



LIVING IN THE FRANCE OF TOMORROW



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In France, 79% of the population is urban, and 23% of greenhouse gas emissions and 45% of energy consumption come from buildings. In the light of the health crisis of 2020, improving the quality of the living environment and preserving natural and social balances must be combined as a matter of urgency. Nearly ten years after the Sustainable City Plan, the French government is undertaking the Living in the France of Tomorrow initiative to bring together networks of urban stakeholders, support local projects, and create an ecosystem that promotes the transition to low-energy, resilient, inclusive and creative housing. A roadmap defines the actions to be taken at all levels, particularly in housing, buildings and neighbourhoods.

/// SOBRIETY, INCLUSION, RESILIENCE AND CREATIVITY APPLIED TO THE LIVING ENVIRONMENT

Consolidating the existing levers for **sobriety** and restraint makes it possible to reduce resource consumption and optimise the carbon footprint of buildings (certified construction, thermal renewal, biodiversity, etc.) without neglecting the engineering and urban services phases.

Similarly, the proliferation and overlap of **resilience** solutions call for the replacement of 'silo' logic by systemic governance based on a culture of shared risk and revaluation of local initiatives.

A habitat constructed around **inclusion** ensures access to essential housing and public services while meeting society's requirements: participatory modes of expression (project houses, fablabs, etc.), social and functional mix, educating elected officials to listen to the region.

Bringing **creativity** to bear on the housing of tomorrow means integrating essential economic activities (trade, logistics, industry) into a multi-centred regional network: balanced urban planning replaces economic development (jobs, investment opportunities, etc.) under the lens of transition (short supply chains, use of existing resources, recycling, etc.).

WHAT DOES THE LAW SAY?

- **The ELAN Law (2018):** build more, better and cheaper, restructure and strengthen social housing and promote social diversity.
- **The Climate and Resilience Law (2021):** promotes decent, efficient and carbon-neutral housing.

/// WHAT ARE THE PRINCIPAL AREAS OF INNOVATION FOR DEVELOPING AND RENEWING THE LIVING ENVIRONMENT

Living in the France of tomorrow also means encouraging innovation based on three priority areas:

> **Accelerating the transition of cities through a much-needed integrated approach** to structuring a research community, accelerating the development of sustainable city demonstrators, making services more efficient through integrated regional digital platforms, and establishing a network of city professionals.

> **Working towards sobriety in construction** by promoting high environmental performance and deploying biosourced and geo-sourced materials of national origin. Tools made available to homeowners can accelerate the mainstreaming of energy renewal (simulators, easier access to finance, etc.)

> **Supporting the development of some sectors:**

Support for research and development projects is essential to accompany the deployment of sustainable and resilient innovations (renovation, computing equipment reuse, heat pumps, etc.). In conjunction with local authorities, this support is provided through a network based on the evolution of the national low carbon strategy, the Stratégie Nationale Bas Carbone (SNBC) and the multi-annual energy plan, Programmation Pluriannuelle de l'Énergie (PPE).

/// THREE STAGES AND CONCRETE ACTIONS TO SUPPORT THESE INNOVATIONS

1. IDEATION

Reshaping the principles for sustainable, sober, resilient, inclusive and creative development.

> **A Citizen Consultation "Living in the France of Tomorrow"** questions the daily habits of the French since the health crisis: citizen workshops allow the opinions expressed to be explored and debated in greater depth, allowing experts and citizens to build a joint vision of "sober and human-centred" development.

2. DEMONSTRATION

Highlighting and promoting demonstrators at all scales and for all stages of the project.

> **A regional learning network** will be deployed to create and maintain synergies likely to identify potential gems, reveal pioneers, promote demonstrators and track down innovative ideas.

> **Lab2051** ensures the continuation of the EcoCité approach. It is aimed at public or private project owners and is committed to incubating the most ambitious experiments (performance, resilience, social inclusion) operationally over 12 to 18 months. Its implementation is multi-faceted: workshops, working groups, calls for projects, events, visits, international partnerships, training programmes, etc.

3. ACCELERATION

Collect and disseminate to all audiences to accelerate the transition.

> **A transition vade mecum**, produced by the Ministry for Ecological Transition, establishes a systemic toolbox offering practical help towards regional transformation.

> **The 4th Future Investments Programme (PIA4)** is dedicating €20 billion over five years as part of France Relance to accelerate solutions supporting sustainable cities and innovative buildings. In addition, a programme of regional sustainable city demonstrator projects was launched in 2021, supported by local authorities and regional consortia of public and private stakeholders.



