> 2030 CLIMATE ROADMAP

SHARING A NEW CLIMATE AMBITION

PUBLICATION JUNE 2016

Gecina

Far more than square meters

SHARING A NEW CLIMATE AMBITION

«Setting out a conviction, making lasting commitments»

Bernard Michel, Gecina Chairman
Philippe Depoux, Chief Executive Officer

On April 22, 2016, 177 parties – 176 countries and the European Union – signed the Paris Agreement in New York following the COP 21 event. The whole planet is now engaged and all economic agents, in each country, will need to adapt, if they do not anticipate changes, to increasingly restrictive legislation. Gecina has been working to reduce its greenhouse gas emissions for many years, convinced of this commitment's strategic benefits, guided by several factors. The first involves anticipating changes to the criteria for assessment used by institutional investors and rating agencies, a growing number of which now take their portfolio's carbon footprint into consideration. The second aims to express a natural societal responsibility by securing the long-term performance of its portfolio, particularly faced with the consequences of global warming. In this way, Gecina is building its ability to sustainably generate value for its various stakeholders, shareholders, customers, suppliers and partners.

By drawing up its climate roadmap, Gecina is giving itself the means to turn its convictions into concrete actions, combined with goals and targets looking ahead to 2030. To take on board all useful perspectives for ensuring the effectiveness of its approach, it has called on climate experts and representatives from NGOs, as well as building industry policymakers and large numbers of Gecina's staff, representing all the company's functions. It will have a major impact, covering all the company's dimensions, with particularly ambitious targets to reduce greenhouse gas emissions by 2030 and targeting neutrality for its operational properties from 2017.

By presenting this roadmap today, we want to clearly set out our responsibility as a committed leader, while also sharing areas to be worked on with as many stakeholders as possible enabling us to bring other building industry players on board to make a sustainable contribution to combating climate change.

CO$_2$ emissions reduction targets for the building sector

54 % by 2030

87 % by 2050

Targets set in connection with the national low-carbon strategy (SNBC) in relation to 2013

Climate stakes for the building sector

As the second biggest contributor to greenhouse gas (GHG) emissions after transport, the building sector must meet the challenge for major reductions in its emissions across all the components of its wider footprint.

Regulatory framework with firm commitments

The COP21 event highlighted the strong commitment among states to tackling climate change. In France, policymakers have been particularly ambitious with the energy transition for green growth act (Loi de Transition Énergétique pour la Croissance Verte, LTECV) introduced from summer 2015, as well as the national low-carbon strategy (Stratégie Nationale Bas Carbone, SNBC). The building sector – which accounts for 25% of GHG emissions if we include the emissions linked in particular to heating and electricity production – aims to reduce its emissions by 54% by the timeframe for the third carbon budget (2024-2028) in relation to 2013, and by at least 87% by 2050 compared with the same reference point. This legislation plans to have fully renovated facilities in line with BBC energy-efficiency standards by 2050. To achieve these goals, the LTECV Act highlights the need to promote renewable energies, particularly through the development of centers of excellence and

help for mature renewable energies (e.g. solar or wind power) in businesses. Another decree that is currently being drawn up requires energy performance improvement work to be carried out in existing commercial buildings. The draft version that is currently being finalized outlines the decree's key features, including a target to reduce energy consumption in buildings by 25% by 2020 compared with a reference that will be determined from 2006, while presenting the actions taken with a full review of the energy savings achieved. This legislation also introduces the concept of joint responsibility between lessors and tenants for achieving these targets.

Broader vision of the carbon footprint

The global view of a building's lifecycle – from initial studies through to deconstruction – is essential to help ensure the effective management of direct and induced emissions. It is based on identifying the emissions generated during the construction phase (including the extraction, processing, transportation and use of materials), the in-use

phase (building energy performance, occupants' specific uses such as servers, IT and telephony equipment), the transport links serving the building, and, lastly, planning ahead for the end of office buildings' lives (redevelopment, demolition). This broader approach highlights the need to engage all the stakeholders within a concerted strategy to reduce GHG emissions.

Benefits of carbon pricing

One of the current limitations for developing virtuous strategies is linked to the approach for taking CO$_2$ emission pricing into consideration. What is the incentive for avoiding emissions that do not have any value? Today, only the oil-based products involved in producing the energy required for buildings to operate are taxed (TICPE), based on 22 euros per ton of CO$_2$ in 2016. The LTECV Act will introduce significant changes to the prices set (56 euros per ton in 2020, then 100 euros per ton in 2030). However, this framework only factors in one of the components in an operational building's carbon footprint. Assigning an internal price for carbon within the company, by considering a wider footprint for the building, would also help guide investment decisions to move towards more efficient solutions, putting in place a dedicated budget for offset measures such as reforestation projects or funding for innovative low-carbon technologies.

