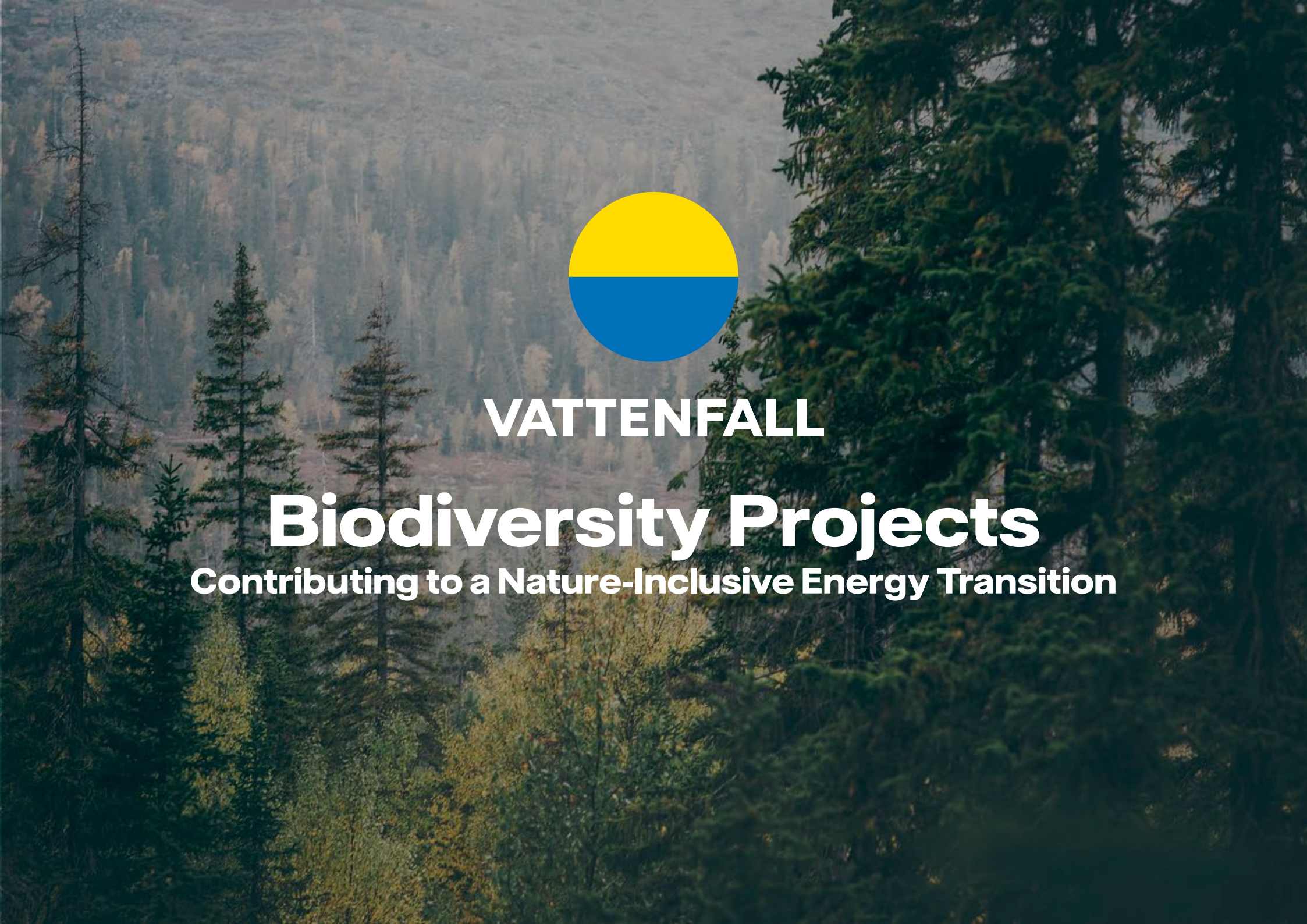


VATTENFALL

Biodiversity Projects

Contributing to a Nature-Inclusive Energy Transition

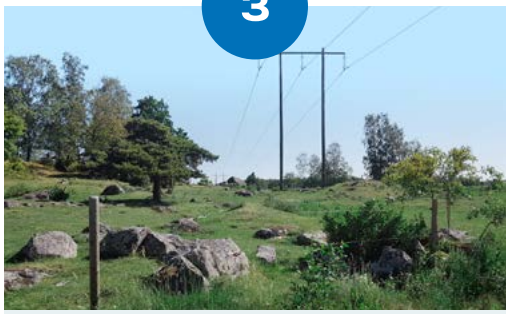
Biodiversity is an integral part of Vattenfall's environmental management. We believe that the energy transition must be nature inclusive. Therefore, we strive to minimize biodiversity loss, enhance ecosystems wherever possible, and invest in research and development. Actions, targets, and governance principles are outlined in our Biodiversity Transition Plan 2030. This brochure highlights examples of how we take action to deliver on a nature-inclusive energy transition.

