



## Climate report 2020

Our commitment for the future



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Grand Canal eco-neighbourhood in Clamart  
HQE urban planning certification,  
heating needs covered  
by biomass boiler powered  
by agricultural waste





# Context and challenges

## ESTABLISHED CLIMATE DATA

The rise in average temperatures on the surface of the Earth and the resulting climate disturbances are the consequences of a sudden increase in the amount of greenhouse gases in the atmosphere. If there was any debate surrounding the causes of this increase, the consensus now is that this is the result of human activity, and there is a commonly shared view regarding the consequences of these disturbances. According to the Intergovernmental Panel on Climate Change (IPCC), the challenges raised by climate change and the consequences for our societies have never been greater.

## A FRAGILE CLIMATE FUTURE

Data and projections indicate that if current trends persist and no mitigation action is put in place, temperatures will increase by 3.5

to 5.0°C by the end of the 21<sup>st</sup> century. The balance of nature will be greatly disturbed, and the effects of climate change are already being observed across all regions of the globe. Since it is human activity that has significantly increased the amount of greenhouse gases in the atmosphere, humans can and must commit to working to reduce the resulting impacts and consequences.

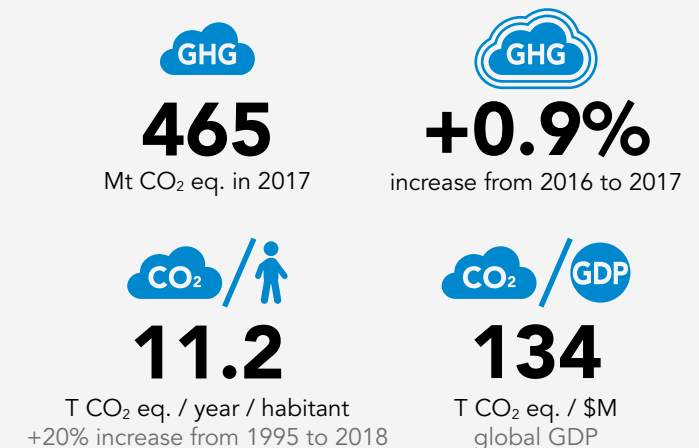
## CLIMATE IMPACTS AND ASSOCIATED RISKS

As climate disturbances will generate significant systemic impacts on human societies, wildlife and plant life, how can we guarantee the realistic adaptation of all of our natural and social ecosystems? Major socio-economic, political, health and geopolitical issues are already emerging, all representing potential risks to which answers and solutions need to be found.

### GLOBAL FIGURES



### FIGURES FOR FRANCE



Source: Ministry of Ecological and Inclusive Transition (2020) / World Meteorological Organization (2019) / National Observatory on the Effects of Climate Warming (2018)



# Eiffage challenges

## THE NEED TO ACT

Limiting average global warming to 2°C compared to pre-industrial levels implies modifying commonly accepted growth models, particularly through technical and organisational transformations within companies themselves, but also through new types of partnerships between companies, public authorities and civil society.

By adopting the European Union roadmap on climate reporting, Eiffage is committed to aligning with the 2°C trajectory adopted by the Paris Agreement of 2015. This objective has engaged us in a process of analysing and directing our economic and industrial models, to identify the impacts of climate change on our activities on the one hand, and measure the impact of these activities on the environment on the other.

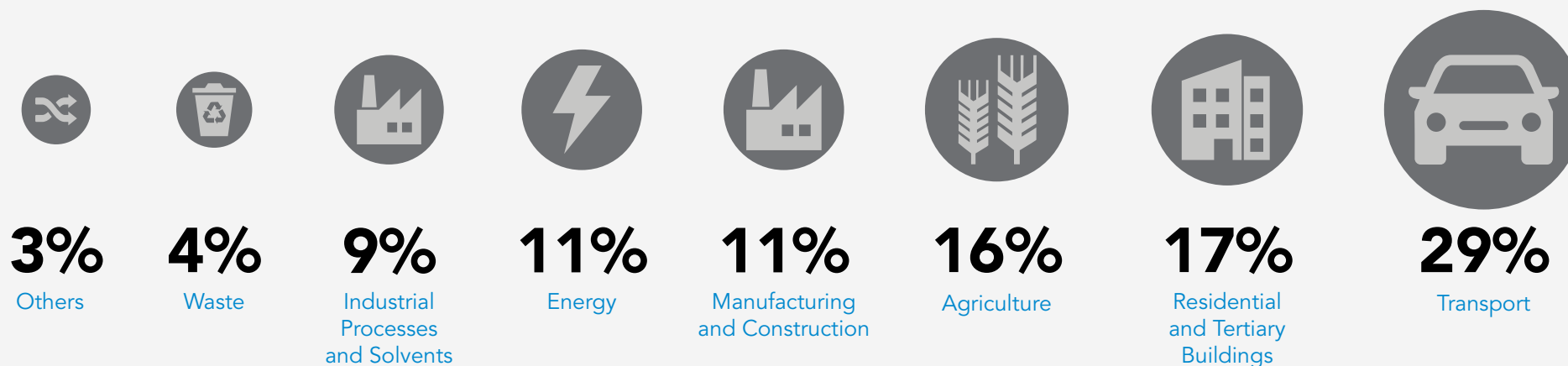
Consequently, we follow and adapt the recommendations of the G20 Financial Stability Board's Task Force on Climate-related Financial risk Disclosure (TCFD) for the communication of extra-financial information.

## EMISSIONS BY SECTOR

These environmental challenges resonate within our Group, which operates in the construction, infrastructure, energy and concessions sectors, in other words in sectors emitting CO<sub>2</sub> at various levels of the value chain.

While the Group as a whole is concerned by environmental issues, some of our business sectors are more exposed than others to energy and climate challenges and preparing these sectors must be a priority. We have therefore adopted a sector by sector approach to the challenges.

### ESTIMATED EMISSIONS BY ECONOMIC SECTOR IN FRANCE IN 2017



Source: Ministry of Ecological and Inclusive Transition (2020)

# Eiffage challenges



Lycée des Mauges secondary school – Beaupréau  
Grand Prize for sustainable construction, Green Solutions Awards 2016

## TRUE ACCOUNTABILITY

Our Group is aware of the challenges that must be met in order to achieve sustainable growth. On the one hand, our activities consume various non-renewable natural resources such as water, soil, mineral raw materials, etc. On the other hand, they directly or indirectly impact natural ecosystems.

We therefore intend to meet these challenges for each of our business lines, measure our impacts and provide solutions to contain the resulting environmental damage.

In this report, we will clearly explain our activities, the risks that we have identified, the solutions that we intend to provide and the opportunities that can help support the transformation of our economic model towards a more sustainable development.

Indeed, our particular experience and know-how allow us to tackle energy and climate challenges thanks to a wealth of proven and valuable expertise.

We can already distinguish therefore those business activities that are projected to grow, being fully compatible or resilient in the face of climate change. This will be explained more fully below, with examples of technical solutions for the circular economy, decarbonisation of energy and CO<sub>2</sub> storage.





# CLIMATE STRATEGY AND CSR GOVERNANCE

Pierre Berger Campus – Vélizy-Villacoublay  
Effinergie, HQE Exceptional rating,  
BREEAM Excellent rating, BiodiverCity Construction labels

# Editorial



The climate challenge is one of the most severe global and systemic phenomena that our modern societies have ever had to face. It affects us all and each stakeholder needs to take action.

Public authorities are committed to the official targets of 40 % fewer carbon emissions in France by the year 2030, and achieving carbon neutrality by 2050.

The banking and insurance sector is seeking to manage its risks by decarbonising its portfolio of projects financed and insured. This "premium" to encourage carbon strategy is accelerating the transformation of business models.

As an all-round contractor for sustainable cities and infrastructure, we want to harness the Group's expertise to formulate a genuine low-carbon offering in terms of sustainable cities and infrastructure.

We also recognise that we cannot ensure the transformation of the sector on our own. Two criteria in particular are essential for driving change towards a low-carbon business model :

- First, we need to mobilise an infinite and perpetually renewable resource: collective intelligence. The intelligence of our employees, our suppliers, our long-term partners, but also that of start-ups capable of agile progression thanks to breakthrough solutions.
- Then there is the time variable. We can no longer take a long-term view in terms of decarbonising our activities; now is the time to accelerate the identification and testing of low-carbon methods and solutions at all stages in the construction process.

In short, we need to quickly turn low-carbon solutions that are still in the pioneering phase into standard options.

For this reason, I have decided to engage Eiffage in a carbon and climate reporting exercise based on TCFD criteria, which will allow us to share the challenges and the progress of our approach with our stakeholders.

**BENOÎT DE RUFFRAY**  
CHAIRMAN AND CEO OF EIFFAGE





**CAROL XUEREF**  
member of the Eiffage  
Board of Directors  
since 2014, member  
of the "Strategy and  
CSR Committee" and  
chair of the  
"Appointments and  
Compensation  
Committee".

## A VIGILANT BOARD OF DIRECTORS

### **Is the transformation to a low-carbon business model a new approach for Eiffage or a logical progression ?**

As early as 2007, Eiffage understood that its carbon footprint, largely the result of a reliance on fossil fuels, was economically and ecologically unsustainable.

Efforts to reduce emissions at source, pioneering work on the post-carbon city by the Phosphore lab, or the creation of financial tools to encourage low-carbon offers in tenders, have been providing fertile ground for the company's operations divisions for the past decade.

These initiatives have paved the way for other innovative projects such as the LaVallée eco-neighbourhood demonstrator in the Paris area, the Sekoya industrial club which promotes low-carbon solutions developed by French start-ups or, in the financial field, credit lines that are favourably negotiated according to CSR criteria.

### **How does the Board of Directors view its role in the Group's low-carbon strategy ?**

The role of the Board is to control company strategy while respecting the long-term interests of the Group and support management towards the agreed objectives. The scale of the risks and opportunities linked to climate change places this issue at the top of our strategy concerns.

The Board's dedicated committees strive to meet regularly with management and business operations, in order to avoid being alienated from the realities of the Group and to be effective in ensuring the implementation of the strategies we have endorsed.

### **What specific action are the committees of the Board undertaking in terms of climate ?**

In 2019, the "Audit Committee" integrated new CSR risk mapping into the Group's general risk matrix. It describes the physical and transition risks linked to the consequences of climate change.

The "Strategy and CSR Committee" reviews on an annual basis the action plan associated with Eiffage's low-carbon approach and checks that resources are being pooled towards decarbonising our commercial offering. This year, for example, I was impressed by the relevance of new offers focusing on the circular economy : 100 % recycled bitumen-free road surfacing, or the carbonation of massively recycled concrete aggregates recovered from demolition processes.

The "Appointments and Compensation Committee" ensures convergence between financial performance and extra-financial performance over the long term. In 2018, a range of significant extra-financial criteria were formally adopted concerning the variable compensation of our Chairman and CEO. I see two advantages in this. First, the convergence of financial and extra-financial performances creates a virtuous dynamic, as reported in economic studies on the subject. Second, it is not lost on anyone that stakeholders expect consistency in matters of compensation, whether in terms of the good financial health of the company or the values it displays.