A PROGRAM AND A TOOL

> The Small Towns of Tomorrow Programme



This allows towns with fewer than 20,000 inhabitants to benefit from specific support from the State and its partners for their revitalisation projects. These towns share their experiences and good practices and may also set up a mentoring scheme for elected officials.

> The Ecoquartier approach, an effective tool

Supported by the Ministry of Ecological Transition, the EcoQuartier approach promotes the emergence of new ways of designing, building and managing towns sustainably by providing tools, raising awareness and enhancing the profile of project leaders (local authorities, developers, private companies, etc.) on all types of projects (new or urban renewal, renovation of priority neighbourhoods, etc.).



See the interactive Ecoquartier map:
<http://www.ecoquartiers.logement.gouv.fr>

THE SUSTAINABLE CITY BY FRANCE HUB

www.sustainablecitybyfrance.org

- This platform is a gateway to all the relevant content for sustainable city professionals: training courses, methodological guides, tools, specialised sites, standards and labels, etc.
- There are also examples of achievements that address the challenges of the regions. The aim is to showcase operational solutions and encourage their deployment in France and internationally.

The "Living in the France of Tomorrow" files present a series of examples of high potential demonstrators for sobriety, resilience, inclusion and creativity in the housing of tomorrow. We need to accelerate the transition by massively expanding these good practices.



Housing in Grenoble that is self-sufficient in energy and water



PROJECT

In the Cambridge sector of Grenoble's Presqu'île Ecoquartier, the ABC (Autonomous Building for Citizens) demonstrator offers 62 homes in two efficient and self-sufficient buildings:

- > Reducing water consumption by **2/3** (recovery and purification of rainwater for drinking, treatment and recycling of grey water, etc.)
- > **70%** energy self-sufficiency (renewable energy mix, heat pumps, batteries, etc.)
- > **40%** reduction in household waste (collective composting, A+++ household appliances, biosourced cork insulation, etc.)



FEATURES

- > Rainwater is made potable and used for human consumption and the production of domestic hot water: the recycled grey water will be used to supply the toilets, clean the premises, and water the green areas.
- > Waste is weighed and sorted (textiles, batteries, light bulbs, etc.), a composting system, a greenhouse and vegetable gardens will facilitate the recovery of bio-waste and green waste.
- > The energy produced by the photovoltaic sails is stored in batteries and supplies the building, the accommodation and the heating system with electricity.

RESPONSE TO THE CHALLENGES

- SOBRIETY** Level C2 of the E+C- label (zero energy balance), drinking water production, grey water recycling, etc.
- RESILIENCE** Reducing resource dependency, a BIM approach and project life cycle analysis, a circular economy and strengthened social links.
- INCLUSION** 20 social housing units, support for user behaviour (information and awareness-raising workshops, commitment charter, etc.), mutualisation (shared gardens).
- CREATIVITY** Agreement signed by allocating 20 social housing units, participation of ABC project leaders in Lab2051 self-consumption, etc.

PARTICIPANTS

- > **Project management:** Linkcity
- > **Project managing:** Valode and Pistre Architects
- > **Partnerships:** Grenoble Housing, Bouygues Building South-East, Suez, the Auvergne Rhone Alpes Region, City of Grenoble, Grenoble Alpes Metropolis, SEM InnoVia, Atelier POP CORN, Territorial Bank, and Ecological Transition Agency (ADEME)



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Social experimentation and participatory project for sustainable housing



Dwelling

PROJECT

Located south of Bordeaux, the commune of Bègles is home to "La Ruche", a project of seven collective dwellings and four houses built sustainably using a social cooperative housing approach:

- > The inhabitants pool their resources to build their homes.
- > Users benefit from the involvement of a social landlord and project management assistance.
- > Saving resources and energy: timber frame construction system, straw and raw earth filling, bio-sourced materials, local renewable resources.
- > Involvement of residents in the early design phases: call for participation, transfer of skills, drafting of a "good practice" guide for the building, etc.



FEATURES

- > Innovative set-up process.
- > Thermodynamic balloons produce domestic hot water.
- > Natural light and ventilation are optimised (glazing distributed to favour uniform light, low consumption ventilation units adapted to the summer season, etc.).
- > The inhabitants of the Hive enjoy common spaces (laundry room, a 73m2 meeting room, a vegetable garden, a terrace on the roof, a bicycle room, etc.). for greater social cohesion (tool sharing, mutual aid for childcare, language courses, screenings, etc.).