VATTENFALL

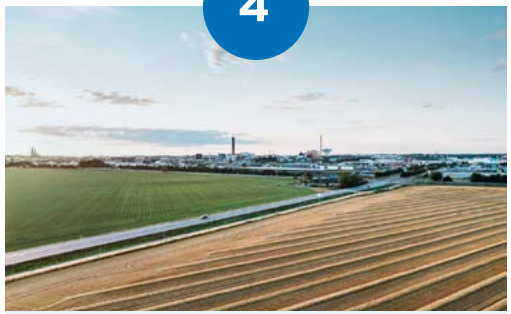
Content overview

1 Hydropower

2 Wind & Solar

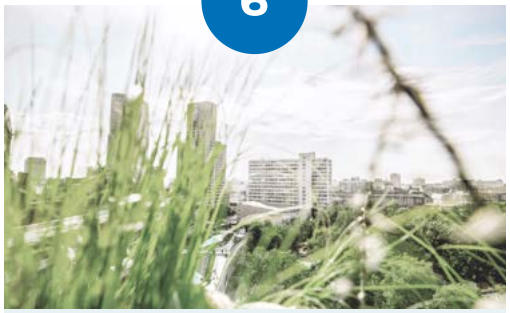


3 Distribution



4 Heat

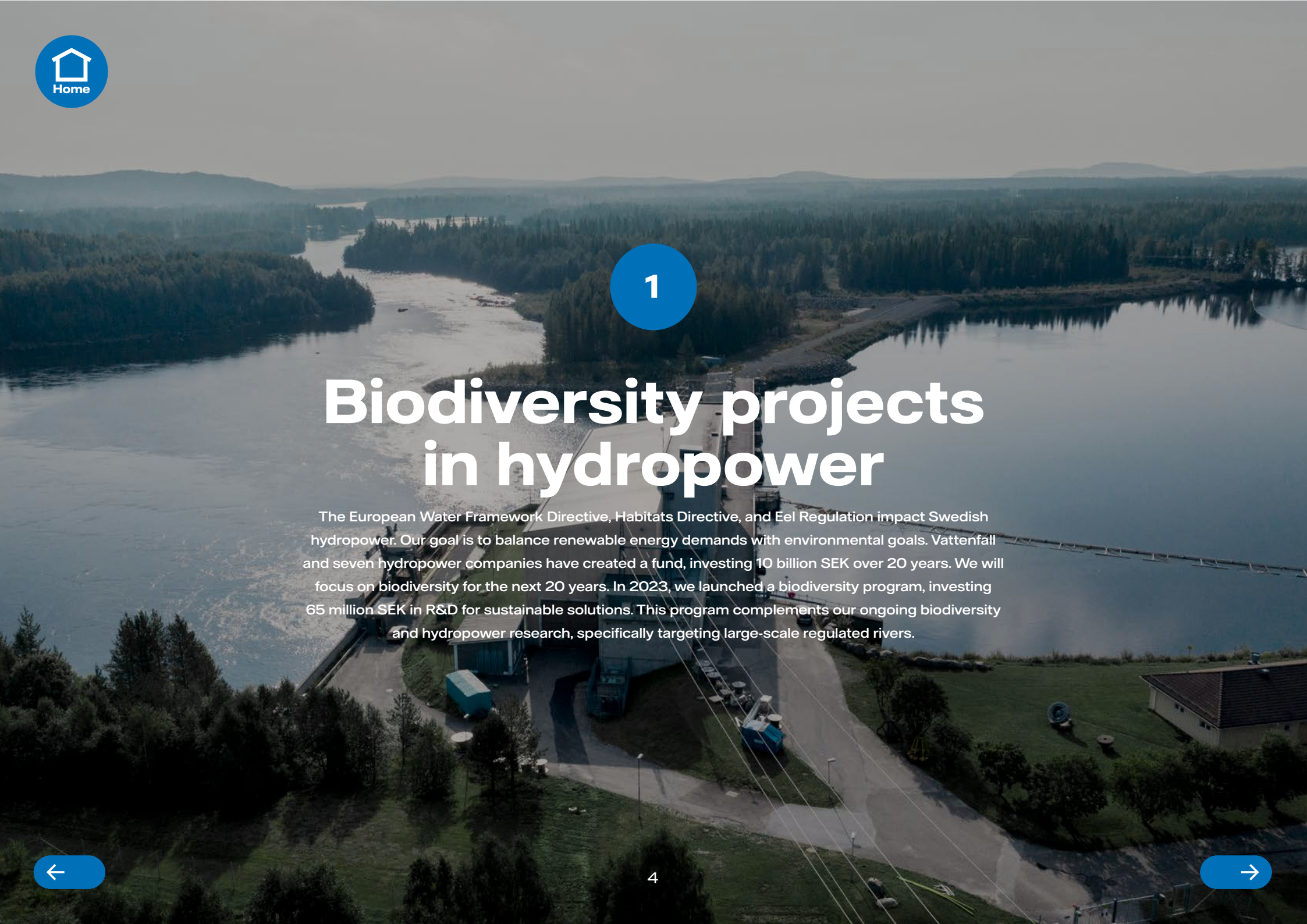
5 Nuclear Power



6 Other biodiversity examples

VATTENFALL

Learn more about our initiatives by clicking on one of the images or start your tour here



1

Biodiversity projects in hydropower

The European Water Framework Directive, Habitats Directive, and Eel Regulation impact Swedish hydropower. Our goal is to balance renewable energy demands with environmental goals. Vattenfall and seven hydropower companies have created a fund, investing 10 billion SEK over 20 years. We will focus on biodiversity for the next 20 years. In 2023, we launched a biodiversity program, investing 65 million SEK in R&D for sustainable solutions. This program complements our ongoing biodiversity and hydropower research, specifically targeting large-scale regulated rivers.

Content chapter 1

Restoration of Juktån

- Juktån river, Sweden
- Trout and grayling
- Restore spawning areas
- 2016-2025

In the early 20th century, the river Juktån served as a timber transport route, leading to significant disruption of the aquatic environment. The clearing of waterways for timber floating and the construction of piers damaged spawning and nursery areas for stream-dwelling fish. In the late 1960s, the Juktån power station was completed, which diverted most of the river's flow and further impacted the aquatic ecosystems.

