LA CONFLUENCE® LYON

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1. BACKGROUND

The area of La Confluence® was reclaimed from water by earthworks between 1770 and 1850. Continuing the city centre, it is the southern half of Lyon's central peninsula, stretching from Place Carnot to the Rhône-Saône confluence. Cut off from the rest of the city by two rivers, a motorway and a railway, it developed as an industrial suburb. Half of its 150 hectares was occupied by manufacturing and logistics businesses, whose decline in the latter half of the 20th century freed up substantial plots of land. The other half is a residential neighbourhood around Sainte-Blandine Church, currently home to 7,000 people. The district has many assets: a central location in Greater Lyon; a landscape of great quality (the gentle banks of the Saône; hilly scenery to the west; five kilometres of riverside, with no point more than 400 metres from the water), the unique appeal of a powerful confluence; a neighbourhood inhabited since the 19th century, and efficient transport links (a train station, a metro line, and two tramway lines). The new story of the district began in 1998. The Greater Lyon authority showed citizens a first project by Bohigas Melot Mosbach, and decided to undertake its regeneration; today, the execution phase is well under way. In 1999, the Greater Lyon authority and the City of Lyon set up a public-private redevelopment company, Société d'Economie Mixte (SEM) Lyon Confluence, which in 2008 switched to wholly public ownership and was renamed Société Publique Locale d'Aménagement (SPLA) Lyon Confluence. In 2000, it tasked architect François Grether and landscapist Michel Desvigne to help execute the project. Design and consultation stages led to the approval, in April 2003, of a Phase One project in the form of a redevelopment area (called "ZAC 1" in French) covering 41 hectares by the Saône. In 2009, the job of master-planning Phase Two, by the Rhône, was awarded to Swiss architects and urban planners Herzog & de Meuron; the Greater Lyon authority voted to approve their plan in September 2010.

2. PHASE ONE: BY THE RI-VER SAÔNE

Launched in 2003, Phase One immediately applied the core principles of the overall project:

- generous public spaces that play a structural role
- a neighbourhood for all, fostering a good social mix
- a balanced range of uses (housing, offices, retail, leisure, etc.)
- sustainable development.

Phase One makes up nearly 40% of the overall project by value, with estimated total investment of €1.2 billion. Its construction programme comprises 400,000 m2 of net floor area (NFA) with a balanced range of all city-centre uses across 41 hectares. Now 80% complete, Phase One will end in 2016. It includes several quarters: the Saône's banks as far as Cours Charlemagne, the tip of the confluence, and the vicinity of Perrache train station. The new developments are adjacent to the long-standing neighbourhood, which thus draws a direct, immediate benefit from the Lyon Confluence project. Phase One, which kicked off once the first plots were vacated, includes a particularly large programme of residential and tertiary-sector buildings, as well as several major public spaces: the Place des Archives and Place Denuzière squares, Place Nautique (the marina and its environs), and many open spaces between the new buildings.

1. Innovative, generously-sized public spaces

Lyon is renowned for the quality of its public spaces, and La Confluence® is no exception, closely associating rivers with buildings, particularly by means of riverside promenades. Counterbalancing the densely-built plots, the public spaces are unusually spacious (25 ha in total). Echoing the wooded hills across the Saône, they bring nature into the city: they highlight the qualities of the site, and strongly structure the overall project. They help the city breathe, make it easier to walk around, and tempt residents to walk along the Saône



La place Nautique, bordered to the north by plots ABC.

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Saône Park is the project's backbone. This green grid, covering all of La Confluence®, primarily stretches along the river. This main corridor is for walkers and cyclists to pass through the water gardens; branching off it are landscaped strips with tree plantings of various density, which reach deep into the neighbourhood. The park continues southward with the public areas of Rambaud Port: covering four hectares, these spaces introduce nature and water to the north and south of the port, and repurpose its legacy fabric: the skeleton of the old warehouses has been converted into giant pergolas, and the cladding includes dressed stone and concrete – in a patchwork of reclaimed materials. North of the port, the park is continued by the Saône Embankments, whose first section links the park to the historic city centre.

Place Nautique, an integral feature of Saône Park, measures four hectares, with two for the marina basin; a 340m-long waterway brings the river into the city, and gives the southern half of the city's central peninsula a public space to rival Place Bellecour. Inaugurated in June 2010, and a symbol of how the rivers have been reconquered, this space affords clear views to the scenic backdrop of the Saône's west bank. Moorings host visiting pleasure-boaters, while most of the marina is reserved for watersport classes and occasional big events on the water. The vaporetto, the river shuttle run by the Confluence shopping centre, which connects the historic city centre with La Confluence®, also stops there daily. The other two hectares – of quays and terraces for pedestrians – slope gently down to the basin, giving residents a closer experience of the water. The north- and southside quays are linked by two footbridges.

Place des Archives, with its 648-space underground car park, is at once a local neighbourhood square, enhancing the adjacent residential district; the approach to Perrache train station; and a piazza outside the Municipal Archives. Inaugurated in autumn 2010, it reflects the logic of execution of the Lyon Confluence project: each stage is devised to deliver a direct benefit to the district.

Place Denuzière, the continuation of Rue Ravat, gives direct access to the theatre of greenery by the Saône. This long square, lent rhythm by sightlines between the buildings, will offer a pleasant stroll through vegetation and little squares. Work starts in 2013; phase one will open in 2014, with full completion in 2015.

Esplanade François Mitterrand is the continuation of Place Nautique eastward beyond Cours Charlemagne and is part of the same design statement. This traditional square in the Market Quarter is planted with trees on its north side; on the south side, it serves as a piazza in front of the Regional Council headquarters.