Engaging building stakeholders

Faced with the various societal and regulatory stakes, the building sector has made strong commitments focused on greenhouse gas emissions. There are growing numbers of initiatives and Gecina is fully part of this dynamic approach through the sustainable building plan, the low-carbon building (BBCA) association and the high environmental quality (HQE) association. The core challenge with all these initiatives is to enable the real estate and building sector to take into consideration all CO$_2$ emissions throughout building lifecycles with a view to deploying the most effective reduction actions.
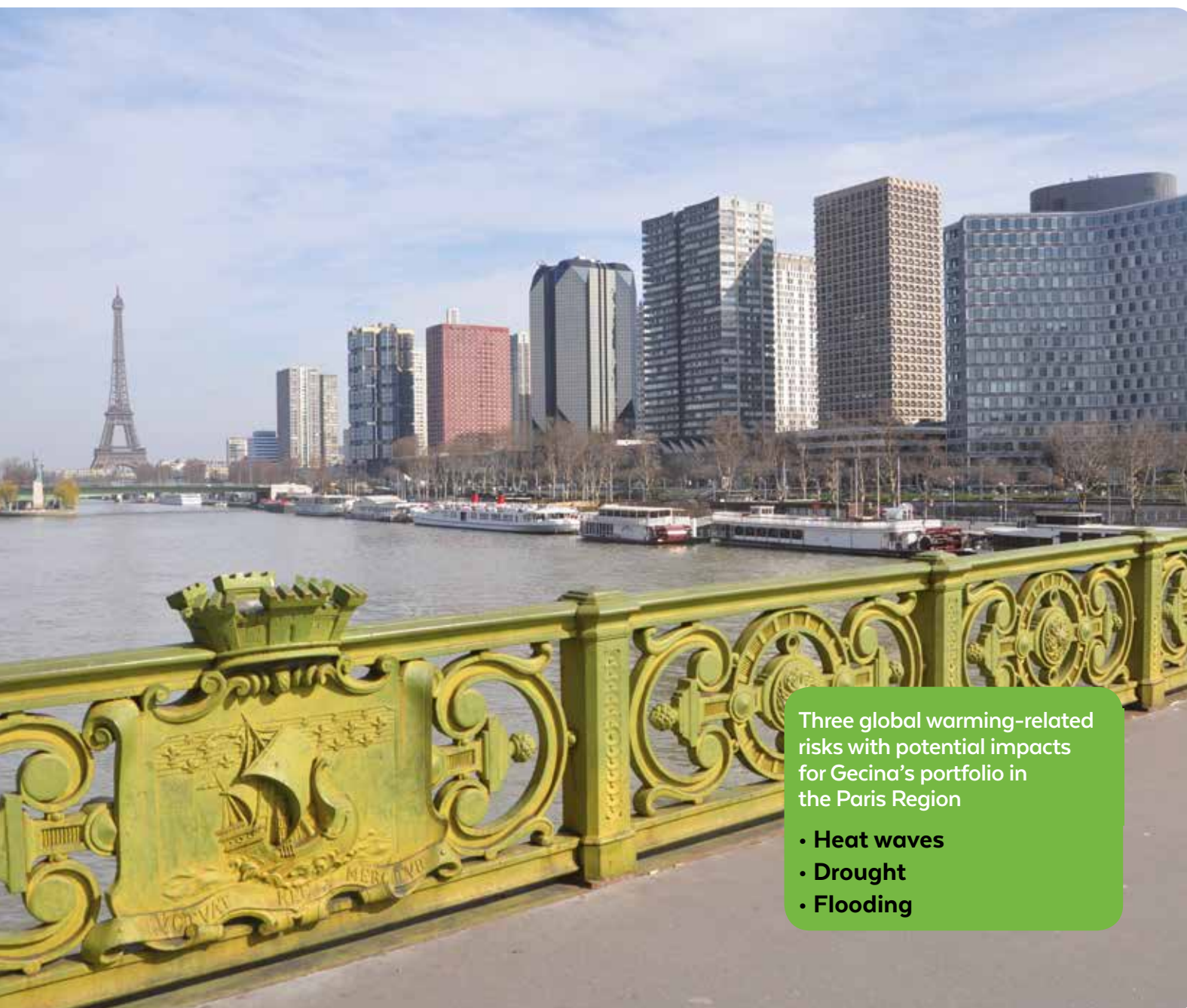
Tackling obsolescence, creating value

Gecina pays particular attention to climate stakes because they also influence the value of its portfolio. Tomorrow, even more than today, what tenants would like to let office space that makes extensive use of carbon energies? This issue – combining cost, societal responsibility and image aspects – will become a major factor in decisions over the years. It is opening up opportunities to look at the portfolio from a new perspective, conceiving future construction operations and investments with a focus on their overall energy performance, incorporating a broader view of the carbon footprint. For Gecina, this approach represents a way of managing sustainable value creation, while ensuring its portfolio's long-term appeal. The climate roadmap aims to meet these challenges, by structuring the Group's approach with a view to limiting its impact on climate change and aligning itself with plans to restrict the planet's warming to 2°C.

«The climate will have a growing impact on the value of Gecina's portfolio»

Nicolas Dutreuil, Gecina's Chief Financial Officer, Executive Committee member

Specialist and general rating agencies are particularly interested in the carbon footprint of businesses, as well as a growing number of economic agents. By planning ahead in this emerging area, we are putting ourselves in a position to further strengthen Gecina's appeal with major investors that are looking to switch their portfolios to low-carbon assets. This virtuous approach is directly generating value for Gecina's portfolio, with improved value growth thanks to assets that can be let more easily, for higher amounts, with stronger performance levels.

Criticality and vulnerability

This research was carried out by the consultancy Carbone 4. It is based on an analysis of expert data from Météo France, the Paris Climate Agency and the Jouzel mission report on "France's climate in the 21st century, regionalized scenarios". It sets out various climate risk indexes that link the criticality of climate-related hazards (frequency and intensity) with the vulnerability of buildings to them, i.e. the vulnerability of structures (roof, framework, infrastructure and superstructure), networks (plumbing and sanitation, heating, ventilation and air-conditioning, electricity), facilities (interior and exterior), and occupant behavior (health, comfort, etc.).

Vulnerability of offices

This research highlights that office buildings are primarily vulnerable to flooding, heat waves, drought, subsidence and storms. The most critical elements in terms of climate hazards are the electricity network, the voice-data-image network, the superstructure, occupant health, heating, ventilation and air-conditioning (HVAC), as well as comfort and lifestyle aspects.

Impact of a heat wave

The study identifies the aggravating factors and impacts for a building's various components. A heat wave would have a direct impact on occupant health with dehydration and hyperthermia risks for instance. This phenomenon would be reinforced if the building's aspect is not effectively planned facing an appropriate direction. The networks also show a risk of faults faced with a significant increase in the power needed to supply air-conditioning systems for instance. If the networks are undersized, there is a risk of potential blackouts, with knock-on effects on strategic systems such as IT servers. In July 2012, India experienced one of the worst blackouts in its history, with 670 million people left without any power, as a direct consequence of a drought that reduced its hydroelectric production capacities. To tackle these risks, the solutions include using local renewable energy networks and limiting building consumption levels, as well as enabling buildings to produce all or part of their own energy.

Analysis of evolving risks

The risks identified are evolving over the years faced with climate change. For instance, it is changing their probability of occurrence and affecting the portfolio. Illustrating this, as temperatures rise, there will be a greater risk of drought. While forecasting models show reduced risks of snow or hail, the risks of drought and heat waves are increasing sharply and even doubling in the latter case. Flooding risks are stable, so particular care needs to be taken with the networks (heating, ventilation and air-conditioning, and electrical systems) factoring in the increased intensity and frequency of heat waves, linked to average temperature levels that have continued to climb.

