



Solutions for a sustainable world

# GREEN SOLUTIONS AWARDS



**BUILDINGS**



**DISTRICTS**



**INFRASTRUCTURES**



**DISCOVER THE 2018 WINNERS**

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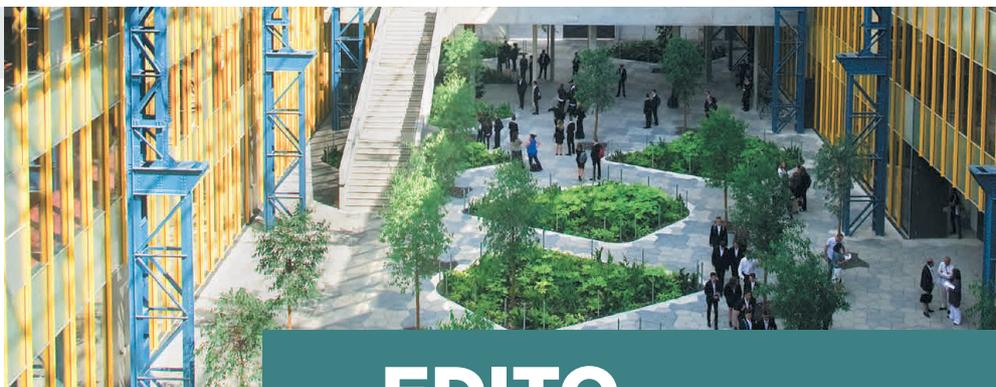
# GREEN SOLUTIONS AWARDS



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## EDITO

The Paris Agreement set a long-term goal: to limit global temperature rise below 2°C. To achieve such an ambitious goal, there is no alternative: we have to radically transform our ways of life and especially how we design, build and manage cities. Why cities? By 2050, 69% of the world population will live in cities.

**The good news is, solutions already exist.** Beyond the commitment of governments, around the world, companies, local authorities, and NGOs are inventing solutions for zero-carbon cities every day.

The issue? To get the vast majority of city stakeholders to adopt these innovative solutions, in order to generate a significant reduction of greenhouse gas emissions.

*With its Green Solutions Awards, the Construction21 network wants to contribute to this immense task, by facilitating the rise of relevant solutions, then by making them known to the largest number of professionals.*

**Discover the best of the 143 projects competing in the 2018 contest,** selected by juries of experts in each country and then at international level. These exemplary buildings, districts and infrastructures, all in use, are already shaping the zero-carbon city.

Candidates, academic and media partners, members of the juries, and sponsors, let me please warmly thank you all for your involvement in the organisation of this competition. Your commitment and mobilisation allow the Construction21 team to accomplish their mission: to show hundreds of thousands of professionals how to build today the city of tomorrow.

*Christian Brodhag*

Christian Brodhag  
President of Construction21



## Two questions to VALÉRIE DAVID, Transverse Innovation and Sustainable Development Director



Eco-city Smartseille © Thierry Lavernos

### **Why is your company committed to fighting climate change?**

It is clear that, so far, buildings, public works and transports have been heavy consumers of materials, energy and fossil fuels, and emit greenhouse gases. In parallel, a scientific consensus has now been established on climate change and the serious economic and social difficulties it causes.

It is now and today that these issues are emerging. And **it is now and today that Eiffage is mobilising its know-how and expertise to offer concrete solutions at the junction of ecological transition and innovation**: low carbon construction, use and reuse of bio-sourced materials, modular and mutable buildings, recycled and connected sustainable road, bouquet of renewable energies, ecomobility offer in the heart of the city.

### **What actions did you put in place regarding sustainable development/CSR?**

For many years, **Eiffage has taken into account the strong interaction of its activities with the environment** as part of an eco-design and circular economy approach: measuring and reducing the carbon footprint, protecting biodiversity and natural environments, and optimising the use of natural resources. We have developed our **own sustainable construction standard, HQvie®** (High Quality of Life®), and **created a carbon-energy arbitrage fund** to stimulate the use of low carbon solutions.

The Group's companies which are specialised in energy production and maintenance **design and manufacture many cutting-edge technical solutions** in this field, both at a national and international level.

Regarding APRR and AREA, they **promote ecomobility**. As an example, they have launched several carpooling lines and electric charging stations on their motorway network.

In a context of sociological mutations, Eiffage strives to **improve its human capital** through four key areas: **protecting, training, innovating, inserting**. Last but not least, the Group works on **contributing to the development of regions, boosting the local fabric through employment and integration policies, fostering dialogue and consultation with local residents, developing philanthropic actions** aimed at fragile or excluded people, **and improving its purchasing policy**.

### **ABOUT**

Eiffage, one of Europe's leading construction and concession companies, draws on the experience of more than 65,000 employees and achieved a turnover of 15 billion euros in 2017.

# GREEN SOLUTIONS AWARDS



## Promote innovative climate solutions

Around the world, solutions to build more resource-efficient and more resilient cities already exist. Let's put them on display!

In 2018, 143 candidates submitted their projects, all delivered, in one of the 9 categories of the contest:



**Sustainable Renovation Grand Prize**



**Sustainable Construction Grand Prize**



**Sustainable City Grand Prize**



**Sustainable Infrastructure Grand Prize**



**Energy & Temperate Climates**



**Energy & Hot Climates**



**Low Carbon**



**Health & Comfort**



**Smart Building**

These projects come from 16 different countries, from Europe, Asia, Africa and America.