RESPONSE TO THE CHALLENGES

SOBRIETY

Life cycle analysis (LCA), consumption records, thermal insulation and summer comfort (bio-sourced materials), pellet stove (heating at less than €150 per year, a delta of 6 to 8°C at peak heat).

RESILIENCE

Diagnostic exercise carried out by a design office, cross-referencing intuitive data with quantified verifications (LCA, thermal regulations - Règlement Thermique (RE) sunshine study, summer comfort, etc.).

INCLUSION

Public meetings with the architects chosen by the users, a participatory project led by eleven households, opening up to neighbourhood life (common room hosting cultural and community activities).

CREATIVITY

Horizontal governance, about fifty targeted stakeholders and locals, etc.), training site (training for local participants in earth and straw construction methods).

PARTICIPANTS

- > **Project management:** Axanis
- > **Assistant project management:** Cerises, B.ing engineering, Bois, Overdrive, Berti
- > **Project managing:** Dauphins architecture
- > **Partnerships:** Aquitanis, BCO2 Engineering, BET Eco, Etudes et 180° Engineering, BTP Consultants, New Aquitaine Region, ADEME.



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Sobriety and inclusion for an innovative eco-village



District

PROJECT

To the south of Rouen, the "new town" has seen the birth of the Hameau des Noés eco-village, a model of sustainable urbanism that offers a new way of living, based on the traditional village social life experience:

- > Mixed planning: 98 social housing units for rent and purchase, a crèche and a central municipal kitchen, cooperative laundry, agricultural activities, etc.
- > 1.5 ha in a no-build green zone, an area of the Eure's floodplain suitable for a landscaped park.
- > Various **services and facilities offer** a new way of living that is more respectful towards the planet and more in line with the aspirations of the inhabitants: capitalising on the social life experience of the area and the agricultural background of the département.



FEATURES

- > Neighbourhood designed around adapting to flood risk.
- > All carried out to Passive house standards and supplied with hot water and heating by a 100% wood-fired urban boiler room supplied with locally sourced wood chips.
- > Served by soft modes of transport, the eco-village prioritises pedestrians and presents a mixed planning approach: social housing, crèche and kitchen powered by a 100% local wood-fired boiler room, family gardens, organic horticulture sector, Berges de l'Eure park, etc.

RESPONSE TO THE CHALLENGES

SOBRIETY

> Frugal devices to manage floods without heavy infrastructures, 100m2 of green space per inhabitant, local plants, biosourced materials, Zero Fossil Energy strategy, etc.

RESILIENCE

> Anticipation and adaptation to the risk of flooding, bioclimatic design, economic and social resilience through the frugality of the project and the low cost of living, ecological footprint offset by the biocapacity of the project.

INCLUSION

Associations and cooperatives participate in the project management, sociological study for social and cultural integration, eco-friendly urban planning procedure modelled on the ADEME's AEU standard, Good Practice Charter and workshops, social and functional mix.

CREATIVITY

Integration and participation project with a local dynamic, full-scale test of the reuse of recycled concrete in construction, involvement of schools, etc.

PARTICIPANTS

- > **Project management:** Siloge, Val-de-Reuil
- > **Project managing:** app & associates, Plages Arrière, Arc en terre, Tribu Conseil, Terre de Lys, Ecotone, etc
- > **Partnerships:** European Union, State, Normandy Departmental Council, Agglo Seine-Eure, etc.



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Turning a floodplain into a landscape and social asset



District

PROJECT

The Hibiscus eco-neighbourhood in Cayenne permits, the development of the sector and the integration of the Pôle University of Guyana into the city, and a response to the housing shortage, according to the specific requirements of the Guyanese territory:

- > Land opportunity of 25 hectares on an area of 130 hectares comprising 1387 dwellings, 60% of which are social housing.
- > New facilities have been installed: a school, a crèche, a home for senior citizens, sports facilities, and there is a desire to establish a neighbourhood lifestyle (shops, services, offices, green spaces, neighbourhood centre).



