



Environmental Solutions by VINCI

# Biodiversity: understand, act, regenerate

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## Introduction

# What if we saw the natural world as a business opportunity?

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The scientific consensus is clear: we are heading towards **a sixth mass extinction of species**, the last of which was that of the dinosaurs 65 million years ago.

What makes it unique – and worrying – is that it is happening at a rate nearly 100 times faster than previous extinctions.<sup>1</sup> There are multiple factors at play, all directly or indirectly linked to human activities, including climate change, of course, but also the overexploitation of resources, the destruction of habitats, pollution and invasive species.<sup>2</sup>

This observation makes the quote from Elizabeth Kolbert, author of *The Sixth Extinction* (2014 Pulitzer Prize winner), all the more apt: “We have as many opportunities to change the planet for the better as we do to destroy it.”

Beyond the planet, we are simply compromising our own future. **Because the societal and economic consequences of this mass extinction are disastrous.**

Over 55 per cent of global GDP depends on the health of biodiversity and ecosystem services. The World Bank has estimated the potential economic loss linked to ecosystem degradation at £2.7 trillion per year by 2030.<sup>3</sup>

To take the right action, we need to assess the extent of the complexity of the situation. Biodiversity, water, climate, food, health... **All these global issues are interlinked.** This is the core message of the Nexus Report

published by IPBES in 2024. Siloed approaches are doomed to failure and can even be counterproductive.

The good news? By following this cross-cutting logic, **ambitious short-term actions could generate 10 trillion dollars in business opportunities** and support the creation of 395 million jobs by 2030, globally.<sup>4</sup>

VINCI understands this. That’s why the Group is committed to reducing its impact by easing pressure on ecosystems – and taking action **to help regenerate essential biodiversity.**

Yes, infrastructure has a role to play in sustaining life, and we are working towards this. There is still time to preserve, repair and recreate rich and functional ecosystems for a sustainable economy.

**Isabelle Spiegel,**  
**Director of Environment,**  
**VINCI**

<sup>1</sup> “The Sixth Mass Extinction: fact, fiction or speculation?”, R. H. Cowie, Ph. Bouchet, B. Fontaine, 2022.

<sup>2</sup> “Global Assessment Report on Biodiversity and Ecosystem Services”, IPBES, 2019 (hereinafter referred to as IPBES Report, 2019).

<sup>3</sup> World Bank, [press release, 1 July 2021](#).

<sup>4</sup> Nexus Report, IPBES, 2024.

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# Biodiversity: there is still time

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Biodiversity is collapsing at an unprecedented rate. Driven by human activity, this rapid decline affects all ecosystems and poses significant ecological and economic risks. Yet scientific reports show that, although the crisis is severe, it remains reversible. There is still time to act.



1 M

species are threatened with extinction in the coming decades (out of an estimated 8 million species living on Earth)<sup>2</sup>



75%

of the Earth's surface has been significantly altered by human activities<sup>3</sup>

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## A sudden and rapid decline in life

Across the globe, **biodiversity is in steep decline**: the disappearance of natural habitats is leading to the extinction of many species.

Wild animals are the most affected. Between 1970 and 2020, the average size of populations monitored by the World Wide Fund for Nature (WWF) decreased by 73%<sup>1</sup>. Freshwater species populations show the sharpest decline (-85%), followed by the populations of terrestrial species (-69%) and marine species (-56%).

In the latest *Red List of Threatened Species* published by the International Union for Conservation of Nature (IUCN, 2022), of the 150,388 species studied, 42,108 are classified as threatened (28%), of which 41% are amphibians, 13% birds, 27% mammals, and 34% conifers.

Natural environments are being damaged or destroyed by humans. For example, more than 35% of coastal and continental wetlands have disappeared worldwide since 1970. At the current rate of deforestation, tropical forests could disappear within 50 to 70 years.

