Biodiversity management framework for grid companies

DOI 10.5281/zenodo.14615271

Contents

March 2024

foto: Harry Zwart, Alliander

Biodiversity management framework
for grid companies

The biodiversity crisis is a risk to our society and economy. Companies such as the Dutch electric grid company Alliander can play a major role in reversing biodiversity loss. This framework was designed by Alliander, together with Impact Institute and Naturalis Biodiversity Center. At the top it states the needs of biodiversity and at the bottom are the business units. The blocks in between link the two, identifying which policies and measures are needed to positively impact biodiversity. Thus, it serves as a decision-making tool for strategy and implementation purposes.

What is **biodiversity**?
Biodiversity is all life on Earth from individuals and species to the networks they form. All life depends on other life. Humans cannot exist without biodiversity.

What is **nature inclusive**?
1) human action for the conservation and restoration of nature and biodiversity (preventing damage, improving the quality of nature), within and outside of nature reserves, 2) human activity takes place within the boundaries of natural systems and 3) there is optimal use of the natural systems and processes.

Contacts
Alliander: roland.vink@alliander.com
Impact Institute: simon@impactinstitute.com
Naturalis Biodiversity Center: marten.schoonman@naturalis.nl

What does biodiversity need

- Enhancing biodiversity
- Protecting and expanding nature
- Healthy environmental conditions
- Social transition

What impact can a grid company make

- Nature-friendly land uses are maximised - locally and globally
- Biodiversity can flourish through nature-friendly maintenance
- Buildings and sites become nature-inclusive
- Nature-rich, biodiverse sites are preserved
- Environmental impact is minimised
- Soil (life) is disturbed as little as possible
- Society becomes increasingly nature-inclusive

How do actions impact biodiversity →

Which actions can be operationalised in the organisation

- Materials are purchased in a nature-inclusive manner
- Standard nature-friendly land management unless this is not possible or permitted
- Nature-inclusive design, construction and renovation
- The grid companies make their sites more biodiverse and enhance ecological connectivity
- There is a collaboration and efficiency in bending biodiversity loss and linking to the energy- and climate transition
- Employees, suppliers and customers understand the value of biodiversity and act accordingly

Which standards and tools are used

- Impact on biodiversity locally and globally is included in all tenders and projects
- Site selection and design take local nature into account
- Use of Biodiversity Metric for scoring nature inclusivity
- Soil to be disturbed as little as possible
- Grid companies and others share knowledge and work together
- The energy and infrastructure sectors work together to seek out matchmaking opportunities
- Biodiversity impacts are communicated internally and externally
- Nature-inclusive procurement standards for the entire supply chain
- Nature-inclusive standards for maintenance of green zones and elements
- Identification of opportunities for biodiversity enhancement per site
- Biodiversity Metric for grid companies (area and buildings)
- Nature-inclusive standards for buildings, sites and energy transport
- Analysis of an integrated approach for linking opportunities in climate mitigation and adaptation, energy transition and circular material use
- Use of the maturity model for nature inclusiveness (Dutch: natuurladder)

Which business units are involved

- Procurement
- Design, construction and operation
- Various business units

What are the requirements of the management framework

- Monitoring plan with the Key Performance Indicators (KPIs)
- Analysis of impact on biodiversity
- Biodiversity team with ecological expertise, budget and mandate
- Biodiversity is included in the business strategy

Possible reasons why biodiversity is considered to be important

- Social responsibility (intrinsic motivation)
- Attractiveness as an employer
- Awareness and acceptance of the biodiversity crisis
- Requirements for nature-inclusive integration (e.g. municipalities)
- Biodiversity reporting obligation (e.g. CSRD)
- Other reasons

Layout by Zina Broeksma
Version: 4/mar/2024

Introduction

This paper provides clarification on the biodiversity management framework. The framework was designed by three Dutch organisations: grid company Alliander, Impact Institute and Naturalis Biodiversity Center. The aim of the framework is to help organisations make a positive impact on biodiversity through their decision-making.

The framework is applicable to anyone who wants to operationalize actions which improve biodiversity on an organisational level. This particular version of the framework is tailored to grid companies, operating transmission networks for electrical energy. This paper covers what the framework is and how it can be used.