Finally, the General Assembly on 25 April 2019 voted 96 % in favour of the compensation policy for our Chairman and CEO, which includes social and environmental criteria in its variable portion. It is a source of satisfaction for the Board that this strong sign from the company has been welcomed by its shareholders.

## A COMMITTED FINANCE DEPARTMENT

Since 2019, Eiffage has adopted an innovative approach, by offering its financial stakeholders the opportunity to meet its financial needs by partially indexing their credit margin to the Group's performance in two extra-financial areas, health & safety and reducing carbon footprint.

An improvement in either one of these areas will lead to a reduction in the credit margin, whereas any deterioration would lead to compensation measures in favour of associations or foundations working in the general interest.

This virtuous mechanism has been successfully applied on two occasions, making Eiffage one of the first groups in the industry to incorporate this type of performance criteria into its construction and public works financial documentation:

- in May 2019, for the subscription of a credit facility intended for the general corporate purposes of Eiffage, concluded for a period of 5 years, oversubscribed by 45 % by a syndicate of 20 banks for a total of €2bn;
- in February 2020, for the refinancing of APRR and Eiffage credit lines oversubscribed by over 50 % by a syndicate of 18 banks for a total of €3.07bn.

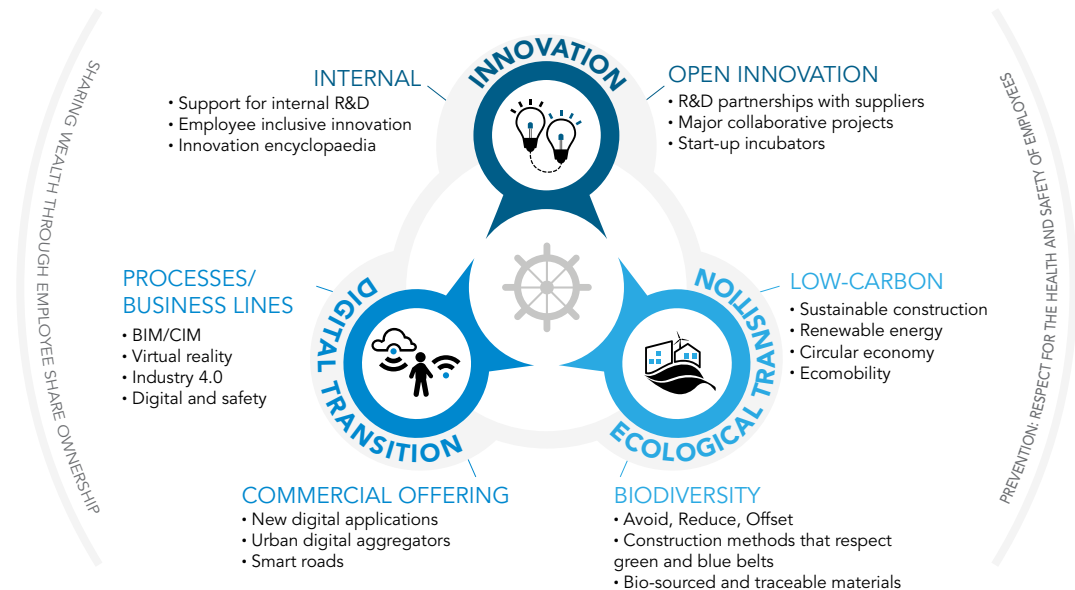
# Managing CSR challenges

Since 2007, CSR management policy and consideration of climate and environmental issues have been directly overseen by the Chairman and CEO, via the sustainable development department. In 2017, this department saw its scope expanded to integrate cross-functional innovation between all of the Group's operational entities. This extension of responsibilities makes it possible to stimulate the sustainable element of innovations that are candidates for Group financial support on the one hand, and ensure better duplication on the other. The Sustainable Development and Transverse Innovation Department has a team of around thirty people and is in charge of :

- steering CSR strategy and ensuring it is taken on board by operational entities,
- integrating differentiating solutions into our bids for tender, based on the Group's two main pillars of ecological transition: preserving biodiversity at all stages in the project and overall low-carbon design.

In this way, the Sustainable Development and Transverse Innovation department specifically supports the Group's carbon avoidance strategy through its commercial offering, by assisting operational staff in their bids for tender. This specific approach, made possible by Group's compact organisation, ensures a direct link between the low-carbon strategies steered by the Chairman and CEO and application at operational level of sustainable expertise, destined to become the Group's signature offering.

## THE EIFFAGE GROUP'S STRATEGIC VISION







# RESPONSIBLE STRATEGIES AND GROUP COMMITMENTS

Milette Viaduct, Brittany-Pays de la Loire high-speed rail line  
First linear infrastructure to benefit from Eiffage's carbon arbitrage fund  
(2012-2016)

# Long-standing action

With the fertile ground of employee shareholding forming the basis of the Group in 1992, Eiffage was able to take on board sustainable development issues from an early stage. In 2008, it published for the first time a division-by-division carbon footprint in its annual report, four years ahead of any regulations in this matter.

Created in 2007, Phosphore®, Eiffage's sustainable urban research and development lab, focuses on a systemic approach to urban planning that is based on a virtual context of punitive carbon tax that wipes out profit margin.

This "stress scenario", which has been tested in Marseille, Strasbourg and Grenoble, offers virtual sustainable and low-carbon transformation for several neighbourhoods. All of the results are freely available on the Eiffage website : [eiffage-phosphore.com](http://eiffage-phosphore.com).

Apart from enhancing our teams' skills, this groundbreaking research work has been applied since 2012 to the Smartseille 1 and 2 eco-neighbourhoods, and since 2017 to the future LaVallée eco-neighbourhood in Châtenay-Malabry.

These advances in operational technology are crucial: they enable climate forward-planning to evolve outside the company's specialised sustainable development departments to take on a strong competitive dimension, making it possible to develop convictions as well as the low-carbon methods and skills urgently sought after.

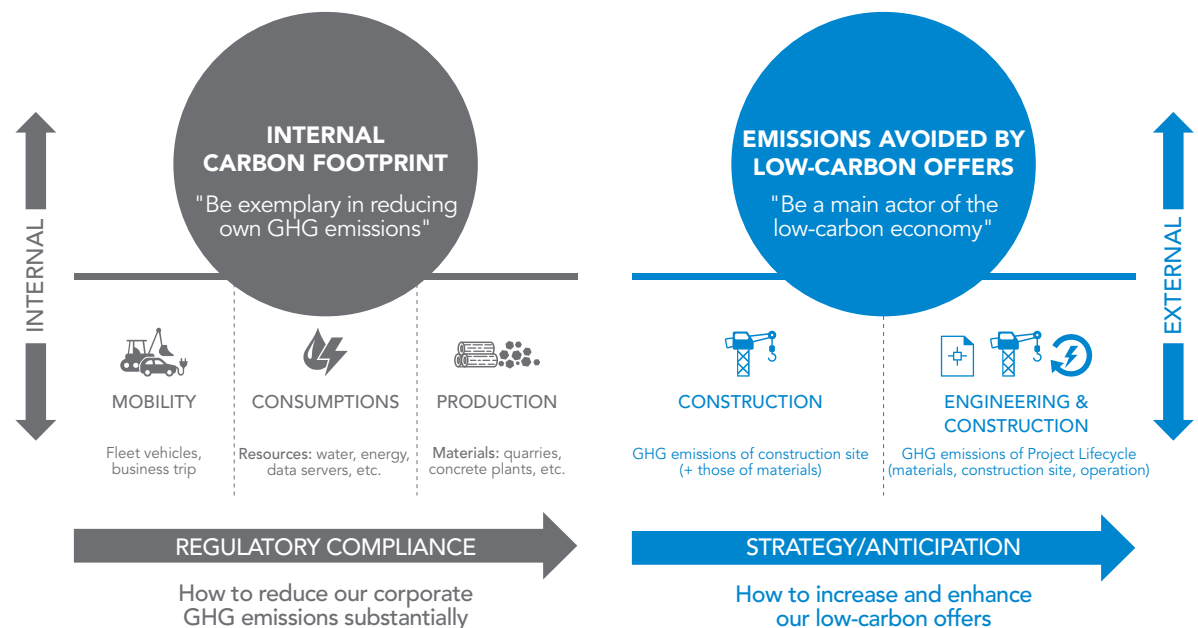
# A responsible strategic view

The climate challenge is not just environmental in nature. It is also profoundly strategic, in the sense that it modifies our understanding and management of economic and social issues across our activities, requiring the company to make significant efforts to transform. Leading by example in terms of our internal carbon footprint (Scopes 1 and 2) is indeed a necessity and represents the first step towards consistency in action, but this is not enough.

We also need to be an expert source of carbon avoidance solutions via our technical and commercial proposals to customers (Scope 3), whether these are BtB or BtoC customers. This promotes brand differentiation and the wide and rapid diffusion of low-carbon approaches and solutions.

The avoidance of carbon emissions in our offering is undoubtedly a question of strategy: by mobilising the expertise of the Group's business lines, it integrates performance measurement and contributes to our sustainability as an expert all-round contractor for sustainable cities and infrastructure.

## THE EIFFAGE GROUP'S LOW-CARBON STRATEGY





Designing a low-carbon technical and commercial offering leads us to integrate climate challenges into the following five areas of action :

- Low-carbon design and construction,
- Circular economy, from eco-design to reversibility expertise,
- Sober energy use, energy efficiency and decarbonising the energy mix,
- Ecomobility,
- Internal training in low-carbon and climate issues.

This strategy involves contributing to three United Nations sustainable development goals :

- building resilient infrastructure that benefits all (SDG 9),
- building sustainable cities and communities (SDG 11),
- and fighting against climate change (SDG 13).

**JEAN-LUC BARAS**  
EIFFAGE PURCHASING MANAGER

"Striving to achieve a rapid and efficient response to the low-carbon imperative highlights the key role of supplier relationships. These issues are challenging and encourage new forms of partnerships among large companies, SMEs and start-ups, in which objectives and roadmaps are shared."

## SHARING THE LOW-CARBON CHALLENGE WITH OUR STAKEHOLDERS

### • CUSTOMERS

Public and private customers are all free to make their choices, but it is our responsibility to offer them alternative solutions designed to be compatible with climate and environmental challenges over the entire service life of our projects.

This approach is even more significant given that customer demand for the best offer in terms of carbon, although still heterogeneous, is increasingly stimulated by several considerations such as future regulatory requirements, reputational impact or the fully-integrated responsibility of public and private decision-makers.

### • SUPPLIERS

In 2019, Eiffage had more than 1,500 suppliers under framework contracts, representing over €2.1 billion in purchases, for a total purchasing volume in excess of €7.8 billion (in France). Suppliers are an essential component of our business model, and one of the keys to the success of our transformation to low-carbon.

In addition to customer-supplier partnerships that allow us to preview low-carbon innovations, we have chosen to systematically identify the carbon footprint of offers made by our operational entities.

To this end, an internal initiative bringing together several of the Group's support departments (IT, Sustainable Development and Transverse Innovation, Purchasing and Sales), enables price research software to be combined with official carbon databases, making it possible to simultaneously edit cost quotes in euros as well as quotes for the related carbon footprint. Eiffage Route will be the first Group subsidiary to integrate this "euro/carbon" digital interface, starting in April 2020.