**The conclusion is undeniable: biodiversity is collapsing at an alarming pace, affecting species across the globe and threatening the stability of the entire planet.**

<sup>1</sup> [Living Planet Index \(LPI\), WWF, 2024](#). Nearly 5,500 wild species are monitored by the LPI.

<sup>2</sup> IPBES Report, 2019.

<sup>3</sup> Ibid.

## Five pressures of human activity

The causes of this global decline are well known. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) – the equivalent of the IPCC (Intergovernmental Panel on Climate Change) for biodiversity – summarises them as five pressures or drivers of erosion:

- the destruction and artificialisation of natural environments, linked to deforestation and the conversion of natural habitats into agricultural land or urban areas, for example;
- the overexploitation of living resources (hunting, fishing, timber, etc.), including water resources;
- climate change;
- water, soil and air pollution;
- the introduction of invasive alien species: plants, animals, fungi or micro-organisms introduced into a new environment that harm local species.

## An ecological risk... and an economic one

The collapse of biodiversity is not some distant ecological disaster. It is a direct threat to the economy and stability of our societies. A particularly telling example is the role of pollinating insects, such as bees and butterflies, with over 40% of their species now under threat. By 2030, the collapse of essential ecosystem services – i.e., the benefits provided by nature to human populations, such as pollination, as mentioned above, but also fishing and timber production – could lead to a **\$2.7 trillion decline in global GDP<sup>2</sup>, or 2.6%**.

## IPBES: an international organisation

**IPBES** (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) **is an international body created in 2012 under the umbrella of several United Nations institutions.**

Its mission is to assess the state of global biodiversity and inform policy decisions with reliable scientific data. It brings together more than **140 member states** and mobilises experts from around the world.



55%

of global GDP (≈\$58 trillion) depends directly on ecosystem services provided by nature<sup>3</sup>



<sup>1</sup> "Assessment Report on Pollinators, Pollination and Food Production", IPBES, 2016.

<sup>2</sup> IPV (Living Planet Index), WWF, 2024.

<sup>3</sup> Ibid.

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## COP15: the international wake-up call with a positive outlook

Faced with the urgency and scale of the disaster, the international community made strong commitments at COP15 in 2022. The signing of the Kunming-Montreal Global Biodiversity Framework set a clear goal: **to protect 30% of the world's land, water and seas by 2030**. £150 billion is expected to be spent annually on restoring the environment.

These decisions are based on scientific studies, such as that produced by the IPCC and IPBES. To go further, the latter published the Nexus Report in 2024, which highlights **the interdependence of several crises** (water, biodiversity, food, health and climate) and **the need for concrete and coordinated action**.

<sup>1</sup> [IUCN](#), 2024.

<sup>2</sup> [United Nations Environment Programme \(UNEP\)](#), 2020.

<sup>3</sup> De Groot *et al.* (2012), "Global estimates of the value of ecosystems and their services in monetary units", *Ecosystem Services*.

## Renaturation: promises and potential

The decline in biodiversity is not inevitable. In 2024, a study conducted in partnership with the IUCN showed that **the implementation of effective conservation plans could halt or even reverse the decline of certain species**<sup>1</sup>. Thus, restoring 30% of converted agricultural land, while preserving existing ecosystems, would prevent more than 70% of predicted extinctions among mammals, birds and amphibians.<sup>2</sup>



**\$150  
trillion**

of combined annual value provided by ecosystem services, which is nearly twice the global GDP<sup>3</sup>

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# VINCI's commitments in line with its impact

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Preserving biodiversity represents a major challenge for VINCI, as its activities affect natural environments in multiple ways.

Committed to a proactive approach, the Group has set an ambitious objective: achieving zero net loss of biodiversity.

## A direct and indirect impact on biodiversity

**The infrastructure built or operated by VINCI have direct and indirect impacts on the natural environment.** These primarily involve the disruption or degradation of ecosystems, which may result from activities related to linear infrastructure or airport concessions, or quarrying operations. Changes in land use, often linked to the artificialisation generated by earthworks, construction or raw material extraction activities, lead to soil depletion and are also considered to have a direct impact on biodiversity.