Naturalis, Alliander and Impact Institute will update the framework annually based on feedback. So please share your comments and questions with the authors. You can find their contact information at the bottom of this document.

Why this model?

Background

Biodiversity is under pressure worldwide. The coalition of infrastructure managers called Groene Netten[1] therefore aims to use its assets for nature restoration. Alliander incorporates this into its own mission, stating that its infrastructure must deliver a positive value to biodiversity. They have drawn up a roadmap to accomplish this.

Methodologies for measuring biodiversity and incorporating it into business frameworks is still in early stages of maturity. The urgency for companies to act in a biodiversity-conscious manner is increasing due to new EU regulations, which require organisations to report on biodiversity such as the Corporate Sustainability Reporting Directive (CSRD) and EU Taxonomy.

Alliander, Naturalis and Impact Institute jointly developed this biodiversity management framework. It describes the required organisational conditions for integrating biodiversity into strategic decision-making and operationalisation. With this, Alliander aims to achieve more positive impact on biodiversity. This will complement Alliander's existing methodology for measuring impact according to the six-capital framework.

Impact measurement annual report

Alliander, together with the Impact Institute, identifies, calculates and values. These include the impacts of climate change, air pollution, water pollution and land use on biodiversity and are included in Alliander's annual report.

In addition, Alliander is part of the coalition of Infrastructure Companies working on Impact Measurements, which publishes a new version of a Handbook on impact measurement every year. It describes the methods to calculate the most used impacts.

First measurement of biodiversity

Alliander participated in a collaboration between infrastructure parties in the field of biodiversity which was facilitated by Impact Institute. This involved calculating how much of Alliander's supply chain and own acreage contribute towards biodiversity loss. With this measurement Alliander can better understand their negative impact on biodiversity and which suppliers have the greatest impact. The report shows that the direct (negative) impact of efforts on their own acreage in the Netherlands is very large, but the impact their impact in their global supply chain is even greater. As a result, Alliander has decided to include purchasing in the biodiversity management framework.

To assess the impact of its portfolio on biodiversity in a transparent and measurable way, Alliander used Impact Institute's Global Impact Database (GID). It contains quantitative estimates of environmental, social and economic impacts for 140 countries, each with 65 sectors in the global economy.

The GID rates these biodiversity-impact estimates in equal monetary units. This rating allows Alliander to compare different sustainability topics and position non-financial impacts within a business context. Another key advantage of the GID is that it contains ready-to-use value chain data which Alliander can use to better understand the origins of the causes of biodiversity loss.

Added value of the framework

The management framework makes it possible to see where a grid company's positive impact can increase and negative impact can be reduced. It also reveals how different actions in the operation influence each other. This enables the prioritisation of solutions so that the right actions are carried out in the correct order. The framework can also be used as a checklist to get an idea of where the organisation currently stands and where the next steps can be taken.

Who can use the framework?

The framework is applicable to anyone who wants to operationalise biodiversity-strengthening actions within an organisation - and in this case specifically a grid company. A few examples of typical roles within the organisation are:

- Company management: for example, to set targets and connect business units;
- Multidisciplinary biodiversity team(s) to implement plans, using KPI monitoring;
- The team implementing the Corporate Sustainability Reporting Directive (CSRD[2]) and other biodiversity related reporting requirements;
- Land management / real estate Department;
- Environmental/sustainability Department.

For an ideal composition of biodiversity team members, see the table below, entitled 'What are the requirements of the management framework?'

Application of the management framework in other sectors

With minor adjustments it is also possible to apply the framework to another sector by replacing the boxes in the layers two (What impact can a grid company make) to 6 (Which business units are involved) in the framework. Please let us know if you would like to use a digital copy (in the 'Mural' webtool) to tailor to your situation - see the contact details at the bottom of this document.

The dynamic nature of the framework

The organisational objectives regarding biodiversity are not static. What we see as progressive today will be much more common in a few years. Through innovation and evaluation of our own objectives and processes, we gain new insights. As the context changes, so does our frame of reference. It is therefore important to realise now that we are dealing with a process of continuous evaluation and improvement. This framework will therefore be adjusted annually as indicated at the top of this document.