### • CIVIL SOCIETY

In April 2018, through its Chairman and CEO, Eiffage officially committed to the "Climate Finance Pact" launched by climatologist Jean Jouzel, former vice-president of the Intergovernmental Panel on Climate Change (IPCC) and joint winner of the 2007 Nobel Peace Prize, both as an official signatory and as a patron.

This initiative aims to create financial mechanisms dedicated to fighting the consequences of climate change in EU territories, and foreshadows the creation of a European climate bank.

# Promoting change through innovation

Within a Group whose purpose was originally built on the technical and technological expertise of its employees, innovation is key driver of attractiveness and competitiveness.

Innovation therefore constitutes one of the three pillars of the Group's strategy plan and is also the most effective and legitimate lever available to the Board to work in favour of the environmental and energy transition.

This is why, since January 2017, the Chairman and CEO has been promoting the development of financial mechanisms that complement those in place in our operational divisions, with a view to accelerating the emergence and market entrance of sustainable innovations that contribute to the environmental transition of our businesses.

This involves specific support for :

- Imaturing innovations developed by Group research and development, but also those proposed by employees,
- carrying out trials with external public or private partners such as suppliers, customers, research centres and higher education establishments.

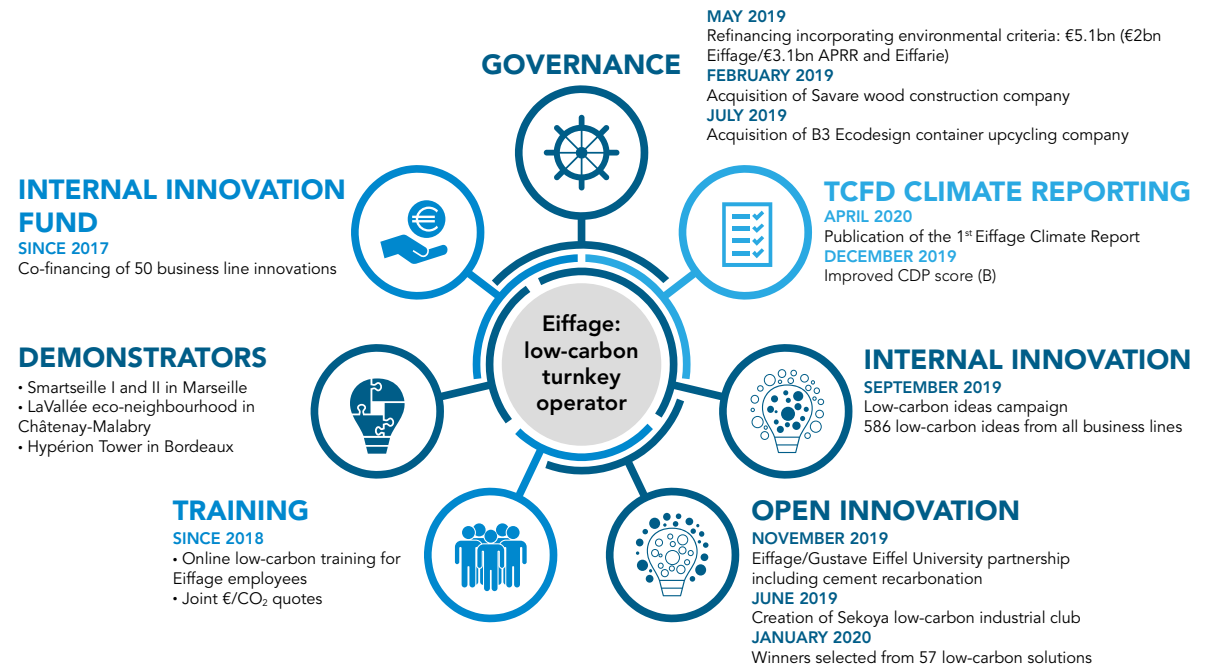
Specifically designed to support carbon avoidance in our offering, the E-Face fund (Eiffage Carbon Energy Arbitrage Fund) finances the cost differential between conventional technical solutions and alternative low-carbon solutions.

Initially created in 2011 to promote low-carbon innovation during construction of the Brittany-Pays de la Loire high-speed rail line, and rolled out across the Group as of 2017, E-Face helps to release financial blocks holding back the development of new low-carbon solutions that have not reached industrial economy of scale.

More generally, it gives a boost to the R&D ecosystem dedicated to low-carbon products and processes that are either internal to the Group or proposed by suppliers or partners, thus giving them a chance to be selected, implemented, identified and reproduced.

50 innovation projects from all the Group's business lines have benefited from Eiffage co-financing since 2017.

## GROUP HIGHLIGHTS FROM 2019/2020





# Managing our risks and evaluating our commitments

## ANALYSIS OF CSR RISKS

In 2019, a new social and environmental responsibility map was drawn up by the Compliance department, the Sustainable Development and Transverse Innovation department and other key departments (HR, Health & Safety, Purchasing, etc.), which was then validated by the "Audit Committee" of the Group's Board of Directors.

In this report, we have chosen to share the twelve CSR risks considered to be major, without differentiating those risks which are directly linked to climate issues. Indeed, it should be borne in mind that the majority of these risks are characterised by high levels of permeability or are in fact interconnected. Thus, for example, the risk linked to adapting Group products and services to climate change is directly related to the social risk of the lack of employee loyalty or to the societal risk of the acceptability of our activities.

## INCREASE IN ANNUAL RECRUITMENT NEEDS IN A CONTEXT OF COMPETITION BETWEEN EMPLOYERS

	2016	2017	2018	2019
Annual fixed-term + permanent contract recruitments	4,182	5,584	7,042	7,814
% Increase	-	+33%	+26%	+11%

## FOCUS ON CLIMATE RISKS

In 2019, climate risk was thoroughly investigated as part of a study dedicated to our carbon strategy and to the analysis of climate-related risks and opportunities. Three priority risks were highlighted :

- Transition risks :
  - The risk of a lack of skills within the teams, in view of the transformation of our business operations to meet the climate challenge, has been identified. Eiffage, a decentralised structure, needs to ensure ongoing training for all the entities within its organisation, covering the consequences of the climate challenge in terms of working methods and techniques in the construction and public works sector. By way of example, the Construction division mainly employs site workers who are skilled in conventional concrete processes. The transition to a varied low-carbon materials mix, recycled concrete, bio-sourced materials, wood, etc. involves essential technical skills that require an ambitious training programme.
  - A second transition risk has been identified in connection with the attractiveness of the Eiffage employer brand. The building and public works sector regularly experiences tension in terms of qualified workers and this is even more acute in the Île-de-France region, given the current context of major infrastructure and urban development works. This ongoing situation results in employers in the construction industry competing to attract the best profiles, including in works design, technical field jobs and site supervision. The growing sensitivity among young recruits to climate issues and the way in which these issues are properly dealt with and integrated into the Group's businesses, constitute attractiveness and differentiation criteria that are seriously taken into account by our HR departments.

### FRANCK GAUTHIER HEAD OF HUMAN RESOURCES – EIFFAGE CONSTRUCTION

"We are in permanent contact with engineering schools and universities and have noted a strong development in employer selection criteria among young people, whose expectations now include meaningful activity and tangible proof of social and environmental performance."

## LONG AND MEDIUM TERM SCENARIOS

The carbon and climate study carried out in 2019 across the entire Group carried two objectives :

- formalise the risks and opportunities linked to climate change,
- develop a trajectory for reducing GHG emissions in line with the objectives of the Paris Agreement.

In terms of modeling the trajectory for reducing greenhouse gas emissions, we have chosen to follow the "Science-Based Targets" (SBT) initiative, in order to determine greenhouse gas reduction targets in line with climate science data.

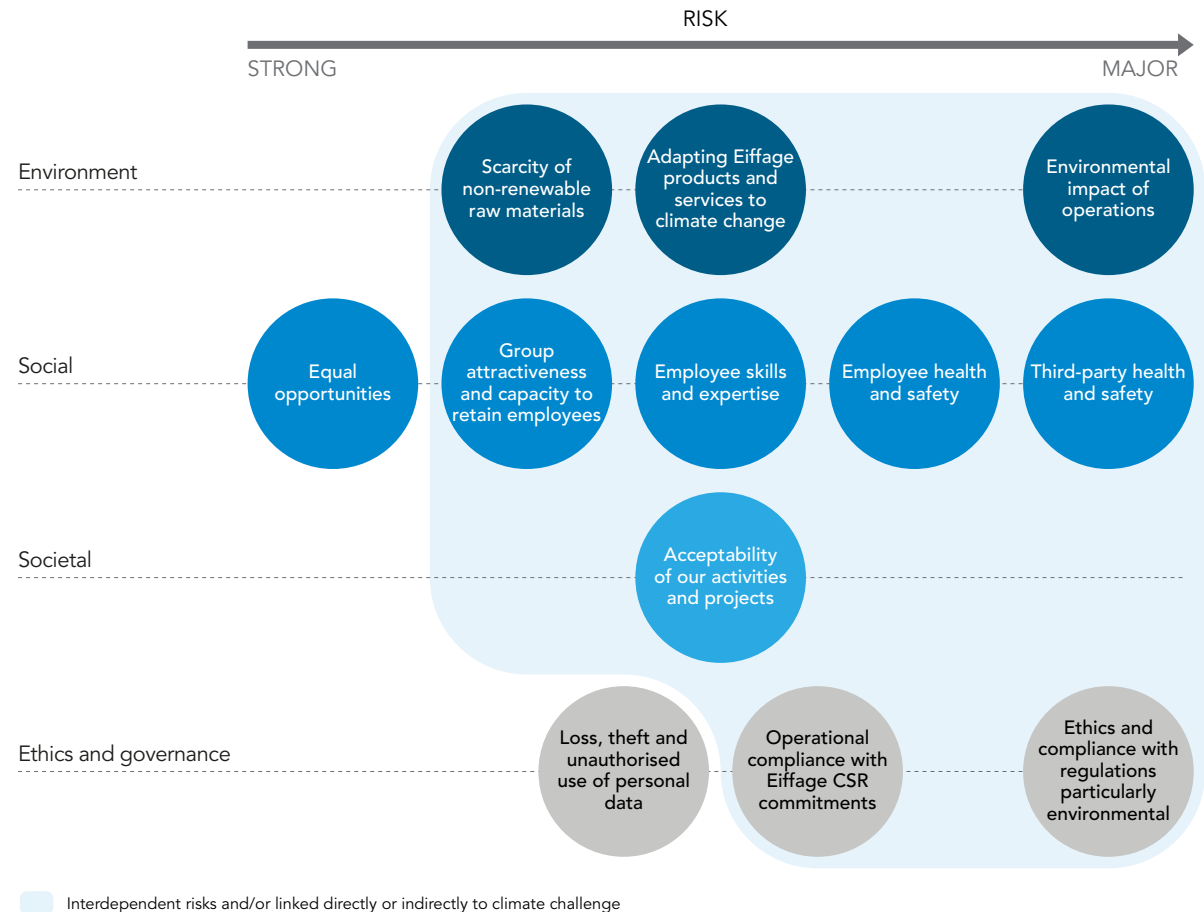
Eiffage adopted the "Sectorial Decarbonization Approach" (SDA) method, the most commonly used and accurate approach, and particularly in terms of economic values.