2. A balanced construction programme

The construction programme, which extends the city centre, meets three main objectives:

- Functional diversity

La Confluence® is home to all the city's functions. Some 2,000 homes provide 130,000 m2; the remaining 270,000 m2 is for office, retail and tertiary premises on the ground floors of buildings (150,000 m2 for tertiary-sector businesses, and 120,000 m2 for retail, leisure, consumer-facing services and hotels). As is typical in city centres, this functional mix exists in each plot of buildings; there is no function-specific zoning. La Confluence® – an area for living and working, but also a destination for leisure, shopping, culture, urban tourism, and walking – is conceived as an all-purpose meeting-place and activity venue in the heart of the city.

- Social mix

This is a strong objective of the project. In line with Greater Lyon policy, the proportion of social housing (for tenants and first-time buyers) in Phase One is 23%. On each plot, developers were asked to respect proportions of social, intermediate, innovative and high-end homes, as per the mix targets specified by the public redevelopment company. This social mix applies to each plot of buildings, as exemplified by plots ABC: out of the total of 660 homes, 150 are for social tenants or first-time buyers, and 47 are for "intermediate"-rent tenants. This objective was accentuated for plots E and F: 50% of their 240 homes are for social rental or social and intermediate-income first-time buyers.

- High environmental quality: La Confluence® homes singled out by EU Concerto

All the offices and homes in La Confluence® meet very strict specifications on high environmental quality (French acronym: HQE). The focus is on energy efficiency and renewable-energy use. The cheapest energy is still unconsumed energy. The buildings use 30-90 kWh/m2, i.e. 3-10 times less than old buildings (200-400 kWh/m2/year) and 2-4 times less than required by thermal regulations (120 kWh/m2/year). The 660 homes and 15,000 m2 of offices in plots ABC, inaugurated in October 2010, have been singled out by the EU Concerto programme, which rewards mass use of renewable energies and bioclimatic building design. The result: the plots consume 80% renewable energies (woodfired boilers, solar water heaters and panels) and 50% less energy than thermal regulations require. Through this programme, the European Commission has provided €4 million of funding. The French Environment and Energy Management Agency (ADEME) and the Rhône-Alpes Regional Council have also supported these design measures (see box on page 8).

CLOSE-UP:

THE EU CONCERTO AND NEXT-BUILDINGS PROGRAMMES

A European initiative

Through the Kyoto Protocol, the European Union has committed to cutting greenhouse-gas emissions by reducing consumption of fossile fuels and driving take-up of renewable energies. In 2003 the European Commission launched the Concerto programme, as part of the 6th Framework Programme for Research and Technological Development.

This programme encourages local authorities to develop major urban projects that display exemplary energy efficiency and use of renewables. As buildings are the biggest consumers of energy (in France, they account for over 40%), Concerto focuses on construction methods, with two objectives:

- promote energy efficiency and the use of renewable energies;
- demonstrate, and disseminate information on, the resulting environmental but also economic and social benefits.

Concerto also aims to:

- raise residents' awareness about how these new homes are used, and prepare them for the changes in behaviour they must adopt to better control their energy consumption;
- encourage construction-industry professionals to train in the new techniques and in the management and maintenance of buildings and facilities with the French HQE (high environmental quality) label;
- experiment with innovative practices that will be able to serve as models for other local authorities.

NEXT-Buildings

This EU project focuses on a new generation of buildings with advanced energy performance. It aims to construct, and test the performance of, very-low-energy or even plus-energy buildings, based on new technologies including active components.

The project also aims to show that these solutions are affordable and can ultimately make a large-scale contribution to buildings' environmental performance. NEXT-Buildings covers three pilot projects in Europe in Amsterdam, Helsingborg and Lyon (with the Hikari project, see page 10), which rank among the most successful projects of the Concerto programme. This project also involves prestigious research institutes: the Swiss Federal Institute of Technology (EPFL) in Lausanne, Switzerland; and the University of Kassel in Germany.

3. NEDO and Greater Lyon: a unique partnership for an innovative demonstration project

Key date: 15 December 2011

Gérard Collomb, in his capacity as president of the Greater Lyon authority, and Hideo Hato, president of Japan's New Energy and industrial technology Development Organization (NEDO), signed a memorandum of agreement for the "smart community" demonstration project, in which cutting-edge Japanese technologies will contribute, up to 2015, to the sustainability of the Lyon Confluence urban project.

The partnership

NEDO, a public Japanese agency equivalent to the French Environment and Energy Management Agency (ADEME), supports innovation and R&D in new energies as well as environmental and industrial technologies. NEDO identified Greater Lyon and its Confluence site as the ideal European testing ground for a smart-community demonstration project. It will be NEDO's first smart-community demo in Europe. For Greater Lyon, the partnership fits into the energy-control initiative within its Climate Plan.

One project, four tasks

Following NEDO's call for projects, Toshiba and Toshiba Solutions were selected to lead the Japanese consortium charged with overall execution of the demonstration project. This project, exemplary in its quality and innovations, covers four tasks:

- executing plot P as a model (energy-plus) building in terms of energy efficiency and integration of renewable energies (see page 10);
 - rolling out a fleet of self-service electric cars, running mainly on photovoltaic power, for business users in La Confluence®;
 - installing home energy monitors to help residents control their consumption, particularly in Cité Perrache, a 1930s social-housing complex that is undergoing eco-refurbishment:
 - Introducing a community management system (CMS), a tool for managing and tracking energy-consumption data across the whole project.



Virtual view of plot P from the Rhône-Alpes Regional Council HQ on Cours Charlemagne.