In 2016, Vattenfall, University of Umeå, Samverkan Umeälven, and other power companies initiated a project to restore Juktån. The goal with the project was to alter the minimum flow to a more natural distribution, mimicking spring floods and lower winter flows. The aim was also to restore and create new spawning areas for trout and grayling, increasing stream habitat areas, and enhancing Juktån's appeal as a fishing and recreational site. The restoration was completed in autumn 2020, and the ecological effects will be monitored and evaluated until 2026. So far the results look promising with a slight increase in the abundance of trout and an increase in aquatic plants more typical for stream habitats.

Voluntary protected areas around hydro plants

- Sweden (Luleälven and Dalälven), Finland
- Fairy slipper, moonwort, lady's slipper, and witches cauldron
- Preserve and manage biodiversity, enhance recreational values
- Continuous

The properties around Vattenfall's hydropower plants hold high biodiversity values as they are not impacted by operations. To protect rare and endangered species, Vattenfall has established voluntary protected areas with unique biodiversity values.

There are four protected areas in northern Sweden along the river Luleälven and one along the river Dalälven called "Kungsådran Älvkarleby." These areas host botanical species like the fairy slipper, moonwort, lady's slipper, and witches cauldron. The initiative aims to preserve biodiversity and enhance recreational values by improving access, putting up information signs, a bird tower, and adding interpretive signs at path crossings to inform and guide visitors to the species that can be spotted along the walk.

At our biggest powerplant, Pamilo, located in Eastern Finland, Vattenfall has protected approximately 485 ha of land area located in the islands in the lake Koitere. Vattenfall protected the area in 2001 and the protection prevents cutting of trees and any construction but allows people to use the area for recreational purposes.