Two scenarios were then used :

- BAP (business as planned) scenario, with an increase in Group turnover and no reduction in emissions,
- SBT (Science Based Target) scenario compatible with the 2°C trajectory.

Following this choice of method, and based on the Group's 2017 Scopes 1 and 2 emissions data, the results of this study and the quantified objectives for reducing CO<sub>2</sub> emissions are detailed in the chapter "Monitoring and control".

## MAIN RSE RISK MAPPING INTEGRATED INTO THE RISK MATRIX IN 2019



- Physical risks : the recurrence and violence of episodes of extreme rainfall as a consequence of climate change, represent a physical risk for Eiffage's business operations, especially activities linked to quarry operations. With 67 quarries owned by the Group and 37 co-operated quarries supplying our operational entities with materials at controlled cost, a risk of disruption to supply has been identified in the event of production site flooding, potentially resulting in a threat to the ongoing operations of some of our activities.





# STRATEGY DEPLOYMENT AND IDENTIFIED OPPORTUNITIES

Façade, Luma Foundation, Arles  
Architect Franck Gehry  
Built by Eiffage Métal

In accordance with the low-carbon strategy outlined on page 12, we consider that striving to lead by example in terms of our internal Scopes 1 and 2 carbon footprint is essential for the credibility of our commitment, but we also believe that it is not enough to simply establish this.

As an expert all-round contractor for sustainable cities and infrastructure, Eiffage is understandably looked to by all its stakeholders for the production of global low-carbon technical offers, i.e. offers combining know-how and expertise that help to avoid carbon emissions over the entire value chain of a project. Today, only low-carbon offers can be considered as contributing to the emergence of sustainable cities and infrastructure (Scope 3) in a constrained climate context.

Without being exhaustive, the following section sets out the Group's internal commitments, but above all the main areas in which low-carbon and/or decarbonisation business opportunities are quickly developing, in the way that is compatible with the climate challenge and its consequences.

FABIEN AVON  
EIFFAGE FACILITIES MANAGER

"We are firmly committed to redirecting the Group's property portfolio towards low-carbon solutions, focusing on positive energy and leveraging the expertise of all the divisions in this field."

# Strategy 1: our internal commitments

Eiffage is working to reduce its internal carbon footprint, which is largely dominated by energy consumption and the fuel consumption of its fleet of vehicles, including light vehicles, heavy goods vehicles and construction machinery (see carbon assessment Scopes 1 and 2 in the chapter "Monitoring and control").

Since 2015, regulatory energy audits have structured our approach to managing overheads and energy savings. In 2019, a new audit campaign was carried out in 41 of the Group's operational entities. Based on the recommendations, which were updated in the first half of 2020 and validated by a certifying body, the Group's Board of Directors will decide on action to reduce our internal energy footprint.

The choice of a low-carbon trajectory requires us to lead by example, particularly regarding our policy in terms of investment and management of our real estate assets, in line with a new model for the energy transformation of our commercial property portfolio that calls for:

- synergies between expertise offered by the various business lines in our compact Group, capable of offering turnkey solutions,
- internal solutions or solutions developed with partners, which emit low levels of greenhouse gases while offering economic viability.

Finally, the transformation of our property portfolio is an opportunity to reiterate our social and solidarity role through improving our employees' work environment and implementing work integration schemes during our projects, which should be more firmly rooted in the local area.



# Strategy 2 : deployment in our core business operations

## Low-carbon design and construction

### OUR PRINCIPLES

- Integrate the low-carbon construction objective throughout the value chain, including for urban design, architecture, engineering works, operations and building service life prediction
- Develop expertise in the low-carbon material mix according to the principle of "the right material in the right place", while respecting local land planning

### CONDITIONS FOR SUCCESS

- Vertically integrate industrial production tools
- Effectively train our site workers in the use and application of traditional and new low-carbon materials
- Systematically integrate proximity criteria into the choice of materials for transport and local development reasons
- Experiment and, if necessary, contribute to updating regulations more quickly

### DEVELOP A LOW-CARBON MATERIALS MIX

Business opportunity : develop a range of multi-functional low-carbon materials

Materials used in construction projects represent approximately 60 % of a new building's carbon footprint. For this reason, our construction business is multiplying the use of a materials mix that combines new generation materials with traditional and updated materials.

Attention is paid, on the one hand, to a higher ecological and environmental index, and on the other hand, to improving overall comfort in housing. To take these two approaches into account, the Purchasing Department is currently implementing an environmental product matrix, based on data resulting from an analysis of service life for construction products and equipment. Once it has been simplified, this data will then guide choices towards solutions that have a lower environmental impact.

Bio-sourced and locally sourced materials, new ranges of concrete with reduced carbon impact, and recycling concrete to enable carbon storage for example, are all part of our industrial and commercial offering and our R&D efforts to innovate faster and gain in progress.

Modularity, industrialised renovation and reversibility for construction projects are now making it possible to offer innovative solutions that can be easily reproduced, are better suited to a variety of uses, and take into account service life and relieving the pressure on natural resources.

### BANKING ON BIO-SOURCED MATERIALS

Business opportunity : consolidate local supply chains for bio-sourced materials

These naturally sourced materials generally have a smaller ecological footprint and their production contributes to the sustainability of the local economy when available in areas where our operations are based.

Our construction activities make use of materials from the forestry sector, i.e. forest management activities including wood and its derivatives, and from agriculture, for example hemp, straw, flax and cork.

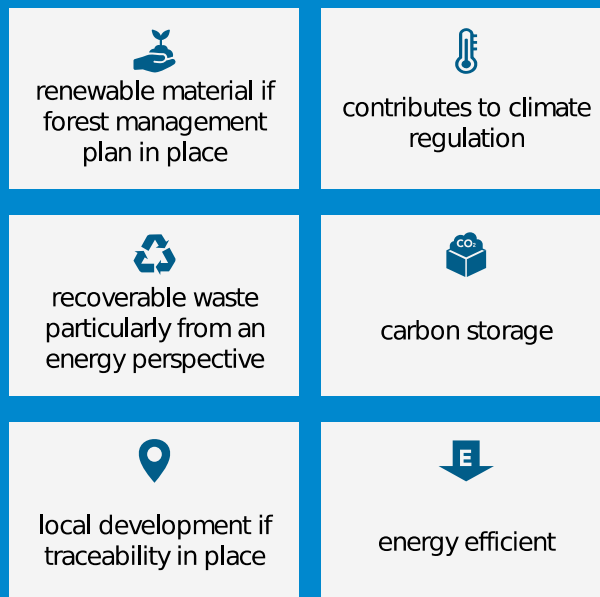
Bio-sourced materials improve the comfort and interior air quality of buildings, thanks to their multiple thermal and insulating properties, and they also have good hygrometric, acoustic and visual qualities, offering an attractive balance in terms of living comfort in the final building.

In order to benefit from the best support in terms of exploiting these new products, which can sometimes present very specific technical characteristics, Eiffage has been working for several years with Karibati, a national specialist in this field.

Eiffage believes that the traceability of wood, from the forest to the worksite, is essential for an exact measurement of its carbon footprint. Since 2016, the Group has been committed to guaranteeing the origin of its wood products, by establishing a "forest sourced label" that is certified by Product DNA, a Swiss firm specialising in the traceability of raw materials.

Like wood, bio-sourced materials represent a means of reducing the carbon footprint of construction activities, therefore Eiffage is interested in consolidating its expertise and its references in the use of hemp, wood and linen concretes, and in the use of wood fibre, cellulose wadding, compressed straw or cork as insulation.

#### AN IDEAL WOOD VALUE CHAIN



#### THE HYPÉRION TOWER EXPERIENCE - BUILDING HIGHER WITH LOCALLY-SOURCED WOOD

Business opportunity : meet urban densification needs, using locally sourced low-carbon materials

Eiffage and architect firm Jean-Paul Viguier & Associés are building a 16-storey composite concrete and wood residential tower block. The technical challenge of height was able to be met thanks to the lightness and rigidity of cross laminated timber combined with the resistance of glued laminated timber. The shell will consist of prefabricated timber-framed walls. Two patents have been filed relating to the technical challenges overcome. The Bordeaux local authorities are partners in the project, which was certified as an "Industrial Demonstrator of a Sustainable City" by the French government in 2017.

##### CHRISTIAN BIRBAUD REGIONAL MANAGER - EIFFAGE CONSTRUCTION SUD-OUEST

"Sustainable construction is an ecological, economic and cultural challenge. By revising our use of traditional materials, such as wood, and combining them with modern construction techniques and materials, we are prioritising the use of the right material in the right place, focusing on two objectives: sustainability and duplication."

#### DEVELOPING THE USE OF ECO-FRIENDLY CONCRETE

Business opportunity : promote the use of low-carbon materials that have qualities and application methods similar to concrete

The massive use of concrete in construction activities means we need to rethink this carbon-intensive material. Eiffage is involved in testing new generation low-carbon concrete, which uses manufacturing processes that can reduce emissions on various levels: clinker firing, better energy efficiency in factories, use of alternative fuels or the recovery/reuse of lost heat resulting from the industrial process.

Because changes in construction materials invariably lead to a revising of the different phases of building design and construction, our technical processes are being adapted, resulting in structural optimisation and a reduction in quantities used.

#### EXAMPLE OF ATELIERS GAITÉ MONTPARNASSE, A PILOT PROJECT FOR LOWERING CARBON EMISSIONS

Business opportunity : test new generation low-carbon concrete in partnership with a customer sensitive to climate issues

First, CEM I type concrete was replaced by a new generation of low-carbon concrete. Second, collaboration with Hoffmann Green Cement Technologies made it possible to test "very low-carbon" prefabricated staircases, essentially made out of blast furnace slag, for the first time in France.



## VERTICALLY INTEGRATE LOW-CARBON PRODUCTION TOOLS

In 2018 and 2019, Eiffage's Construction division was strengthened through external growth in the dry process sector, as opposed to concrete construction which uses water for on-site assembly.

Since 2018, Savare has been developing its expertise in the manufacture of wood components, frames, beams and posts. The company will complement the existing Eiffage Construction Industrie hub created ten years ago, which delivers 4,000 prefabricated bathroom units per year at its Fresnay-sur-Sarthe factory, including a low-carbon wood version that was introduced in July 2019 (Waoood® bathroom).

In 2019, Eiffage acquired B3 Ecodesign, a company that designs and builds ecological low-cost housing using old shipping containers. This upcycling technique meets low-carbon imperatives and favours the circular economy, as it restores value to unused containers and so extends their service life.

By combining bio-sourced materials (Savare), the reuse of materials (B3 Ecodesign) and prefabrication (ECI), Eiffage Construction has put together a team of 300 site workers who are dedicated on a full-time basis to low-carbon construction solutions, and who work alongside their versatile colleagues in this division.

## CREATE A LOW-CARBON ALLIANCE

In June 2019, to accelerate the widespread uptake of low-carbon solutions upstream of tenders, Eiffage launched Sekoya, a digital platform developed in partnership with innovation specialist Impulse Partners, which focuses on creating an inventory of low-carbon materials and processes.