1 Green Networks is a partnership between eight infrastructure managers in the Netherlands: Alliander, Enexis, Gasunie, KPN, ProRail, Rijkswaterstaat, Stedin and TenneT. The participants work on several concrete projects within four core themes: climate, circularity, biodiversity and impact measurement. For the biodiversity, the Green Nets ('Groene Netten') coalition aims to create an ecological network in The Netherlands.

2 The Corporate Sustainability Reporting Directive (CSRD) states that from 2024 onwards, more and more companies will be required to report on their impact on people and the climate. The directive aims to ensure greater transparency surrounding company impacts and increased quality of sustainability information.

The importance of biodiversity

Biodiversity is all life on earth from individuals and species to the networks - such as ecosystems - that they form. All life depends on other life. Humans cannot exist without biodiversity. Biodiversity is therefore essential[3].

Our economy also depends on biodiversity. ‘Delaying the necessary changes for biodiversity restoration will cost more in the long run’, writes the Biodiversity team of Interdepartmental Policy Research (IBO) in September 2023:

The importance and urgency of biodiversity

Biodiversity is about all the different forms of life on earth, and therefore also about us. For example, biodiversity provides us with clean air, clean water and fertile soil. Our ecosystems that provide these services, the diversity of species and the numbers within species are not doing well. This has consequences for how we (can) live on earth. There is therefore a global interest in stopping the downward trend in biodiversity and turning it into a positive one.

Biodiversity cannot be captured in one indicator and there are multiple causes of biodiversity loss. The solution to restore biodiversity therefore lies in different policy areas and in many social domains. Experience shows that the required investment amount will be higher the longer we wait (take for example nitrogen, water quality, substances of concern, meadow birds).

3 See naturalis.nl/biodiversiteit

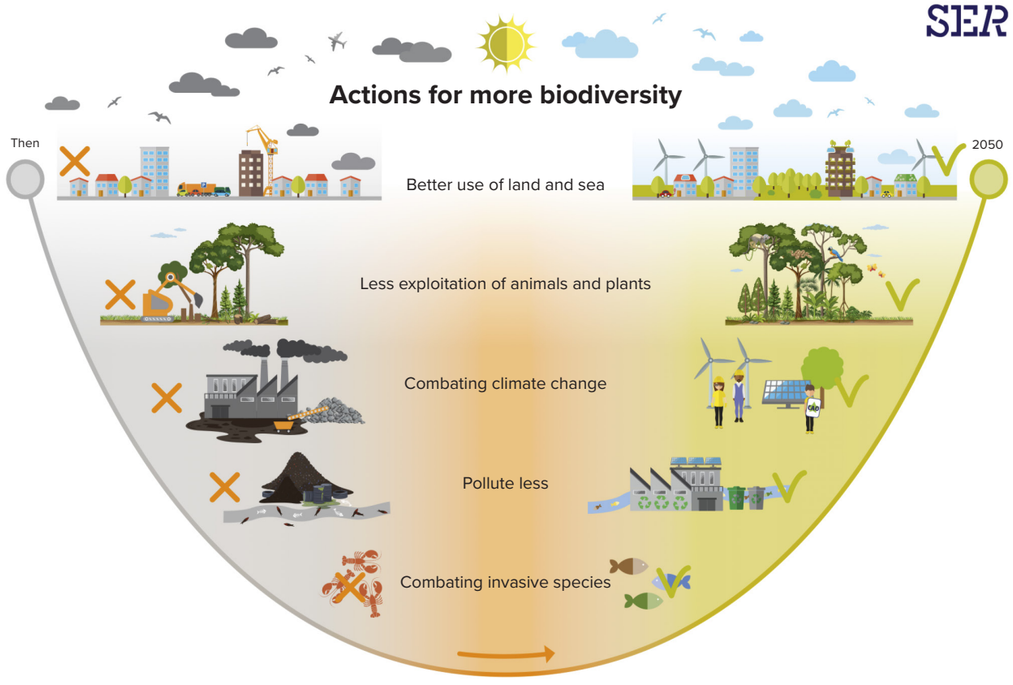


Figure: *Required actions for more biodiversity from “Biodiversity pays off for entrepreneurs and workers” Social-Economic Council (November 2023).*

Companies have a major role in this, writes Tim van Hattum[4], in Only Planet, Climate Guide for the 21st Century (November 2022):