FEATURES

- > The district has been integrated into the city and the region through a network of roads that is in line with the existing network and a regular public transport service.
- > Creating a new "part of town" that responds to the region's needs and favours social diversity with a broad mix of housing, a range of facilities, places for social interaction and a significant amount of commercial land.
- > Promoting the living environment and natural heritage by developing high-quality public spaces that consider the characteristics of the Guyanese climate and by maintaining a significant presence of water and green spaces.
- > Applying a bioclimatic approach in the urban and architectural design for the energy sobriety of the district and offering an innovative approach to the risk of flooding.

RESPONSE TO THE CHALLENGES

SOBRIETY

Bioclimatic design, solar protection of buildings, greening of facades and public spaces, mobilisation of local channels, wooden platforms, planting grass on public spaces, selective sorting of household waste, careful choice of planted species, etc.

RESILIENCE

Flood risk awareness leading to rainwater and sanitation management, two retention basins, planted ditches, drainage ditch, evergreen car park, Risk Prevention Plan, etc.

INCLUSION

Local public facilities, socio-economic revitalisation of the district (housing and commercial space, offices), social diversity (individual housing, social housing, students, etc.), accessibility for all.

CREATIVITY

Solicitation of the local economy (building and public works, wood industry companies, nursery), commercial land, flood risk days to raise awareness.

PARTICIPANTS

- > **Project management:** EPFAG, La Fabrique Amazonienne
- > **Project managing:** STOA, Botanik paysage, GTI, BTC
- > **Partnerships:** Urban Planning and Development Agency of French Guyana (AUDeG), Council of Architecture, Urban Planning and Environment (CAUE), ADEME, General Directorate of Territories and the Sea (DGTM), Departmental Conciliation Commission (CDC), Agglomeration and Coastal Centre Community (CACL), City of Cayenne



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Find the complete sheet on the Sustainable City by France Hub:
<https://francevilledurable.fr/realisations/ecoquartier-hibiscus/>



Expanding Strasbourg's eastern district through timber construction



Building

PROJECT

"Sensations" is a block of 146 homes in an 11-storey building with a sustainable architecture:

- > Global approach initiated by the Eurometropolis of Strasbourg to design a district using **wood construction and bio-sourced materials**.
- > An ambition for 100% wooden "**low carbon**" housing, spacious and open to natural light.
- > The building has **low pollutant emissions**, ensuring a healthier environment and respect for nature.



FEATURES

- > From the floors to the ceilings to the walls and facades, and even the lift shafts, the construction is 100% wood. Only the flights of stairs and the ground floor are concrete for regulatory reasons.
- > Reversible underfloor heating system to cover heating needs in winter (geothermal heat pump) and to ensure cooling in summer ("Natural Cooling" system).
- > Building performance: the false ceilings eliminate 80% of the main volatile organic compounds, wall paints are classified A+ with low solvent emissions, and floor coverings are made of natural and recyclable materials.
- > Car-free with silo parking at the entrance to the site.

RESPONSE TO THE CHALLENGES

SOBRIETY

Bio-based materials and wood of European origin, certified from sustainable forests, compliance with the 2012 thermal regulation, passive energy building level, etc.

RESILIENCE

Limited heat islands, elimination of asphalt surfaces, maximised permeable spaces, strong plant presence, maximised interior spaces, reinforced façade insulation, adapted to the seismic risk and contribution to the development of standards to prevent the propagation of fire through façades, etc.

INCLUSION

Co-construction approach initiated by the Strasbourg Eurometropolis (workshop), social mix managed at the block level, design favouring living together, etc.

CREATIVITY

The highest 100% wooden building in France, prefabrication process, and financing within the PIA "city of tomorrow" framework.

PARTICIPANTS

- > **Project management:** Bouygues Real Estate
- > **Project managing:** Koz Architectes
- > **Partnerships:** Aida, Independent Acoustics Workshop, Wood Engineering, ILLIOS, Alti Bois, Management and Development Eiffage Building



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Matra: a flood-resistant "open shelter"



District

PROJECT

Along the river Sauldre, the former Matra site in Romorantin-Lanthenay has been redeveloped to offer the inhabitants access to nature as well as protection from flooding:

- > 80% of the landscape in natural control (de-artificialisation of the factory's soils), de-pollution of the site, formerly owned by the Normant factory.
- > Re-appropriation of an area in the city centre with a view to social and natural diversity in the city, while taking into account the various constraints of the site: proven effectiveness during the June 2016 floods.
- > The measures implemented proved to be effective in the context of the 2016 flood and prevented the flooding of habitable levels.