A virtually industrial level partnership can be set up with all stakeholders promoting ideas and projects (SMEs, startups and majors groups) in all fields: structural work, finishing work, water management, waste recovery, etc. Eight key partners including Vicat, Saint-Gobain, Gerflor, GRDF, Legrand, Covivio, CSTB (Scientific and Technical Centre for Building) and USH (Social Union for Housing), representing the whole construction value chain, have joined Sekoya and are working together to stimulate the identification and application of low-carbon solutions.

Sekoya has become a French low-carbon industrial club, thus responding to the conviction that pooling industrial expertise can enable us to progress further and faster in terms of the emergence of a low-carbon construction economy.

Launched in June 2019, the first call for solutions received 57 low-carbon proposals in response to the six environment and sustainable construction topics. Winners are now in advanced discussions with Eiffage operational entities and partners of the industrial club, with a view to putting their low-carbon solutions into action. Eiffage has thereby considerably strengthened its own ecosystem, combining internal and supplier R&D, with a view to anticipating future customer demand.



# Circular economy

## OUR PRINCIPLES

- Develop the integration of recycled or renewable materials into our activities
- Extend the service life of structures and materials by facilitating all or part of the recovery, recycling and reuse processes
- Promote the transition of manufacturing processes and minimise the percentage of non-recovered waste
- Work with professional, scientific and associative stakeholders via collective progress initiatives

## CONDITIONS FOR SUCCESS

- Deploy a sustainable resource management policy
- Deepen and accelerate our eco-innovation approach
- Measure, steer and control the performance of our solutions



The circular economy is an important growth model, given the scarcity of available resources like energy, water and a wide range of materials.

Committing to this model involves changing the way we design, manufacture and construct our buildings and infrastructure.

The circular economy is fully in line with respect for societal changes and new partnership pathways that favour a more sustainable business model that is firmly rooted in local areas.

HERVÉ DUMONT  
PROSPECTS, TECHNICAL AND  
DEVELOPMENT MANAGER  
EIFFAGE ROUTE

"100 % bitumen-free recycled roads are possible, ecological and economical. Every day, tests carried out in partnership with local authorities are helping us to progress towards a road construction industry that focuses on the circular economy and green plant-based chemical processes."

## LIKE-FOR-LIKE COMPARISON : RECYTAL-ARM® VS. TRADITIONAL ROAD SURFACING PROCESS

	Recytal-ARM	Traditional process (warm-mix asphalt)
Recovery	100%	18 % (national average)
Process temperature	Ambiant (no heat requirements)	130°C to 180°C
Use of non-renewable materials	0%	100%
Circular economy	Total: 100% reuse of local materials	Partial: fossil-fuel bitumen 100% imported
Raw materials	Tall oil pitch: plant-based 100% bio-sourced	Bitumen: Fossil fuel-based 0 % biosourcé
CO <sub>2</sub> emissions from raw materials	Tall oil pitch emissions = -2.91 t CO <sub>2</sub> / t (Source: VERSo / Eiffage)	Bitumen emissions = +0.247 t CO <sub>2</sub> / t (Source: Seve®)
GHG emissions	100% minimum reduction	-
Energy consumption	5% average reduction	-
Type of climate impact	Carbon sink	Emits GHG





Sustainable roads and bio-sourced materials with Recytal-ARM®

## ROADS OPENING THE WAY TO A CIRCULAR ECONOMY

Business opportunities : develop a competitive business activity based around the complete recycling of natural resources and replace fossil-based road surfacing products with bio-sourced plant-based alternatives

In an effort to reduce the price variability risk linked to bitumen and aggregates, for the past twenty years Eiffage Route has been investing in R&D to develop specific processes for reprocessing used road surfaces.

The principle is simple: turn existing roads into a source of available materials that have already been transported and installed on site, and which can be recovered and reused.

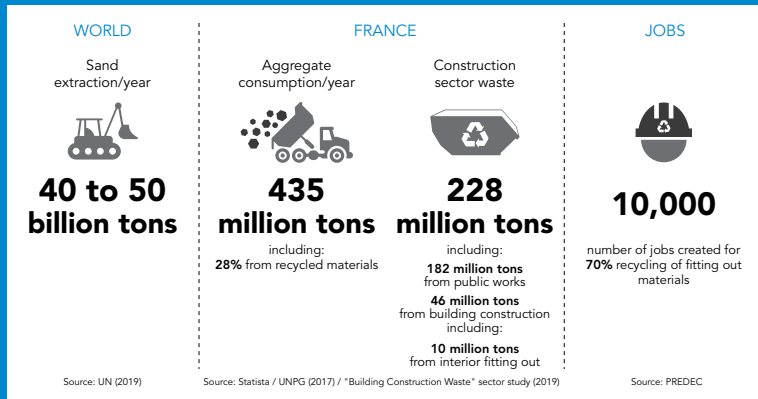
In this way, Eiffage Route is able to drastically reduce pressure on aggregate resources and promote a real transition to a circular economy at worksites, with a view to achieving carbon neutrality in road construction.

## LOW-CARBON INNOVATION: BITUMEN-FREE ROADS

Recytal-ARM®, a new process developed by research facilities at Eiffage Route, represents a low-carbon innovation on two levels. Firstly, it uses a plant-based binder (Recytal®) made from emulsions of pitch derived from by-products of the forestry and pulp and paper industry, which replace traditional oil-based bitumen emulsion. Secondly, the mobile recycling process (ARM) regenerates road surfaces on site and therefore greatly reduces the carbon impact linked to waste production and to logistics for transporting materials.

The exceptional prospects offered by this exclusive process, which reduces cost by approximately 10 % compared to traditional road maintenance processes using warm asphalt mixes (combining bitumen and new aggregates), won recognition in 2017 from the French government (Comité Innovation Routes et Rues) as well as the regional engineering prize in the "Projet Mobilité, Transports, Voirie, Route" competition.

More recently, in May 2019, Recytal-ARM® was awarded the "bio-sourced product®" label, a first in the French road industry.



CHRISTIAN CLERGUE  
INNOVATION - MATERIALS - REPRESENTATION  
MANAGER  
EIFFAGE GÉNIE CIVIL

"Gravel, sand and water are overexploited natural resources. Based on a circular economy approach, the recarbonation of old concrete from deconstruction sites allows us to alleviate pressure on mineral resources, recycle more massively and, as a bonus, store carbon."

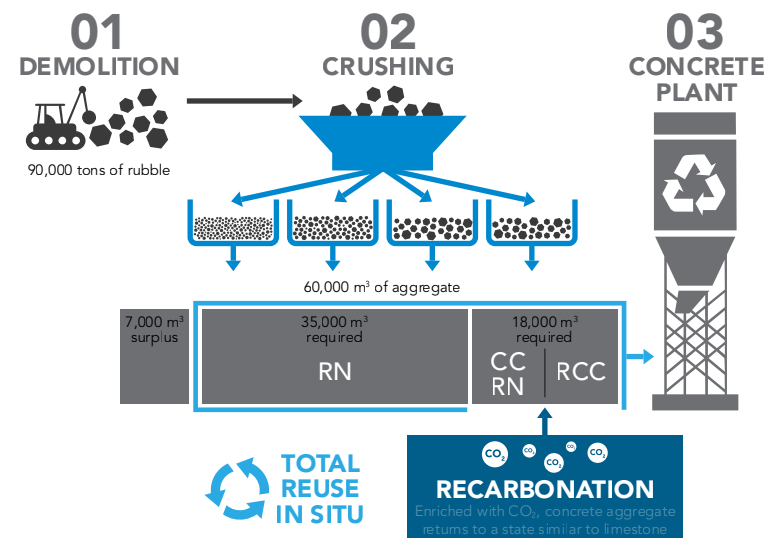
## EXPERIMENTING WITH CARBON STORAGE IN CONCRETE

Business opportunity : trial large-scale recycling of old concrete to reduce pressure on mineral resources and achieve carbon storage

This unique experiment in Europe is being headed by a scientific and technical steering committee that includes researchers from IFSTTAR at the Gustave Eiffel University and Eiffage engineers from the roads, civil engineering and construction divisions.

After being crushed, 98 % of the 90,000 tons of concrete from deconstruction work at the future LaVallée eco-neighbourhood site in Châtenay-Malabry (Hauts-de-Seine) is being reused in situ, up to two-thirds for roads and various networks, and a third for the construction of new buildings. New concrete production will meet the maximum threshold of 30 % of recycled aggregates authorised by standards, which is still uncommon on a large scale. However, certain concretes will be able to integrate up to 60 % of recycled aggregates as part of an experimental technical appraisal process, which will validate physical and structural qualities. In addition to these stringent recycling objectives, an initial experimental process will be applied in the first half of 2020, based on the pressurised injection of CO<sub>2</sub> into demolition concrete. This technique, known as "old concrete recarbonation" is a future-proof process as it enables carbon capture and maximises the recovery of old aggregates, thus reducing the need for new aggregates in a context where quarry stocks are dwindling and sand extraction is no longer sustainable at the current rate.

## CONCRETE RECYCLING AND CARBON STORAGE: A PROMISING WAY FORWARD



Example: LaVallée eco-neighbourhood

**Carbon storage:**  
50 to 100 kg of CO<sub>2</sub> per ton of aggregate

**Ease of concrete recovery**

**Savings in natural resources:**  
650 kg/ton of concrete

LAVALLÉE  
IFSTTAR  
UNIVERSITÉ PARIS-EST

CC: Construction concrete  
RCC: Recycled construction concrete according to standard (30% recycled) and 100% recycled  
RN: Roads and networks (sub-layers and asphalt)



# Sober energy use, energy efficiency and renewable energy sources

## OUR PRINCIPLES

- Contribute to the low-carbon energy mix at national and local level, by developing the renewable energy potential specific to each region
- Propose energy offers that are in line with National Low-carbon Strategy (SNBC) guidelines in terms of sober energy use, energy efficiency and decarbonisation

## CONDITIONS FOR SUCCESS

- Develop an industrialised energy renovation offer, combining the Group's expertise (construction, development and energy, etc.)
- Consolidate integrated service-provider expertise linked to the carbon-cycle in the industrial, building and mobility sectors
- Develop expertise in the recovery of waste heat and CO<sub>2</sub> in industrial environments through transformation into energy or reinjection into carbon sink materials

# Sober energy use : an obvious pathway

## SMART STREET LIGHTING TO SAVE ENERGY AFTER DARK

Business opportunity : shrink the energy carbon footprint and reduce light pollution

Public lighting accounts for over 40 % of local authority electricity expenses. It provides a necessary but inefficient service, with street lights maintaining maximum intensity despite the infrequency of users.

This spurred the R&D departments at Eiffage Route and Eiffage Énergie Systèmes to develop Luciole®, a solution that combines the photometric properties of a light-coloured road surface with the advantages of an LED lighting system that is triggered automatically by movement sensors and speed detectors.