CLOSE-UP:

PLOT P, A DEMONSTRATION PROJECT TO COMPLETE PLACE NAUTIQUE

Until recently, consumption measurement covered heating, domestic hot water,

and electricity in communal spaces. The new generation of "smart" buildings goes further, also including electricity use in homes and therefore residents' habits. The new energy-saving sources are: smart meters, which measure consumption and the production of renewable energy in real time; the latest generation of home appliances; and everyday technology and eco-friendly habits. "Hikari"*, an energy-plus building complex, harnesses technology innovations to identify energy savings. It is already supported by French and international partners: the French Environment and Energy Management Agency (ADEME) and the Rhône-Alpes Regional Council; the European Union through the NEXT-Buildings project; and Japan's New Energy and industrial technology Development Organization (NEDO). The Japanese contribution comes through a partnership between NEDO and Greater Lyon to improve energy performance in La Confluence®: NEDO is supplying plot P with new technologies for producing renewable energy and controlling energy consumption. A consortium of Japanese companies is providing these technologies to the team that won the plot P tender process. Hikari, by architect Kengo Kuma and construction group Bouyques, achieves 42 kWh/m2/year consumption. Located on the corner of Cours Charlemagne and Quai Rambaud, it comprises three mixed-use buildings (homes and offices) totalling over 120,000 m2 of net floor area.

^{*} the Japanese word for "light"

Enhancing the Saône embankments

One of the site's assets is the quality of its natural setting. La Confluence® has five kilometres of riverfront offering extensive views. The project is intent on showcasing these surroundings, and actually bringing them into the district. Place Nautique and Saône Park are spaces that create contact between the city and its nature and rivers. The embankments, whose length has been further increased by creating inlets, are equipped with promenades and boat moorings throughout.

After the redesign of the Rhône embankments, those of the Saône within Greater Lyon are being upgraded. In La Confluence®, the Saône embankments – from to start of Quai Rambaud southward to its junction with Cours Bayard – will be redeveloped to create pedestrian and bike links between the northern half of the peninsula and La Confluence®. Five sequences within Lyon's municipal boundaries will be created and embellished by an art project. The challenge is to reclaim Rambaud Port's riverside and give it a major role in threading together the new central district of La Confluence®, Saône Park and the historic centre of Lyon. This landscaped promenade will highlight the heritage, architectural, landscape and historic qualities of the site, with an exacting focus on environmental quality and conservation.



The atmosphere of the redeveloped Saône embankments

Key figures

Length of promenade: 1.5 km

Length of walkways overhanging the river: 220 m

Design team

The team of architects/landscapists selected in April 2011 is ADR Georges Descombes (Geneva), in association with design firm Cap Vert.

Schedule

2010: Presentation of project outline

2011: Studies resulting in final project design

2013: First redevelopment work on Saône embankments

2014: Completion of south section of promenade

5. La Confluence®: an attractive business and retail location

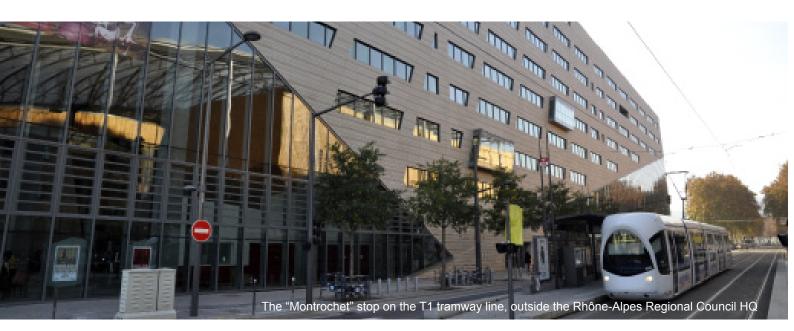
The 21st century is witnessing the return of businesses to city centres. La Confluence® offers a single setting for life, work and leisure. Phase One of the project includes 150,000 m2 of office space; and Phase Two, 229,000 m2. With excellent transport links, the district has many assets for developing a city-centre business fabric. Before the first offices were built, 6,000 people worked locally. Since the project kicked off, an extra 6,000 jobs have been created or have relocated to La Confluence®. Eventually, the district will host 25,000 jobs. As the creative hotbed of Greater Lyon, and an extension of the historic city centre, La Confluence® stands out as an innovator in business, society and the environment.

Centre of governance

The Rhône-Alpes Regional Council (1,400 employees) has relocated from its headquarters in western Greater Lyon to La Confluence®. Its new building – with 44,000 m2 of net floor area, and extensive views onto Cours Charlemagne – was designed by Atelier de Portzamparc. The council's satellite agencies (the regional tourist board, the career guidance cluster, the Lyon-Turin rail project body, the international association of Francophone regions, the association for vocational guidance and promotion, etc.) are also grouped in the district.

The Rhône-Alpes Regional Chamber of Commerce and Industry has opted for Rhône-side premises (on Quai Perrache) while the Banque de France will relocate in early 2013 to a new building, "Le Bayard", near the Sainte-Blandine quarter – a move that underscores the district's central status. For every branch of the venerable national bank, a city-centre address in a mixed-use setting is a prerequisite.

The Confluence Museum, funded by the Rhône County Council and designed by Austrian firm Coop Himmelb(I)au, is being built at the peninsula's southern tip. Dedicated to science and societies, it will explore the key scientific, ethical and social questions such as the origins of the universe, the living world and the place of humankind, as well as inventions, designs and technologies.



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Communications and news hotspot

With Le Progrès (regional daily newspaper), communications agencies and art galleries (in former customs building "Les Douanes"), Espace Group (private radio group), GL Events, and the completion in 2013 of the HQ of international news channel Euronews, the converted dock buildings in Rambaud Port are becoming home to top-tier players in media, culture and communications.

Corporations' regional HQs move in

La Confluence® also hosts the regional headquarters of big French corporations: rail operator SNCF relocated departments here on Place des Archives (2008); construction group Eiffage clustered its subsidiaries south of the Retail & Leisure Complex (2009); and the regional HQ of gas-to-water giant GDF SUEZ moved into "Le Monolithe", a new building overlooking the Place Nautique marina (2010). Les Salins du Midi, a salt warehouse converted by architects Jakob + MacFarlane, houses nearly 5,000 m2 of offices, including those of construction group Cardinal.

