METHODOLOGY FOR ASSESSING THE NET POSITIVE IMPACT ON BIODIVERSITY

OFFICE PROPERTY INVESTMENT AND PROPERTY DEVELOPMENT DIVISIONS

Towards a net positive impact on biodiversity

March 2022

This document comprises the following paragraphs:

Introduction

As evidenced by current global events (IUCN World Conservation Congress [1]; UN Biodiversity Conference COP 15 [2]; creation of the TNFD [3]) and regulations ("Energy and Climate" and "Climate and Resilience" laws), the fight against biodiversity loss is a major challenge for city stakeholders.

As a signatory to the "Business for Nature - Act4Nature France" [4] initiative and member of the TNFD Forum, Icade has made preserving biodiversity one of its top five CSR priorities. It has implemented a strategy in favour of a net positive impact on biodiversity that improves the environment and well-being of its inhabitants, making cities more resilient in the face of climate change. It is not only a question of creating green space in an urban setting for the sake of landscaping, but also of preserving biodiversity in addition to creating new urban ecosystems.

The main ecosystem services on which Icade's business relies include: climate and natural hazard regulation, natural resource supply (materials and freshwater) and cultural services which have a positive impact on the well-being of occupants and consequently on the value in use of the assets. The main impacts of its activities on biodiversity include the degradation of natural habitats due to land development, soil sealing and climate change. The secondary impacts relate to pollution (water, soil, light and noise) and the spread of invasive species. Lastly, Icade's activities have a limited impact on the overexploitation of species.

Icade makes every effort to prevent and reduce its impact and restore biodiversity over the life cycle of its buildings. Its action plan focuses on three key issues, namely reintroducing nature into the city, promoting a net positive impact on biodiversity and restoring the most fragile ecosystems.

This document describes the methodologies for assessing the net positive impact on biodiversity of the Office Property Investment Division's existing properties and the Property Development Division's construction projects. Each division uses a distinct methodology and calculation tools that are adapted to the needs of its activity. Nevertheless, both methodologies make it possible to monitor changes in biodiversity in a specific location and the improvement measures taken.

1. Office Property Investment Division

The methodology for assessing the net positive impact on biodiversity associated with the operational phase of the business parks and green spaces owned by Icade is determined and assessed as part of the biodiversity performance contract entered into between the Office Property Investment Division and CDC Biodiversité in 2016. CDC Biodiversité is a subsidiary of Caisse des dépôts entirely dedicated to promoting biodiversity and its sustainable management.

A net positive impact on biodiversity is defined as positive change in a set of ecological criteria relating to plant and animal life, soil, water and landscape maintenance.

Icade's goal was to achieve a net positive impact on biodiversity in 50% of its business parks by 2022. As 100% of its business parks had a net positive impact on biodiversity in 2019, the objective is now to maintain this percentage at 100% each year until 2022.

1.1. The Biodiversity Performance Contract

This innovative initiative aims to introduce nature into cities while improving the quality of life of Icade's business park users. These contracts feature measurable resource and performance indicators with respect to plant and animal life, biological diversity, lower use of chemical soil amendments and plant protection products in green spaces.

The scope of the assessment conducted in 2021 as part of the biodiversity performance contract includes the 50-hectare Portes de Paris business park located in the cities of Saint-Denis and Aubervilliers (Seine-Saint-Denis) and the 60-hectare Orly-Rungis business park located in Rungis (Val-de-Marne). It covered 100% of the total area of Icade's business parks with green spaces at the end of 2021. These two business parks, with different ecological characteristics, are assessed separately with the results presented below for each park.

Initial assessments conducted in 2014 have been used as baseline for the two business parks. The two assessments conducted in 2021 will be repeated to measure the extent to which the objectives have been met in 2022.

1.2. Definition of "net positive impact on biodiversity" in the operational phase

The biodiversity performance contract makes it possible to monitor, for each business park, 18 indicators used to measure the "net positive impact on biodiversity".

These 18 indicators for monitoring the net positive impact on biodiversity include 9 resource indicators and 9 performance indicators.

Icade and CDC Biodiversité have defined "net positive impact on biodiversity" as follows:

- 100% of resource indicators have improved or remained stable at an optimal level;
- 50% (minimum) of performance indicators have improved or remained stable at an optimal level.