> *The mission of business will change from making as much money as possible to contributing to a better world with a good revenue model. Society longs for a business community that takes care of the major issues of our time. The added value for society and long-term value creation of companies is much more important in the twenty-first century than solely short-term profitability. Companies concerned only with short-term thinking will be the big losers, because customers will make more and more demands. Moreover, the ecological crisis will completely disrupt the current business framework. More and more companies are looking for a different purpose. This goes beyond solar panels at Shell’s headquarters, a butterfly garden around Unilever’s headquarters or paper straws at McDonald’s. That won’t get us there. The course needs to change radically.*
>
> *A new mission is needed for companies of the future. More and more companies are developing a clear vision of how they will contribute to a better world. Twenty-first century businesses add value and are regenerative. These companies go a step further by designing products and services that have less negative impacts on the environment. Companies are transforming from causing as little damage as possible to the environment to restoring it. These types of companies are already regenerative in their design and return value to the ecological system of which we are a part. Instead of activity on a to-do list of the Corporate Social Responsibility department, this forms the new DNA of the company. Greenwashing is no longer accepted. It reflects the realisation that we must manage and care for the biosphere, and that we must leave the planet a better place than how we found it.*

The pressures on biodiversity are well known, as are the solutions which are visualised on the left by the Social-Economic Council.

4 Tim van Hattum is a climate expert and writer. He works as Head of the Climate Program at Wageningen University & Research.

Reading guide for the framework

The basic structure of the management framework is as follows: the subject of biodiversity (on top, in green) and the business units/departments (at the bottom, in turquoise) are brought together through concrete actions that can be operationalized (the middle, in yellow).

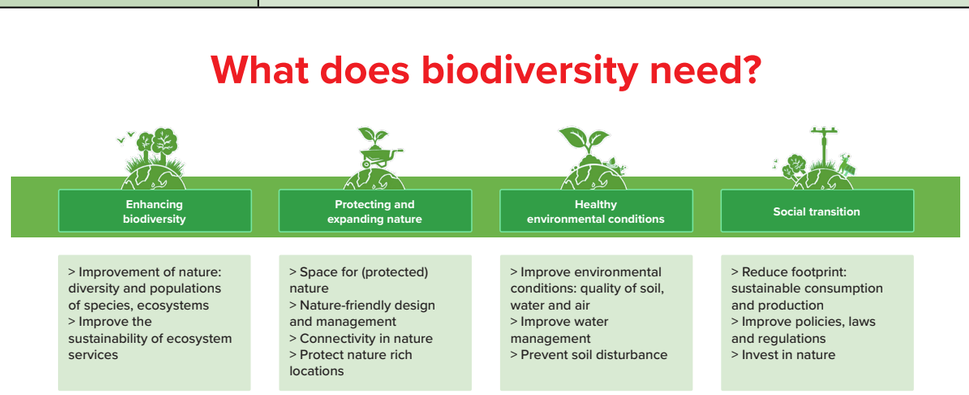
It’s the easiest to start at the bottom: here are the possible reasons why biodiversity is considered important. From there you can find your way up to the concrete actions and how they contribute to biodiversity.

However, by starting at the top, you can also learn what biodiversity consists of and what it needs in the case of a grid company or your own organisation.

The following is an explanation of the different layers of the management framework.

Table: *Explanation of the different layers of the management framework.*

Framework layers	Explanation
What does biodiversity need?	Above and on the poster it is already described what biodiversity is and means for our economy and society. International scientific insights underlie the four topics in this framework: • Enhancing biodiversity • Protecting and expanding nature • Healthy environmental conditions • Social transition See further explanation below.



These are the four main topics a network organisation can work on to enhance biodiversity. They also apply to other sectors. By making a positive impact on these four topics, an organisation will have (directly or indirectly) a positive impact on the main theme ‘Enhancing biodiversity’.