An address for retailers

Whereas most of the Phase One shops are in the Retail & Leisure Complex, the ground floors of the new buildings will also host shops and business premises; one emblematic example is plots ABC overlooking Place Nautique.



"Le Cube Orange" by architects Jakob + Macfarlane, home to the HQ of construction group Cardinal

CLOSE-UP:

A RETAIL & LEISURE COMPLEX ON THE SOUTH QUAY OF PLACE NAUTIQUE

Designed by Unibail-Rodamco (architect: Jean-Paul Viguier), the Confluence retail & leisure complex offers a new retailing vision to match its architecture: the complex comprises seven wooden pavilions around an outdoor street, beneath an inflatable roof (made of EFTE) borne by slender stainless-steel posts. It includes: 60 shops, 15 larger store units, 18 restaurants with panoramic terraces, a UGC Ciné Cité multiplex (14 screens and 3,480 seats) and urban leisure facilities (sports halls, climbing wall, spa, a big games and toy area run by the Ludopôle games centre). This new inside/outside venue, which opened in April 2012, continues the promenade alongside Place Nautique. The complex is rounded off by a 1,500-space car park and a 150-room four-star hotel (Novotel).

Key figures

- 2.2m visitors in the first 12 weeks
- on average, 20,000 visitors per weekday
- 33,000 on Saturdays, 8,000 on Sundays
- Visitor access: 30% by car, 55% public transport, 4% river shuttle.



3. PHASE TWO: BY THE RI-VER RHÔNE

The last piece of the jigsaw is the site vacated in 2009 by the departure of the wholesale market: this provides fresh prospects for continuing the extension of Lyon's city centre. Phase Two of the project, covering 35 hectares, will create a new area of Lyon's city centre containing homes, offices and shops as well as public amenities and spaces.

Deliberately dense (420,000 m2 of net floor area is planned), Phase Two is requiring its designers to reflect on its morphology, which must adapt to the needs of sustainability: sun exposure, pleasant open views, vegetation, renewable energies, and walkability.

Principles of spatial planning

The master plan, by the team of Swiss architects and urban planners Herzog & de Meuron in conjunction with landscapist Michel Desvigne, is based on a phenomenological study of the place and its history. The plan, which respects the identity of Lyon and the industrial and logistical legacy of La Confluence®, renews the city on top of itself. Their concept comprises two quarters with distinct urban characteristics:

- the "Market Quarter" extends Lyon's dense urban fabric into the last undeveloped part of the city centre;
- Le Champ ("The Field"), with its mainly natural environment, complements the city nucleus at the southern tip of the peninsula, between Rhône and Saône. Lastly, roadbridges and footbridges connect La Confluence® with the rest of the city.

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1. The Market Quarter: a dense slice of city

The plan proposes a new form of city: varied, open, surprising. Here, there is no standard height: some buildings rise high to give their future residents unrivalled views of their city and surroundings, while other, lower designs offer gentle intimacy. These various types of urban plot, which will host homes and offices, occupy much of the old wholesale-market site. Thirty per cent of the market buildings will be kept, and so their industrial character will inform the quarter's new identity and help accommodate suitable amenities and activities, such as a school and sports facilities. The new buildings are very diverse: lowrise structures that match the scale of the conserved market halls (three levels); structures of intermediate height, in a continuation of the historic centre (six to eight levels); and lastly, higher blocks (10 to 16 levels) affording panoramic views and freeing up ground-level space. In the south of the Market Quarter, the creation of a new-generation Maison de la Danse (dance house) is under study. Garden courtyards – open yet intimate spaces – are connected by pedestrian paths throughout the quarter. Ample vegetation is provided by clusters of noble tree varieties (oak and ash) that let the light through.



2. The Field

The southern tip of La Confluence® is a singular space in Lyon's geography. In landscape terms, Le Champ ("The Field") is a large green space into which low-rise buildings are set. The design is inspired by the site before the earthworks (1770-1850), back when the branches of Rhône and Saône mingled. The Field's landscape of meanders involves networks of both water and vegetation. The plan is to keep the existing warehouses; once they are converted, business activities can move in quickly. A complex of buildings of various heights (three to eight levels) will host businesses and accommodation for researchers. Lastly, two mixed-use towers are proposed. Of slender proportions, they will mark the end of the city's main north-to-south axis (Rue de la République, Rue Victor Hugo, Cours Charlemagne) and Lyon's southern gateway.

3. Connections

New bridges, streets and pedestrian routes will ease access to La Confluence® and connect it with the rest of the city. This theme considers the central issue of access and transport. The result stems from an analysis of the local area, flows, projected needs, thinking on urban atmosphere, cars' role in the city, and residents' expectations, which were widely expressed during the consultation period. Currently, two bridges are planned:

- a bridge for the tramway and human-powered transport modes, south of the Pont Pasteur roadbridge, which will carry the T1 extension east to link with metro line B at Debourg station in the Gerland district on the east bank of the Rhône (completion: late 2013); Gerland is home to pharma corporations and to higher-education and research establishments (including the Ecole Normale Supérieure, a top graduate school);
- an "inter-district" roadbridge called Pont des Girondins, to link the Market Quarter with Gerland.





La Transversale: the Market Quarter and The Field come face to face along a new boulevard that is extended by two footbridges across the Rhône and the Saône. Together, they form a new east-west route that spans both rivers to link the four embankments. In the Market Quarter, a pedestrian platform, accessible from the footbridge, will offer an initial point of contact with the Rhône.

