

Press release – 16 November 2017



Solutions for a sustainable world



#GreenSolutions Awards

## Winners of the Green Solutions Awards 2017: their solutions to limit global warming

No more suspense! The international winners of the 2017 edition of the Green Solutions Awards have been revealed on November 15<sup>th</sup> in Bonn, during the COP23. The winning teams received their prize before professionals from across the globe in a ceremony at la [Galerie by WE](#). Their buildings, districts or infrastructures demonstrate that building cities differently is possible.



### A ceremony connected to the COP23



The competing pioneering realisations are broadly disseminated, along with their best practices, toward professional around the globe, hence contributing to build a low carbon society. This is a very concrete way to contribute to the Paris Agreement voted in the COP21.

Many personalities from the environment and construction sectors attended the ceremony, including Walloon Budget Energy and Climate Minister Jean-Luc Crucke; François Moisan, Executive Director for Strategy, Research & International Affairs, and Christophe Nuttall, Executive Director of R20-Regions of Climate Action.

## Viral communication campaign all over the web

In order to achieve its goals of promoting best practices, Construction21 offers great visibility to the winners in their country and across the world, helping them to highlight their know-how and expertise.

After the public ceremony at COP23, followed by the press and the sector, each winner is offered [a video](#) showcasing their realization. Subtitled in 6 languages – English, French, German, Spanish, Italian and Chinese – these videos will be broadly shared on the Internet and on social media. [A brochure](#) in 5 languages will also highlight them along with the candidates awarded with a mention of the international jury.

The Construction21 international network mobilises more than 60 media partners and professional organisations in each of the country it covers and also on an international scale, by providing an [online media kit](#) accessible to all with articles, press releases, emailings, social media posts, banners and more...

Construction21 stands at the crossroads of the environmental and digital revolutions, harnessing the dissemination power of the web to promote innovative solutions invented by winning professionals in the Green Solutions Awards.

## The Awards unveil trends in the sector

150 candidates from 19 countries competed in the 2017 edition of the Green Solutions Awards. After the first qualification phase, punctuated by national distinctions in September in each Construction21 country, 59 national champions were still in the race for the international finals.

The realisations rewarded by the contest constitute a source of inspiration for all professionals working in the building and city sectors. They demonstrate how to decarbonize our societies, either by using local resources in short supply chains, or reinvented traditional technics or cutting-edge technologies, or even by creating a true intelligence for the building and its systems, or by searching new sources of energies. Most of all, the awarded pioneering projects showed that they could integrate the human aspect as a central factor of their sustainability.

Contest organised with the support of





## Sustainable City Grand Prize

### Winner



#### Cité du Centenaire

*Urban renewal - Montignies-sur-Sambre, Belgium*

**Project holder:** La Sambrienne

**Designer:** Startech Management Group

[Watch the video of the winner](#)



The Cité du Centenaire in Charleroi is a **urban renewal** project and the transformation into an ecodistrict of a 1959 neighbourhood inspired by garden cities. While moving the Cité du Centenaire toward sustainability, this project also had to **protect and rehabilitate an architectural heritage**. The sustainability approach integrates **ecomobilities** and soft transportation modes, energy efficiency through passive renovations and constructions of housings, the drastic reduction of the district carbon footprint while favouring **social bonding** and interactions within the area.

To limit the environmental impact of the operation, demolition waste was reused and recycled, after sanitizing the buildings from all asbestos. All construction work included as much as possible **recyclable and low emission materials**.

This ecodistrict naturally aims to **respond to its inhabitants' needs** who were involved in the operation from the design phase. Children from the surrounding schools also participated in an art project to dress one of the buildings' gable. Mineral wool panels were coloured in the many tints collected in the demolished building to offer a genuine testimonial of past lives in the district. This piece of art now gives a **strong identity** to the Cité du Centenaire ecodistrict.