(1) IUCN: International Union for Conservation of Nature. A non-governmental organisation dedicated to nature conservation whose World Conservation Congress was held in Marseille from September 3 to 11, 2021.

(2) Held from October 11 to 15 and in China in April 2022.

(3) TNFD: Taskforce on Nature-related Financial Disclosures. Its mission is to develop and deliver a risk management and disclosure framework for organisations to report and act on nature-related risks.

(4) "Business for Nature – Act4Nature France" is an initiative under the aegis of the French Ministry for Ecological and Inclusive Transition that aims to develop, identify and showcase action plans in favour of biodiversity implemented by companies.

These indicators do not have the same objective due to the fact that Icade is responsible for resource indicators while performance indicators depend partly on external factors. Performance indicators were nonetheless included in the definition of "net positive impact on biodiversity", even though Icade is not solely responsible for them, so as to include the notion of "final impact" in the definition.

As a result, Icade must meet this definition of a "net positive impact on biodiversity" on 100% of its business parks each year to reach its objective for 2022.

1.3. Monitoring indicators and 2021 results

The last assessments conducted in 2021 showed that 100% of Icade's business parks once again had a net positive impact on biodiversity: 100% of resource indicators and over 50% of performance indicators showed positive change in both business parks, as detailed in the tables below. This means that Icade has met its objective and will maintain its efforts to continue this trend in 2022.

1.3.1. Portes de Paris business park

Resource indicators and related results for the Portes de Paris business park are shown in the following table:

Themes	Indicators	Units	2014 results	2021 results	Change between 2014 and 2021	Target progress for 2021 vs. base year 2014
PERFORMANCE INDICATORS						
Green spaces	Green spaces as a % of total land area	%	8%	11%	↑	↑
Natural habitats	Number of natural habitats	Number	4	5	↑	↑
Trees	Native tree species[1] *as a % of total species*	%	10%	29%	↑	↑
Shrubs	Area covered by shrubs *as a % of total green space area*	%	25%	26%	↑	↑
Shrubs	Native shrub species[1] as a % of total species	%	55%	35%	↓	↑
Herbaceous plants	Native herbaceous plant species[1] *as a % of total species*	%	83%	83%	→ ★	→
Birds	Number of nesting bird species	Number	20	16	↓	↑
Butterflies	Number of butterfly species	Number	9	4	↓	↑
Invasive plant species	Area covered by invasive non-native plant species *as a % of total land area*	%	<5%	<5%	→ ★	→
	Total % of performance indicators showing positive change (in line with target progress)				67%	> 50%
RESOURCE INDICATORS						
Wildlife friendly features	Number of micro-habitats and wildlife friendly features per hectare	Number/hectare	0.03	0.27	↑	↑
Dead wood left on site	Number of trees with micro-habitats per hectare[2]	Number/hectare	0.03	0.50	↑	↑
Mulched soil	Mulched area *as a % of total land area*	%	10%	100%	↑	↑
Inputs	Use of chemical soil amendments in green spaces	%	0%	0%	→ ★	→
	Use of chemical plant protection products in green spaces	%	0%	0%	→ ★	→
Level of landscape maintenance	Low-maintenance green spaces or very low-maintenance green spaces[3] *as a % of total land area*	%	30%	90%	↑	↑
Landscape maintenance staff training	Number of hours landscape maintenance staff are trained in sustainable landscape maintenance[4]	Number/year	0	36	↑	↑
Internal awareness-raising	Number of awareness-raising measures taken per year	Number/year	0	2	↑	↑
External communications	Number of external communications made per year	Number/year	0	6	↑	↑
	Total % of resource indicators showing positive change (in line with target progress)				100%	100%

★ *Indicator stable at optimal level.*

(1) A native species is one which has existed naturally for a very long time in the biogeographic region in question. These species play an optimal role in supporting regional biodiversity by meeting the needs of animal species throughout their life cycle, which is not necessarily the case with non-native species.

(2) Dead wood constitutes a specific natural micro-habitat which may support a rich and distinctive array of biodiversity. Examples of trees with micro-habitats include dead trees left standing or felled and left on the ground, stumps, etc.