Laxeleratorn: exploring innovative solutions for safe fish passage

- Vattenfall's Älvkarleby Laboratory, Sweden
- Eel and post-spawning salmon (kelt)
- Innovate solutions for up and downstream fish migration, investigate guidance efficiency, and study fish behaviour towards different rack designs and bypass systems
- Continuous

Over the next 20 years, all Swedish hydropower production will be equipped to meet modern environmental standards. The challenge is to find solutions that reduce negative effects on ecosystems and biodiversity while minimizing the impact on electricity generation.

In 2017, Vattenfall invested in "Laxeleratorn," a large-scale laboratory for hydropower-related environmental and hydraulic experiments. The facility focuses on innovations for safe fish passage, including intake racks and behavioural guiding systems. Research has been conducted on the efficiency of various guidance solutions, eel behaviour and how salmon reacts to changes in water conditions to establish design criteria for bypass systems. During the last two years, several studies have been performed regarding different behavioural guiding systems such as "dancing rods" (see example 1.4) and improved concept of bypass solutions. During 2025 and continuing during 2026 we are performing a behavioural study on fish focusing on feeding behaviour during different hydropeaking flow regimes. The study aims to increase knowledge about how hydropower regulation effects the growth and population development in regulated rivers.

Photo: David Aldvén

Testing “dancing rods” in practise

- Stångån (Lindköping) and Stämmemad
- Asp, eel and other fish species
- Safe passage for fish through the intake channel
- Continuous

Vattenfall is testing new, behavioural guiding-methods to improve fish migration past hydropower stations. The solution has been tested in Vattenfall’s large-scale laboratory for hydropower-related environmental and hydraulic experiments (Laxeleratorn) on two previous occasions with promising results. In its first field trial, a 12 meter barrier with 80 “dancing rods” was installed in Stångån in Linköping. The location is ideal due to its well-known fish populations, including species such as asp and eel, but also because it has an already installed fish counter and a strong collaboration with Tekniska verken, who are the owner of the power station. “Dancing rods” are flexible rods that move with the water flow and they are designed to be a barrier that guides fish toward safe passages past the power station. The barrier was monitored using cameras to study fish behaviour and determine whether fish follow the rods and choose an intended opening for passage or if they attempt to pass directly between the rods and through the barrier. While the current prototype used plastic foam material, Vattenfall is now exploring biodegradable options with the company Cellufy. The goal is to find effective, commercially viable solutions that support migrating fish while minimising impact on fossil free hydropower production.

During 2026 Stångån power station is out of service due to repairs and the trials in will continue in 2027. During 2026 the field tests continue at Vattenfall’s power station Stämmemad in the river Viskan.
A 15-meter-long barrier is placed across the power-plant’s intake channel, with the intention of guiding fish to a small nature-like stream providing a safe passage. Different types and designs, e.g. different choice of material and dimensions of rods, will be tried through the year, hopefully leading to a better understanding of effectiveness during different flow and weather conditions.

Photo: Johan Gunséu

Fish ladders at hydropower stations

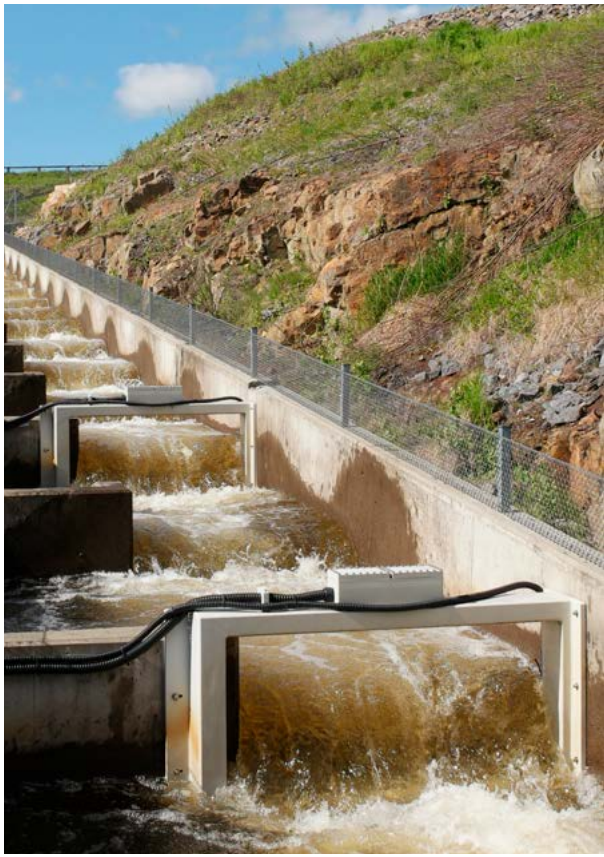
- Sweden and Finland
- Migrating fish
- Improve fish migration
- Continuous

Hydropower plants create barriers in rivers, limiting the ability of migrating fish species to travel upstream and downstream. Migrating fish like salmon and sea trout face challenges in passing through hydropower stations, impacting their ability to reach spawning areas.