	For this classification, four themes were used, including the National Biodiversity Dashboard , the ‘drivers of biodiversity and ecosystem change’ (IPBES[5]), the Biodiversity framework for the Dutch Union of Water Boards and Basic Quality of Nature (Dutch: BKN) methodology. *BKN identifies the (minimum) conditions required so that common species remain common or become common again. To create a habitat that meets the prerequisites for their occurrence. These conditions include:* *1. Environment and other abiotic aspects of the landscape. For example, the hydrological system, nutrient balance and geomorphology;* *2. The features of the landscape. This concerns types of land use, landscape elements and their spatial coherence;* *3. Management and use aspects of the landscape. How intensive is surrounding agriculture, what is the population pressure and density, how is public space managed, etc.* For more information see: ‘Knowledge document Basic Quality of Nature, February 2024’
What impact can a grid company make	Here, ‘impact’ means that the result of the actions has a (positive) effect on the four biodiversity themes and thus contribute to the recovery of biodiversity. However, the impact of business activities is usually negative as evidenced by the state of our living environment today. A catchy visualisation of this is ‘Earth Overshoot Day’. In the Netherlands that day was **April 12** in 2023. If everyone on Earth lived as people in the Netherlands do, 3.6 Earths would be needed. For reference, in 1970, the Dutch Earth Overshoot Day was in December, in 2000 it was in September and in 2021 it was in July. “Locally and globally” in the first block refers to the fact that the (often negative) impact not only takes place in the Netherlands but also abroad. See, for example, the report based on research by Impact Institute and ABN AMRO: ‘Billion-dollar damage to biodiversity necessitates radical steps’. These steps concern both reducing negative impact abroad, such as environmental pollution, and improving nature through, for example, nature-friendly construction and management. How does attention to climate, such as CO2 emissions, contribute to reversing biodiversity loss? See the report by IPBES. Note: We have chosen the term ‘grid company’ in this document. A grid company is a company that owns and operates a transmission network for electrical energy.

5 IPBES = Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services. Naturalis manages the Dutch secretariat.

Which actions can be operationalised in the organisation	The yellow blocks in the centre of the framework specifically indicate what can be done within the organisation. The arrows indicate how actions depend on each other and upward contribute to positive (less negative) impact. Below the yellow blocks are the requirements to be able to do this. To create this framework, both the impact theory of the Impact Institute and 'systems thinking', in particular the 'Theory of Change' methodology, were applied. Below are a number of specific points of interest developed during a validation workshop of the framework layer: 'Which actions can be operationalised in the organisation' : • The term 'nature inclusive' appears multiple times in the framework and can be interpreted in a variety of ways. In this framework we define it as follows: "1) human action for the conservation and restoration of nature and biodiversity (preventing damage, improving the quality of nature), within and outside of nature reserves, 2) human activity takes place within the boundaries of natural systems and 3) there is optimal use of the natural systems and -processes." • Incorporating biodiversity and nature inclusivity into standards and tenders can make a very big difference because the grid company influences the way contractors work. There are examples available in the sector such as the certified nature-inclusive ecological roadside management method called 'Kleurkeur'. Also, experiences can be shared within the sector. • Collaboration with other parties is an essential part of making an impact. In addition to cooperation between network companies, consider other parties in the vicinity, such as municipalities, site management organisations, companies, schools, etc. • Linking opportunities: Implementation of nature inclusive measures can contribute to various goals in an organisation. These include: climate mitigation (e.g. CO2 absorption by trees), climate adaptation (e.g. shade from trees) and acceptance of the infrastructure in specific neighbourhoods. In short: how can decisions favourable for nature be a solution for other challenges? And if new so-called 'Nature-based solutions' are required, who can play a role to invent and develop these? A selection of measures, tools and solutions are listed below.