(3) Low-maintenance green spaces are used to create a "country garden" effect. Very low-maintenance green spaces promote the development of natural habitats, rather than aesthetic or practical features. These levels contrast with the usual high-maintenance green spaces, which require regular and frequent cutting, trimming, pruning, etc.

(4) Sustainable landscape maintenance can be divided into three levels: high, low and very low.

1.3.2. Orly-Rungis business park

Resource indicators and related results for the Orly-Rungis business park are shown in the following table:

Themes	Indicators	Units	2014 results	2021 results	Change between 2014 and 2021	Target progress for 2021 vs. base year 2014
PERFORMANCE INDICATORS						
Green spaces	Green spaces as a % of total land area	%	11%	21%	↑	↑
Natural habitats	Number of natural habitats	Number	4	7	↑	↑
Trees	Native tree species[1] *as a % of total species*	%	21%	26%	↑	↑
Shrubs	Area covered by shrubs *as a % of total green space area*	%	20%	19%	↓	↑
Shrubs	Native shrub species[1] *as a % of total species*	%	22%	40%	↑	↑
Herbaceous plants	Native herbaceous plant species[1] *as a % of total species*	%	73%[2]	77%	↑	↑
Birds	Number of nesting bird species	Number	14	16	↑	↑
Butterflies	Number of butterfly species	Number	5[2]	8	↑	↑
Invasive plant species	Area covered by invasive non-native plant species *as a % of total land area*	%	<5%	6%	↑	→
	Total % of performance indicators showing positive change (in line with target progress)				78%	>50%
RESOURCE INDICATORS						
Wildlife friendly features	Number of micro-habitats and wildlife friendly features per hectare	Number/hectare	0.0	1.6	↑	↑
Dead wood left on site	Number of trees with micro-habitats per hectare[3]	Number/hectare	0.0	0.5	↑	↑
Mulched soil	Mulched area *as a % of total land area*	%	0%	100%	↑	↑
Inputs	Use of chemical soil amendments in green spaces	%	0%	0%	→ ★	→
	Use of chemical plant protection products in green spaces	%	100%	0%	↓	↓
Level of landscape maintenance	Low-maintenance green spaces or very low-maintenance green spaces[4] *as a % of total land area*	%	5%	40%	↑	↑
Landscape maintenance staff training	Number of hours landscape maintenance staff are trained in sustainable landscape maintenance[5]	Number/year	0	36	↑	↑
Internal awareness-raising	Number of awareness-raising measures taken per year	Number/year	0	2	↑	↑
External communications	Number of external communications made per year	Number/year	0	8	↑	↑
	Total % of resource indicators showing positive change (in line with target progress)				100%	100%

★ *Indicator stable at optimal level.*

(1) *A native species is one which has existed naturally for a very long time in the biogeographic region in question. These species play an optimal role in supporting regional biodiversity by meeting the needs of animal species throughout their life cycle, which is not necessarily the case with non-native species.*
(2) *As these indicators were measured for the first time in 2019, the data shown is not from 2014 but from 2019. As a result, 2019 will be used as their base year.*
(3) *Dead wood constitutes a specific natural micro-habitat which may support a rich and distinctive array of biodiversity. Examples of trees with micro-habitats include dead trees left standing or felled and left on the ground, stumps, etc.*
(4) *Low-maintenance green spaces are used to create a "country garden" effect. Very low-maintenance green spaces promote the development of natural habitats, rather than aesthetic or practical features. These levels contrast with the usual high-maintenance green spaces, which require regular and frequent cutting, trimming, pruning, etc.*
(5) *Sustainable landscape maintenance can be divided into three levels: high, low and very low.*

1.4. Improvements observed in 2021, and 2022 action plan

Based on the latest assessment conducted in 2021, 100% of resource indicators and over 50% of performance indicators showed positive change or remained stable at an optimal level in both business parks.

In the Portes de Paris business park, the planting of a 1.5 hectare urban forest has contributed to a significant increase in the proportion of open green spaces there, i.e. up by 35% compared to its baseline. Most of the performance indicators continued to improve in the business park, although weather conditions may have had a one-time adverse impact on some indicators (for example, the number of butterfly species).