Fish ladders have been constructed at several hydropower stations, including Stornorrfors (Ume River), Hietamankoski, and Leuhunkoski (Kymmene River), to enable passage for migrating fish.
In 2025, over 10,000 salmons and 400 sea trouts passed through the Stornorrfors fish ladder on their way to spawning areas in the river Vindelälven. The 300-meter-long ladder was put into operation in 2010.

Vattenfall is, in collaboration with the Swedish University of Agricultural Sciences (SLU), also analyses how the downstream passage of salmon and troult kelts through Stornorrfors can be improved.

In Finland, Vattenfall is planning to build a fishway jointly with the state of Finland at a dam that is jointly owned and operated. The dam divides the flow towards the artificial lake Hirvijärvi, where Vattenfall owns a hydropower plant, and to the original stream that bypasses the lake. Already today there is constant flow to the original stream but the fishway will enable migration of local fish populations. The project is in design phase and does not yet have a permit.



Exploring efficient fish passage: monitoring fish using AI

- Stornorrfors and Lilla Edet hydropower stations
- Salmon and trout
- Efficient fish passage and monitor fish population health
- Continuous

To determine whether fish passages work efficiently, Vattenfall initiated a project to test how artificial intelligence (AI) can be used to monitor the effectiveness of fishways. An AI algorithm was developed and trained on a substantial image dataset to directly analyse images of migratory fish.

The AI-based fish recognition system is deployed at the fish ladder in the Stornorrfors hydropower plant in northern Sweden, where it counts and registers attributes of individual salmon and trout. The algorithm has been progressively refined each season and now provides real-time fish monitoring data through an online dashboard.

The latest enhancement allows for measuring the size of fish and during 2025 we initiated tests to develop pattern recognition to identify individuals and assessing the health of the fish population by identifying fish disease such as fungi, parasites as well as damage caused by predators such as seals and birds. The collected data also offer insights into the migratory behaviour of the fish, such as swimming patterns, group dynamics, and gender identification.
By analysing this data, assertions can be made about the state of the fish population and strategies for its improvement can be devised.

Guiding fish using pumps

Edsforsen, Sweden

Salmon

Divert fish from swimming into the turbines

2024-2026

At large hydropower plants, guiding fish is highly complex and conventional intake racks are often expensive and not a feasible solution. As part of our work with R&D, we are therefore continuously evaluating how new technology can help to guide fish away from high-mortality passages and towards safer routes.

We have tested different solutions, one example being large pumps that can be used to create a jet flow that guides fish in the right direction. In late 2024, a large pump (9 m3/s) was tested at Edsforsen hydropower plant. The tests were concluded in early 2025 and the guiding efficiency is currently being evaluated by the Swedish University of Agricultural Science.

Photo: Jesper Myhr

Biotope restoration and species protection

- Sweden and Finland
- Saimaa salmon, eel, noble crayfish, freshwater pearl mussel, trout, grayling, kestrels and bats.
- Support species and their living environments around hydropower operations
- Continuous

Biotope restoration and species protection play a vital role in adapting hydropower to the environment. New initiatives are continually being explored to enhance the conservation efforts and support the diverse ecosystems around hydropower operations. Here are some examples of biotope restoration projects for key species:

European eels: Vattenfall is part of the project “Krafttag ål” where spawning European eels are transported past hydropower stations in the river Göta älv. As a part of Vattenfall’s R&D biodiversity program for hydro power, a study on eel migration from lake Vänern was also initiated. In total, 190 eels were tagged with acoustic transmitters to identify migration patterns in the outlet of the lake. The tests will be concluded during spring 2026. The goal is to find effective solutions for capturing large quantities of eel for trap and transport.

Sea trout: Vattenfall has participated in the ReTrout project to reintroduce sea trout by stocking roe in restored tributaries to the river Vindelälven. Vattenfall provides the project with roe from the fishfarm in Norrfors.

Kestrels and bats: In 2023, Vattenfall Hydro Germany was awarded a certificate for species protection on buildings by Kulturbund, an acknowledged nature conservation association, honouring our actions for the protection of kestrels and bats at our Hohenwarte and Eichicht sites.