**An excellent vector to give more visibility to your projects**

For the candidates: "The Green Solutions Awards are a great vector to give more visibility to our project and to our experience in building." With 1.5 million of views generated by an intense international communication plan, both on web and social media, but also with the support of more than 80 partners, the Green Solutions Awards provide candidates with wide visibility and help them to promote their know-how.

" Participating in the Awards offers two valuable assets: networking and opportunities to present your projects at international level [...] ", **Jane Oyugi, co-founder and CEO of Sustenersol (Tanzania), Sustainable Infrastructure Grand Prize finalist in 2017**

" Our participation in the Green Solutions Awards made the project known both nationally and internationally. I also discovered different approaches by observing the other candidates. " **Philippe Madec, architect of APM Architecture (France), Sustainable City Grand Prize-France in 2017**

" [...] Our participation has given prestige to our company and has allowed us to position ourselves as an example of sustainable practices. " **Daniel Dietrich, architect of DMDV Arquitectos (Spain), Building User's choice-Spain in 2017**



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Rabot  
Dutilleul

## Two questions to RODOLPHE DEBORRE, Innovation & Sustainable Development Director



Rehabilitation of a building for WWF France headquarters, Pré Saint-Gervais,  
by Rabot Dutilleul Construction

### *Why is your company committed to fighting climate change?*

The Rabot Dutilleul Group places sustainable development **at the core of its strategy, “for real”**. We want to provide construction and renovation projects that **make territories more environmental friendly through specific know-how and techniques**. Following that spirit, Rabot Dutilleul chose to support the Green Solutions Awards and in particular the sustainable renovation category.

Construction of buildings does have impacts: energy consumption, greenhouse gas emissions, decline of biodiversity, increase of toxic elements, etc. However, unlike in other sectors like fishery and air transport, **solutions exist for most of the issues**. We consider it would be a crime not to implement them.

### *What actions did you put in place regarding sustainable development/CSR?*

Rabot Dutilleul structures its development on a **strong environmental approach**: design and construction of low carbon buildings (BCC), HQE certified projects, and CSR action plans. This approach allows the Group to **renew its offer, while always watching its markets and environment**.

Sustainable construction requires to manage **energy efficiency in buildings**. Rabot Dutilleul didn't wait to follow this approach, as many projects can testify. Its mission is to dare committing with benevolence and consistence, uniting, inspiring for all projects to be achieved and to flourish.

The Group deploys many processes, for example (but there are many others!) to **push forward the eco-design in the energy industry**, without ever losing sight that the **best building is the one in which the occupants feel the best**.

## ABOUT

As an independent international family group in development and construction (France, Belgium, Germany, Poland), Rabot Dutilleul currently counts among the 10 biggest French actors in construction. Founded in 1920, the company developed skills in complementary sectors related to the construction world, hence gaining almost full control over the real estate chain of value. Rabot Dutilleul cultivates values based on collective performance with nearly 1,500 employees and on long-term relationships with its partners.



Sustainable Renovation Grand Prize Winner

## ECO-RENOVATION KTR FRANCE HEADQUARTERS



MENTION

### Carrer Nou Collective housing Girona, SPAIN

**Contractor:** Construccions Busquets Vilobí  
**Designer:** Jordi Rodríguez-Roda - López-Pedrero-Roda Arquitectes SLP  
**Construction manager:** Construccions Busquets Vilobí  
**Consultancy agency:** PROGETIC Projectes Sostenibles SL  
**Manufacturer:** PGI Engineering  
**Investor:** MBD Real Estate Group  
**Certification company:** Energiehaus Arquitectos SLP



MENTION

### Belliard 65 Office building Brussels, BELGIUM

**Contractor:** AXA REIM Belgium  
**Construction manager:** Archi 2000  
**Assistance to the contracting authority:** Advisers  
**Manufacturers:** Herpain Entreprise, SPIE, ITB, Kone, Nizet  
**Consultancy agencies:** Matriciel SA, Pirnay Engineering, Venac  
**Certification company:** B4F



### Dardilly, FRANCE Office building

KTR, a German industrial group specialized in mechanical transmissions, wanted a building reflecting the image and the values of the company for its French headquarters: **innovative** and **offering excellent work conditions** for its employees, **autonomous** especially energy wise. The KTR group has already built very efficient buildings, but for the site of Dardilly, the **refurbishment** option was chosen. The construction manager oriented the project to aim for even more ambitious goals, with a more comprehensive eco-responsibility involving all employees.

As a result:

- The first positive **energy renovation of a tertiary building, including all uses**, with thermal energy and electricity storage;
- A reduced carbon footprint by **using bio-based** (hemp and cork) and **recycled materials**, but also by teaching the importance of **life cycle analysis** to the construction workers and artisans on the building site;
- Solar photovoltaic energy production allowing the building to absorb more CO<sub>2</sub> than its own emissions (consumptions in all uses, regulatory and office automation);
- Working comfort is very appreciated as a result of an **ergonomics study**, the implementation of **internal mobility** for desks, **controlled indoor air quality** and the creation of recreation spaces (gym, break room, gardens).

**Contractor:** KTR France  
**Building engineering and interior designer:** Ressources Green Building

**Construction manager:** Diagonale Concept

**Consultancy agency:** Amstein & Walthert

**Company:** Terre et Lac

**Manufacturers:** Dualsun, Biofib, Mapei, Sonepar



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BNP PARIBAS  
REAL ESTATE

## Two questions to CATHERINE PAPILLON, Global Head of Sustainable Development/CSR, BNP Paribas Real Estate



©Jacques Ferrier Architectures / Chartier Dalix Architectes / SLA Paysagistes

### **Why is your company committed to fighting climate change?**

The building sector is responsible for 40% of worldwide greenhouse gas emissions. For this reason, BNP Paribas Real Estate is **committed to its stakeholders** to integrate climate change issues **into its own processes and activities**.