6 Based on Nature Outlook 2050 – Nature Inclusive Scenario.

Which standards and tools are used	More tools are becoming available that can help with implementing measures for biodiversity enhancement. These include: • Inspiration Guides by Alliander and TenneT to share knowledge on measures to promote biodiversity in the infrastructure of regional network companies. • Infrastructure measures (Stedin and Naturalis): which measures around and on infrastructure have the highest impact on biodiversity above and below ground? • Nature-inclusive building benchmark (KPN and Naturalis): which elements play a role in making a small building nature-inclusive, expressed in a checklist with scores. • Biodiversity Metric (IPC Green Space): a biodiversity score can be determined based on a score list of conditions for biodiversity (two-day training, also for non-ecologists) • Nature Ladder (DuraVermeer and Heijmans): a tool to determine how nature and climate inclusive or adaptive an organisation acts and what is needed to take the next step on the ladder[7]. • Biodiversity opportunity map for the Main Ecological Infrastructure of Green Networks (still under development). • Opportunities Analysis for Nature Development (Naturalis): a methodology to score a list of opportunities for nature in terms of impact and feasibility in an area with multiple landowners and nature experts. • Many other tools are available in the Toolbox for biodiversity, part of the Delta Plan on Biodiversity Restoration. **Note!** Nature inclusivity is not a black and white story, but rather a gradient of possibilities. And when choosing measures, pay attention to their fit with the surrounding environment. Ecological knowledge is required for this.
Which business units are involved	The operations are divided into three types of business units, where the names of departments differ per organisation: • **Procurement** • **Design, construction and operations**. The names of departments differ per organisation. This can include departments that are responsible for management and maintenance. • **Various business units**. for example, the CSR and communications departments. In theory, all business units can be in scope.

7 Several sources are available: video, interview and form for your own use. A web application is under development.

What are the requirements of the management framework	• **Monitoring plan with Key Performance Indicators (KPIs)**. See explanation below. • **Analysis of impact on biodiversity**. See the example of Alliander in the introduction or, for example, the report 'ABN AMRO's impact on biodiversity'. It is also important to analyse a business' dependence on biodiversity. • **A biodiversity team with ecological expertise, budget and mandate**. Biodiversity includes all life. Species cannot exist without other species. Ecological knowledge is therefore required to make practical choices in the interplay between: - The characteristics of a specific location: habitat and environmental conditions; - The surrounding landscape; - Feasibility of (infrastructure) measures; - Ecological management; - Choice of target species if necessary; - Balance between costs and benefits (on several topics: biodiversity, climate, etc.) The team also needs a mandate; control, space and trust from management to bring about concrete changes (not easy) in the organisation. **Team composition** The biodiversity team at minimum should include the following roles: communications expert, ecologist, contract manager, financial controller, policy makers (including technical standards), building and outdoor space designer, operations employee, lawyer and an environmental manager. It is important that the departments that design, standardise and develop buildings and outdoor spaces are represented. • **Biodiversity is included in the corporate strategy**. A fundamental requirement is the recognition of biodiversity, nature, our living environment, the importance of ecosystem services and the organisation's footprint in the policy documents, strategy and annual plans. It provides direction and support to implement changes in practice.
Why is biodiversity considered important	There may be one or more reasons to prioritise and act on biodiversity. These can be intrinsic or imposed from outside perspectives. In the case of intrinsic reasons, it usually concerns specific people in the organisation who take action. This means that this process can take place both bottom-up and top-down.

9 Based on the advice for a biodiversity team by Albert Vliegenthart (Butterfly Foundation).

Monitoring plan with Key Performance Indicators (KPIs)

In order to be able to (adjust) the improvement of biodiversity in the operation, it is necessary to make impact and actions measurable in the model. This can be done with Key Performance Indicators (KPIs).

It is not perse required to measure biodiversity itself, but the contributions made to create favourable conditions for biodiversity recovery. In a monitoring plan, KPIs can be linked to the concrete actions that are operationalized (the middle, in yellow). For example, the action 'Impact on biodiversity locally and globally is included in all tenders and projects', can be linked with the KPI: 'At least x% of the tender amount goes to nature-inclusive construction according to method y'.

KPIs per level

The various actions in the framework reinforce each other. The idea is that the actions build on each other from bottom to top, with the implementation of tools and standards at the base. The actions (yellow) therefore together build up to the impacts (in green). This means that the KPIs at the top of the diagram measure performances that have a high impact on biodiversity in practice.

You can define KPIs at different levels. In this framework you can think of at least one KPI per layer (requirements, standard/tool and action) and per business unit.

Types of KPIs

- Measures: A KPI that measures the conditions for biodiversity. You do not have to measure biodiversity itself, but factors that create favourable conditions for biodiversity recovery. This way we can measure what can be directly influenced.
- Processes: The performance measured with the KPI is the process. For example, the action 'Network companies and others share knowledge and work together' can be linked with the following KPI 'percentage of partners with a collaboration on biodiversity'. This does not measure what efforts are being made for biodiversity (what is being done), but whether there is a process underway to shape efforts for biodiversity (that there is cooperation).
- Effects and impacts: Indicators that measure aspects of biodiversity itself, which in this framework, are referred to as effect indicators. These indicators are not concerned with their own performance, like the two above, but for example, about the status of species and species groups. This is why they are formally indicators, but not KPIs (Key Performance Indicators).