Saimaa salmon: Vattenfall is supporting research by the Natural Resources Institute Finland to restore the natural life cycle of this important species. During 2025 extensive studies were made of the bathymetri (water depth and underwater terrain) of the potential spawning area Ala-Koitajoki with the goal to improve the potential for introduction of spawning salmon.

Conservation of lesser white-fronted goose in Sweden

- Ritsem, Northern Sweden
- Lesser white-fronted goose
- Support long-term conservation of the species
- Continuous

The population of the lesser white-fronted goose has steadily declined since the 1940s, making it one of the most globally threatened bird species in Sweden. Conservation efforts have been ongoing since the mid-1970s by authorities and organisation, and the areas where Vattenfall has many of its hydro operations are home to the EU's only breeding population of this species.

Since 2021, Vattenfall supports the project by assisting with logistics in stocking and monitoring the geese on site. The conservation project, "Projekt Fjällgås," is led by the Swedish Hunter's Association in collaboration with the foundation Nordens Ark, the Ornithological Society in Norrbotten, Naturvårdsverket and the county board of Norrbotten. Vattenfall has also supported the project by sponsoring specially designed transmitters powered by solar cells to track geese raised in captivity and released into the wild (2022).

Salmon compensatory stocking

- Northern Sweden
- Salmon
- Sustain fish populations
- Continuous

In Sweden, power companies that operate hydropower plants are obliged to breed and stock fish to compensate for the reproduction areas lost as a result of hydropower regulation.

Vattenfall has several fish farms, and the largest fish farm is in Heden, in the Lule River. Every year, Vattenfall releases 550.000 salmon smolts, 100.000 sea trout and 12.000 trout in the Lule River. In Sweden we stock in total 1,3 million salmon and sea trout each year.

Projects funded by Bra Miljöval

Sweden

Aquatic species

Enhance aquatic biodiversity

Continuous

When Vattenfall sells electricity labelled 'Good Environmental Choice', funds are allocated to an environmental fund to enhance aquatic biodiversity. Over the years, this fund has helped restore nature and create habitats for threatened species. Here are a few project examples:

LIV in lower river Dalälven (2017):
The project, which is a collaboration with Fortum, intended to investigate the water system's potential for fish reproduction under the current water management regime. Vattenfall has been investigating potential for salmon and trout production and how to restore a natural reproduction of salmon and sea trout.

Measures for Noble crayfish, freshwater pearl mussel and trout in Upperudsälven:
In the southwest of Sweden we have had several projects performed to improve the situation for the acutely endangered Noble Crayfish and freshwater pearl mussel. Since 2016 measures have been performed in a total of seven tributaries to Upperudsälven. The most recent measures performed in 2023-2025 in Ivarsbyälven, Bottnerälven and Rommenäsälven. The measures typically consists of restoring stream habitats and riparian zones together with creating more spawning and nursery habitats also for trout.

Reintroduction and restoration of habitats for freshwater pearl mussel:
In 2022, a project began in Rolfsån with the goal to support the reintroduction of freshwater pearl mussels by infecting host fish with glochidia larvae in combination with restoring aquatic habitats.

Restoring riparian vegetation in Umeälven

- Umeälven, upstream of Tuggen powerstation
- Riparian vegetation, fish, invertebrates and aquatic plants
- Mitigate the negative impact of ice erosion on riparian habitats.
- 2025-2026

In regulated rivers with a high degree of hydropeaking (rapid, short-term fluctuations in river flow), natural erosion and sedimentation processes are altered resulting in unnaturally high erosion rates. This is due to a combination of ice movement and varied water velocity leading to a lack of sediments being deposited in riparian and near shore areas.

One measure to prevent this and strengthen the riparian zone is the use of large boulders placed along the shoreline. The boulders lock the ice preventing movement as well as providing a structure trapping fine sediment and organic material.

In early summer 2025, measures to strengthen the riparian zone were performed at two locations upstream of Tuggen hydro power station. The measures were performed with an excavator operating from a barge providing a stable platform and means of transportation for both equipment and materials (boulders). Additional measures are also planned in Luleälven during 2026 and we will then also evaluate the effectiveness of the implementation.

Photo: :Vattenfall.