FEATURES

- > The dwellings are built with garages on plinths above a slight excavation forming a water retention channel, and individual dwellings are built on piles at the height of the highest known water level (+1.50m). Constructing this retention basin or 'bateau-lavoir' is intended to promote a culture of risk acceptance.
- > Designed using existing buildings: demolition of all the buildings except for the former Normant factories, which are classified as historical monuments and have been renovated to accommodate public facilities.
- > The landscaping contributes to understanding hazards and reducing their impact (rainwater retention basins, sheltered pedestrian paths, hydraulic transparency, etc.).

RESPONSE TO THE CHALLENGES

SOBRIETY

Natural regulation and reclamation of nature, consultation on renewable energy, reuse of the site's rubble to create drains, installation of heat pumps, thermodynamic tanks, etc.

RESILIENCE

Hydraulic study to understand the flow of the Sauldre, limiting the impact of flooding, raising living levels, etc.

INCLUSION

Consultation on the flood risk prevention plan, collective and individual housing, rental and home ownership, generational diversity (central garden, administrative building, etc.).

CREATIVITY

Exploration of a maieutic method in the conduct of the project and led by the architect, strong replicability of the project in flood zones, etc.

PARTICIPANTS

- > **Project management:** Romorantin-Lanthenay municipality
- > **Project managing:** Architect Eric daniel-lacombe
- > **Partnerships:** Landscape designer Bernard Lassus



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Social ownership housing



Dwelling

PROJECTS

Two rehabilitation projects offer innovative solutions to boost social home ownership: the Kaminoa operation (Espelette) and Cosmopole (Lille):

> Kaminoa is rehabilitating an old farmhouse into five four-room flats with a garden for social home ownership, supported by the social solidarity land agency, Organismes de Foncier Solidaire (OFS) and the social solidarity lease system, Bail Réel Solidaire (BRS).

> In Lille, the former Faculty of Medicine and Pharmacy site is being converted into 15 BRS housing units, a hotel, an art gallery, and 210 housing units.

> These new measures put in place by the public authorities make it possible to separate the land from the buildings with a view to providing access to property under more advantageous conditions.



FEATURES

> The OFS/BRS system offers an alternative selling price that remains accessible to all, even to households with incomes lower than the social rent-to-own loan, Prêt Social Location-Accession (PSLA):

- The price per square metre is approximately €1,992/m² compared to €3,200/m² for the Kaminoa project.
- The price frame is 2100€/m² against 4500€ to 4700€/m² in the free market for Lille.

> Leverage for rural communes in support of rehabilitation.

> Without the land share cost being carried by the housing association, these households would not have had access to home ownership in these locations.

> The OFS tool uses its expertise to support the project with a view to solidarity, promoting balance between regions and sustainable development.

RESPONSE TO THE CHALLENGES

SOBRIETY

Rehabilitation of existing sites, traffic patterns and noise impacts are taken into account for Lille.

RESILIENCE

The BRS allows permanent social use of the dwellings.

INCLUSION

Limiting property speculation and social diversity solutions for communities, the tenants of a BRS acquire real rights for a period of 18 to 99 years.

CREATIVITY

A scheme that can be extended throughout the country (to be expanded by 2024).

PARTICIPANTS

> **Project management:** Kaminoa: The COL
Cosmopole: FINAPAR, VILOGIA

> **Project management:** Kaminoa: Thierry Girault (architect)
Cosmopole: RED CAT Architect,

> **Partnerships:** Kaminoa: Aquitaine Land Cooperative (OFS in French acronym)

Cosmopole: Lille Metropolis Solidarity Landholding Organisation (OFSML in French acronym)



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Find the complete sheets on the Sustainable City by France Hub:

<https://francevilledurable.fr/kaminoa>
<https://francevilledurable.fr/cosmopole/>



Tall wooden tower in Bordeaux



Building

PROJECT

Within the Saint-Jean Belcier urban renovation area in Bordeaux, the Hyperion project presents a construction with high technical and environmental value:

- > 98 housing units in a 50-metre high tower, using more than 1400m³ of locally sourced and carbon traceability controlled wood (wood certification).
- > A carbon footprint of 870 kg CO₂ eq/m²SDP, i.e. 45% lower than a traditional building.
- > Energy consumption that contributes to the inhabitants' comfort in summer and winter.