The A7 motorway runs alongside the Phase Two area. The planned construction of the western section of Lyon's ringroad will eventually see this stretch of the A7 downgraded to an urban highway, which will link the district with Lyon's historic centre. This scenario, which the designers are working on, is intended to ultimately reunite La Confluence® with its riverfront.

Operational phase started in 2012

Phase Two will include demolition of 70% of the wholesale market, removal of pollution from old service-stations, creation of the first street extensions, selection of prime contractors for the public spaces, etc. This phase kicked off in late 2012 with the appointment of the teams who will build on the first large plot (A3), on the corner of Cours Charlemagne and Rue Casimir Perier. Plot A3 comprises eight buildings of various heights (three to 17 floors) with total net floor area of 28,200 m2. It will include the old flower market hall, converted to house sports facilities. A public path passes through the centre of the plot, which is heavily landscaped.

In parallel, the local urban planning scheme (PLU) has been amended and the public-amenities programme has been drawn up: it comprises a school, a crèche, sports facilities, the new-generation Maison de la Danse (dance house), and two shared car parks on Quai Perrache.

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4. CHANGE AND ECO-REFURBISHMENT IN THE OLD QUARTER

The "old" Perrache-Sainte-Blandine quarter, built in the 19th and 20th centuries and home to 7,000 residents and over 6,000 jobs, is now witnessing extensive change. Since the start of the 2000s, it has seen the conversion of a mailsorting centre into the Municipal Archives; the creation of a new square/piazza, Place des Archives; and is gradually welcoming new offices, homes and shops. The relocation of its two prisons' operations to the outskirts of Greater Lyon in May 2009 also opened up new prospects for a quarter served by the tramway, which runs through it; and by Perrache train station, with its regional and high-speed TGV services

1. Eco-refurbishment: the drive for energy frugality

The Greater Lyon Climate Plan, co-produced by all local stakeholders, aims to fight the increase in greenhouse gas (GHG) emissions and to shrink the metropolitan area's carbon footprint. In 2005, Greater Lyon set itself targets in line with those pursued by the EU: GHG emissions cut by 20% by 2020, and by 80% by 2050. GHG sources and energy consumers will be identified, as will the development potential of renewable energies; and then concrete measures will be deployed, sector by sector. One priority commitment is housing, which produces 17% of CO2 emissions. These come mainly from burning fossile fuels (domestic fuel, gas, etc.) for heating, which accounts for more than 90% of residential emissions (source: Coparly survey, 2006). Pre-1980 buildings consume 200-400 kWh/m2/year on average. Greater Lyon is therefore mainly focusing its efforts on existing buildings, which present big energy-efficiency challenges and where upgrades have an even greater economic impact. Measures include insulating walls and glazed doors, limiting heat loss (via thermal bridges), etc.

The Sainte-Blandine quarter is part of a pro-active initiative to retrofit existing housing stock. A study conducted in 2010 by three consultancies (Urbanis, Tribu, Hespul) led to decisions on technical approaches (external thermal insulation) and issues of administrative and financial feasibility, with three funding sources or tax measures: owner, state (tax measures) and local authorities (under their Climate Plans).

Half of the 4,500 homes in the quarter were built before 1948. The equivalent of 2,000 homes – social and privately-owned housing, and tertiary-sector premises – are covered by this eco-refurbishment programme. Its main target is to cut energy consumption to 50 kWh/m2/year by external thermal insulation. Two pilot schemes are under way on stock typical of the quarter: the 1930s Cité Perrache estate (275 homes, run by social landlord Grand Lyon Habitat) and an office building ("Milky Way" on Cours Suchet).



The atmosphere outside the Catholic University of Lyon, on Place des Archives

2. Converting the prisons: a knowledge cluster in the making

The 19th-century buildings of the former Saint-Joseph and Saint-Paul prisons have an excellent location, near Perrache train station and the Rhône. Designed by architects Louis-Pierre Baltard and Antonin Louvier (and opened in 1830 and 1860 respectively), the prisons were in service until May 2009. Once they were vacated, their owner (the French government) invited tenders for their conversion, keen that their location in La Confluence® should inspire projects of exemplary architectural and environmental value.

The selection panel chose "Life Wide Open", the project of a consortium comprising SOFADE and its subsidiary OGIC, with contributions from various stakeholders: the Catholic University of Lyon, housing charity Habitat et Humanisme, social landlord Opac du Rhône, architects Garbit & Blondeau and Studio Ory, town-planning consultant Thierry Roche, and the architect-in-chief of historic monuments, Frédéric Didier, as consulting architect.

The project won mainly because of its careful consideration of heritage. All the panopticons of Saint-Paul prison have been kept, as have most of the features typical of 19th-century prison architecture. The architects have opted to open up the plots onto the city, from Place des Archives to riverside Quai Perrache, via a street partly covered by a glass roof. From 2015, this blend of refurbished and new buildings will house the Catholic University of Lyon, homes for first-time owners, rented social homes, rooms for students, offices, and neighbourhood shops.

Building work began in September 2012.



Work is in progress to simplify pedestrian and bike routes through the multimodal hub

3. Crossing Perrache

Between Place Carnot and Place des Archives, the two squares either side of the Perrache multimodal hub (high-speed and regional trains, metro, trams, buses), pedestrians and cyclists struggle to smoothly reach public transport. The project led by urban planner Gérard Penot (Atelier Ruelle) will make connections easier; make crossing Perrache a more agreeable experience; and achieve continuity between the public spaces. SPLA Lyon Confluence, the public redevelopment company, is now coordinating all stakeholders (rail-infrastructure owner RFF, train operator SNCF, the Greater Lyon authority, transport board SYTRAL, Rhône-Alpes Regional Council) to prepare a master scheme and the necessary works, which will begin in 2015.