Floating islands in Dalälven

- Älvkarleby
- Nesting birds, fish, invertebrates and aquatic plants
- Create nesting platforms and aquatic habitats both above and below
- Continuous

Water levels in regulated rivers can change rapidly, making it challenging to provide stable shallow water habitats that are required for birds to find suitable nesting spots. One solution to this can be to build floating islands, which we explored and tested as part of Vattenfall Hydropower's biodiversity programme.

Floating islands adjust with shifting water levels but remain stable, offering a reliable surface for plants and animals. In 2025, Vattenfall launched two large floating islands and several smaller islands on the river Dalälven, upstream of the Älvkarleby hydropower station. Each island is about 90 square metres and they are designed and built at Vattenfall's research laboratory in Älvkarleby. The islands were planted with vegetation native to local shores and aquatic habitats. During the coming years the function and stability of these structures will be evaluated, and different designs will be constructed and deployed at different locations in regulated rivers.

Photo: Maidul Choudhury.

Biodiversity measures connected to hydropower in Germany

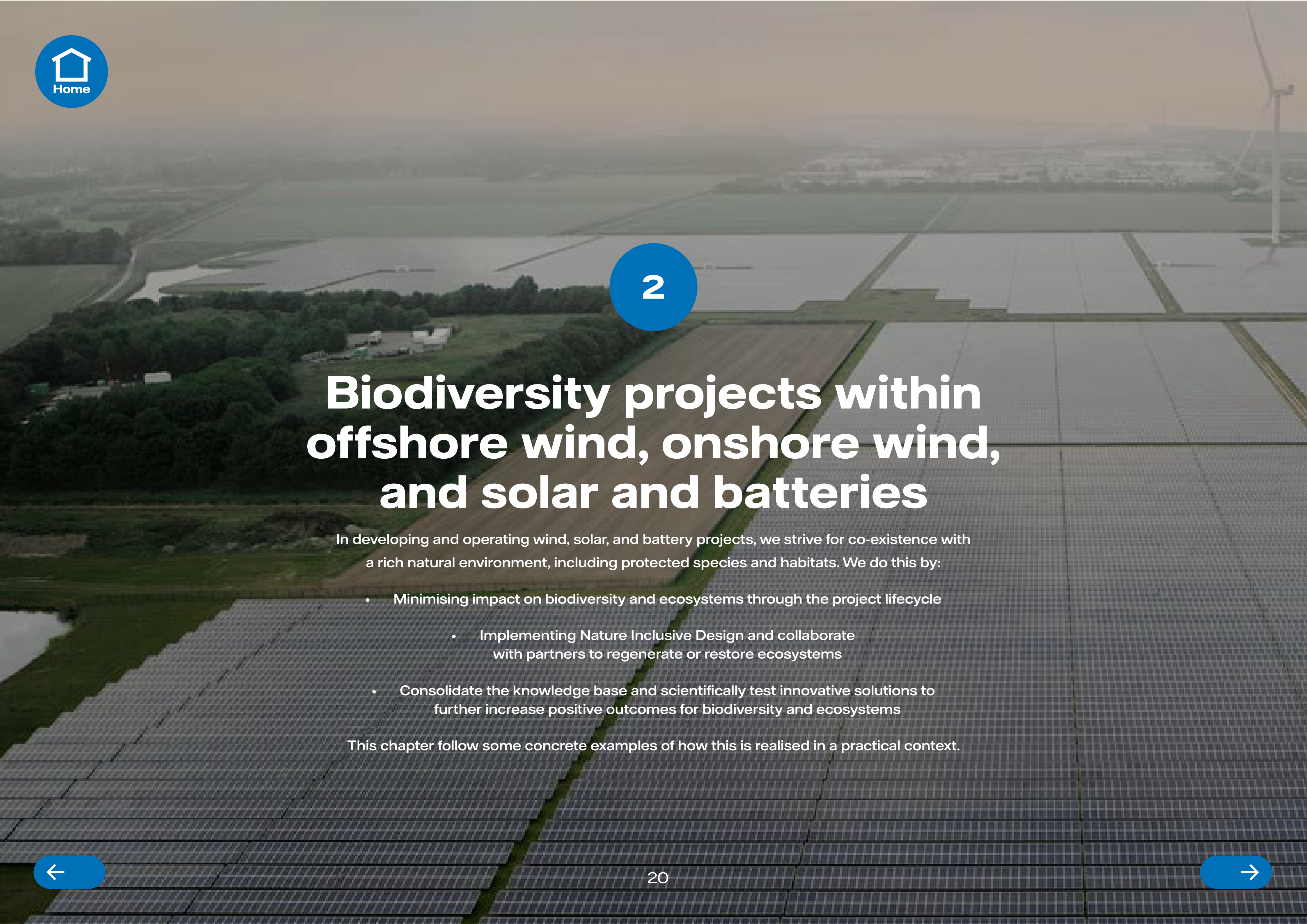
- Geesthacht, Hohenwarte, Niederwartha and Bleiloch
- Various species (e.g. birds of prey and alpine newt)
- Various measures for species in the region
- Continuous