Climate and biodiversity

Integrating biodiversity makes it possible to tackle the heat island phenomenon. Safeguarding biodiversity is an integral part of Gecina's commitments and contributions to support the climate. The integration of green spaces for buildings represents one of the possible responses to this issue. In addition to helping preserve biodiversity, this enables buildings to operate effectively whatever the circumstances, while further enhancing the conditions for occupant wellbeing and comfort. To find out more, download the biodiversity report from the "CSR" section on **www.gecina.fr**

Three global warming-related risks with potential impacts for Gecina's portfolio in the Paris Region

- **Heat waves**
- **Drought**
- **Flooding**

Adapting to climate change in the Paris Region

With 90% of its portfolio located in the Paris Region, Gecina wanted to research the potential impacts of climate change for its assets in this area. The aim is to identify the actions to be taken to facilitate the adaptation of buildings in line with these new conditions without excessive energy consumption.

Paris Energy Climate Plan: identifying synergies for action

Climespace draws water from the River Seine to cool its facilities without any impact on biodiversity

The Paris Energy Climate Plan aims to reduce the Paris Region's greenhouse gas emissions by 75% by 2050 compared with 2004. Commercial property has been identified as a sector that can effectively contribute towards achieving this goal. Gecina has made a commitment alongside Paris' City Hall by signing up to the Paris Climate Action charter, which it has factored in to prepare its climate roadmap. An analysis of the findings from the research into the impacts of climate change for the Group's portfolio highlights the benefits of developing efficient measures to adapt elements that are vulnerable to the increase in heat waves and drought, such as the electricity networks. The solutions include developing renewable energies to supply the networks, while limiting any impacts on global warming. For instance, one particularly interesting solution is to connect up to the urban heating and cooling networks - CPCU and Climespace - because they offer an opportunity to develop a less carbon-intensive energy mix. Looking into new connections is naturally part of the climate roadmap and more generally Gecina's strategy. They are contributing towards enhancing and developing the diversity of the urban heating and cooling networks to benefit other current and future users.

Sharing expertise, developing dynamics

The climate roadmap has been built around contributions from employees representing the company's various functions, as well as external stakeholders and Gecina's leadership team. The ambition is to share climate stakes and set in motion a dynamic approach to engaging and taking action, while managing the carbon footprint in line with the business performance and value creation strategy.

Step 1

MULTIDISCIPLINARY WORKING GROUP TO IDENTIFY STAKES AND DEFINE GOALS

A working group was initially set up with representatives from the company's main functions. The review sessions were led and enhanced by Carbone 4, an expert consultancy for carbon issues. Following a review of the actions taken, Gecina's wider carbon footprint was assessed. Based on this, the working group identified the specific stakes involved with each function and the stakeholders concerned with a view to determining the areas to be worked on for the climate roadmap and proposing the goals to be achieved by 2030. This timescale is in line with the regulatory deadlines and particularly those set by France's national low-carbon strategy. This approach combines the long-term timeframe required for such a commitment with regular milestones to oversee and manage progress made.

Step 2

WORKSHOPS WITH STAKEHOLDERS TO ENHANCE CONTRIBUTIONS

Since 2013, Gecina has submitted its CSR reporting framework and strategy to critical reviews from experts representing its stakeholders. Building on this approach, two workshops were held with representatives from 17 stakeholders, inviting these experts to share their views on the guidelines proposed by the working group and enhancing the review process. The preparation and hosting of these workshops were entrusted to the teams from EY in order to enable fluid exchanges, ensuring free expression and balanced perspectives. The first committee looked into the various strategic options proposed and the planned goals, while the second focused primarily on the action plans. These contributions enhanced certain aspects and sometimes consolidated the proposed focus areas for the climate roadmap.

Step 3

CLARIFICATION OF KEY AREAS FOR WORK BY EACH EXECUTIVE COMMITTEE MEMBER

After being enhanced in this way, the roadmap was submitted to the Executive Committee members collectively before arranging individual working sessions to test the robustness of the scenarios being considered in line with the specific stakes for each activity. This validation principle directly reinforced the adoption of the goals by the executive leaders who will be supporting the roadmap's deployment with their teams and will be involved in any changes required in terms of how their business lines operate and the processes deployed.

Step 4

STRENGTHENING OF THE AMBITION MAPPED OUT BY PHILIPPE DEPOUX, GECINA'S CHIEF EXECUTIVE OFFICER

The final version of the climate roadmap was shared with Philippe Depoux, Gecina's Chief Executive Officer, to validate all the key areas for work. Highlighting the company's real, in-depth ambition, he wanted to make the proposed goals more ambitious for reducing greenhouse gas emissions, coming in significantly higher than the regulatory targets and achieving a 60% cut in CO_2 emissions by 2030 compared with 2008.

Four focus areas with the 2030 climate roadmap

> Operational portfolio

FOCUS 1

REDUCING
CO_2 EMISSIONS
FOR OFFICE PROPERTIES

**60% BY 2030
COMPARED WITH 2008**

**70 kWhFE/sq.m/year
MAXIMUM CONSUMPTION
FOR ANY REDEVELOPMENT
IDENTIFIED OR NEW-BUILD
PROJECT**

FOCUS 2

**AVOIDING
OFFSETTING**
THE PORTFOLIO'S NET EMISSIONS

**ACHIEVING ANNUAL NEUTRALITY
FROM 2017**

**FEEDING INTO A CARBON
OFFSET FUND BASED ON
25 €/tCO_2 TO ACHIEVE
NEUTRALITY**

> Real estate programs

FOCUS 3

**TARGETING
NEUTRALITY**
FOR REAL ESTATE PROGRAMS

**TARGETING CARBON
NEUTRALITY FOR EACH
PROGRAM**

**70 kWhFE/sq.m/year
MAXIMUM CONSUMPTION
FOR ANY REAL ESTATE PROGRAM**

> Partners & Customers

FOCUS 4

ENGAGING
ITS PARTNERS TO REDUCE
GECINA'S OVERALL
CARBON FOOTPRINT

**DEMONSTRATING
TRANSPARENCY
AND DETERMINING
RESOURCE-BASED OBJECTIVES**

**SPECIFICATIONS
INCORPORATING THE CARBON
WEIGHTING OF PRODUCTS
AND SERVICES**

Managing the business

The business' carbon footprint is an integral part of Gecina's management, particularly in terms of asset management, the investment process and the management of real estate programs, as well as the management of relationships with customers and suppliers