"The hub will stay for years to come," says Gérard Penot. "Our idea is to make holes and 'openwork' it. Plenty of the underpasses and walls do not actually perform a function."

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5. LYON CONFLUENCE: FRANCE'S FIRST WWF SUSTAINABLE NEIGHBOURHOOD



1. 1. A three-way partnership

WWF-France wanted to support the development of a sustainable neighbourhood in France, combining a smaller environmental footprint and excellent quality of life. The NGO had one prerequisite: the area should be not just a showcase but part of a wider project.

Several years ago, Greater Lyon undertook a metro-scale raft of measures to promote spatial planning and sustainable development: Agenda 21, adopted in 2005; a sustainable-housing standard; superior provision of public transport and bike paths; pilot planning via the Territorial Coherence Scheme; enhancing and protecting nature in the city; support for company travel plans, etc. Continuing this commitment, Greater Lyon and SPLA Lyon Confluence, the public redevelopment company, wanted the Lyon Confluence urban regeneration project - one of the largest in Europe - to meet two objectives: quality of life and a reduced environmental footprint. After a diagnosis phase (2009), this joint intent took concrete form in an innovative partnership between the metropolitan authority, the redevelopment company and the NGO. The "WWF Sustainable Neighbourhoods" initiative programme covers all of the Lyon Confluence project area: Phase One, launched in 2003; Phase Two, now being designed; and the Sainte-Blandine quarter. In Phase One, where some buildings have already been completed, actions are focusing on shrinking the neighbourhood's environmental footprint.

2. A five-year agreement

In signing a five-year agreement, Greater Lyon and SPLA Lyon Confluence have made an undertaking to WWF-France to draw up and implement a Sustainability Action Plan (SAP), which is being piloted at Lyon Confluence. The role of WWF-France is to challenge its partners with the urgency of the environmental issues, by helping draw up and then approving the SAP; helping raise stakeholders' awareness; and disseminating best practices. Contact has also been made with the other WWF Sustainable Neighbourhoods, to obtain fruitful experience feedback. The five-year partnership may be extended, depending on the duration of the Lyon Confluence project. The neighbourhood's performance on the 10 sustainability targets will be assessed yearly. This monitoring will be complemented by:

- an independent audit, by a third-party firm, of the sustainability measures implemented;
- an analysis of the environmental footprint of the Lyon Confluence project.

3. The first Sustainability Action Plan: the WWF's sustainability targets in La Confluence®

The "WWF Sustainable Neighbourhoods" initiative is based on a Sustainability Action Plan (SAP) built around the 10 One Planet Living principles and targets. A first, pilot SAP is being developed with all the project's partners, on the basis of a WWF analysis of the Lyon Confluence project.

Zero carbon: a big ambition

Thanks to 1 million m2 of built space (net floor area) that meets high environmental requirements, the rollout of a district heating network, the ecorefurbishment of the old quarter, and resident awareness-raising, the local buildings will emit no more greenhouse gases in 2020 than they did in 2000.

Zero waste

A study is in progress to explore ways of reducing and harnessing household waste, in particular through urban composting.

Sustainable mobility

La Confluence® is making every effort to facilitate alternative modes of transport: a tramway already links it with the Part-Dieu business district, and in 2014 the tramway's extension will also connect it with Gerland; a large-scale inter-company travel plan has been rolled out; car-sharing has been increased; the bike-route network has been enhanced; private river shuttles are operating; and there is an innovative system of pooled parking for residents, workers and visitors. In addition, the proximity of shops and public amenities is conducive to moving around on foot.

Local, sustainable materials

The specifications met by the developers are gradually incorporating mandatory environmental guidelines for the use of local, healthy and recyclable materials. Project owners are asked to calculate the carbon balance of the materials used.

Local, sustainable food

A network of local stakeholders and non-profit associations encourages residents to opt for sustainable eating habits: farmer networks and other producers who deliver locally, a community-gardens association, etc. By making information and the consumption of local seasonal products an accessible and enjoyable experience, short circuits are becoming a credible neighbourhood-scale alternative.





Managing water sustainably

The public spaces are designed to retain rain, which is then used to water green spaces. Separate networks are becoming the norm: wastewater is conveyed to the treatment plant in Pierre-Bénite, in southern Greater Lyon, while surplus rainwater travels in shallow channels on its way back into the natural environment: the Saône.

Natural habitat and biodiversity

The regeneration of the brownfield sites in this city-centre extension is driven by ambitious choices: 60% of the Saône riverfront has been converted into parks, water gardens and a large square around a marina basin linked with the river. All of this green space forms a biotope conducive to restoring biodiversity. It is carefully monitored by environmental associations, and acts as a city biodiversity "observatory".

Culture and local heritage

In La Confluence®, the urban culture is influenced by industrial, logistics and port activities. The district's recent transformation incorporates industrial buildings from the 20th century: a postal-sorting centre, converted into the Municipal Archives; warehousing in Rambaud Port, repurposed as restaurants, offices and cultural exhibition venues, etc. Going forward, a section of the old wholesale-market halls with be stitched into the Market Quarter and host artisanal, retail and cultural activities. The 19th-century prisons, now vacated, will enjoy a new lease of life, becoming home to the Catholic University of Lyon and student and social housing.

Fairness and business development

Homes for all budgets, plus jobs, shops and amenities: La Confluence® is conceived as a city-centre district in which a mix of uses and social profiles is the norm. As well as giving it a more dense built fabric, the plan is to make La Confluence® the city's creative heart and a source of business activity and innovation.

Quality of life and wellness

The district is designed, and its buildings are oriented, so that all homes receive sunlight. This delivers two benefits: higher wellbeing and lower heating bills. At the centre of the plots are earth and trees, which provide shade and coolness in summer.