### Mention



#### Virtual City of Zero Energy House

*Urban Sprawl / Tomiya, Japan*

**Contractor:** Sekisui House, LTD



## Sustainable Infrastructure Grand Prize

### Winner



#### Filtering Gardens® for wastewater and rainwater

*Depollution system / Rio de Janeiro, Brazil*

**Contractor:** L'Oréal

**Construction company:** Afonso França Engenharia

**Manager/Dealer:** Phytorestore Brasil

[Watch the video of the winner](#)



Filtering Gardens® is a biotechnology developed by Phytorestore. It uses **humid ecosystems and phytoremediation** to clean up waters and make them reusable again while recreating natural green spaces.

These filtering gardens are made of a series of pools filled with special substrates topped with local plants.

These plants are carefully selected. Grey and rain waters flow through the substrates and the biological interactions of the roots treat the waters, without any addition of chemical, bacteriological, biological nor artificial compound. The efficiency of the process relies only on **natural properties** and **human knowledge** of that process. Thanks to this process, sewage networks receive less water to treat.

The esthetic result is a lot of green, with a wide range of indigenous species of plants **favouring the development of local biodiversity** while **improving the quality of water** in the region and contributing to **cooling the microclimate**.

Filtering Gardens® is highly replicable and adaptable to a large number of places and it can help the development and protection of their specific biodiversity. It also contributes to **raise awareness among the populations** on this topic through educative programmes. Its carbon footprint is very low and even generates **carbon credits**.

### Mention



#### Thassalia

*Geothermal power / Marseille, France*

**Contractor:** Patrick Berardi

**Construction company:** Engie-Thassalia

**Dealer/Manager:** Engie-Thassalia

# INTERNATIONAL WINNERS “GRAND PRIZES BUILDINGS”



## Sustainable Construction Grand Prize

### Winner



#### B Solutions

*Office building / Gembloux, Belgium*

**Contractor:** BSolutions

**Designer:** BSolutions

**Engineering consultancy:** BSolutions

[Watch the video of the winner](#)



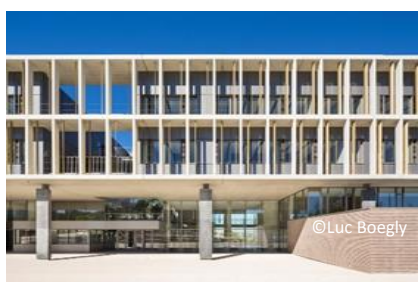
This PassivHaus and BREEAM certified project was designed to demonstrate the **NZEB (Net Zero Energy Building) know-how** of the BSolutions architecture and engineering agency.

Built on 3 floors, the BSolutions building **offers autonomy to each floor** through the implementation of 3 ventilation systems with their own power supply.

**The optimisation of energy efficiency** is achieved thanks to the architectural design, the location and orientation, and the compacity of the building. BSolutions is half buried to benefit from a first natural thermal insulation and the ground inertia. Choice of orientations was crucial, for natural lighting all year long as well as to avoid summer overheatings, along with the implementation of photovoltaic panels that cover 60 % of the energy needs of the building.

Beyond the energy efficiency, **health and comfort** of the users were at the centre of this project through the guidance of BREEAM and PassivHaus approaches. Workspaces were designed to be full of light, and built with healthy materials. **Acoustics** were extensively studied for the best comfort: adapted floorings, acoustic elements in offices and creation of work cells equipped with acoustic glass partitions.

### Mentions



#### Lycée international de l'Est Parisien

*Education building / Noisy-Le-Grand, France*

**Contractor:** Région Île-de-France – Unité lycée (mandataire : SAERP)

**Designer:** Ateliers 2/3/4/

**Consultancy companies:** CBC GTM, Balas, Blanchard, Solstyce, Tuvaco

**Engineering consultancy :** SAS Mizrahi, Éléments ingénieries, Peutz & Associés



#### Conservation and Research Center for Giant Panda of China

*Research center / Si Chuan, France*

**Designer:** Sichuan Provincial Architectural Design and Research Institute

**Consultancy agencies:** CABR Architecture Design Institute, Beijing University of Civil Engineering and Architecture

**Sustainable development consultancy agency:** Sichuan Wolong National Nature Reserve Administration

# INTERNATIONAL WINNERS “GRAND PRIZES BUILDINGS”



## Sustainable Renovation Grand Prize

### Winner



#### Projet 55

*Office building / Mons, Belgium*

**Contractor:** Homeco

**Construction manager:** Homeco

**Designer:** Bachelart Delvigne architects

**Engineering Consultancy:** Homeco

[Watch the video of the winner](#)



The Project 55 is a zero energy **refurbishment of a heritage list mansion**, within the centre of the city of Mons. The project combines extensive insulation, optimal air tightness, heat recovery ventilation and controlled constructive details. Additionally, a specifically dimensioned photovoltaic installation has been implemented to compensate the energy consumption of the building.