Climate committee

Asset Management / Audit & Risk Management / Finance /
Investments & Sales / Marketing & Innovation /
Real Estate Holdings / CSR / General Secretary's Office

Focus 1

REDUCING

CO_2 EMISSIONS FOR THE OPERATIONAL OFFICE PORTFOLIO LINKED TO TOTAL ENERGY CONSUMPTION FOR BUILDINGS ON A CONSTANT CLIMATE BASIS

Targets

-60%
reduction in emissions by 2030 compared with 2008

70 kWhFE/sq.m/year
maximum consumption for any redevelopment identified or new-build project

Stakes

> Contributing to the fight against global warming by exceeding regulatory targets

> Creating value for Gecina and its customers through energy performance improvements for the operational portfolio

> Having an overview of building consumption levels in order to reduce its impact

Drivers

> Energy efficiency actions on the operational portfolio

> Redevelopment of existing properties

> CO_2 emissions as a management indicator (from the investment stage and for asset management)

Actions

> Managing the portfolio's energy performance

> Connecting to heating / cooling networks

> Raising the energy ambition level for redevelopment programs and new-build projects

> Incorporating better carbon performance levels for investment projects requiring redevelopments

> Deploying renewable energy production systems for its own consumption on existing properties and all development projects

Actions to be deployed ●   Actions underway ●

Commitments

« Accurately monitoring CO_2 emissions for our entire portfolio opens up opportunities for us to manage our business in a way that combines societal responsibility with sustainable economic performance. This is a real driving force for operational excellence. »

Loïc Hervé, Head of Real Estate Holdings
Member of Gecina's Executive Committee

REDUCING CO_2 EMISSIONS FOR THE OPERATIONAL OFFICE PORTFOLIO LINKED TO THE BUILDING'S OVERALL ENERGY CONSUMPTION ON A CONSTANT CLIMATE BASIS

Auditing the existing portfolio

An essential prerequisite for drawing up a realistic climate roadmap, Gecina has been able to draw on all the experience gained since 2008 by working on optimizing building performance levels, as well as its knowledge of performance features and the various actions rolled out for buildings. For the next stage, to build a credible roadmap aligned with the company's value creation strategy, the working group capitalized on the expertise of the Asset Management teams. The asset reviews and the analysis of the redevelopment plans being considered helped identify the maximum potential energy savings and the corresponding costs. This in-depth, global analysis represents a real change in the Group's carbon strategy. By incorporating the carbon footprint into its sales and redevelopment plans, Gecina is giving itself the means to harmonize its various financial and climate stakes.

Actions

Gecina's approach is built around defining clear goals and implementing realistic actions to deliver sustainable performance improvements.

1) **Managing the portfolio's energy performance**: this approach, rolled out across the majority of Gecina's office portfolio, involves checking that the management systems for technical facilities are correctly configured to achieve the target performance levels (heating, cooling, lighting, air treatment, etc.), then ensuring the stability of configurations over time (commissioning). These actions are particularly relevant for redevelopment projects, which frequently face differences between the initial modelling and the reality, requiring retrocommissioning operations.

2) **Supporting the transition to less carbon-intensive energies**: in line with the public sector's dynamic commitments, as shown by the City of Paris' Climate Energy Plan for instance, Gecina is focused on connecting up to urban heating and cooling networks that supply less carbon-intensive energies and therefore help reduce greenhouse gas emissions.

3) **Raising the level of ambitions for redevelopment work**: the maximum consumption target of 70 kWhFE/sq.m/year for any redevelopments identified may represent a real technical challenge for certain projects. Innovative solutions that challenge traditional renovation approaches will need to be considered.

Connecting up to the CPCU network

Three initiatives to reduce CO_2 emissions

The climate roadmap sets out a strong framework for Gecina's strategic commitment to reducing CO_2 emissions for the various assets within its portfolio. It follows on from the actions developed since 2008, covering all building dimensions. Here are three examples of initiatives that have been rolled out or are currently being put in place.

Portfolio's energy management
OPTIMIZING ENERGY PERFORMANCE FOR FACILITIES THROUGH SUPERVISION

Across the majority of its office portfolio, Gecina has rolled out a supervision solution that provides a real-time view of a building's water and energy consumption levels. This system makes it easy to identify issues and quickly take corrective actions. For instance, it revealed that convector fans were running unnecessarily during weekends at the Group's headquarters. This solution makes it easier to identify areas for improvement that can be shared with customers with a view to improving a building's overall performance. This solution is expected to meet a target for 10% on energy consumption levels.

Redevelopment
INNOVATING TO ACHIEVE AMBITIOUS GOALS

At the end of 2015, Gecina finalized its acquisition of the Tour Van Gogh – the Mornay group's former headquarters – located just a short walk from Gare de Lyon. This building, with its current configuration offering 19,000 sq.m, is scheduled for delivery mid-2018. The redevelopment work is expected to represent nearly 150 million euros and incorporate plans to improve the building's energy distribution systems and components. The consumption target of 70 kWhFE/sq.m/year is particularly ambitious for a high-rise building like this, which requires more powerful and therefore more energy-hungry equipment. For instance, its air and fluids (hot and cold) need to cover longer distances. In line with the Group's belief that constraints can also open up opportunities, extensive design work has been carried out to optimize performance levels for the various systems and adopt new processes, capitalizing on the creativity of its in-house teams, its partners (architects, design offices, project managers, energy networks, innovative startups, etc.) and their ability to meet the various technical challenges faced together.