6. INFORM, DISCUSS, DISSEMINATE

1. The urban project: open for dialogue

Consultation has been part of the redevelopment process since the urban project kicked off, in order to create a link between experts, elected officials and residents. Consultation officers (master's students in geography and economics at Lyon's town planning school, who receive special training at the school of urban spatial planning) hold public sessions to explain the urban and landscaping policies using models and presentation boards.

A dedicated information and consultation centre

2006 marked a milestone: the opening of the Maison de la Confluence, designed to accommodate more visitors during a phase when big construction projects were getting started and property was being marketed. The centre hosts exhibitions and screenings, as well as consultation workshops and professional round-table events. It is open on Saturday afternoons and sometimes even on Sunday. The results, five years on? In 2011, the Maison de la Confluence hosted 13,000 visitors including 253 delegations, which make up about half of the total; the others are individual visitors - Greater Lyon residents, existing local residents, and, increasingly, new La Confluence® residents and workers. At this forum, project information can be dispensed and the public's opinions can be listened to, with observations/queries being escalated internally to the redevelopment company's management team and project leaders. The Maison de la Confluence is also a place for finding out about sustainable city living. It hosts "green gesture" courses run by the local energy agency (ALE) for new residents; talks about biodiversity in La Confluence®; and, every Thursday, a group of local farmers delivers baskets of their produce.

2. Consultation

Consultation before Phase Two

Between 2007 and 2009, a long consultation period was held prior to Phase Two of the regeneration project. This in-depth process was based on an interactive programme (exhibition, website, debates, etc.) called "My City Tomorrow". Rich and constructive, it attracted many residents and metro-level stakeholders, and generated more than 3,000 written contributions and as many comments on the dedicated website: www.laconfluenceonendiscute.fr

Creation of the participatory monitoring committee

While Phase Two was being outlined, a permanent support body was set up in July 2009: the participatory monitoring committee. It is chaired by the Greater Lyon authority vice-president in charge of participatory democracy, and its composition reflects the active role played by local and metro-level stakeholders and the specific profile of the district's community. It comprises 30 people: elected officials, resident associations, institutional stakeholders, representatives of the district's users, etc. Its role is not to conduct consultations but to reflect on subjects for which consultation would be appropriate. It meets three times a year.

Day-to-day consultation

The statutory consultation period is now over, and its findings were passed by the Greater Lyon authority in June 2010. But SPLA Lyon Confluence has a solid culture of consultation, and believes it is essential to foster an ongoing dialogue between "city makers" and "everyday users". It bases its everyday work on its 10-year trust-based relationship with residents, other district users, retailers, metrolevel associations and civil-society stakeholders. This active, continuous process of consultation meets two objectives:

- it keeps the project accessible and transparent;
- and it welcomes new residents and users and helps them, in close conjunction with existing locals, to adopt eco-friendly habits.

Consultation topics are varied: they might focus on (re)development of a public space, refurbishment of an old building, or the presence of public amenities.

Consulting to raise awareness: France's first WWF Sustainable Neighbourhood

Consultation is also intended for new residents and other site users, especially when it comes to "green gestures"; Lyon Confluence, which has signed an agreement with WWF-France, has undertaken a Sustainability Action Plan that covers residents' home-management, transport and eating habits. Lyon Confluence also initiates events to bring people together around the theme of sustainable city living. These enable us to reach beyond our district; interest people across Greater Lyon; and consolidate the position of Lyon Confluence® at the cutting edge of sustainability and city-centre quality of life. The holding of forums and community events (such as "Cherry Season in La Confluence®") reflect this intent.

APPENDIX 1

LYON CONFLUENCE: KEY FIGURES

Project area: 150 ha

Redeployable land: 70 ha

Phase One: 41 ha

Launched in 2003

New build: 400,000 m2 (housing, offices,

retail units, amenities)

By 2012: 300,000 m2 completed

Housing: 140,000 m2 i.e. 1,900 homes / 4,000

residents

By 2012: 1,000 homes completed / 2,500

residents

Business premises (offices): 150,000 m2, i.e.

7,500 jobs

Retail units: 77,000 m2 Public amenities: 31,500 m2

Public spaces (including roads): 22.5 ha (35

ha in overall project)

Green spaces: 17 ha (25-30 ha in overall

project)

Phase Two $35\,\mathrm{ha}$

Launched in September 2010.

New build: 400,000 m2

Construction programme: housing (138,500 m2), offices and other business premises (229,000 m2), retail units (17,000 m2) and public amenities (35,600

m2).

Housing: 25% social rental, 15% intermediate (rental and first-time buyers), 10% price-regulated buy, 50% open-market buy.

Sainte-Blandine quarter

600,000 m2 (at present)

Housing: 350,000 m2, i.e. 7,500 residents **Business premises**: 200,000 m2, i.e. 6,000

jobs.

New build (incl. redeployed buildings):

130,000 m2

Housing: 45,000 m2, i.e. 1,000 residents **Business premises**: 75,000 m2, i.e. 2,500

jobs

Total new build in La Confluence®: an extra one million square metres

Ultimately: 25,000 jobs 16,000 residents

€1.165 billion in Phase One investment

Private investment: €680 million Total public investment: €485 million

Greater Lyon: €153 million City of Lyon: €25 million

SYTRAL (metro transport board): €37m County Council (museum): €150 million

Regional Council: €150 million

Production of renewable energies

Phase 1: 3 MW.

Phase 2 (target): 5 MW.

Perrache and Sainte-Blandine: 2.5 MW.

APPENDIX 2:

SCHEDULE

2009

Wholesale market transferred to Corbas (southeast Greater Lyon). Partial completion of Place Nautique quarter (first homes). Prison operations relocated to Corbas. Footbridges installed over Place Nautique marina. One kilometre of Saône-side promenade opened: public spaces by Rambaud Port. Creation of north water garden (Saône Park). Completion of several business HQs: Eiffage, Espace Group, Cardinal, Restaurant Le Bec.