There are also **indirect impacts caused by the Group's value chain.** For instance, this includes the extraction of raw materials, like sand, which is used in concrete production. Another example is the urbanisation driven by the construction of certain infrastructure, such as airports or roads, which in turn leads to increased land artificialisation.

## Long-standing commitments to preserving biodiversity

**In 2025, the Group renewed its commitments under the voluntary act4nature international initiative.**

Launched in 2018 by the French association Entreprises pour l'Environnement (EpE) and its partners, including VINCI, the initiative aims to **engage companies on their impacts and dependencies related biodiversity,** encouraging them to integrate biodiversity considerations into their strategies and operations.



Each company proposes its own individual commitments and also signs 10 commitments shared by all members. Implementation is reviewed every two years. VINCI has participated since the initiative's launch and has achieved concrete results.

### A pathway to net zero biodiversity loss

At the same time, as part of its environmental ambitions, the Group has set itself clear objectives:

- **achieve zero use of plant protection products** (excluding contractual measures) by 2030;
- **achieve net zero land take** for VINCI Immobilier, in France by 2030;
- **strive towards net zero biodiversity loss.**

By "net", we mean taking into account all biodiversity losses and gains associated with a project, after reduction and compensation measures.

"Preserving natural environments is one of the three priorities of VINCI's environmental ambition. We must act without delay, reducing the pressures our activities exert on biodiversity, but also stepping up ecological engineering and renaturation initiatives."



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# VINCI's solutions for understanding, reducing and restoring

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As part of its global action plan, VINCI is implementing specific solutions and innovative projects aimed at offsetting its impact on biodiversity.

**VINCI's comprehensive action plan to meet its commitments is structured around three areas** that correspond to the Group's main biodiversity challenges:

- 1. Understanding:** Improving knowledge of natural environments and VINCI's impact;
- 2. Reducing:** Limiting the pressures of the Group's activities on biodiversity;
- 3. Restoring:** Developing the Group's renaturation and customer support capabilities.

The Group's various entities are implementing this plan at their own level, notably through voluntary biodiversity protection initiatives and ecological compensation measures.

**To prioritise actions and better measure their impact, they rely on local and national experts and partners.**

For example, VINCI Autoroutes in France has partnered with the League for the Protection of Birds (LPO), the National Union of French Beekeepers (UNAF) and the National Forestry Office (ONF). With the creation of the VINCI Autoroutes Foundation's "biodiversity mission" in June 2022, the partnership with the ONF has even evolved towards projects to restore the natural environment.

In addition, VINCI is developing and testing **solutions for the Group and its clients to protect biodiversity**, guided by the three pillars of its action plan. **Exemplary projects that can be replicated** are also being implemented on various scales.



# SOLUTIONS FOR MEASURING AND UNDERSTANDING OUR IMPACT ON BIODIVERSITY



VINCI IS DEVELOPING SOLUTIONS FOR MONITORING AND ASSESSING ITS IMPACT ON BIODIVERSITY, IN CLOSE COLLABORATION WITH SCIENTISTS, ASSOCIATIONS AND STAKEHOLDERS IN THE FIELD.

Knowing where, how and to what extent projects affect natural environments is a key issue for VINCI and its clients. A detailed understanding of project impacts enables us to prioritise the actions to be taken and measure their effectiveness.

## Impact measurement methodology

### Eurovia, VINCI Construction – France

**Challenge:** Structure Eurovia’s biodiversity policy around recognised scientific methodologies.

**Value proposition:** Eurovia, in partnership with the National Museum of Natural History of France (MNHN), the French National Centre for Scientific Research (CNRS) and the French Biodiversity Agency (OFB), has developed **a methodology for mapping and analysing the natural zoning of quarry**

### **sites based on an ecological quality indicator (IQE)** designed by the MNHN.

Since 2012, the method has been tested on around 40 quarries out of 150 sites in France. This indicator makes it possible to assess and monitor the ecological quality of sites in a standardised, regular and comparative manner, and to implement targeted actions to preserve and restore biodiversity. Tailor-made actions to protect habitats and species, such as the rock rose in Châteauneuf-les-Martigues, have been implemented.