FEATURES

- > Hyperion is the tallest wooden residential building in Europe (50 m high), and the use of bio-based materials allows the building to act as a carbon sink (an estimated 1,400 tonnes of CO₂ sequestered over the life of the building).
- > Supported by the future investment program (PIA), Hyperion is recognised by the State as an "Industrial Demonstrator of the Sustainable City".
- > Urban heating network that uses a renewable resource from the treatment of household waste by the energy recovery unit, the Unité de Valorisation Energétique (UVE) in Bègles (33).

RESPONSE TO THE CHALLENGES

SOBRIETY

Built on a former car park, bio-sourced materials, life cycle analysis, measurement of the carbon footprint of wood and certified local sourcing, bioclimatic design of the building, eco-friendly and recycled paints, etc.

RESILIENCE

The "Phospore" approach, which allows for an integrated approach to urban development (low-carbon transformation of the neighbourhood).

INCLUSION

Public meetings, setting up a project house (models, teaching aids, etc.), allocation of 35% of social housing, integration clause, etc.

CREATIVITY

Economic development of the regional wood industry and specific training of workers, prefabrication process based on the industrial model, etc.

PARTICIPANTS

- > **Project management:** Eiffage Real estate South West
- > **Project managing:** Viguier Urbanism Landscape Architecture
- > **Partnerships:** SOCOTEC control office, CETAB fluid engineering office, AIDA acoustic engineering office, WOODEUM



VIGUIER



Woodeum



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Reconversion of industrial wasteland along the Seine



District

PROJECT

Built on former industrial wasteland, the "Les Docks de Ris" EcoDistrict is an ambitious project:

- > Reconversion of a derelict industrial site and construction of 900 homes with a strong social and generational mix.
- > 70% of heating and hot water needs are covered by renewable energy.
- > Integration of nature into the Ecoquartier and implementing a "zero discharge" system through the adapted management of rainwater.



FEATURES

- > A local energy strategy makes it possible to organise the maintenance, extension and reception of economic, commercial and cultural activities while ensuring that heating and hot water needs are met by renewable energy (heating network based on geothermal and biomass resources).
- > The project, on the banks of the Seine, contributes to enhancing biodiversity through a green network and the development of an 8-hectare park in a wooded area, including a body of water.

RESPONSE TO THE CHALLENGES

SOBRIETY

Reconversion of wasteland, use of existing buildings, limitation of waste production and use of resources, "low consumption building" label, rainwater collection, retention and filtration systems, etc.

RESILIENCE

Analysis of the risk of pollution and flooding, and various feasibility studies on housing, school facilities, energy issues, etc.

INCLUSION

Consultation and communication channels (website, municipal magazine, themed workshops, etc.), creation of a cultural centre, 15% subsidised rental housing and 15% social housing, partnership for continuing education, etc.

CREATIVITY

Maintenance and development of economic activities, residences and workshops for artists, cultural facilities planned in the renovated buildings.

PARTICIPANTS

- > **Project management:** Great Paris Planning, Brochet-Lajus-Pueyo Agency, Alter Development
- > **Project managing:** Laverne Agency
- > **Partnerships:** City of Ris-Orangis, Nexity, Promogim, Bouwfonds Marignan, CAECE, etc.



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Zero carbon collective housing



District

PROJECT

The NEO programme in the commune of Chanteloup en Brie offers the village of Briard levers for sustainability:

- > 58 all-wood, low-carbon housing units: 10 individual two-storey dwellings, 48 three-story multi-family units, four buildings and six stairwells, 110 parking spaces, 60 of which are semi-underground.
- > Social housing for families under the PSLA resource ceiling.
- > Buildings with the E3C2 label, but also biosourced level 3 and certified as NF Habitat HQE "very efficient" level.



Bâtiment
BIOSOURCÉ



FEATURES

- > The semi-underground car park reduces the carbon impact of the infrastructure while placing the buildings on a raised base which forms a terrace around the garden, which is also raised.
- > Wood provides very good thermal insulation of thermal bridges, and the wooden structure is lighter than masonry buildings, resulting in a significant reduction in the carbon footprint of the construction and economy of materials.
- > The dwellings are no longer equipped with radiators but with air heating (heat pump, collective condensation boiler for heating and domestic hot water, double-flow ventilation with heat recovery).

RESPONSE TO THE CHALLENGES

SOBRIETY

Bioclimatic and Passivhaus design, over-insulation thanks to bio-sourced materials, 33% of the building's footprint, 3-in-1 equipment to minimise maintenance, etc.