Energy transition
CONNECTING BUILDINGS TO URBAN NETWORKS

In 2013, Gecina acquired a fully let 11,636 sq.m office building on Rue Marbeuf in Paris' central business district. To reduce this building's carbon footprint, Gecina chose to connect it up to the Climespace network in 2016. This dedicated cooling network for the City of Paris (600 customers connected, 5 million sq.m air-conditioned) offers a low-carbon energy mix that will contribute towards reducing GHG emissions linked to the building's operations, while ensuring the reliability of the building's supplies thanks to its very dense network. This initiative is also supporting the drive to achieve labels and certificates. This type of energy supply solution offers various benefits for Gecina and its tenants and is more sustainable than individual cooling units. This approach also frees up space in the technical areas of buildings and above all on their roofs. Connecting up to the urban cooling network minimizes the level of investment required over the building's lifecycle, combined with a significant reduction in CO_2 emissions.

Focus 2

AVOIDING & OFFSETTING

THE OPERATIONAL PORTFOLIO'S NET EMISSIONS

Goals

**Achieving
annual neutrality
from 2017**

Stakes

> Recording the emissions avoided through the production of renewable energy or optimization of uses

> Offsetting the incompressible residual emissions that remain despite the reduction efforts

> More generally, reducing Gecina's impact on the climate (targeting neutrality) by incorporating energy production methods or even tenant uses

Drivers

> Supporting low-carbon energy production channels

> Setting up systems for producing renewable energy that can be reincorporated into the network (not consumed on site)

> Optimizing the use of space within the portfolio and pooling services

> Investing in offset projects

Actions

> Buying green electricity

> Setting up photovoltaic panels across the portfolio

> Creating an offer for shared car parking spaces (initiative developed with Indigo) and pooling services (meeting rooms, company restaurants, etc.)

> Investing in reforestation programs

> Supporting innovative sectors relating to buildings, energy, CO_2 storage, etc.

Actions to be deployed ●   **Actions underway** ●

Commitments

The climate roadmap sets out the way forward for developing an increasingly responsible portfolio, made up of assets using lower-carbon energies, opting for renewable energies when possible. It also highlights the ambition to build innovative solutions, developed by our teams and partners with which we share core stakes.

Brigitte Cachon, Marketing & Innovation Executive Director
Membre du Comité Exécutif de Gecina

FOCUS 2
AVOIDING & OFFSETTING
THE OPERATIONAL PORTFOLIO'S NET EMISSIONS

Three key areas for avoiding emissions, various possibilities for offsetting

Various possibilities have already been identified for supporting the neutrality target for net emissions across Gecina's portfolio. The principle for putting offset systems in place may take various forms and evolve over time in line with opportunities and the criteria defined for supporting projects.

Possibilities to avoid emissions

USING GREEN ELECTRICITY

Green electricity, with low levels of carbon, offers an alternative to conventional energies and is helping reduce greenhouse gas emissions globally. Contracts signed with third parties guarantee the origins of the energy produced. Recording the emissions avoided thanks to this will help accelerate this commitment.

Green electricity is produced exclusively from renewable energies such as wind power

PRODUCING RENEWABLE ENERGIES

Producing renewable energies for an office building represents a way of reducing CO_2 emissions globally by helping improve the energy mix for the network that they are incorporated back into. For instance, this involves setting up photovoltaic cells on building roofs or facades. Today, this energy is sold back to the networks at a higher price than non-renewable energies. With energy costs gradually increasing, over time it will become more interesting to consume the energy produced directly on site. Alongside this, innovative approaches can be considered such as developing urban micro-networks to supply neighboring buildings or pooling facilities. This is opening up new possibilities to create value for Gecina and its customers.

DENSIFICATION

Gecina's carefully thought out management approach, maximizing its occupancy rate and optimizing space management, contributes towards avoiding CO_2 emissions linked to building additional spaces. Another virtuous element: access to spaces with good public transport connections and high-performance buildings. The Group is developing new initiatives in line with the challenges involved with the sharing economy. They are based in particular around pooling services (parking spaces, conference rooms, auditoriums, company restaurants, etc.). For instance, at the start of 2016, Gecina signed a partnership agreement with Indigo to share 1,300 parking spaces across 37 buildings, primarily in Paris. In addition to helping avoid CO_2 emissions, this innovative approach is effectively aligned with the expectations of mobile workers, while generating additional revenues for Gecina.

Offset opportunities

SETTING UP A FUND FOR OFFSETTING CO_2 EMISSIONS

A comparison of the emissions linked to the office portfolio's operations with the emissions avoided and recording following the various actions reveals a gap, which Gecina wants to offset by supporting projects that capture or avoid CO_2 emissions. Based on 25 euros per ton of CO_2, an offset fund is being set up and will be used to support credible projects generating official carbon credits.

In terms of the various projects selected based on the Group's specific criteria, while many options are still open, investments in reforestation programs are being looked into. Indeed, trees have a natural capacity to absorb and more importantly store CO_2 as they grow. Investing in responsible reforestation programs helps offset residual emissions, following on naturally from actions to reduce or avoid emissions. Alongside this, Gecina plans to promote local reforestation channels with a view to supporting the timber industry. If this option is not selected, Gecina is currently researching the possibility of investing in innovative startups and sectors covering the energy and building sectors.

Focus 3

TARGETING NEUTRALITY
FOR REAL ESTATE PROGRAMS

Goals

Neutral carbon impact
for all redevelopments

Offsetting
all new-build projects

Stakes

> Limiting the building's climate impact beyond the operational phase, factoring in emissions throughout its lifecycle

Drivers

> Valuing the emissions avoided by the redevelopment project throughout its life

> Reducing the carbon impact of work

> Investing in offset projects

Actions

> Drawing up and monitoring a carbon footprint analysis throughout operations

> Optimizing product and equipment choices based on their carbon footprint throughout their lifecycle

> Promoting short supply chains in order to reduce impacts

Actions to be deployed ● Actions underway ●

Commitments

« Gecina's approach ensures a high level of consistency, covering both the operational portfolio and new projects with the same ambition, the same high standards. They all aim to limit the impact of Gecina's activities on the climate. »

Vincent Moulard, Head of Asset Management
Member of Gecina's Executive Committee

FOCUS 3
TARGETING NEUTRALITY
FOR REAL ESTATE PROGRAMS

Factoring in the carbon footprint for building construction choices

Through its climate roadmap, Gecina is promoting a global view of a building's carbon footprint with positive impacts on the construction choices defined during the design phase, then implemented throughout the building work.