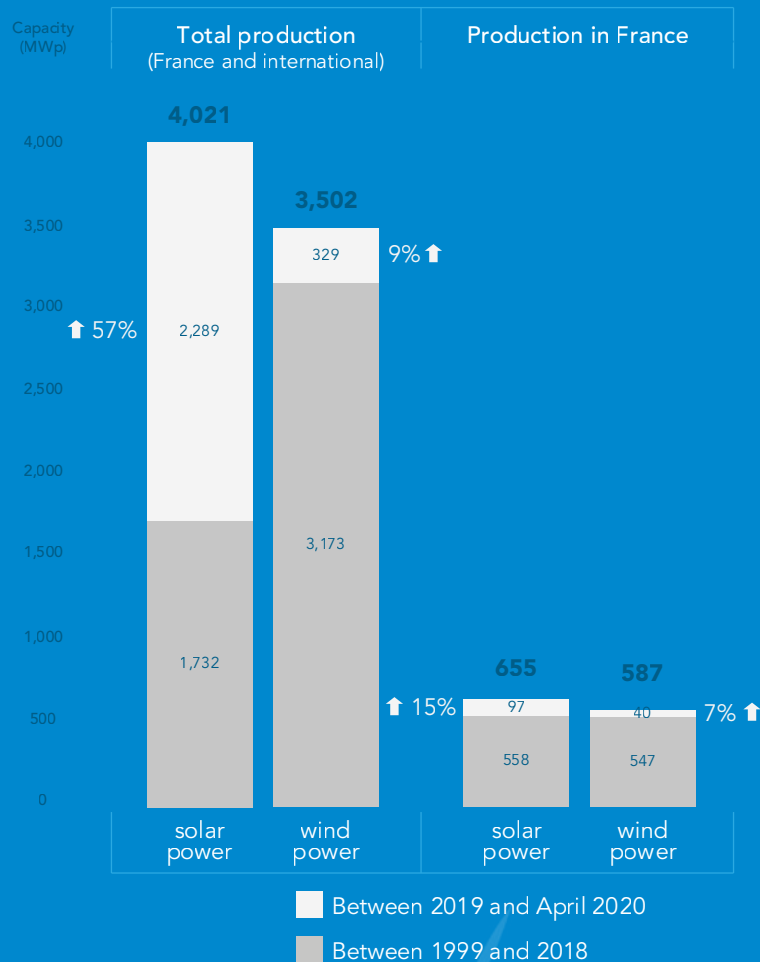
With Luciole®, lighting is tailored to need, with light intensity varying from 20 % to 100 % of full capacity, for optimum lighting and a feeling of user safety for pedestrians, cyclists and motorists. Initial trials in an urban environment, notably in Revins (Ardennes), show a reduction of almost 70 % in the cost of operating public lighting.

A new measurement campaign in 2020 will assess the reduction in light pollution. Luciole® is the winner of the 2017 call for projects from the roads innovation committee of the Ministry of Ecological and Solidarity Transition.

TENAN JASAROSKI - COMMERCIAL AND TECHNICAL DEVELOPMENT MANAGER  
EIFFAGE ROUTE ILE-DE-FRANCE AND CENTRE-OUEST

"With Luciole®, roads can be a vector for innovation and meet public lighting needs, adapting perfectly to night use, fighting against light pollution and heat islands, while saving energy on a scale as yet unseen."

PROGRESS IN CONSTRUCTION AND/OR OPERATION  
AND/OR MAINTENANCE ACTIVITIES  
EIFFAGE RENEWABLE ENERGY PRODUCTION UNITS  
CAPACITY EXPRESSED IN MEGAWATT PEAK POWER



## DECARBONISING THE ENERGY MIX AND INCREASING RENEWABLE ENERGY SOURCES

Eiffage Énergie Systèmes offers its expertise in the fields of renewable energy production and energy efficiency in installed systems, which are real assets for decarbonising its business model.

Eiffage designs, builds, maintains and operates photovoltaic, thermal, wind, hydroelectric and biomass power plants. Eiffage is a manufacturer and maintenance provider recognised by both owners and investors, in France and abroad.

Quilapilün solar power plant (Chile) commissioned in 2017 and supplying 110,000 homes, for an annual production of 243 GWh.



## PLAYING THE LOCAL AND REGIONAL RENEWABLE ENERGY CARD

In September 2019, Eiffage Concessions acquired nine micro-hydro power stations in south-west France (Tarn, Gers, Charente, Dordogne).

The operation includes renovating the power stations to be standards-compliant and increasing active power, construction of a new station in Dordogne, in addition to the operation and maintenance of the ten plants.

OLIVIER MIENS  
DEPUTY GENERAL MANAGER - EIFFAGE  
ÉNERGIE SYSTÈMES

"From decarbonising the energy mix, mainly thanks to our operational capacities in the field of renewable energies, to the sober use of energy and energy efficiency, the Énergie Systèmes businesses are all critical in meeting the climate change challenge."

This operation brings together the energy, civil engineering and concessions businesses, and enables Eiffage to strengthen its position in the renewable energy sector. It fits into the company's strategy of diversifying its concessions portfolio in territories where it is firmly established.

## ENHANCING PRIVATE CLIENTS' ENERGY EFFICIENCY

Business opportunity : develop a real-time energy consumption monitoring service for the final customer

Developed internally and supported by the "Seed'Innov" fund dedicated to co-financing innovations developed by the Group's operational entities, Energy Box provides customers with the possibility of optimising their energy consumption by regulating the power consumption of their appliances.

Thanks to intelligent data monitoring, the system assesses consumption, eliminates peak loads without disrupting activities, and significantly reduces energy consumption.

## PROMOTING ENERGY SOLIDARITY

Eiffage first began developing the concept of "energy solidarity®" in 2007, with its Phosphore® Sustainable City lab. The concept was applied to the Smartseille eco-neighbourhood project in 2017.

The free-cooling solution consists in harnessing the temperature of sea water as a direct source of heating or cooling, depending on season and site requirements.

This technology provides the balance needed to operate a closed-loop thermal exchange distribution network, by accessing an almost constant year-round temperature in Marseille of 13°C, with distribution to service and residential buildings that respects energy solidarity between night and daytime use.

The system avoids conventional air-cooling systems that generate greenhouse gases, and the carbon neutral technology represents a solution that can be easily reproduced in other cities located in coastal areas.



# Ecomobility solutions

## OUR PRINCIPLES

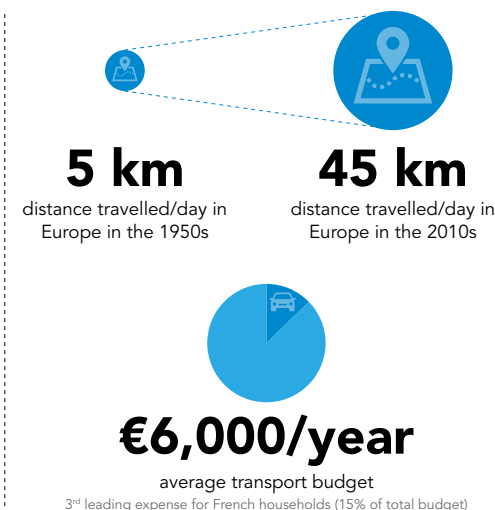
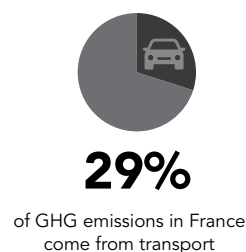
- Reconcile reducing carbon emissions with mobility for everyone
- Support the development of soft mobility and low-carbon solutions
- Contribute to net zero land degradation by focusing on the attractiveness of public transport

## CONDITIONS FOR SUCCESS

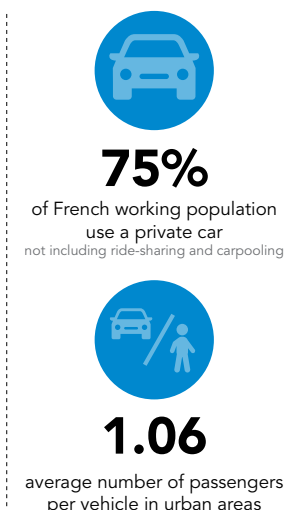
- Design mobility as a system and a service, harnessing the Group's expertise in road, energy and urban development
- Systemise all road offerings based on the regeneration/reuse of materials, avoiding the need for fossil-based materials
- Encourage the use of public transport, with strong incentives such as dedicated lanes, safety lanes, incentive rates, etc.



## STRATEGY DEPLOYMENT AND IDENTIFIED OPPORTUNITIES



Source: Ministry of Ecological and Inclusive Transition (2020) / IPSOS (2019)



Our position as an all-round urban contractor and our urban development activities mean that we have an important role to play in terms of transport and mobility. In order to break with transport that is overly dependent on fossil fuels, and change individualised travel behaviour, we are integrating public transport attractiveness into our urban development projects, for urban and peri-urban areas. This change management calls for a high level of technical quality and extensive uptake on the part of stakeholders.

## MAKING PUBLIC TRANSPORT MORE ATTRACTIVE

Business opportunity : develop digital technology to help make public transport more attractive

The Eiffage Énergie Systèmes division has made strategic investments in new low-carbon mobility solutions. This is particularly the case regarding the integration and maintenance of electric bus network infrastructures, such as the e-BusWay, the fully electric high-service bus (BHNS), which entered into service in August 2019 in the Nantes urban area. Intermediate charging along the line means an increase in autonomy and extended lifespan for battery units.

Dynamic bus lanes also represent an attractive and inexpensive solution for managing varied road use, based on the actual presence of buses in their reserved lane. The initial experiment in Lyon demonstrated 75 % of motorist compliance with flashing signs on the ground and an improvement in the flow of bus traffic.

## ADDRESSING THE ISSUE OF THE LAST KILOMETRE : EXAMPLE OF THE MIA SHUTTLE ON THE ZAC DES GAULNES BUSINESS PARK IN JONAGE (69)



10 to 15  
passengers



8-hour  
autonomy



25 km/hour  
maximum speed



100%  
electric



1.2 km route on  
an open road



business park with more  
than 1,500 people

Improving the attractiveness of public transport also means addressing the issue of first/last kilometre service. Eiffage Énergie Systèmes, as part of a group of public and private partners, has invested in testing the first free-of-charge autonomous shuttle operating on an open road in a business park on the outskirts of Lyon, where just 14 % of local employees travel using public transport.

OLIVIER MALAVAL  
REGIONAL MANAGER - EIFFAGE ÉNERGIE SYSTÈMES CENTRE-EST

"Reinforcing the attractiveness of low-carbon public transport is possible using smarter and connected infrastructure, such as dynamic bus lanes that share the road network and limit traffic signalling to the actual presence of a bus, or the MIA autonomous shuttle that provides last kilometre service."

A two-year open-road trial for the MIA  
autonomous shuttle launched in March 2019,  
in partnership with Berthelet, Navya, Métropole de Lyon, Sytral and Serl



## MOTORWAY CONCESSIONS TAKING ON THE LOW-CARBON CHALLENGE

Business opportunity : accompany and support public transport and electric transport solutions

The action plan for the Group's motorway concessions in France focuses mainly on the emissions of customers, motorists and heavy goods vehicles. In 2015, the network of motorway concessions made electric charging stations available to customers and supported the rise in electric mobility by making ultra-fast charging stations available every 50 km as of 2019 on the main routes of the network. APRR's objective by the end of 2021, is to have generalised very high power (THP) terminals on all equipped areas.