RESILIENCE

Consideration of global warming (triple glazing, sliding shutters, sunshades, double-flow ventilation, etc.), greening, systemic approach (ISO 9001 certification and HQE NF Habitat approach).

INCLUSION

Social access to property and support for buyers: rent-to-own system with zero-interest loans, no cash advance during construction, etc.

CREATIVITY

Accessible bathrooms and an innovative process for threshold-free showers, techniques for using earth in construction, increasing collective knowledge of "low-carbon" construction and materials, anticipating new regulations.

PARTICIPANTS

- > **Project management:** Expansiel Promotion
- > **Project managing:** M'cub architectes, A003 architectes
- > **Partnerships:** MEHA Charpentes, Maya sustainable buildings, Oregon, Vpeas, Aida acoustic



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Find the complete sheet on the Sustainable City by France Hub:
<https://francevilledurable.fr/realisations/chanteloup>



Rethinking the city centre in an insular and tropical context



District

PROJECT

Cœur de Ville, Reunion Island, aims to provide the commune of La Possession with a new city centre to balance the city and its inhabitants:

- > Residences for senior citizens and more than 1500 dwellings, 60% of which are subsidised and social housing.
- > 11 hectares of public space, including commercial and office areas, a health facility, two school groups.
- > Buildings with bio-sourced raw materials and 35% of the surface area dedicated to nature.



BREEAM®



SMART ISLAND
WORLD CONGRESS

FEATURES

- > Designed according to the principle of the garden city, the new city centre aims at social, intergenerational and functional diversity with its shared gardens: a cool oasis and a place to meet.
- > The principle of short distances with a view to accessibility for all, easily and quickly through soft mobility solutions for everyone: bicycle sharing, tropical pedestrian walkways, public transport development.
- > The ground surface in the neighbourhood has been designed to maximise soil permeability (risk of cyclones, flooding and extreme heat). The dwellings are bioclimatic, and consumption is monitored using a system to locate any problems (leaks, faulty lighting, etc.) and educate users about their consumption.

RESPONSE TO THE CHALLENGES

SOBRIETY

Energy efficiency through tropical bio-climatic infrastructure at the level of the site, the urban block and the building, bio-sourced materials, the use of photovoltaic panels, landscaping designed for managing and depolluting rainwater, etc.

RESILIENCE

Urban safety approach, taking into account climatic hazards (architecture, vegetation, the orientation of streets and buildings...), systemic approach (various considerations: urban, environmental, mobility, sociological, economic, hydraulic, aerualic, climatic...), etc.

INCLUSION

Governance system co-constructed with the inhabitants, eco-citizen charter, awareness-raising projects, accessible to people with reduced mobility.

CREATIVITY

Enhancing local employment and economic integration while anticipating the use of digital technology and innovation for the benefit of its residents: energy management for urban comfort, neighbourhood e-concierge service, urban agriculture project, connected car parks.

PARTICIPANTS

- > **Project management:** SEMADER
- > **Project managing:** Urban Ecology Laboratory (UEL) of the French department La Réunion
- > **Partnerships:** Municipality of La Possession, SEMADER, UEL la Réunion, Real Estate Heart of the City



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Find the complete sheet on the Sustainable City by France Hub:
<https://francevilledurable.fr/realisations/ecoquartier-coeur-de-ville-la-possession/>





This fact sheet presents a selection of exemplary projects highlighted on the France Ville Durable portal to showcase French ambition and know-how in the field of sustainable cities, particularly among international professionals.

These "Sustainable City by France" sheets are an updated version of the sheets that have been produced since 2015 by the Vivapolis network with a view to welcoming foreign delegations to France and promoting French achievements internationally.

The Sustainable City by France (SCbF) NGO is the result of the convergence between the Institut pour la Ville Durable (IVD) and the Vivapolis network and is the place to capitalise on, disseminate and support the implementation of French expertise and know-how in the field of sustainable cities, both in France and internationally.

In partnership with the ministry for ecological transition, the Ministère de la Transition Ecologique (MTE) and under the aegis of the Ministry of Housing, the Living in the France of Tomorrow initiative aims to highlight 100 "demonstrators" to encourage the replication and scaling-up of the most significant achievements in terms of low-energy, resilient, inclusive and creative urban planning across the country.



Fact sheets produced with the support of the ministry for European and foreign affairs, Ministère de l'Europe et des Affaires Etrangères (MEAE) and the Directorate of Foreign and International Affairs of the Ministry of Ecological Transition.