Our ambition is to contribute to the development of sustainable cities, by **offering products and services that are environmentally friendly, energy efficient and respectful of the health and well-being of its occupants**.

We, BNP Paribas Real Estate, consider it is our responsibility to **bring to actors of the real estate sector our vision for the future sustainable city**. That is the reason why we support Construction21 and the Green Solutions Awards for the third year in a row.

### **What actions did you put in place regarding sustainable development/CSR?**

We develop solutions in our different business areas to anticipate and face environmental challenges, but also to **respond to the new demands and habits of our clients** (whether they are investors, companies, individuals or local authorities). It allows us to **play a key role in the urban transition**.

As an example, 100% of the BNP Paribas Real Estate global business real estate production is environmentally certified. Beyond certifications, BNP Paribas Real Estate provides for the implementation, as part of the Ternes project, winner of the Call for innovative urban projects "Reinventing Paris", of a connected energy system between offices and housings (smart grids), of a car sharing solution allowing electric vehicle pooling, and of urban garden terraces, among other solutions. The Arboretum programme was also unveiled: this new concept of ecological offices, located in Nanterre, will be the largest campus ever built in solid wood in the world.

## ABOUT

European leader in real estate services, BNP Paribas Real Estate covers the entire life cycle of a property: Promotion, Investment Management, Property Management, Transaction, Consulting and Expertise. With more than 5,100 employees, BNP Paribas Real Estate locally advises owners, tenants, investors and local authorities in 36 countries (15 via its locations and 21 through its network of alliances) in Europe, the Middle East and Asia. In 2017, BNP Paribas Real Estate generated €811 million in revenue, and, continuing its growth, acquired Strutt & Parker, one of the UK's leading independent real estate players. BNP Paribas Real Estate is a BNP Paribas Group company.



Antonio Vázquez Photo

Sustainable Construction Grand Prize Winner

# AULARIO INDUVA



## Valladolid, SPAIN Education building

The construction of the Aulario building for University of Valladolid's School of Industrial Engineering represents a great opportunity for research and improvement of technics already applied on net zero energy buildings of the campus. The building, while completely new, is already connected to the other buildings and installations of the campus, where a global refurbishment and sustainability intervention is being carried out. **Aulario IndUVA aims for the GREEN GBCe, LEED and Well certifications.**

The building hosts up to 2,500 students in 34 classrooms, for a total built surface of 5,845 m<sup>2</sup>. It is located on a university campus with workshops, labs, residences, but also gardens, playgrounds and a parking lot.

The Aulario project was designed to be fully comprehensive, basing its approach on **a thorough analysis of preexisting conditions**. In order to reach their zero energy goal, the design team was guided by two strong passive principles: **compacity in a simple volume and optimization of natural lighting**. Coordinated renewable energy production systems come in addition: **urban biomass heating network, geothermal and photovoltaic energies**.

Aulario IndUVA is also a field of experimentation: on natural lighting by using optic fiber, **on phase changing materials** implemented in strategic spots of the building, and on **circular economy** by using recycled construction materials.

Lastly, the project pays real attention to local **biodiversity** to preserve the gardens and facilitate the development of local species.

**Contractor:** Constructora San-José S.A.

**Designer:** Francisco Valbuena García

**Construction manager:** Constructora San-José S.A.

**Developer:** Universidad de Valladolid - Vicerrectorado de Patrimonio e Infraestructuras

**Consultancy agencies:** Torre de Comares Arquitectos S.L.P, Ana Jiménez / María de la O García, Cristina Gutiérrez Cid, Vega Ingeniería, José Emilio Nogués / Diego Tamayo, Cristina Cano Herreras

**Construction company:** REUQAV Ingenieros



MENTION

## Bei de Kueben House Education building Angelsberg, LUXEMBOURG

**Contractor:** Administration Communale de Fischbach

**Designers:** Coeba, Dave Lefèvre et associés, Schroeder & Associés Ingénieurs-Conseils

**Consultancy agencies:** Betic Ingénieurs-Conseils, Luxcontrol



MENTION

## Deltagreen Office building Saint-Herblain, FRANCE

**Contractor:** Galeo

**Designer:** CR&ON Architectes

**Construction manager:** Essor

**Consultancy agencies:** ITF, Serba

**Facility manager:** Solaris Gestion

**Manufacturer:** Powidian



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**PAREX**  
Building expertise, together

## Two questions to LOUIS ENGEL, Safety & Sustainable Development Director



### *Why is your company committed to fighting climate change?*

The building energy consumption represents more than a third of the total consumption worldwide and is responsible for almost a quarter of the greenhouse gas emissions.

We believe that **all players in the construction chain must be mobilised for the fight against climate change** and we have decided to play our part. For several years, we have **taken an active role in improving the thermal efficiency of buildings** by developing our External Insulation Finishing System (EIFS) offer.

### *What actions have you put in place regarding sustainable development/CSR?*

Our **sustainable development programme BUILDING RESPONSIBLY** is based on 4 commitments, to meet the environmental, social and societal challenges we face:

- **Innovating** continuously, to contribute to sustainable construction;
- **Reducing** our environmental footprint throughout the life cycle of our products;
- **Acting** for and with our employees;
- **Anchoring** our sites in their territory.