Application in practice

Which KPIs you choose are based on the actions you want to focus on as an organisation, a decision which can be refined annually. A KPI is not be a goal in itself, but instead a tool to achieve a goal. Choose KPIs that are in line with the leading legislation: CSRD, EU Taxonomy. Monitoring (of KPIs) can be included in the routine organisational planning and control processes, such as the annual plan and the annual report.

More information about KPIs :

- Impact Measurement Handbook for Infrastructure Companies, Impact Institute (November, 2023)
- Monitoring and KPIs
- Biodiversity Indicators Framework, Union of Water Boards
- Requirements for a good KPI

Examples

Below are a few concrete examples of biodiversity KPIs and their types for inspiration (this is not a complete list):

Tender (measure): At least x% of the tender amount goes to nature-inclusive construction according to method y
(% $€_{\text{nature incl. construction}}$ / $€_{\text{total tender}}$ * 100)

CO2 (effect): Contribution to climate change (emissions kg CO_2-eq/year):
The company's measurable emissions of the six greenhouse gases defined in the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

Green management (measure): Share of area under a green management plan for ecological management according to method x (% $ha_{ecological\ management}$ / ha_{total} * 100)

Green management (measure):
Use of crop protection products (kg/ha/year)
Green-blue veining i.e. Building more green and blue natural elements in a connecting way using landscape elements (measure): % area with green-blue veining (% $ha_{green\text{-}blue\ veining}$ / ha_{total} * 100)

Purchasing (effect): Biodiversity loss due to purchasing (€/year, divided over four impacts (climate change, air pollution, water pollution and land use): The impact on biodiversity can be calculated for each euro paid (varies per country and sector).

Land use (measure):
% natural land use (% ha_{nature} / ha_{total} * 100)

Land use total area (measure) (ha/year):
Every hectare of nature has a value, depending on the biome. By occupying this land, this nature cannot (partly) exist.

Landscape elements (measure):
% area used for landscape element type x (% $ha_{landscape\ element}$ / ha_{total} * 100):
Different landscape elements contribute to biodiversity in different ways.

Nitrogen (effect): business surplus (N balance, kg N/ha)

Air and water pollution (effect) (kg/year)
Air and water pollution (NH_3), air pollution (SO_x), Ozone Layer Depleting Emissions (CFC-x, Halon-x, CCl_4, HFC-x) and water pollution (phosphorus, phosphate, etc.).

Who contributed

The following people contributed to the framework and the preparatory workshops.

Amy van Nobelen (Naturalis)
Bart van Veen (Impact Institute)
Bruno Bekhuis (Alliander/Dep) *
Co den Hartog (Alliander)
Daan Helming (Collectief Natuurinclusief)
Floor van den Elzen (ex-Impact Institute)
Florian Reuter (Impact Institute)
Hans Nooter (Alliander)
Josha van der Beek (Alliander/Dep)
Koos Biesmeijer (Naturalis)
Lorena van Duuren (Alliander/Dep)
Marten Schoonman (Naturalis) *
Pieter Baalbergen (Duvekot)
Roland Vink (Alliander) *
Simon Wittkamp (Impact Institute) *
Zina Broeksma (Naturalis) **

* authors of this explanation
** author of this explanation, illustrations in the framework

English translation: Marten Schoonman, Sarah Anderson, Fem Vincken and Becky Desjardins (Naturalis)

Bij de validatieworkshop van het model waren de volgende organisaties aanwezig: Alliander, Enexis, Gasunie, Haven van Rotterdam, Impact Institute, KPN, Naturalis, Stedin en Vitens.

Contactpersonen

Alliander: roland.vink@alliander.com
Impact Institute: simon@impactinstitute.com
Naturalis: marten.schoonman@naturalis.nl

DOI 10.5281/zenodo.14615271

alliander IMPACT™ INSTITUTE Naturalis Biodiversity Center