A dynamic simulation has been commissioned to evaluate the risks of overheating and the means to avoid them, through solar protection and free-cooling.

Beyond the **high level of energy efficiency**, the Project 55 integrates **eco-materials** (wood wool, cellulose, C2C certified plaster, FSC wood, clay-based coatings). **Life cycle analysis** was decisive in the choices made to limit the carbon footprint of the building.

The use of these materials also contributes to the **health and comfort strategy** of the building. The well-being of its users and visitors is a major goal for the Project 55, as it shelters the offices of the Homeco company and serves as a training facility in sustainable development and as a visitor center to disseminate best practices.

### Mentions



#### Hongqiao International Airport

*Airport / Shanghai, China*

**Contractor:** Shanghai Airport Authority

**Construction company:** Arcplus Group PLC East China Architectural Design & Research Institute Co., Ltd.

**Engineering consultancy :** Arcplus Group PLC East China Architectural Design and Research Institute Co., Ltd



#### 55 Amsterdam

*Office building / Paris, France*

**Contractor:** GECINA

**Designer:** Agence Naud & Poux

**Construction company:** Aquae, Viessmann

**Engineering consultancy :** Egis, LTA, CEEF, Impact acoustique, Végétude



## Energy & Temperate Climates

### Winner



#### Kirstein & Sauer

*Office building / Bielefeld, Germany*

**Contractor:** Kirstein & Sauer GmbH

**Designer:** Architekten Wannemacher + Möller GmbH

**Engineering consultancy :** Solares Bauen GmbH

[Watch the video of the winner](#)



This **positive energy building** shelters a supermarket at the ground level and offices on the upper floors. The contractor wanted this project to be exemplary. This was achieved through the combination of **mature technologies** for a very high level of energy efficiency at a low cost, while providing high resilience and reliability. The thorough **energy planning** of the building was also key to this project as it integrated all needs of the building, from the systems to the users. Among the solutions implemented in this project, some are worth pointing out:

- An ultra efficient envelope, designed very early in the project,
- A urban heating network fueled by the combustion of waste,
- Low temperature heating floors,
- Ventilation/Cooling systems with adiabatic evaporation,
- Photovoltaic panels on the roof to cover every energy needs,
- The fine tuned building management through a BMS.

Here, the energy performance of the building is not achieved against the user. On the contrary, office spaces were designed to be **modular and to adapt to the needs of the tenants**. The BMS uses usage and occupation scenari along with sensors to regulate ventilation and heating.

### Mentions



#### Biodiversum in Remerschen

*Museum / Remerschen, Luxembourg*

**Contractor:** Administration Bâtiments Publics,

**Designer:** Valentiny hvp Architects

**Consultancy agencies:** SGI Ingenieure Junglister BETIC S.A



#### Vil la Urània

*Public facilities / Barcelona, Spain*

**Contractor :** BIMSA (Barcelona Infraestructuras Municipales)

**Construction Manager:** UTE Dragados-Acsa Sorigué

**Designer:** UTE SUMO arquitectes SLP

**Construction companies:** AIA Instal Lacions Arquitectoniques

**Engineering consultancy :** Dekra, Q estudi. Presupuetto y mediciones

**Owner:** Viading



## Energy & Hot Climates

### Winner



©H. Douris

#### Bois d'olives

*Education building / Saint-Pierre de la Réunion, France*

**Contractor:** City of Saint-Pierre

**Designer:** Antoine Perrau Architectures

**Engineering consultancy :** LEU Réunion, GECF, BET AIR, CREATEUR

[Watch the video of the winner](#)