**Key figure:** More than 20,000 pieces of data on flora and fauna have been added to the French National Inventory of Natural Heritage (INPN), making VINCI Construction the leading private contributor.



Ecological data survey of Eurovia’s Lafitte quarry in Cauna, France.

## Bi2O: assessing the environmental footprint of projects

VINCI Construction – France

**Challenge:** Reduce the ecological footprint of urban development projects and increase biodiversity in urban areas.

**Value proposition:** **Bi2O** is a decision-making tool developed by the Roads division of **VINCI Construction in France. It compares horizontal urban development projects** (town centres, squares, car parks, etc.) **to assess their environmental footprint.** It promotes permeable and green solutions that optimise biodiversity, refresh urban spaces and reduce long-term costs for the end customer.

**Key figure:** On average, **1,600 m<sup>2</sup> of additional surface area supports biodiversity** in a project optimised by Bi2O.



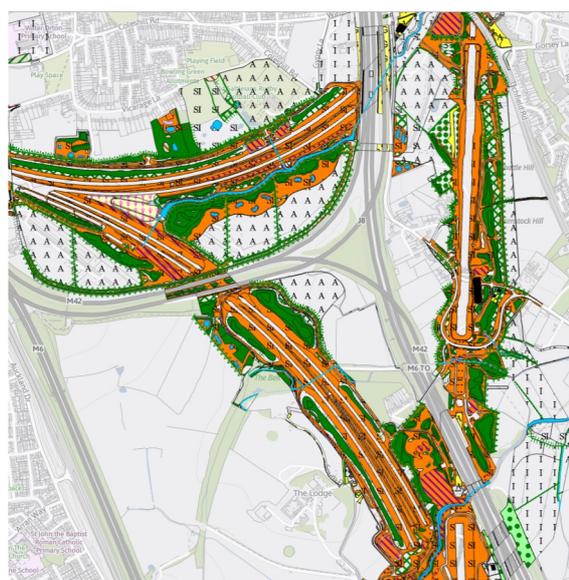
## Biodiversity Accounting System (BAS): visualising the impact of infrastructure projects

VINCI Construction – United Kingdom

**Challenge:** Acquire a suitable forecasting tool to achieve a 10% net gain in biodiversity, as required by UK legislation for new construction sites.

**Value proposition:** VINCI Construction has developed the BAS tool as part of the High Speed 2 project in the United Kingdom. It enables the impact of linear infrastructure projects on biodiversity to be visualised. Thanks to its real-time data monitoring, VINCI Construction **can track and minimise its projected impact on habitats** by working through different scenarios. Beyond the construction phase, **the tool enables operators to measure, control and monitor** changes in biodiversity using customised indicators.

**Key figures:** For the High Speed 2 project, the visualisation tool showed that 18% of habitats remained unchanged, whilst 38% deteriorated and 44% improved.



# SOLUTIONS TO REDUCE THE IMPACT OF OUR PROJECTS ON BIODIVERSITY



APPROPRIATE TOOLS AND EXPERT SUPPORT ALLOW THE GROUP TO PRECISELY MANAGE ITS APPROACH TO REDUCING THE IMPACT OF ITS PROJECTS ON BIODIVERSITY.

## Urban recycling

### VINCI Immobilier – France

**Challenge:** Combat urban sprawl and land artificialisation and decontaminate soil to preserve resources and biodiversity.

**Value proposition:** For VINCI, urban recycling refers to **any major refurbishment of a building or redevelopment of obsolete land: renaturation of an industrial brownfield site, conversion of an abandoned building into housing.**

VINCI Immobilier can meet all requirements across the entire value chain, from decontamination to refurbishment, upgrading or conversion of existing buildings, right through to their utilisation. Among the benefits of this approach is the preservation of biodiversity.