Optimizing energy performance and emission levels

To ensure that the greenhouse gas (GHG) emissions reduction targets are met, the target levels set for the portfolio's redevelopment operations and new-build programs are very ambitious. Illustrating this, the Cristallin building in Boulogne-Billancourt (photo) was the first office building within the portfolio to benefit from a "Factor 4" redevelopment, with the results of the Dynamic Energy Simulation carried out on consumption aspects showing CO_2 emissions levels that are 4.5 times lower than the original building. In addition, the energy performance calculated in connection with the redevelopment of Tour Van Gogh in Paris came to 68 kWhFE/sq.m/year, lower than the target set by Gecina, even though this high-rise office building requires more power to operate.

Clarifying construction choices

Gecina is integrating a broader vision of its carbon footprint by drawing up and monitoring a carbon footprint analysis for its real estate programs under construction or redevelopment. This requires a careful review of the carbon weightings for each of the project's dimensions in terms of both design and implementation aspects: materials (makeup, transformation, transportation, recycling), origins of energy production systems and impact of their transportation on the building's wider carbon footprint, choice of adaptive solutions – passive solutions – such as blinds or facade treatments, etc. The analysis of all the data is summarized in a carbon footprint review that is prepared for each project. This is used for deciding on construction choices with a view to minimizing the impacts. Illustrating this approach, with a focus on continuous improvement and innovation, La Grande Halle is one of the 18 operations to have been awarded the BBCA label. These operations identified the best practices and carbon weightings for construction elements with a view to enhancing the public frame of reference in spring 2016.

Offset possibilities

Gecina is open to all types of partnerships, particularly with innovative startups

Looking beyond these performances, the Group aims to effectively manage the overall footprint for each of its programs by targeting carbon neutrality. For this, the emissions avoided by each redevelopment, calculated based on the difference between the performance levels achieved before and after work and the average lifespan of each piece of equipment are compared with the operation's carbon footprint analysis. Indeed, even if they achieve high performance levels, the work generates CO_2 emissions both directly, during the building site's operations, and indirectly, through the products and equipment used, as well as their end of life. Calculating and monitoring the carbon footprint before and during work aims to reduce GHG emissions as effectively as possible. Sometimes, it can be extremely delicate to ensure neutrality throughout the lifecycle of equipment. If a balance is not achieved, the surplus emissions generated by the project will be offset through investments in an offset fund based on 25 euros/tCO$_2$. This fund will aim to support programs to store CO_2, such as reforestation projects or low-carbon energy production initiatives, particularly through new channels.

Focus 4

ENGAGING

PARTNERS TO REDUCE GECINA'S OVERALL CARBON FOOTPRINT

Goals

Engaging
customers in actions to reduce the carbon footprint

Sharing
the stakes and building action plans with suppliers to reduce the footprint for goods and services purchased

Ensuring
that stakes are taken on board by employees to ensure the approach's success

Stakes

> Contributing to the fight against climate change throughout the value chain

> Improving Gecina's wider carbon footprint by reducing the impact of its purchases of goods and services and/or promoting the optimization of occupant transport and uses

Drivers

> Demonstrating transparency across the wider footprint and continuing to consolidate data

> Supporting change in relation to tenants and identifying joint actions

> Engaging suppliers and providers in plans to reduce their emissions and determining resource-based objectives

Actions

> Incorporating climate stakes into meetings to follow up on green leases with customers

> Determining performance indicators and communicating on checkpoints, highlighting the progress made with customers

> Incorporating the carbon footprint for products into specifications

> Contributing towards optimizing suppliers' services

> Establishing dialogue with suppliers to encourage the emergence of innovative low-carbon solutions

> Selecting suppliers based on their carbon footprint

> Monitoring emerging developments and supporting local supply chains

> Developing engagement for climate issues through training and internal communications

> Incorporating carbon issues into internal management practices

Actions to be deployed ●   **Actions underway** ●

Commitments

"The successful deployment of our climate roadmap will be built around our ability to develop constructive dialogue with our customers, our partners and our suppliers, drawing on the adoption of our various goals by all of Gecina's staff, who will ensure the success of our approach.

Philippe Valade, General Secretary
Member of Gecina's Executive Committee

FOCUS 4
ENGAGING PARTNERS TO REDUCE GECINA'S OVERALL CARBON FOOTPRINT

Bringing partners and customers on board, building on employee engagement

For Gecina, its partners and customers are key players for reducing its portfolio's overall carbon footprint. The actions developed aim to share the stakes and core commitments supporting the climate.

SETTING CHECKPOINTS, MONITORING INDICATORS

Bringing partners on board for the climate roadmap means offering them indicators that will make it easier to assess the actions taken and share any corrective measures required. Gecina has launched a program to assess its suppliers' performance in terms of CSR. It will be used as a basis for dialogue on their carbon impact. The Group is also looking to define checkpoints that will represent milestone meetings for sharing and exchanges within an approach focused on making progress.

The transportation of goods has an impact on a building's carbon footprint

ENCOURAGING SUPPLIERS' ENVIRONMENTAL PERFORMANCE

From construction materials to the transportation of goods, energy solutions and diverse services, all these elements have a direct impact on Gecina's wider carbon footprint. The Group plans to engage its suppliers in its approach and share returns on experience with them. For this point in the roadmap's deployment, the Group's employees play a vital role. They are the dedicated contacts for all of these partners, particularly through defining specifications that gradually take into account the carbon impact of products and services. Gecina's employees, trained up on responsible procurement, are developing constructive dialogue with suppliers on these topics.

DEVELOPING POSITIVE DYNAMICS

With both customers and partners, Gecina wants to develop positive dynamics when rolling out its climate roadmap founded on respect and transparency. The dialogue developed with customers is built around sharing their specific stakes in order to identify sources of environmental and social performance that will create value for everyone involved. A progressive approach is adopted for partners and suppliers. Initially, it aims to consolidate and share information, before focusing on defining action plans and then incorporating carbon weightings into specifications.