This school of 12 classes on the Reunion island (Indian Ocean) **demonstrates the specificity of sustainability approaches under tropical and subtropical climates**. This approach uses the **PERENE calculation tool**. The building proposes a bioclimatic architecture to structure the layout of the volumes and the technical choices of the project. Among the fundamental choices made to obtain a bioclimatic building and an efficient energy management are:

- Protection against dominant winds on the East and South- East sector and the protection of the courtyards,
- A broad sole umbrella roof to reinforce the solar and weather protection,
- Extended covers of the courtyards (greater than required in the programme) for a greater comfort for users,
- A thought through solar protection and specific for each glass bay orientation,
- The choice of a “dry” wooden architecture, a relevant answer when it comes to hygrothermal comfort,
- General layout of spaces to optimize the through-andthrough ventilation,
- The management of infiltrated rain waters,
- Neat gardens, to add to the hygrothermal and visual comforts, and to filter dusts,
- Optimization of electric systems to obtain positive energy building.

**Solar protections** bath spaces in a **pleasant light** while providing true **hygrothermal comfort** to the whole school.

### Mentions



©Ronan Liétar

#### IME Yépi Kaz

*Nursing home / Remire Montjoly, France*

**Contractor:** Apajh Guyane

**Assistance to the contracting authority:** CED Guyane

**Designer:** Acapa

**Construction company:** B2TG

**Engineering consultancy:** Robert Célaire Consultants, Alter

#### Guangdong Academy of Traditional Chinese Medicine

*Hospital / Guangdong, China*

**Contractor:** Traditional Chinese Medical Hospital of Guangdong Province

**Engineering consultancy :** Guangzhou Institute of Building Science Co., Ltd





# INTERNATIONAL WINNERS “BUILDINGS”

## Low Carbon

### Winner



#### The Nubian Vault

*Administrative building / Ourossogui, Senegal*

**Contractor:** Conseil Général des Yvelines

**Designer:** AL-MIZAN Architecture

**Construction Manager:** Le Partenariat NGO

**Technical expertise :** Association La Voûte Nubienne

**Structure:** Habitat Moderne

[Watch the video of the winner](#)



The Maison des Yvelines, an administrative building coupled with some housings, aims to disseminate an ancestral technique perfectly adapted to the Sahel region: **the Nubian Vault**. This 3500-year old construction technique was resurrected and reinvented by the Association La Voûte Nubienne. It only uses **mud bricks and earth-based mortars**. These natural materials provide thermal inertia, acoustic comfort and durable protection against the weather. In addition, the exclusive use of **local resources** drastically curbs the carbon footprint of the building.

The Nubian Vault technique also offers two more benefits: **low cost and great replicability**. It is very easily taught, as it was done for this building, with the training of local workers on site.

Last but not least, the Nubian Vault technique presents a large range of architectural possibilities and extended **modularity**. It can be used for housings, offices, healthcare centers, in various styles. Also, extensions can be easily added to the building.

The Maison des Yvelines presents a simple, replicable and economical solution to tackle the challenges of global warming under hot climates, while giving one of the best examples of **frugal resources management**.

### Mention



#### Studentenwohnheim 42!

*Student Residence / Bonn, Germany*

**Designer:** GbR Raum für Architektur

**Contractor:** Projekt 42! GbR

**Manufacturer:** Isocell

# INTERNATIONAL WINNERS “BUILDINGS”



## Smart Building

### Winner



©Charly Broyez

#### Ampère E+

*Office building / Courbevoie, France*

**Contractor:** SOGEPROM

**Designer:** Ateliers 2/3/4/

**Construction company:** SCO

**Engineering consultancy:** INEX, Arcora, Peutz, Etamine

**Innovation consultancy:** Green Soluce

[Watch the video of the winner](#)



Ampère E+, a **deep refurbishment and restructuration** of a 1985 office building, is a breakthrough for smart buildings. This project **combines smart technologies, high level energy efficiency and users' comfort**. The multiple certifications for this building are a strong testimonial of its sustainability and innovation: HQE Excellent, BREEAM Very Good, BBC Effinergie Rénovation, Well Core and Shell, Well Interiors, and Cradle to Cradle label.

The intelligence of Ampère E+ resides in how it integrates technologies in **an open innovation approach** with various technical partners.