To go further in our commitment to fight climate change, we have deployed our Climate Program over the last two years.

At the end of 2018, we achieved the first part of our goals: measuring greenhouse gas emissions in all the countries where we operate; pursuing action plans with our suppliers and within our industrial units in order to reduce CO2 emissions; participating for 2 years in the planting of 55,000 trees to mitigate some emissions as part of 10 agroforestry projects supported by our partner PUR Project in the main countries where we are present.

This positive momentum encourages us to continue to reduce our emissions **while contributing to the development of local communities**. Our ambition is to **integrate these sustainable development actions into all our activities** in order to contribute to the growth of sustainable construction.

## ABOUT

Major player in construction chemicals, PAREX is a world leader, specialist of dry mix, providing solutions for the building community and acting in 3 fields: facade protection and decoration, tile setting and flooring systems, waterproofing systems and technical solutions for concrete and civil engineering. We operate in 22 countries with 72 production sites and bring together 4,400 employees worldwide. Our ambition is to be the preferred partner on our markets and in the local economic and social structure around our sites.



Energy & Temperate Climates Winner

# HOUSE OF ÎLE-DE-FRANCE



## Paris, FRANCE Student residence

Zero Energy! Zero Carbon! Zero Nuclear Waste! Located in the International University Campus in Paris, the 5,000m<sup>2</sup> House of Ile-de-France is unprecedented in France. With its **100% solar energy strategy**, this student residence features **two giant tanks (150,000 liters of water)** heated by solar panels, providing the whole building with hot water and heating all year long (through **seasonal thermal storage**). Photovoltaic panels on the roof produce electricity for all uses in the building (included in the regulation and non-included uses). **The House of Ile-de-France already tackles the issues to be covered by the 2020 French building regulation.**

With its 142 rooms and its triangular shape, the residence forms a large face to collect solar energy. The facade on the Parisian ring road is composed of **563m<sup>2</sup> of photovoltaic cells** and **260m<sup>2</sup> of vacuum thermal solar panels** associated with **156m<sup>3</sup> seasonal storage system**. This constitutes the signature of the House.

The storage tanks cover 80% of the thermal needs in winter, heating and hot water using the surplus of energy stored during the summer.

The House of Ile-de-France was born from a collaborative design between ANMA and DEERNS for the Region Ile-de-France, implementing such an innovative solar strategy for the first time in France.

**Contractor:** Region of Île-de-France  
**Designer:** Agence Nicolas Michelin et Associés (ANMA)  
**Construction managers:** ANMA, DEERNS France  
**Consultancy agencies:** DEERNS France, Batiserf



MENTION

## CLT multi-comfort office building

Office Building  
Covasna, ROMANIA

**Contractors:** Nizar Construction, Bavaria Ecosystem  
**Designer:** Tecto Architectura  
**Construction manager:** Tecto Architectura



MENTION

## The Towers of Bolueta

Collective Housing  
Bilbao, SPAIN

**Contractor:** Visesa  
**Designer:** VArquitectos  
**Construction manager:** Construcciones Sukia



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## ARNAUD LEROY, President of ADEME



IME Yépi Kaz, Green Solutions Awards 2017 international mention, Energy & Hot Climates Category

The building sector is the world's main energy consumer. It is responsible for most of the greenhouse gas emissions, in particular in tropical areas. By 2060, two thirds of the world population will live in these regions and emissions could be multiplied by four because of the energy consumption related to an increased use of air conditioning. **Sustainable construction and the deployment of energy-efficient buildings in emerging and developing countries** is therefore a major lever to achieve the goals of the Paris Agreement.

Faced with this challenge, **we are convinced that improving skills among the building industry** is critical. In order to support the players of this sector, we conduct, with our public and private partners, **various training actions**. And, alongside with the Plan Bâtiment Durable, we have set up an online training platform: the **MOOC platform for Sustainable Buildings**.

The first session of the MOOC "**Sustainable buildings in humid tropical areas**", that we launched in February-March 2018, was a **success with 500 trained professionals**. Also, a new session was conducted in the fall and **the contents will be translated in English** to expand to other priority countries.

We are very happy to support once again the Green Solutions Awards. This contest aims to promote the existing best practices in the building industry, with a **category specifically dedicated to exemplary buildings under hot climates**.

## ABOUT

ADEME participates in the implementation of public policies in the environment, energy and sustainable development fields.

In order to enable progress in environment-friendly approaches, the Agency provides companies, local authorities, public agencies and the general public with expertise and advice. ADEME also funds projects from research to implementation, in all its areas of intervention.



Energy & Hot Climates Winner

# WILD SOUTH MEDIA LIBRARY



Night view of the media library



Comfortable, ventilated, bright and soundproof interiors

## *Saint-Joseph de la Réunion, FRANCE* Public building

The Wild South Media Library, on the Reunion Island, is based on a specific sustainability approach to the tropical and subtropical climates and interrogates contemporary architecture of the Reunion Island. The library creates a progression from public space to the intimacy, providing a true connection to the outside and blurring the limits with the inside of the building. In order to achieve that result, the project was oriented **toward passive**, but **open building** requiring **no air conditioning** thanks to complementary solutions:

- Over-insulation and protection against solar rays;
- Light wood façades to reduce the inertia of the walls;
- Natural ventilation with the addition of a **low-pressure chimney**;
- **Greenroofs and planted** exteriors to create a **cool island effect**;
- Maximal permeability for water management;
- Reused rainwater in bathrooms;
- Focus on the **acoustic comfort** of users, by multiplying sound absorption systems on walls and ceilings;
- **Healthy materials** and important natural ventilation air flow to ensure optimal indoor air quality.