_____

ACCELERATING THE SIGNING OF GREEN LEASES

At December 31, 2015, Gecina had signed 216 green leases, with 59 covering properties over 2,000 sq.m (the French Grenelle II Act requires a green lease to be signed from this level of space upwards). 40% of customers renting less than 2,000 sq.m of space, without any environmental obligations, have also made commitments as part of this approach. Gecina aims to incorporate carbon as an indicator and review its changes during follow-up meetings on green leases. The objective is to work with customers to consider the potential for improving energy consumption levels and CO_2 emissions in connection with their specific uses and their employees' travel arrangements. For example, the possibilities being considered include promoting green forms of transport by developing specific parking spaces and charging stations for electric vehicles, as well as cycle racks.

Setting up charging stations for electric vehicles in building car parks is one of the areas for progress developed with green leases

Helping manage Gecina's carbon footprint together

For these stakes, Gecina's climate roadmap is further strengthening the interconnections between the transversal and operational functions, as well as with partners and providers, with a view to achieving shared goals.

Broader vision for value creation

Analyzing the wider carbon footprint means reconsidering the portfolio's value growth based on the risks of obsolescence linked to direct or indirect factors (laws, global warming, customer demands, rating agency criteria, etc.). The process for taking objective-based decisions involves exchanging information between various functions which previously looked at these issues alongside one another. For instance, the choice to invest in redeveloping an operational portfolio may also depend on its capacity over the long term to meet the criteria for excellence set by Gecina, capitalizing on the expertise built up by Asset Management (asset's profitability), Real Estate Holdings (technical solutions being considered), Legal (compliance with international legislation), CSR (climate risks faced) or even Finance (medium-term value creation depending on the planned investments). Carbon metrics are becoming a new element for analysis that needs to be taken into account by all the functions to guide the choices made and oversee the business.

Developing synergies with partners

A building's climate impact and its climate change resilience are closely dependent on the constructive choices made focused on continuously improving energy performance levels. In this area, Gecina works with its partners and providers (design offices, architects, project managers, etc.), with their choices and their own networks of partners (suppliers, joint contractors) influencing the Group's performance. So it is essential that the Group's high standards are incorporated into specifications that reflect the collective engagement of Gecina's teams. Its partners and providers hold a key position within this continuous improvement approach.

Employees, agents for change

Employees are the driving forces for the future successful deployment of Gecina's climate roadmap. To succeed, this approach needs to be perfectly adapted and rolled out for each activity, with a process underway, led by the climate committee.

Assessing performance

The climate roadmap is an evolving working document for Gecina and its teams. Quantitative targets have been set for three of the four focus areas, while the fourth area, relating to partners, primarily concerns quality aspects for the moment. It is essential to assess the achievement of the objectives set because this ensures that all the stakeholders are engaged, in addition to delivering concrete results. Shared dashboards will offer visibility for all stakeholders on progress made with the climate roadmap's deployment.

Climate committee as a driving force

The climate committee plays a key role in coordinating and rolling out the approach by defining the actions and performance levels to be achieved, then monitoring developments through accurate reporting. The committee's governance framework also highlights Gecina's commitment. It is chaired by Philippe Depoux, the Group's Chief Executive Officer, and sponsored by Brigitte Cachon, Marketing & Innovation Executive Director and a member of the Executive Committee.

«Building around a transversal vision of our commitment, shared by everyone»

André Lajou, Gecina's Head of Investments and Sales
Executive Committee member

The commitment shown by all the Executive Committee members highlights that we now have a shared vision of our climate commitment and how this approach will impact our portfolio's characteristics over the medium and long term. It also illustrates our ambition to move forward with all our employees and partners, who will successfully support and develop this strategy.

Together, targeting neutrality for CO_2 emissions

Insights from the project team at June 30, 2016

Yves Dieulesaint, Head of CSR, Executive Committee member
Stéphane Carpier*, Technical Director
Aurélie Rebaudo-Zulberty*, CSR Project Leader
* "Climate" working group copilots

Gecina's climate roadmap is built around a real societal ambition, defining the new outlines for a broader vision of value creation. Here, we share some insights from the project team on the approach adopted and the main focus areas.

How has the climate become a challenge for cities?

Yves Dieulesaint: "Today, the climate represents a challenge for the whole planet, and has been taken on board by states globally and by most of the world's leading cities locally. Paris, London and Frankfurt are vying with one another to make themselves more appealing. Their approach to climate change can represent a way of standing out, particularly in terms of quality of life for their inhabitants".

Aurélie Rebaudo-Zulberty: "This prospect reveals a new dimension, a territory dimension, in other words a geographical area that may sometimes extend beyond the boundaries where societal stakes, including the climate, interconnect. They must offer inhabitants – and this movement is particularly marked for young generations – projects that are aligned with their expectations. The commitment to the climate, safeguarding biodiversity and ensuring quality workplace and living environments through the development of amenities are just some of Gecina's strategic ambitions that are fully in line with this societal aspiration".

What is Gecina's territory for expression?

Stéphane Carpier: "Looking beyond the geographical location of buildings within Gecina's portfolio, the response to climate challenges and stakes requires work to be carried out on various levels. For instance, we are supplying buildings with green energy. Part of this comes from hydroelectric dams located in the Alps and Pyrenees... quite a long way from Paris. As such, a territory's scale is likely to evolve and national borders may even be called into question".

What is your approach for a virtuous building?

Aurélie Rebaudo-Zulberty: "This is a building that provides value for its tenant on a sustainable basis, limiting its carbon footprint from its design through to its potential destruction or reconfiguration, while offering the best operational capabilities faced with climate change".

Why have you launched a climate roadmap?

Yves Dieulesaint: "The French Grenelle de l'Environnement initiative made us aware as early as 2007 that we were going to have to rethink our portfolio's value in relation to its energy and environmental performance with strategic implications in terms of

asset investments and sales. From 2008, the first step was to build a map of our portfolio, assessing the levels of energy consumption and CO_2 emissions for our buildings. We then looked at our buildings more generally through the responsible building concept, incorporating these notions for energy consumption and CO_2 emissions, as well as biodiversity, water, recycling, waste management, accessibility, comfort and quality of life, health, safety and certification".