The building is smart for its users: the **next generation BMS** and the **mobile application Ampère** allow users to control lighting and temperature in their work space. The app also serves as an access pass, a payment system for the company restaurant and shows available meeting rooms.

Ampère E+ is the first building in the world equipped with a **system of energy production, management and storage**, sharply fitting energy needs and behaviours. The building generates energy through solar panels on the roof and energy recovery on elevators. This energy is then stored in used car batteries, a solution supported by the **ELSA European programme (Energy Local Storage Advanced system)**. The discharged energy represents between 5 and 15% of the building consumptions allowing Ampère E+ to temporarily live off the grid depending on the needs.

### Mentions



#### Office building of Dongguan Eco-Park Holding CO., LTD.

*Office building / Dongguan, China*

**Contractor:** Dongguan Ecological Park Holdings Limited

**Designer:** South China University of Technology Architectural Design and Research Institute

**Engineering consultancy:** Beijing Tsinghua Tongheng Planning and Design Institute Co., Ltd.

# INTERNATIONAL WINNERS “BUILDINGS”



## Health & Comfort

### Winner



#### CNPC Headquarters

*Office building / Beijing, China*

**Contractor:** China Petroleum Building Management Committee Office

**Facility manager:** Zhongyou Soluxe Property Management Co., Ltd  
Beijing Branch

[Watch the video of the winner](#)



The CNPC Headquarters is a **vast tertiary multifunction complex** of 22 floors featuring offices, conference halls, restaurants, sports centres and car parks. It hosts an average of 3,500 people per day. **Health and comfort** were put at the centre of its design, following the requirements of the Chinese standard: Healthy Building.

This approach is based on the **thorough study of 7 factors**: air, water, diet, comfort, physical exercise, social interaction and access to services, therefore establishing a very wide definition of health and comfort provided by a building to its users.

**Interior air quality** of the CNPC Headquarters, a very important matter in China and especially in Beijing, is optimised through a double purification system, both active and passive, coupled with thorough monitoring. Water is also processed and treated through a very efficient purification process.

The well-being of the users of a tertiary building can also be addressed through healthy diet. With 3,500 people working every day in this building, the CNPC decided to provide healthy restaurant services based on the rhythm of seasons, the weather and the principles of Chinese medicine. This **healthy diet** can be completed with **sport activities** practiced in dedicated spaces available in that same building.

### Mentions



#### Office of Triodos Bank en Màlaga

*Office building / Malaga, Spain*

**Contractor:** Triodos Bank N.V Spain

**Construction manager:** Altave



#### Brock Environmental Center

*Public building / Virginia Beach, United States*

**Contractor:** Chesapeake Bay Foundation

**Assistance to the contracting authority:** Skanska

**Designer:** SmithGroupJJR

**Engineering consultancy:** Janet Harrison Architect

## About Construction21.org

As the social media for sustainable buildings and cities, [Construction21](#) disseminates free information and best practices for sustainable development among actors of the building and city sectors, especially through its three databases dedicated to exemplary [buildings](#), [districts](#) and [infrastructures](#).

Every year, Construction21 organises the Green Solutions Awards, an international contest aiming to promote pioneers' best practices and inspire professionals around the world. In 2017, the awards ceremony took place at COP23 in Bonn, Germany, on the [15<sup>th</sup> of November](#).

The 12-platform Construction21 network is both local and global. Each national platform is managed by a non-profit organisation involved in the promotion of sustainable buildings in their country. And globally, the network counts 11 national platforms in Algeria, Belgium, France, Germany, Italy, Lithuania, Luxembourg, Morocco, Romania, Spain and China, as well as an international one in English. Brazil, Canada and West Africa are the next targets. The Construction21 network expects 1 million visits in 2017 and aims for 50 platforms and 10 million visits in 5 years.

## Organizations powering the competition

Members of the international Construction21 association, the chapters manage the Construction21 platform in their country:



## International partners of the Green Solutions Awards

The competition is organized by the Construction21 network with the support of ADEME and the Global Alliance for Buildings & Construction. More than 50 partners are also promoting the competition with their own networks.

Also, companies committed to fighting against climate change, have joined the competition, supporting category echoing their own action against climate change: [Eiffage](#), [Rabot Dutilleul](#), [BNP Paribas Real Estate](#), [PAREX](#), [Barrisol](#), presented in the following pages.