Support for shared mobility on our motorways translates as preferential treatment for carpooling. In the second half of 2020, the French government, local and regional authorities and APRR, through its subsidiary AREA, will inaugurate 8.7 km of lanes reserved for carpooling, between Voreppe and Grenoble on the A48. During periods of congestion, it will be open exclusively to vehicles with two or more occupants, taxis, public transport and electric vehicles.

Although the principle is simple, actual implementation requires extensive studies and consultation with the French government and local authorities. APRR, in partnership with Pryntec, has tested and validated in 2019 a solution for detecting the number of occupants in a vehicle travelling at high speed.



GHISLAINE BAILLEMONT  
INNOVATION, CONSTRUCTION AND DEVELOPMENT MANAGER - APRR

"Motorway concessions are lucid and committed; they are playing an active part in the fight against climate change by deploying an ambitious low-carbon mobility strategy. APRR is driving innovation with the opening in July 2020 of France's first reserved carpool lane on the A48 in Grenoble."





# Training and raising awareness

## OUR PRINCIPLES

- Focus on collective intelligence and integrate employee contributions to the low-carbon innovation dynamic
- Ensure the employability of our employees by providing low-carbon training for strategic, technical and commercial aspects

## CONDITIONS FOR SUCCESS

- Recognise that integrating the issue of climate change is a key factor in employer brand attractiveness among young job candidates
- Manage the development of low-carbon technical skills at every level and, if necessary, anticipate reconversion training towards low-carbon expertise



## DEPLOYING AN EMPLOYEE MOTIVATION SCHEME

Various types of action to improve employee mobilisation in terms of environmental and climate challenges are being steadily rolled out, from circulating the Group's official commitments at our worksites, to collective or individual training sessions.

- Charters at the heart of sharing Group commitments

Since 2009 and its first charters dedicated to protecting biodiversity, water resources and aquatic environments, Eiffage has endeavoured to formalise and circulate its commitments in environmental matters in a clear and informative way. Signed by the President and CEO, these commitments, which engage the company as a whole, are accessible from the company's website to worksites. In 2018 and 2019, two new charters dedicated to the low-carbon pathway and the circular economy were added to the existing collection.

- EnviroTours

Initiated by the Chairman and CEO, the Group's Sustainable Development and Transverse Innovation Department has been organising EnviroTours events across the whole of France, for all of our business lines. Over an 18-month period, more than 1,200 employees from our various businesses attended the one-day training course in managing environmental risks and business opportunities that take into account biodiversity protection and the climate challenge, which are the central focus of these eagerly-awaited events. The EnviroTours initiative achieved an average satisfaction rate of over 84 % (anonymous survey of participants).

- Low-carbon ideas campaign

Eiffage is mobilising its entire workforce behind the gathering of low-carbon best practices and innovation ideas. A campaign launched by the Chairman and CEO dedicated to reducing greenhouse gas emissions at all levels of the value chain, was rolled out in the second half of 2019 via Start.box, an internal digital platform for participatory innovation.

More than 580 ideas were submitted from France, as well as Belgium, Poland and Senegal. Eiffage Senegal was particularly involved in the campaign, with more than 80 ideas for low-carbon innovations being proposed by Senegalese site workers of all levels, and Franco-Wolof interpreters helping to facilitate participation. Each division's executive committee selects three low-carbon ideas that are particularly relevant to its business, puts these ideas into action and rewards the people behind them.

ISABELLE BOYEAU  
HEAD OF THE CARBON AND CIRCULAR  
ECONOMY HUB - SUSTAINABLE  
DEVELOPMENT AND TRANSVERSE  
INNOVATION DEPARTMENT

"The effective, wide-scale training of employees from different core businesses in low-carbon issues was definitely a challenge! This is why we opted to set up an online training programme that combines a fun, educational approach, technical information and simulations on virtual operations."

#### LOW-CARBON CHARTER

Being environmentally responsible, is about committing to the climate



#### CIRCULAR ECONOMY CHARTER

Being eco-responsible is about being in the loop



- Climate challenge training at Eiffage University
  - Classroom-based training

The Eiffage University offers two classroom-based training courses dedicated to sustainable development, environmental protection and transverse innovation, which address the issue of low-carbon solutions in calls for tender, project design and site management for all divisions. In 2019, more than 100 employees attended the courses. The target for 2020 is 150 employees.

- Online training for everyone

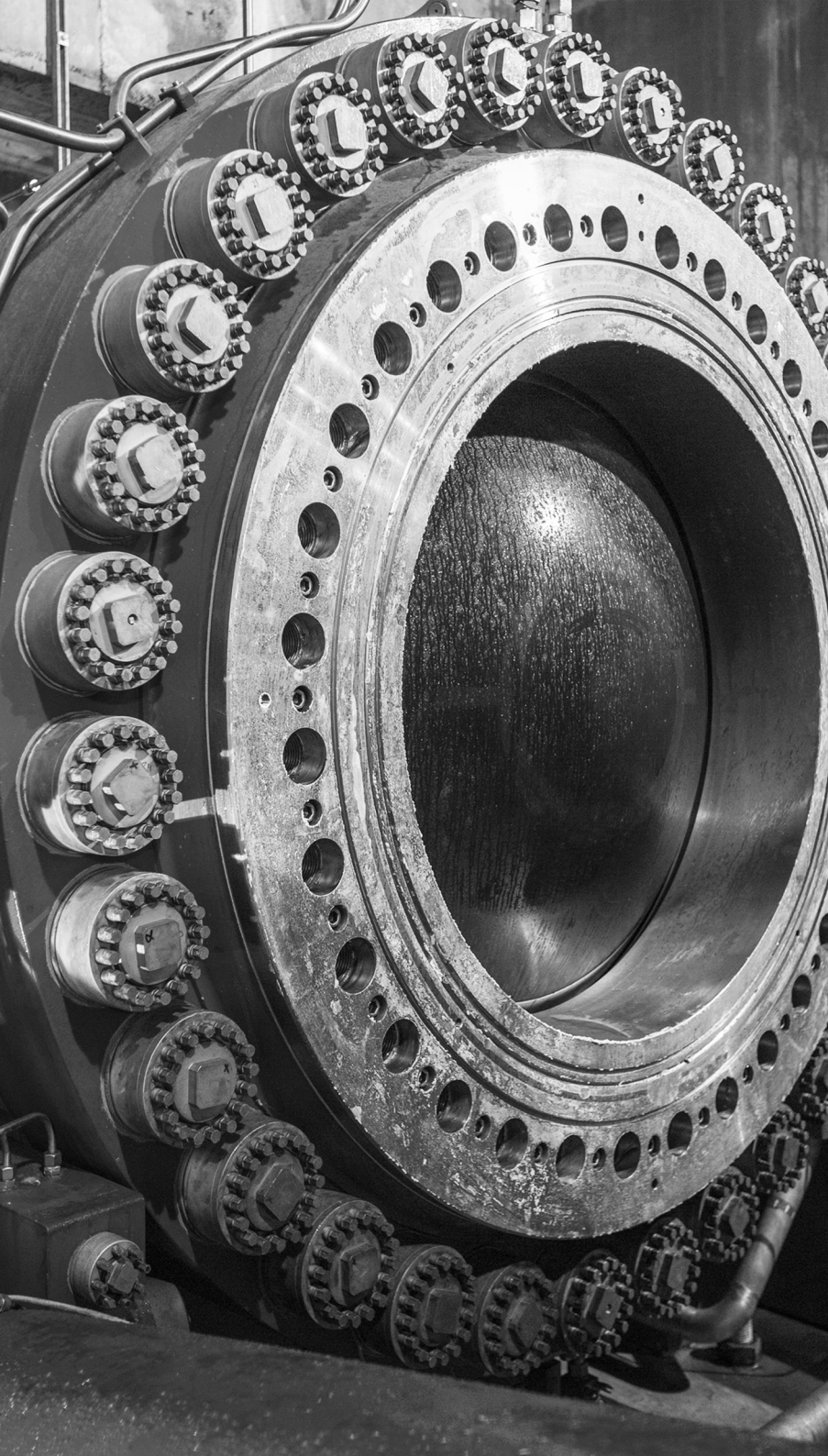
A tailored training course called "A pioneering carbon strategy" has been available for all employees via a distance learning platform since 2019. The training module uses a fun and interactive approach to present the challenges linked to climate change, major client and customer expectations, carbon calculation tools and assessing the carbon footprint of various activities. It goes beyond simple awareness-raising to include employees as actors in the low-carbon business model, in particular through systematic integration of carbon and climate in responses to calls for tender.

#### TRANSPARENT EXPLANATION OF THE GROUP'S CLIMATE CHALLENGES

All of our commitments in terms of research and development and the design of new low-carbon commercial offers would be in vain without the awareness and support of our internal and external stakeholders. Knowledge and technical competence is one thing, the ability to share and mobilise is another, particularly in the face of crucial issues that require a duty of vigilance and response. With this conviction in mind, we have embarked on a process of documentation and reporting. Our commitment takes various forms, ranging from designing training and education programmes for internal and external audiences, to the publication of studies and books on the subject.

Eiffage publications include :

- "Of Cities and People", 2013  
Contributions by Eiffage's Phosphore lab to the sustainable city.
- "Towards Ecological Civil Engineering", 2014  
This publication sets out the emergence of French ecologically sustainable civil engineering.
- The Brittany-Pays de la Loire (LGV BPL) high-speed rail line project, built by Eiffage, has been the subject of several internal and external publications, including :
  - "Fonds d'arbitrage carbone", (Ademe, 2014)
  - "Carbon Footprint of Railway Infrastructure", (International Union of Railways, 2016)
  - "Advancing environmental mitigation on the Bretagne-Pays de la Loire railway, France", (Institution of Civil Engineers, 2018)
- Eiffage is co-piloting an observatory in partnership with SNCF Réseau and the Bretagne and Pays de la Loire Regional Directorates for Environment, Development and Housing (DREAL). (<https://www.ere-lgv-bpl.com/observatoire>).



# STEERING AND CONTROL

New Veytaux hydroelectric power plant  
Lake Geneva, installed capacity of 480MW



# Steering and control

## GREENHOUSE GAS EMISSIONS (SCOPES 1 AND 2) FOR FRANCE IN 2019

	GHG Balances in 2019 (T CO <sub>2</sub> eq.)
Construction	21,178
Infrastructures	302,606
Énergie Systèmes	62,279
Concessions and Holdings	24,351
Total France	410,414
Emissions from the Bocahut quarry (lime) under European quota (EU ETS)	85,377

EU ETS: European Union Emissions Trading System

## NUMERICAL TARGETS FOR REDUCING SCOPES 1 AND 2 EMISSIONS

Our reporting standards are now based on the Science Based Targets initiative (SBTI), launched in 2015 by the WWF, WRI and CDP. This accepted method allows us to steer our climate action and lead our transition towards a low-carbon economy, while at the same time being better understood by our stakeholders.