**Key figures:** Between 2020 and 2022, VINCI Immobilier halved its rate of land artificialisation. In 2024, 41% of its revenue was generated through urban recycling operations. The target for 2030 is 50%.



Example of urban recycling in *Universeine*, a neighbourhood of Saint-Denis, France: a former industrial wasteland transformed into the Athletes' Village for the Paris 2024 Games before being converted into a commercial and residential neighbourhood.

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## SOLUTIONS FOR RESTORING ECOSYSTEMS

ANALYSING THE IMPACT OF THE GROUP'S PROJECTS ON BIODIVERSITY ALSO SERVES TO STRENGTHEN ITS EXPERTISE IN THE FIELD OF RENATURATION AND RESTORATION OF NATURAL ENVIRONMENTS.



### **Revalo®: combating urban heat islands and promoting nature in cities – VINCI Construction – France**

**Challenge:** Respond to the challenges of urban cooling, temperature mitigation and renaturation.

**Value proposition:** Revalo® is an urban development solution that combines rainwater management, choice of surfaces, vegetation layer and soils. In France, urban cooling island projects have been carried out in Bordeaux, Toulon, Nice, Bergerac and Paris.

**Key figures:** At the Place Goiran in Nice, France, the surface area of green spaces increased from 21% to 25% and habitat diversity increased from 58% to 73%.



*Above:* Loubière garden in Toulon, France, one of the projects where Revalo® has been deployed.  
*Opposite:* Restoring hydraulic continuity by building a fish pass on the river near La Jaille-Yvon (western France) enabling various fish species to swim upstream.

### **Equo Vivo: promoting ecosystem resilience – VINCI Construction – France**

**Challenge:** Ensure ecological continuity for species and sediments, restore natural river functions, and renature degraded areas.

**Value proposition:** Under the Equo Vivo brand, VINCI Construction applies its expertise in ecological engineering to improve and restore biodiversity and carry out ecological development projects in natural and artificial environments. In 2024, Equo Vivo was involved in the restoration of plots of land along the Mosson river and wetlands in the Hérault region.

**Key figures:** Restoration of nearly 20 km of waterways and over 25 ha of wetlands. By 2024, management or treatment of more than 15 ha of invasive species.



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## BIODIVERSITY IN ACTION: VINCI'S KEY PROJECTS

SELECTED EXAMPLES OF INITIATIVES AIMED AT MINIMISING IMPACT AND PROMOTING ECOLOGICAL RESTORATION.

### LGV SEA (Southern Europe Atlantic High Speed Rail Line) Tours-Bordeaux

LISEA, VINCI Concessions – France

#### Limiting the impact of the line's construction on natural areas

**Challenge:** Minimise the construction project's impact on the area's rich natural heritage, which includes 14 Natura 2000 sites and 223 protected species, along the 340km railway route.

**Solution:** When work began in 2011, a **conservation programme was developed** in collaboration with nature conservation associations, fishing and hunting federations, chambers of agriculture and government

departments. It is based on current regulations. Two types of compensatory measures were implemented:

- the purchase of land, entrusted to an organisation responsible for implementing compensation measures;
- agreements with landowners or operators on land with high ecological potential. LISEA has signed 185 such agreements.

**Key figures: 3,800 ha of environmental compensation measures** along the line, 30% acquired by LISEA and transferred to nature conservation organisations, 70% managed through agreements with operators or landowners.

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Environmental compensation on the territory crossed by the SEA Tours-Bordeaux high-speed rail line.