Contest organised with the support of





Eiffage, 3rd major concession-construction company in France (64,000 collaborators, 100,000 projects, 14 billion€ in revenues), operates in construction, infrastructures, energy and concessions. From Phosphore, prospective lab on sustainable cities, to Smartseille, a multicertified and pioneering ecodistrict, Eiffage innovates to build a sustainable future and can be defined as a global contractor for sustainable cities, from responsible infrastructures to factories of the future.

### 3 questions for Valérie David, Director of Innovation and Sustainable Development

#### 1 – Why did you decide to support the Green Solutions Awards?



Open innovation becomes strategic for major groups who are used to innovate from inside. By opening to other actors and creating a win-win ecosystem, our position on the market is accelerated and we respond better to the emerging B-to-B and B-to-C needs.

Environment and sustainable development accelerate the transformation of our economic model of products “bought, consumed, thrown away” toward circular economy and services.

Eiffage believes and promotes internal innovation and open innovation, as part of the company’s DNA. Two funds were created by Eiffage in January 1st, 2017 to accelerate the access to the markets for innovations. For the same reasons, Eiffage supports Construction21, a dissemination tool for our sector’s innovation, by sponsoring the Grand Prize dedicated to Sustainable Infrastructures in the Green Solutions Awards.

#### 2 – What are, for your company, the main challenges related to the fight against climate change?

Everyone agrees that public works, construction and transports are enormous consumers of materials, energy and fossil fuels. The news reminds us on a regular basis: increase of climatic variations and exceptional weather events, fight against floods and rise of the seas, exceptional draughts are the more and more visible consequences of climate change.

We are aware of these strategic challenges for the planet and Eiffage is convinced we are at the core of the solutions.

#### 3 – What are your solutions, in your field, to face these challenges?

From 2008 to 2012, the work of Phosphore, prospective lab on sustainable cities, gathered the professionals of the Group and outside experts to build new perspectives by imagining challenges by 2030.

We collectively imagined and proposed solutions around these 4 priorities:

- Reduce consumption of carbon materials
- Design sober buildings
- Promote transports and energy production methods with less GHG emissions
- Build sustainable cities and responsible, efficient and innovative ecodistricts



The exercise gave us a systemic vision. It also led us to create the High Quality of Life, that guides the design and implementation of the Group solutions at city level (efficient buildings, ecodistricts, eco-mobility solutions, etc.).



As an independent international family group in development and construction, Rabot Dutilleul currently counts among the 10 biggest French actors in construction. Founded in 1920, the company developed skills all along the years 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 1,750 employees and on long-term relationships with its partners. The Group is present in France, Belgium, Germany and Poland.

### 3 questions for Rodolphe Deborre, Innovation and Sustainable Development Director



#### 1 – Why did you decide to support the Green Solutions Awards?

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.

#### 2 – What are, for your company, the main challenges related to the fight against climate change?

Construction 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. Rabot Dutilleul structures its development on a strong environmental approach: design and construction of low energy buildings (BCC), HQE certified projects, CO2 assessment of its activities and CSR action plans. This approach allows the Group to renew its offer, while always watching its markets and environment.

#### 3 – What are your solutions, in your field, to face these challenges?

Sustainable construction requires to manage energy efficiency in buildings. Rabot Dutilleul didn't wait to follow this approach, as many projects can testify, and pushes it further to achieve excellency with the expertise of its Pouchain subsidiary, specialised in electric and climatic engineering. 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.





BNP Paribas Real Estate, subsidiary of BNP Paribas and one of the leading real estate services companies on an international scale, is offering a full range of services that span the entire life cycle of real property: promotion, transaction, advisory, valuation, property management and investment management. With 3,900 employees, BNP Paribas Real Estate offers its clients its knowledge of local markets in 36 countries (16 direct locations and 20 more through its network of alliances that now represents more than 3,200 people) with more than 180 offices.