**Contractor:** City of Saint-Joseph  
**Construction manager:** Co-Architectes  
**Consultancy agencies:** TRIBU, Gui Jourdan, Héliotropic + EFITEC, Intégrale Ingénierie  
**Economist:** ABTEC  
**Landscaper:** Adhoc



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 **BARRISOL**<sup>®</sup>  
WORLD N°1 MONDIAL

## Two questions to JEAN-MARC SCHERRER, President



©COPYRIGHT 2009-2017 Barrisol Normalu S.A.S/Oslo Opera House Designer: Snohetta Architects/  
Federation Square Australian Architects: Lab Architecture with Bates Smart

### *Why is your company committed to fighting climate change?*

Since the foundation of the company, 50 years ago, we became **aware of the conservation and respect of the environment**. In the heart of the Hardt forest, in Alsace (France), our head office is surrounded by green areas that we strive to preserve.

Respect for the environment is **one of Barrisol's priorities**. Today, it is **one of our main vectors to convey our company policy**. Participating in the Green Solutions Awards enables us to assert that **it is possible to combine tradition with innovation, technology and protection of our natural resources**.

The Barrisol<sup>®</sup> system was imagined to use 20 times less raw materials than a standard product. All the Barrisol<sup>®</sup> sheets and profiles made of aluminium are 100% recyclable.

As a member of the English, Canadian and American Green Building Councils, Barrisol<sup>®</sup> started to commercialise the Barrisol Recycled<sup>®</sup> line in 2007. We combined innovation and respect for the environment: Recycled<sup>®</sup> sheets are manufactured from old Barrisol<sup>®</sup> sheets.

We use **recyclable materials** and **encourage our partners and customers to join us in this endeavour**.

### *What actions did you put in place regarding sustainable development/CSR?*

We take different actions to preserve the planet, likes:

- **Setting up a process to recycle old sheets,**
- **Recycling waste** of sheets and aluminium profiles,
- **Providing employees with carpool vehicles and shuttles,**
- **Setting up a waste collection system** for recycling,
- **Installing time switches and presence detectors** to ensure **proper management of our power consumption**.

## ABOUT

The Barrisol<sup>®</sup> Normalu<sup>®</sup> company, founded in 1967, is the world leader of stretch ceiling. It combines tradition, innovation, respect for the environment and technology to offer you the best walls and stretch ceilings. Our products are rated A+ (very low pollutant emissions), guaranteed phthalate free, arsenic free, cadmium free and mercury free, and conform to the highest European and international standards. They are also certified "French Origin Guarantee". Barrisol<sup>®</sup> products are 100% recyclable. Our know-how was recognised in 2015 by the label "Living Heritage Company" (Entreprise du patrimoine vivant - a French government label), in 2014 by the Décibel d'Or, a prize received for our "Acoustic Light<sup>®</sup>", and in 2017 by the Janus prize in industry for our "Barrisol<sup>®</sup> Clim" line of products.



Low Carbon Winner

## THE BEEHIVE



### *Bègles, FRANCE* Collective housing

The Beehive is a **social experiment** born from the will of the city of Bègles to have an **exemplary participative project** on its territory. After a 4-year human adventure, 11 families enjoy a collective residence with 7 housings and 4 contiguous houses built on the parcel of an old single house.

This first **participative housing** owes its success to the project team – who followed the project from the origin – and its very **committed inhabitants, who participated also from the very beginning**. Biweekly meetings and participative sessions on the construction site helped making the project grow and brought the group together around sharing values and knowledge.

The structure of the building, in concrete on the ground floor, supports the timber frame higher floors and attic. The timber frame is insulated with **straw, wood fibers and cob** (straw and raw earth), favoring **bio-based materials**. The calculated carbon footprint of this participative project demonstrates a **lower environmental impact than a classical collective housing built under the current French thermal regulation**: 22 tons of CO2 per housing in construction phase and 3 tons of CO2 per housing and per year of use. This low carbon performance and the high-level energy efficiency allows the Beehive to reach the **Effinergie+ standard** and **the French experimental E+C- label** for low carbon buildings.

The Beehive participative habitat carries the wish for transformed cities, for a human-sized urban village, to create **differently and together housings of tomorrow**.

**Contractor:** Axanis  
**Constructive manager:** Dauphins Architecture  
**Consultancy agencies:** 180 degrés ingénierie, Éco Etude



MENTION

### **The Towers of Bolueta** Collective Housing Bilbao, *SPAIN*

**Contractor:** Visesa  
**Designer:** VArquitectos  
**Construction manager:** Construcciones Sukia



MENTION

### **Waste House** Education building Brighton, *UNITED KINGDOM*

**Contractor:** The mears group  
**Construction manager:** The mears group



Health & Comfort Winner

## LANDSEA NEW MANSION



**Landsea New Mansion: a ceramic facade absorbing noise pollution**

### *Shanghai, CHINA* Collective housing

The Landsea New Mansion project is located in the west suburbs of Shanghai and covers a 13,433m<sup>2</sup> area, with three 5-storey residential buildings. This project capitalizes on the construction manager's years of experience in healthy and comfortable buildings, notably by following the approach of international standards.

In order to offer optimal living standards to the inhabitants, the Landsea New Mansion has been refurbished to find **balance between health, comfort, energy savings, preservation of the environment and smart building**.