In the Orly-Rungis business park, the many new amenities and increased proportion of green spaces have led to an increase in the number of natural habitats. In 2021, the business park also benefited from greater plant diversity through the planting of approximately 100 trees—including four new native tree species and eight new native shrub species—and new native herbaceous plant species. The installation of approximately 60 bird nesting boxes and Landboost (a 3D-printed multi-species habitat) have helped to increase the number of micro-habitats and wildlife friendly features. The number of nesting bird species increased compared to its baseline.

The improvement in performance indicators is also the result of the ecological management approach for green space adopted in the business parks. This approach adheres to the requirements set out by the Ecojardin label. These practices will remain in place in 2022 and include mulching 100% of the land area, banning chemical plant protection products and chemical soil amendments in green spaces and organising training in sustainable landscape maintenance.

In addition to increasing low-maintenance or very low-maintenance green spaces, the 2022 action plan provides for the continued improvement of initiatives already taken, such as tree planting schemes and improvements to green spaces including the removal of single species hedges and the replanting of native species.

In 2021, Icade organised a Green Lease Club dedicated to biodiversity in the Orly-Rungis business park to train and educate its customers on these issues. Efforts to inform the public will also be stepped up through the installation of information panels. In addition, a participatory science programme in partnership with the National Museum of Natural History will be set up starting in 2022. It will allow business park users to assist in measuring the net positive impact on biodiversity by collecting data on animal and plant life observed in the business parks. This will play an important role in raising public awareness while adding to the inventories conducted by ecologists.

Urban forest, Portes de Paris business park (Seine Saint-Denis)

Photo credits: Maxime Huriez

2. Property Development Division

Icade Promotion's methodology for measuring the net positive impact on biodiversity in the construction phase is determined within the framework of a biodiversity assessment that notably evaluates changes in the Biotope Area Factor (BAF), which reflects the surface area of permeable and green spaces that can accommodate and promote biodiversity. The assessment is carried out by Egis, an engineering group specialising in biodiversity and environmental engineering and a subsidiary of Caisse des dépôts. Net positive impact on biodiversity is defined as a positive change in the BAF as a result of the construction project. Icade is aiming for at least 25% of its projects to have a net positive impact on biodiversity starting in 2020.

2.1. The Biodiversity Assessment

Each project is subjected to a biodiversity assessment in the design phase in order to assess soil permeability (reflected in the BAF indicator), diversity, ecological continuities and invasive species. The assessment evaluates the initial state of the project site in order to identify the benefits of the project, any risks involved (e.g. the presence of protected species) and improvement solutions.

2.2. Definition of "net positive impact on biodiversity" in the construction phase (BAF)

Net positive impact on biodiversity is defined as a positive change in the Biotope Area Factor (BAF) as a result of a project. The BAF indicates the proportion of areas favourable to biodiversity relative to the plot's total surface area. By improving this indicator Icade aims to combat the erosion of local biodiversity and the urban heat island effect, restore ecological corridors and promote natural rainwater management.

Each surface type is multiplied by a coefficient of between 0 and 1 linked to its biodiversity potential [1]. For example:

- impermeable surfaces have a coefficient of 0;
- open soil has a coefficient of 1;
- semi-permeable surfaces have a coefficient of 0.3;
- green roofs have a coefficient of 0.7.

Each area of a project is weighted, then all areas are combined to obtain the pre- and post-project BAF, thus revealing whether a net positive impact on biodiversity has been achieved.

2.3. Monitoring indicators and 2021 results

Icade achieved its objective in 2021, with 46% of projects having a net positive impact on biodiversity.

3. Progress in measuring the net positive impact on biodiversity

Icade is a member of the Business for Positive Biodiversity Club (B4B+ Club) led by CDC Biodiversité, which in 2020 created the Global Biodiversity Score (GBS), a standardised indicator to quantify a company's impact on biodiversity, in collaboration with companies, associations and researchers. This indicator will improve Icade's ability to measure its impact on biodiversity.

In addition, the Office Property Investment Division launched a study on "grey biodiversity[2]" in 2021 to measure the impact of its entire value chain on biodiversity and develop action plans.

(1) http://multimedia.ademe.fr/catalogues/CTecosystemes/fiches/outil11p6364.pdf.

(2) By analogy with grey energy, grey biodiversity includes all the positive or negative effects on biodiversity over the entire life cycle of a material or product.