### 3 questions for Catherine Papillon, Global Head of Sustainable Development/CSR



#### 1 – Why did you decide to support the Green Solutions Awards?

The Green Solutions Awards is a contest that takes into account the different topics of sustainable development we are focusing on: social, energy, environmental and economic performance; well-being of occupants; integration of the different types of buildings into the surrounding districts; energy solidarity between buildings, etc.

Furthermore, the Green Solutions Awards highlight concrete and innovative solutions that all the industry can benefit from.

We also particularly appreciate the high standards for the recruitment process of participants, as well as the quality of the jury, which includes real estate experts.

For all these reasons, and because 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, we support Construction21 and the Green Solutions Awards for the second year in a row.

#### 2 – What are, for your company, the main challenges related to the fight against 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.

#### 3 – What are your solutions, in your field, to face these challenges?

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,

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companies, individuals or local authorities). It allows us to play a key role in the urban transition.

As an example, 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 Call for innovative urban projects “Réinventons Paris”, with its winning project Ternes, of a connected energy system between offices and housings (smart grids), of a car sharing solutions allowing electric vehicle pooling, and of urban garden terraces, among other solutions.



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 21 countries with 69 production sites and bring together 4,100 employees worldwide.

We focus on developing our activity over the long term and aim to bring innovative solutions and products for sustainable construction. Our ambition is to be the preferred partner on our markets and in the local economic and social structure around our sites.

### 3 questions for Louis Engel, Safety and Sustainable Development Director of PAREX

#### 1 – Why did you decide to support the Green Solutions Awards?



Our Sustainable Development program “Building Responsibly” is based on 4 commitments: innovating for our clients, preserving the environment, taking care of our employees, anchoring our activities locally. These commitments are fully in line with the partnership we have with Construction21, whose contest, the Green Solutions Awards, honours the most innovative solutions in sustainable construction. Convinced that this social media will help to effectively develop and share solutions for a more sustainable construction, we believe it is essential to be one of its partners.

#### 2 – What are, for your company, the main challenges related to the fight against climate change?

The building energy consumption represents nearly 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 mobilized and we have decided to play our part in this revolution, which is not only a technological, but also a cultural one.

#### 3 – What are your solutions, in your field, to face these challenges?



For several years in France and more recently in the United States, in China, in Spain, in United Kingdom and in Chile, we have taken an active role in improving the thermal efficiency of buildings by developing our External Insulation Finishing System (EIFS) offer.

To go further in our commitment to fight climate change, we initiated in 2016, following the Paris Agreement, our Climate Program, a 3-step voluntary approach which consists of:

- measuring the greenhouse gas emissions by end of 2018 in all countries where we



operate,

- increasing our efforts to reduce these emissions,
- adapting and mitigating impacts of some residuals emissions by contributing to develop agroforestry programs in 11 countries around the world, close to the communities where we operate.





The Barrisol® Normalu® 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) and conform to the highest European and international standards. They are also certified “French Origin Guarantee”. Barrisol® 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) and in 2014 by the Décibel d’Or, a prize received for our “Acoustic Light® ”.

### 3 questions for Jean-Marc Scherrer, President of Barrisol® Normalu® SAS



#### 1 – Why did you decide to support the Green Solutions Awards?

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, 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.

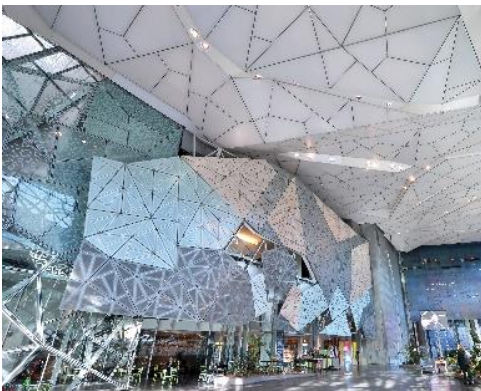
Barrisol® system was imagined to use 20 times less raw materials than a standard product. All the Barrisol sheets and profiles made of aluminium are 100% recyclable.

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

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

#### 2 – What are, for your company, the main challenges related to the fight against climate change?

Using fewer natural resources and less energy. The optimisation and the recycling of our products contribute to the reduction of waste.



#### 3 – What are your solutions, in your field, to face these challenges?

We take different actions to preserve the planet, like:

- 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.