Comfort and health in these three buildings are provided through innovative technologies: **intelligent furniture**, "*Landleaf*" **formaldehyde control technology** & "*Ultra-Clean Fresh*" **air renewal technology**.

For thermal comfort, the buildings fully use **passive construction principles** with **envelope heat preservation** system, **super seal doors and windows**, louver shadings, heat pump and a **capillary radiation system**.

Acoustic comfort was thoroughly worked on, by using **vegetal screens** and creating a **ceramic facade** absorbing noise pollution, and with solid sound insulation and seal doors for indoor acoustics.

With this **comprehensive refurbishment**, the Landsea New Mansion project becomes a revitalized low carbon residence meeting the current higher customer demand and leading the green residential model.

**Contractor:** Landsea Green Group Co., Ltd.



MENTION

### **Sindibad Beach Resort** Collective Housing Casablanca, *MOROCCO*

**Contractor:** Sindibad Beach Resort  
**Construction manager:** JLA Studio  
**Assistance to the contracting authority:** ALTO EKO  
**Sustainable urbanism:** Atelier Philippe Madec



Smart Building Winner

## CLK PASSIVE HOUSE



CLK passive house interior: combination of smart and passive comfort

### Grevels, LUXEMBOURG Single house

This passive house demonstrates that connected building can go hand in hand with sustainable housing. Beyond the work for a very efficient and eco-responsible envelope, the contractor wanted to install the **EnOcean technology** for its ecological values. The CLK witness house thus becomes an **intelligent connected home**.

This house's intelligence is invisible, it warns and allows also to control the data, **without spending any energy** and **with the least possible wave emissions**. This technology requires less raw materials (no batteries, less cables) and facilitates **great modularity**: the house evolves with the needs of its inhabitants.

EnOcean technology enables energy savings by **managing overheating** and room temperatures. The data collected by the system allows **a better understanding of the inhabitants' lifestyle**.

Among the implemented features in the CLK passive witness house:

- **Energy savings:** temperature management, energy consumptions and production monitoring, smart shading, consistent lowering of blinds, systematic extinction of lights;
- **Security:** control of window and doors openings, simulation of presence, alarm;
- **Comfort:** central visualization and control of the entire electrical installation, timed lighting control, automatic shading, scene control, programmable positions for blinds and shutters;
- **Operability:** on PC with or without touch screen, on tablet and smartphone apps, remote control, voice commands.



MENTION

### Technopole Office building Grenoble, FRANCE

**Contractor:** Schneider Electric  
**Designer:** Arche 5  
**Construction manager:** Arche 5  
**Developer:** GA Promotion  
**Consultancy agency:** Artelia

**Contractor:** CLK Constructions  
**Designer:** Bureau d'Architecture Urbaine SARL  
**Construction manager:** CLK Constructions  
**Manufacturer:** rms.lu



## Sustainable City Grand Prize Winner

### ECO-CITY SOUTHERN DISTRICT SINO-SINGAPORE TIANJIN



#### Tianjin, CHINA Urban sprawl

The Tianjin eco-city stands in the new Tianjin Binhai area and covers a 30km<sup>2</sup> total area. In 2007, the Sino-Singaporean framework agreement included the integration of the eco-city **into a "conservation of resources, environmental protection and social harmony" approach, to "become the model of sustainable development"**. Since its launch in 2008, and after 10 years of construction, 95% of the southern district has been built to accommodate 110,000 inhabitants.

In terms of quality of life, **all residential areas have free sports and recreational facilities** within a 500m range. Customized systems and services are also available to serve the maximum number of people in the same 500m radius: for example, **hospitals, health centers, sports fields, popular arts** with the **preservation of regional culture** and local services.

To favor economic development, the district will establish a platform for technological innovations and their applications in the areas of environmental protection, energy conservation and emissions reduction, green buildings and circular economy.

The Tianjin Eco-city is a **demonstrator of ecological restoration and construction on saline-alkaline soil** through its water resources management plan and advanced technologies for remediation of contaminated soil.

Biodiversity is a very important focus of the Tianjin Eco-city project: favoring local plant species, restoration and construction of bird habitats in the ecological succession areas of Parrot and Egret Islands and Yongding. The biodiversity plan allows the Tianjin Eco-city to foster **469 animal and plant varieties** as of 2013, including 332 animals and 137 plants.

**Project holder:** Construction Bureau China-Singapore  
Tianjin Eco-City

**Technical consultancy agency:** Tianjin Eco-city Green Building Research Institute



MENTION

#### Eco-District Cœur de Ville-La Possession Urban sprawl / La Possession, Reunion island, FRANCE

**Project holder:** City of la Possession  
**Construction manager:** Leu Réunion  
**Developer:** Semader  
**Investor:** Real Estate Cœur de Ville



MENTION

#### Pasapas Urban reversion Barcelona, SPAIN

**Project holder:** Sant Cugat City Council  
**Association of residents:** Asociación espacio eco Les Planes



## Sustainable Infrastructure Grand Prize Winner

### SMART, SUSTAINABLE AND ENERGY-SAVING LIGHTING IN COPENHAGEN



#### Copenhagen, DENMARK

##### Energy management / Smart City

Beyond representing up to 40% of a city's energy budget, lighting is also a way to improve its safety and aesthetics.

Produced by Citelum, the EDF Group's intelligent lighting subsidiary and related connected service, **the renovation of the Copenhagen public lighting** is the largest public lighting project in the capital.