Executive management having decided to align with the scenario compatible with an increase in global average temperature of 2°C and adopt the related recommendations for the Group's businesses, objectives for reducing emissions by the 2030 deadline have been set for Scopes 1 and 2. Greenhouse gas emissions (Scopes 1 and 2) for France in 2019 are indicated in the following table. The Infrastructures division includes several production industries and is therefore the greatest contributor by the very nature of its activities, compared to the other divisions.

## DEVELOPING OUR CLIMATE REPORTING ACTION

Our reporting of environmental data, including data related to climate issues, is organised through our annual declaration of extra-financial performance, in a consolidated approach supported by the Department of Sustainable Development and Transverse Innovation and its network of over 500 contributors spread across the Group's operational entities. Within this framework, data control is performed by an independent third-party organisation, KPMG, across the entire Group, in France and abroad.

Finally, the related regulatory procedures deployed according to their own agendas, such as mandatory energy audits and regular reporting of greenhouse gas emissions, help to reduce the degree of approximation and firm up skills and reporting processes. Likewise, the very recent integration of carbon performance criteria into the variable portion of Group executive compensation, approved at the general meeting of 24 April 2019 on the proposal of the "Appointments and Compensation Committee" of the Board of Directors, contributes to strengthening reliability in data monitoring and quality.

### Carbon Disclosure Project – level B rating

Since 2012, Eiffage has also been declaring its annual carbon emission volumes to the Carbon Disclosure Project, an international organisation that manages the most important environmental reporting platform in the world. The strength of the reporting methods and the effectiveness of the action plans have been confirmed year on year. In 2019, this organisation raised Eiffage's rating to level B, two notches above the average for the construction sector in Europe, which is set at level C.

## AND REGARDING SCOPE 3 ?

- Measuring progress

Significant efforts to evaluate Scope 3 emissions from Group activities, which remains the most complex exercise to carry out, is underway and this data will be worked on and refined in 2020. We would like to already share the initial results available on Scope 3 emissions upstream, which relate to the activities of the Group's Construction division and which have been estimated based on the finished products delivered. Compared to other Group businesses, the construction sector is actually one step ahead in this area, being motivated by implementation of 2020 environmental regulations for buildings, and their forerunner, the E+C- (positive energy and reduced carbon) label.

Turnover for the Construction division, therefore, is detailed according to five market segments : new housing/accommodation, renovated housing/accommodation, offices, education and health. Based on the average cost of works for each segment, we estimated the floor space built or renovated. In addition, based on the objectives of level C1 of the E+C- label for the various typologies, it is possible to estimate carbon emissions for "Construction Products and Equipment" (PCE).

We are aware that this method involves an element of uncertainty, but it has the merit of evaluating the order of magnitude of Scope 3 emissions upstream, by taking into account all the building packages, as well as those linked to our subcontractors.

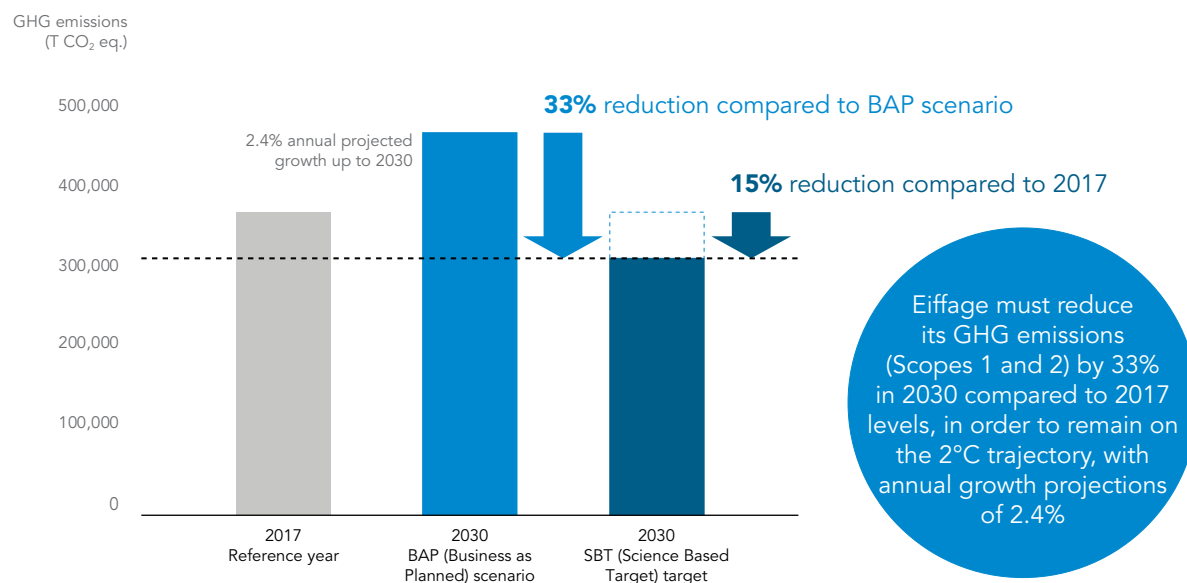
The results based on this first methodological approach amount to 1,800,000 T CO<sub>2</sub> eq. for Eiffage Construction. This result, which is significantly higher than Eiffage Construction results for Scopes 1 and 2, demonstrates the extent of the impact of purchasing materials and services in this sector. It is therefore extremely important to take action regarding our construction offering, beyond just its execution.

- Measuring carbon avoidance according to offering

In addition to the mandatory annual CO<sub>2</sub> emissions indicator for the Group, the Chairman and CEO has requested all operational divisions to establish commercial indicators that can monitor the proportion of bids won through proposing better low-carbon solutions, compared to standard offers. In practical terms, these indicators measure the penetration rate of low-carbon offers compared to basic offers that are limited to compliance with current regulations.

These indicators enable us to begin to determine, in practical terms, the extent of Scope 3 emissions. For this reason, in the second half of 2019, the various divisions took the opportunity to draw up their own inventories in terms of their offer and, using a practical approach and including internal stakeholders, determine their own low-carbon action plans to promote carbon avoidance through offering.

### THE CARBON AND CLIMATE STUDY CARRIED OUT IN 2019 IDENTIFIED THE FOLLOWING OBJECTIVES



Scope 1 : direct GHG emissions from sources that are owned or controlled by the company: factories, buildings and facilities.  
 Scope 2 : indirect GHG emissions from the production of electricity, heating and cooling consumed by the company.

Source: EcoAct (2019)

# Partnerships and stakeholders

Eiffage works together with several progress groups that are mobilised around reducing the energy footprint and carbon emissions. In France for example, Eiffage is involved in various organisations such as :

- Institutional working groups
  - General directorate for housing, urban development and land planning (Direction général de l'habitat, de l'urbanisme et du paysage) - Ministry of Ecological and Inclusive Transition (MTES): working group for the development of the E+ C- label and 2020 environmental building regulations
- Professional associations involved in climate issues
  - HQE Association
  - Building and public works union (Entreprises Générales de France – BTP)
  - Civil Engineering Association (AFGC)
  - French Building Federation (FFB)
  - National Federation of Public Works (FNTP)
  - HVAC and electrical engineering union (SERCE)
  - French road industries union (USIRF)
  - Quarries and building materials industries union (UNICEM)
  - Professional ecological engineering union (UPGE)
- Business associations
  - French Private Businesses Association (Association française des entreprises privées)
  - French Institute for Building Efficiency (IFPEB)
  - International Biodiversity & Property Council (IBPC)
  - Linear infrastructure and biodiversity club (CILB)
  - OREE, Organisation promoting environmental respect within companies
  - CDC Biodiversité B4B+ Club

## LOW-CARBON DRIVING COLLECTIVE AMBITION

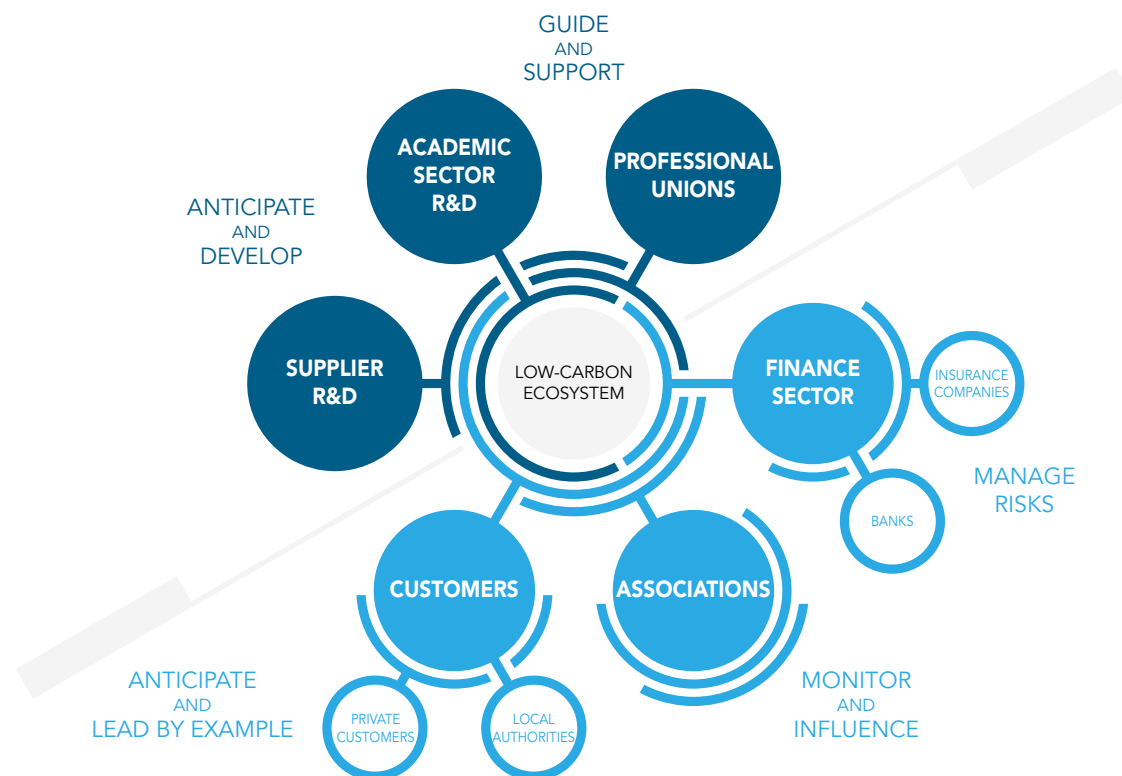
In general, Eiffage is open to active cooperation with stakeholders that are working constructively towards the faster emergence of a low-carbon economy, even if their roles may differ depending on their social purpose.

Our ecosystem of stakeholders helps to support our internal monitoring of environmental data and regulations. Our targets for reducing greenhouse gas emissions will be more effectively achieved with the coordinated participation of all stakeholders in our environment.

This ecosystem stimulates the identification of new courses of action to help us make progress as a company, but also acts as a complementary means of evaluating the relevance of our choices and the reliability of our data.

These committed partnerships create a reinforced collective intelligence, which is valuable for improving the carbon performance of all the stakeholders involved.

## EIFFAGE'S VISION OF THE LOW-CARBON ECOSYSTEM DYNAMIC : INCENTIVES AND SUPPORT





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Sustainable Development and Transverse Innovation  
Department - Eiffage

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