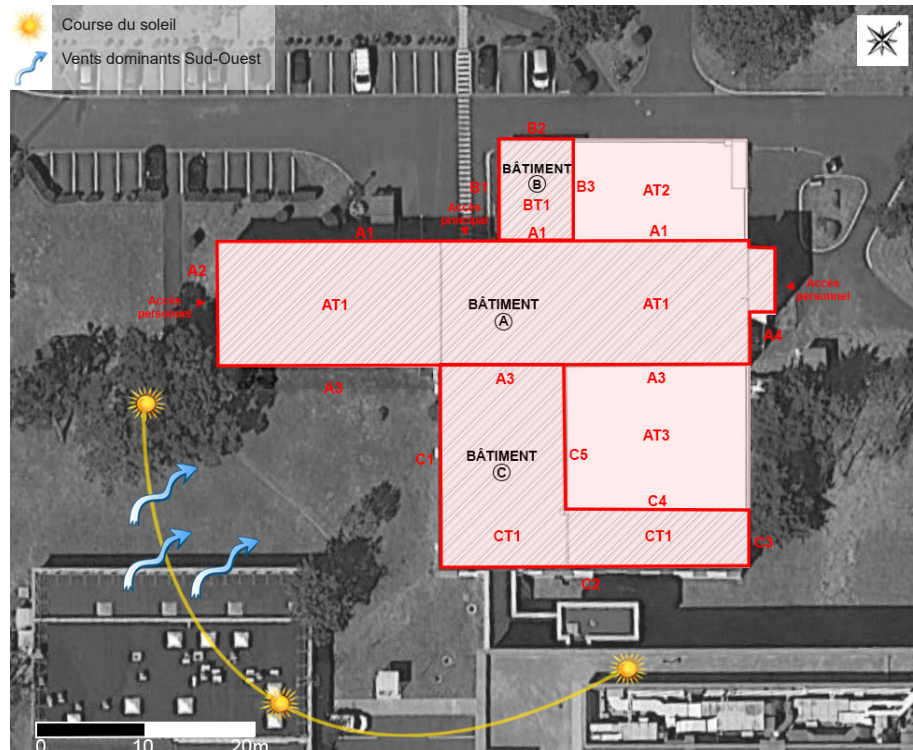
Double-glazed windows



Venetian blinds integrated in the glass



Adjustable sun-protection blinds



Bioclimate master plan of the buildings



Building A



Building B



Building C

THE HQE® PROCESS

ECONOMIC PERFORMANCE :

• This goal concerns the exterior aspect (attractiveness) and the integration of the buildings in their environment. The refurbishment and renovation of the existing facades (in dire condition) allow the building to reinvent itself as a more contemporary entity, blending perfectly with its surroundings.

• The refurbishment and renovation of the exteriors also aim to create a natural and sober color tone of the facades. New coatings for the window and door frames also participate to the overall homogenization of each and every single element of the building's exterior visual.

• The refurbishment of the roof's sealing also means less maintenance for the building's new roof. Furthermore, for this energy-efficient renovation project, the Free-Cooling concept is applied for the heat management of the building, instead of energy-consuming and cost-consuming ventilations.

RESPECT TOWARDS THE ENVIRONMENT - ENERGY MANAGEMENT :

• The proposition for the energy-efficient renovation by exterior insulation using wood fiber panels for the facades suffering from overheating in summer time and heat loss in winter time offers an excellent summer and winter comfort to the occupants while being environmentally friendly at the same time.

• The exterior insulation also reduces considerably thermal heat loss during the winter and the extra layer added to the facades reduces direct heat coming into the interior of the building as well during summer.

• The exterior thermal insulation by wood fiber panels is extremely environmentally friendly due to the sources of the wood fiber panels being 80% biosourced with materials made from natural vegetal elements. This also means that the wood fiber panels not only stock the carbon emissions and reduce them as well.