The work carried out is in line with the city's **goals of achieving carbon neutrality by 2025** by reducing energy expenditure, improving the safety of residents, improving mobility, increasing local identity and its attractiveness.

In 3 years, **18,800 light points**, half of Copenhagen's lighting park, have been replaced by **LED luminaires**. Consumption monitoring, maintenance and interventions planning over the next 9 years and communication with the city services are based on the **MUSE® digital platform**.

The project also helped to establish a **city-wide communication network** to adjust lighting levels according to Copenhagen areas, traffic and identified needs.

For example, the intensity of lighting has been increased on the roads to make users, especially pedestrians and cyclists, more visible.

In addition, the new lighting network offers many opportunities **to connect new services in the future**: video protection cameras, noise and air quality sensors can further improve the safety and quality of life of citizens and **transform Copenhagen into a real "Smart City"**.

**Project holder:** City of Copenhagen (Københavns Kommune)

**Builder:** Citelum



MENTION

#### Hydrogen charging station

##### Green energy Vannes, FRANCE

**Project holder:** Morbihan Energies

**Builder:** Ataway

**Manager/Dealer:** Engie Cofely



MENTION

#### Abattoir BIGH Farm

##### Urban agriculture Brussels, BELGIUM

**Project holder:** Building Integrated Greenhouses SCA

**Manager/Dealer:** BIGH Anderlecht SA

# INTERNATIONAL JURIES



**President of the Grand Prizes jury**  
**SUSTAINABLE RENOVATION & SUSTAINABLE CONSTRUCTION**

**MAJIDA EL OUARDIRHI**  
Ministry of National Planning, Urban Planning, Housing and City Policy  
Global Alliance for Buildings & Construction (GABC)



## Jurors



**CÉDRIC ANBERGEN**  
BSolutions



**FERRAN BERMEJO**  
Catalonia Institute of Construction Technology (ITeC)



**FRANCESCO DE FALCO**  
Independent Engineer



**PHILIPPE MADEC**  
Philippe Madec Architect Workshop



**YORK OSTERMEYER**  
Chalmers / Climate-KIC



**JUN WANG**  
China Academy of Building Research (CABR)



**President of the Grand Prize jury**  
**SUSTAINABLE CITY**

**MAÏTA FERNANDEZ-ARMESTO**  
UNHabitat



## Jurors



**NATHALIE ABRASSART**  
University of Mons  
St.Ar.Tech Management Group



**YOUSSEF DIAB**  
École des Ingénieurs de la Ville de Paris (EIVP)



**LUCIENNE KROSSE**  
InnoEnergy



**XUN LI**  
China Academy of Urban Planning and Design (CAUPD)



**President of the Grand Prize jury**  
**SUSTAINABLE INFRASTRUCTURE**

**NANCY THOMAS**  
Inspiring More Sustainability Luxembourg (IMS Lux)



## Jurors



**DAVID ALBERTANI**  
R20 - Regions of Climate Action



**JOSE ANTONIO TENORIO**  
Eduardo Torroja Institute of Construction Science (IETcc)  
Spanish National Research Council (CSIC)



**OLIVIER ORTEGA**  
LexCity avocats



**President of the jury**  
**LOW CARBON HEALTH & COMFORT SMART BUILDING**

**MIRIAM BADINO**  
ICLEI  
Global Alliance for Buildings & Construction (GABC)



## Jurors



**ARTURO ALARCÓN**  
Spanish Institute of Cement and its Applications (IECA)



**MARCO D'EGIDIO**  
Independent Engineer



**AUORE VANDENBERGHE**  
Passive House Platform (PMP)



**PETE WALKER**  
University of Bath



**QINGQIN WANG**  
China Academy of Building Research (CABR)



**President of the jury**  
**ENERGY / TEMPERATE & HOT CLIMATES**

**OLIVER RAPF**  
Buildings Performance Institute Europe (BPIE)  
Global Alliance for Buildings & Construction (GABC)



## Jurors



**MOHAMMED AHACHAD**  
Cluster EMC/Faculty of Science and Techniques of Tangier



**FLORIN ANDRONESCU**  
Alba Local Energy Agency (ALEA)



**JEAN-MARIE HAUGLUSTAINE**  
University of Liège



**PATXI HERNANDEZ**  
TECNALIA Research & Innovation



**ZHIBING MAO**  
China Construction Group Co.,Ltd



**BRAHMANAND MOHANTY**  
Asian Institute of technology / ADEME



**ARLIN MORALES**  
Green Planet Architects



**ANTOINE PERRAU**  
Antoine Perrau Architectures (APA)

# NATIONAL JURIES



## Belgium

**Nathalie ABRASSART** - University of Mons / St.Ar.Tech Management Group  
**Aymé ARGELÈS** - Confédération Construction Wallonne (CCW)



## China

**Deci DAI** - Architectural Design and Research Institute of Tsinghua University  
**Xun LI** - China Academy of Urban Planning and Design (CAUPD)  
**Yanhui LIU** - China Architecture Design Group