2010

Agreement signed with WWF-France (monitoring to 2015). Opening of Rue Casimir Perier and Cours Bayard extensions as far as the Saône. Final completition of plots ABC (660 homes and 15,000 m2 of offices). Opening of Saône Park. Creation of Phase Two master plan (35 hectares). Construction started in plots E and F. Completion of Place des Archives (+ 632-space car park) and "Espace Confluence" office complex.

2011

Completion of Rhône-Alpes Regional Council HQ. Local Urban Planning Scheme (PLU) revised and simplified. Phase Two "execution" application approved. Partial completion of plots E and F.

2012

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Opening of Retail & Leisure Complex. Completion of plots E and F (240 homes). Opening of Germaine Tillion primary school (9 classes). Launch of Phase Two architect/developer team tendering. Construction started in plots H and K.

2013

Completion of GL Events headquarters. Inauguration of Banque de France regional head office. Completion of youth and culture centre and of harbourmaster's office. Opening of ISOstéo Lyon osteopathy school.

2014

Completion of Euronews HQ. Opening of tramway extension to Gerland, and of Raymond Barre foot/trambridge over Rhône. Opening of Confluence Museum. Completion of plots H and K. Completion of Esplanade François Mitterrand. Construction starts on plot A3 (Phase Two).

2015

Opening of relocated Catholic University of Lyon, and of new housing and office programmes, in former prisons. Completion of Hikari (plot P).

2016

Completion of plot A3.

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APPENDIX 3

DESIGNERS (PUBLIC SPACES) AND ARCHITECTES (BUILDINGS)

The team of Herzog & de Meuron, in conjunction with landscapist Michel Desvigne, were selected on 11 June 2009 to master-plan Phase Two of the Lyon Confluence urban project. The coherence of Phase One was ensured by architect and urban planner François Grether and landscapist Michel Desvigne. Atelier Ruelle was selected in May 2009 to conduct an urban-planning assignment in the Perrache train station quarter, which is changing (conversion of prisons, redevelopment of Saône embankments, etc.).

Rives de Saône - Georges Descombes -ADR Architectes - Cap Vert - Sogreah -Acogec - LEA

Place des Archives - HYL - Berim

Parking des Archives - Atelier Arche

"Time Square", 8-10 cours Charlemagne - Sagittaire Architectes Associés

"Espace Confluence", 3 cours Charlemagne - Unanime Architectes

"Le K" (plot K) - Vera & Barrand - Arto - Benoît Crepet

Roads and Place Denuzière - Opus - Axe Saône

Îlot H1 - Hamonic & Masson

"Le Denuzière» (plot H2) - AFAA

Îlot H3 - Atelier Régis Gachon

Sonny Anderson football ground and clubhouse - Adequation - Jean-Jacques Hollard

"Au fil de l'eau" (plot E1) - Rue Royale

Plot E2 - Soho Architecture et Urbanisme

"Amplia" (plot E3) - Integral Lipsky + Rollet Architectes

"L'Escale" (plot E4) - Herman Kaufmann - Hervé Vincent

Electricity substation (extension) - Rue

Royale

"La Croisée des Eaux" (plot F1) -Emmanuelle Colboc

Children's cluster (plot F2) - Garbit & Blondeau

Athletics track - Samoe

Saône Park - ADR Architectes - Georges Descombes - Cap vert

"Saône Park" (plot A) - Tania Concko - Dusapin - Leclercq - Hervé Vincent

"Lyon Islands" (plot B) - Massimiliano Fuksas - Vincenzo Amantea - HTVS Architecture - Clément Vergély

"Le Monolithe" (plot C) - MVRDV - Winy Maas - Manuelle Gautrand - Erick van Egeraat - Combarel - Marrec - Pierre Gautier

"Hikari" (plot P) - Kengo Kuma

Youth and cultural centre, harbourmaster's office - Marcillon Thuillier Architecte

Place Nautique - ADR Architectes - Georges Descombes - E2CA

Fixed footbridge on Place Nautique - RFR

Moving footbridge on Place Nautique - Alto - Pccp

Retail & Leisure Complex - Jean-Paul Viguier

Regional Council HQ - Atelier de Portzamparc

Rue Paul Montrochet - Agnès Deldon - Coteba

Le Progrès - Xanadu

Eiffage - Atelier de la Rize

Plot M3 - RAU

Pavillon « des Radios » - AAMCO

Pavillon des Salins - Jakob + MacFarlane

Pavillon des Douanes - Wilmotte et associés

"La Sucrière" - Z Architecture

Pavillon 6 - Ruddy Ricciotti

Euronews, Pavillon 7 - Jakob + MacFarlane

"Dark point", Pavillon 8 - Decq - Cornette

Pavillon Z - B+B

Rambaud Port public spaces - Latz und Partners - Egis Aménagement

Saint-Paul and Saint-Joseph prisons (refurbishment and construction): "La vie grande ouverte" - Coordination: Thierry Roche - St-Paul: Garbit & Blondeau - St-Joseph: JJ Ory "Milky Way", 42 cours Suchet - Audard et Favaro AFAA

17 - 18 - 19 quai Perrache - Sud architectes

"La cure", cours Charlemagne - Atelier de la Rize

"Empreinte", 28 - 31 quai Perrache - Soho Aurea

"Patio Presqu'île", corner of Bayard / Delandine - Agrega Architectes

CRCI, quai Perrache - Cardinal

Esplanade F. Mitterrand - Michel Desvigne Paysagiste - Herzog & de Meuron

Market Quarter and Le Champ - Herzog & de Meuron - Michel Desvigne paysagiste

Pont Raymond Barre - Alain Spielmann

Musée des Confluences -Coop Himme(I)blau