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## Faro Airport

VINCI Aiports – Portugal

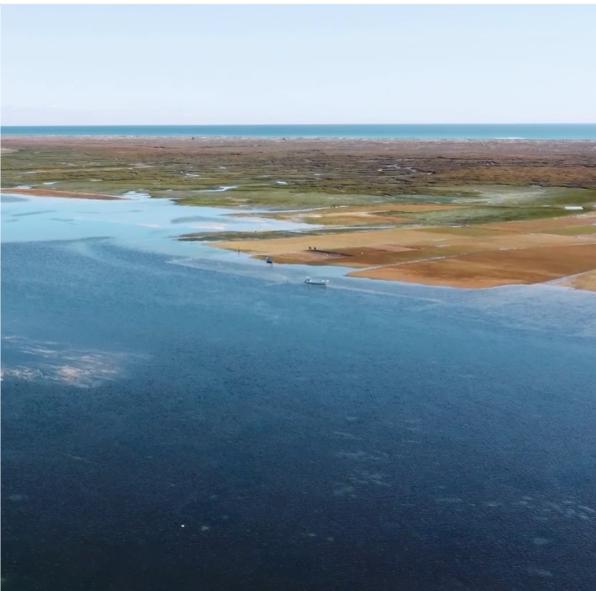
### Restoring and preserving seagrass beds off the coast of Faro

**Challenge:** Participate in a project to restore seagrass beds threatened by human activities, but essential for biodiversity, fishing, coastal protection and carbon storage.

**Solution:** Supported by the European LIFE programme, this project was developed with the Marine Science Centre of the University of Algarve and eight partners. In addition to restoring seagrass beds, it includes the management of invasive algae and the rehabilitation of the seabed. Continuous monitoring of biodiversity and water quality is carried out using drones and sensors. Annual reports are published to measure progress and adjust strategies. Objective: **generate marine carbon credits to offset the residual emissions of ANA's Portuguese airports by 2030.**

**Key figure:** 191 hectares of seagrass beds could be conserved and recreated by 2030.

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## City of Mulhouse

VINCI Energies – France

### Reducing the impact of light pollution on local wildlife

**Challenge:** Limit lighting in towns and cities, which disrupts the life cycle and movements of certain nocturnal species and fragments their natural habitat, while ensuring the safety and comfort of residents.

**Solution:** Following a design phase, the installation of sensors and participatory workshops with citizens, **a new Lighting Plan was implemented, modifying or removing light points** (orientation, colour, power, etc.). A black grid was created, forming night-time ecological corridors where the light footprint is greatly reduced or even eliminated.

**Key figure:** 230 lights were upgraded to 2200K, a warmer colour temperature that is less disruptive to biodiversity.



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# Making life a shared priority

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Although biodiversity figures are alarming, evidence shows that **the trend can be reversed**. Studies on pioneer or founder species (such as oysters or certain coral reefs) show that restoration projects can yield visible results in five to ten years.<sup>1</sup>

However, there is no single solution that can be replicated everywhere. **Each situation requires a specific and coordinated response** between economic actors, experts, scientists, naturalist or environmental protection associations, local elected officials and residents.

**VINCI's regional roots are a strength** that enable it to form alliances with relevant partners and engage with all stakeholders. **Thanks to its business lines and its ability to incorporate various environmental issues** (adaptation to climate change, water crisis, tensions over materials, etc.), the Group is also able, at the local level, **to adapt its actions to the specific characteristics of each territory**.

Our role is evolving: while we initially worked to reduce the impact of our activities, we must now contribute to **actively regenerating ecosystems**. Through collective efforts involving businesses and stakeholders, our commitments can be amplified.

**The co-benefits are proven**, positively affecting human health, local economies, and employment, ensuring advantages for all. In the face of the ecological emergency, it is through cooperation that we can increase our positive impact.

<sup>1</sup> "Meta-analysis reveals drivers of restoration success for oysters and reef community", Rachel Smith, Max C. N. Castorani.



The series **Environmental Solutions by VINCI** deciphers the challenges of environmental transition and highlights VINCI's point of view and the solutions implemented within the Group to help improve living spaces, infrastructure and mobility.

These documents embody the Group's determination to put action at the heart of the rollout of its environmental ambition based on three priorities: acting for the climate, optimising resources through the circular economy and preserving natural environments.

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*Cover photo: Eurovia's Lafitte quarry in Cauna, France.*



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