## France

**Alexandre ARÈNE** - J3E  
**Nathalie AUBURTIN** - Cadre de Ville  
**Anne-Gaëlle BAPTISTE** - City of Paris  
**Benoît BLANCHARD** - Aérodynamique Eiffel / CSTB  
**Nicolas BOFFI** - Arcadis  
**Cédric BOREL** - French Institute for Building Efficiency (IFPEB)  
**Morgane COLOMBERT** - École des Ingénieurs de la Ville de Paris (EIVP)  
**François DANIC** - EVEA Conseil  
**Marie DARUL** - CD2E  
**Sonia DELOUCHE** - Atelier A3  
**Alain DUBRUILLE** - Sustainable construction consultant  
**Christophe DUMAS** - Sogeprom  
**Julie FERNANDEZ** - National Council of Architects (CNOA)  
**Pascal GANTET** - National Institute of Solar Energy (INES)  
**Cristina GARCEZ** - Scientific and Technical Center for Building (CSTB)  
**Cécile HANIER** - Association Les Écomaires  
**Mathilde HENRY** - Greenflex  
**Philippe HERBULOT** - AICVF / NEPSEN  
**Périne HUGUET** - Atelier 13  
**Franck JANIN** - Heliasol / French Network for Straw

**Shady ATTIA** - University of Liège  
**Jean-Marie HAUGLUSTAINE** - University of Liège  
**Aurore VANDENBERGHE** - Passive House Platform (PMP)

**Zhibing MAO** - China Construction Group Co., Ltd.  
**Jun WANG** - China Academy of Building Research (CABR)  
**Qingqin WANG** - China Academy of Building Research (CABR)  
**Youwei WANG** - Chinese Green Building Council

**Building (RFCP)**  
**François-Xavier JEULAND** - Fédération Française de Domotique (FFD)  
**Séverine KIRCHNER** - Scientific and Technical Center for Building (CSTB) / IAQ Observatory  
**Julien LAMBELET** - Systra  
**Pierre-Yves LEGRAND** - Novabuild  
**Serge LE MEN** - ABB / Smart Buildings Alliance (SBA)  
**Olivier MARCOS** - ENGIE Avenue  
**Valérie MICHEL** - Ignès  
**Adriana MIRI** - BTP.Services  
**Grégoire NOBLE** - Batiactu  
**Philippe NUNÈS** - Xpair  
**Olivier ORTEGA** - LexCity avocats  
**Antoine PERRAU** - Antoine Perrau Architectures (APA)  
**Suzanne PONS** - ADEME Guyane  
**Frédéric PUJOL** - ACAPA  
**Florence ROUSSEL** - Actu-Environnement  
**Charlotte ROUX** - École des Ingénieurs de la Ville de Paris (EIVP)  
**Stéphane RUTARD** - National Federation of Public Works (FNTP)  
**Mariangel SANCHEZ** - Agence Qualité Construction (AQC)  
**Galdric SIBIUDE** - Be Green Engineering  
**Fabien SQUINAZI** - Alliance HQE-GBC  
**Nathalie TCHANG** - CINOV / Tribu Énergie



## Italy

**Francesco DE FALCO** - Independent Engineer



## Luxembourg

**Julien L'HOEST** - Énergie et Environnement S.A.  
**Alexis SIKORA** - Institut de Formation Sectoriel du Bâtiment (IFSB)



## Morocco

**Mohammed AHACHAD** - Cluster EMC/Faculty of Sciences and Techniques of Tangier  
**Mohamed BERRADA** - Cluster EMC /Architecte ARPIO



## Spain

**Arturo ALARCÓN** - Spanish Institute of Cement and its Applications (IECA)  
**Teresa BATLLE** - Picharchitects/Pich-Aguilera  
**Ferran BERMEJO** - Catalonia Institute of Construction Technology (ITeC)  
**Maïta FERNANDEZ-ARRESTO SANCHEZ** - UNHabitat  
**Patxi HERNANDEZ** - TECNALIA Research & Innovation  
**Ignasi PEREZ ARNAL** - WITS Institute / Alghero School of Architecture

**Marco D'EGIDIO** - Independent Engineer

**Lionel TOUMPSIN** - Neobuild  
**Steve WEYLAND** - Team31 Bureau d'architecture

**Abdellatif TOUZANI** - Cluster EMC/Mohammadia School of Engineering

**Paula RIVAS HESSE** - Spanish Green Building Council (GBCe)  
**Bruno SAUER** - Spanish Green Building Council (GBCe)  
**Josep SOLÉ BONET** - URSA Insulation, S.A.  
**Jose Antonio TENORIO RIOS** - Eduardo Torroja Institute of Construction Science (IETcc) / Spanish National Research Council (CSIC)  
**Gerardo WADEL** - Spanish Green Building Council (GBCe)



# STUDENT JURY

## NEW IN 2018: THE FIRST STUDENT JURY!

For the first time, Construction21 offered students to select their favourite building, in parallel with the usual juries of experts. They discovered buildings at the cutting edge of sustainable construction innovation and demonstrated their academic knowledge on real projects.

**14 academic partners participated in the initiative, tested for the first time in France.** The champion of these students was qualified as any other national winner and will try to obtain an international prize and to be highlighted during COP24.

**A second edition of the student jury is already planned for 2019: it will be at international level!**



*With this jury, our students' skills and expertise are applied. Our School participated in the Green Solutions Awards as part of an innovative teaching approach and to broaden our colleagues and academic partners' minds.*



**Régis LE CORRE**

*External relations and Partnership Development Manager  
Higher College for the Real Estate Professions (ESPI)*



*For young training workers, exchanging and sharing with students from other post-degree trainings gives a more multidisciplinary look on our field practices. Working with the Awards enriched our education and allowed us to fully grasp the challenges of our environmental footprint.*



**Laëtitia YÉ**

*Project manager, Energy Environment and College for jobs division  
The Companions of Duty*



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- ▶ **HOW:** Publish a case study of your most innovative projects.

## BECOME PARTNER

- ▶ **YOU ARE:** Media, fair, professional association or university
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