"The roadmap aims to neutralize Gecina's impact on the climate"

Aurélie Rebaudo-Zulberty: "In 2012, this vision was expanded with the inclusion of new criteria such as biodiversity or non-renewable raw materials. We are now positioning ourselves around a responsible portfolio approach that covers a wider carbon footprint. Today, it is proving necessary to look at the stakes systemically because they interact with one another. The climate roadmap aims to further strengthen the effective management of this footprint, while setting out a genuine societal ambition. It represents a response to the stakes involved with global warming, the expectations of civil society and economic agents, as well as Gecina's strategy to ensure optimum value growth for its assets".

Why are you engaging your partners and customers in this approach?

Stéphane Carpier: "As a real estate group, our business involves investing in assets with support from partners who are experts in their fields, able to accompany and further strengthen our performance to benefit our customers. France's national low carbon strategy sets a very ambitious target for reducing greenhouse gas emissions by 54% by 2030. In line with our convictions, we have set ourselves a target of 60%. We will not be able to achieve this on our own, without sharing responsibilities. That is why we wanted to engage our partners and customers, drawing on the dynamics developed by our teams. The climate challenge is one of the pillars within our strategy. It is especially essential because it is shared by so many of our customers".

"The climate roadmap has a long-term focus"

How is the roadmap facilitating the deployment of customers' strategies?

Yves Dieulesaint : "Our customers face their own specific constraints. The roadmap encourages a sharing of the various approaches, identifying solutions that are virtuous and shared, but above all realistic. The idea is to find solutions, together, focused on occupant wellbeing over the long term. Gecina's societal ambition is gradually becoming an integral part of the value that we deliver for our customers and all our stakeholders".

Should we focus on the concept of greenhouse gas emissions rather than energy consumption?

Stéphane Carpier: "The two approaches are complementary. Since we have been working on climate issues, we have been looking to bring energy consumption levels down in order to reduce CO_2 emissions. This approach defines the framework for the energy choices that will be made for new programs or improvements to the operational portfolio. With the carbon impact-based approach, we are also encouraged to pay particular attention to promoting renewable energies, developing an efficient energy mix and valuing the emissions avoided by optimizing the use of our portfolio".

Aurélie Rebaudo-Zulberty: "Another complementary area for work involves offsetting residual CO_2 emissions by investing in reforestation actions, low-carbon energy production or research work to conceive more virtuous buildings. Within the framework of our climate roadmap, we are targeting neutrality for our operational portfolio and each of our real estate programs, which also offer high performance levels (70 kWhFE/sq.m/year). This emissions concept covers a building's entire lifecycle and requires the various stakes to be actively shared with all the stakeholders: Gecina, the Group's employees, our partners, our customers and our buildings' occupants".

Are you going to make major investments in renewable energies?

Yves Dieulesaint: "The climate roadmap has a long-term focus and sets us apart from any approach that could appear to be opportunistic. When it comes to investment, we look at the corresponding value creation, our core management focus. If the investment combines efficiency and profitability, we will go down this route. Our approach is global and, illustrating this, we look at energy based on the scale for a territory or the offer from leading structures".

Are you in favor of connecting to urban networks?

Stéphane Carpier: "For the deployment of our office assets, we are giving priority to these solutions when operations are technically feasible and help reduce CO_2 emissions for instance, while ensuring effective control over the cost budget. This offers the advantage of ensuring that we are aligned with the strategies of organizations such as the City of Paris or the Paris Region that are working on their own particularly ambitious climate plans, which we are stakeholders within. Alongside this, our teams are working with our customers to ramp up the signing of green leases, which contribute directly towards improving energy performance management for buildings, as well as the review processes to optimize tenant uses".

Is Gecina's commitment viable from an economic perspective?

Aurélie Rebaudo-Zulberty: "This is a key priority for us. Otherwise, this would not represent a commitment and, above all, the projects would be destined to see losses from every perspective. Not all the investments necessarily involve high costs. We will need to make choices taking into consideration both the economic viability of projects and their carbon efficiency. This may lead us to change the make-up of our portfolio".

"Gecina needs to position itself as a catalyst for expertise"

Is this commitment a way of keeping changes in costs under control?

Stéphane Carpier: "The concept of 'rent plus costs' makes sense for Gecina. If we can ensure effective control over costs over the medium and long term faced with changing energy prices, we will be able to offer attractive rents for our customers, while securing continued value creation for Gecina".

What elements will confirm the climate roadmap's success?

Aurélie Rebaudo-Zulberty: "Too frequently, the climate has been covered by declarations setting out targets that were so high it was difficult to take them on board. The roadmap put in place by Gecina is a working tool that will engage all the company's stakeholders around shared goals, while developing new dynamics and new ways of looking at work in terms of management methods and processes. While targets and goals have been set, this document is intended to evolve in line with each stakeholder's contributions. We will be providing regular updates to keep our various stakeholders informed with a view to supporting our progress and establishing real dynamics for change".

What are the main challenges faced?

Yves Dieulesaint: "The -40% target was already ambitious. We are fully aware of what our commitments mean for our teams and the partners that we collaborate with, as well as our customers, who have their own internal or regulatory constraints. With our climate commitments, we need to rethink the dialogue established between an owner and their tenants within an approach to build together. We will only be able to meet our goals if we bring our customers on board, which offers the advantage of ensuring that we are increasingly aligned with their specific stakes".

Stéphane Carpier : "We are an essential link in the chain, at the interconnection between the city's ambition and the possibilities offered for tenants. If we are not able to offer virtuous buildings, our customers will not be able to express their own ambitions or meet future regulations".

Aurélie Rebaudo-Zulberty: "We are necessarily going to face challenges to bring our stakeholders on board, particularly our suppliers, but Gecina needs to position itself as a catalyst for expertise, enabling the various stakeholders to move forward. There is a virtual framework that is feeding into and enhancing our own ambition. The cities are encouraging us to embrace this ambition, if only through their power to issue or withhold building permits. It is part of our responsibility to support the suppliers that want to be part of this approach, those that may not always have the resources, arguments or impetus required to achieve this".

Yves Dieulesaint : "There is nothing natural about our approach and we will need to ensure we are exemplary in relation to all our stakeholders".

gecina

Far more than square meters

16, rue des Capucines
75084 Paris Cedex 02, France
Tel: +33 (0) 1 40 40 50 50
www.gecina.fr