Working with biodiversity and various species is an integrated part of hydro power operations in Germany. At Geesthacht, 15 perches for birds of prey have been installed in the upper basin area in 2025, aiming to increase local populations of natural predators and promote on-site biodiversity.

In Hohenwarte I, Vattenfall has established winter quarters for the strictly protected alpine newt, native to the region, as an additional biodiversity measure. At Niederwartha, a power plant scheduled for decommissioning, mapping of relevant species is underway to assess the impacts of various decommissioning strategies—particularly significant given its partial location within and proximity to protected areas.

In Bleiloch and Hohenwarte, Vattenfall has been working in collaboration with the Thuringian government to implement several biodiversity measures. Measures include for example construction of a roost and a nesting place for bats, building of a house of swallows nearby powerhouse and biodiversity enhancement measures outside areas of the office building.

Photo: Rainer Weisflog



Home

2

Biodiversity projects within offshore wind, onshore wind, and solar and batteries

In developing and operating wind, solar, and battery projects, we strive for co-existence with a rich natural environment, including protected species and habitats. We do this by:

- Minimising impact on biodiversity and ecosystems through the project lifecycle
- Implementing Nature Inclusive Design and collaborate with partners to regenerate or restore ecosystems
- Consolidate the knowledge base and scientifically test innovative solutions to further increase positive outcomes for biodiversity and ecosystems

This chapter follow some concrete examples of how this is realised in a practical context.

Content chapter 2

Mapping bat movements offshore: The Kattegat West Baltic Bats Project (KABAP)

Kattegat Sea and Southwest Baltic

Bats (nathusius' pipistrelle, common noctule, parti-coloured bat, and soprano pipistrelle)

Understand bat movements and mitigate collision risks through curtailment procedures

2023-2025

Understanding bat movements over the sea between Denmark, Sweden, and the German Baltic coasts is crucial for offshore wind farm impact assessments. This knowledge also informs curtailment procedures to mitigate collision risks. However, current knowledge in this area remains limited. To address this gap, the Kattegat West Baltic Bats Project (KABAP) coordinates multiple site-specific studies and compiles data to develop a comprehensive geographical overview of bat migration patterns in spring and autumn.

The project focuses on the most common bat species in the area, such as Nathusius' pipistrelle, common noctule, parti-coloured bat, and soprano pipistrelle. As bats are primarily nocturnal, their monitoring relies on recording calls with bat detectors.

In 2023, a large number of bat detectors were successfully installed on buoys and structures across the Kattegat Sea and the Southwest Baltic, west of the Island of Bornholm, to collect data on bat movements. The data have been processed and analysed during 2024 and 2025. The data contribute to two major offshore bat studies conducted by Danish Centre for Environment and Energy at Aarhus University. One study examines the distribution of bats in Danish waters, while the other investigates interactions between bat occurrences, weather parameters, and turbine operational status to assess the need for curtailments that minimise collision risks – final report available here. The Latter study showed a very clear correlation between bat-activities and wind-direction in the North Sea. Other parameters like wind speed, temperatures and operational status of turbines also indicated interactions, though none at statistical significant levels. Follow-up studies are planned for 2026-2029 to qualify the statistical basis for these findings.

Trialling camera and AI based system for documenting bird collisions offshore

Hollandse Kust Zuid, The Netherlands

Migrating small birds (passerines)

Documenting efficacy of novel thermal camera and AI based solution for documenting collisions at offshore turbines

2024-2025

Understanding how often and under what circumstances birds collide has been a longstanding challenge for offshore wind development. Carcass searches, which are used at onshore wind farms, are not feasible offshore. As a result there is very little available evidence to inform collision risk assessments for new developments.

This could be about to change. We are seeing some very promising technology developments that might finally allow us to get to the facts of the matter. This is what we set out to test, deploying a thermal camera and AI-based solution for documenting collisions at one of the turbines at Hollandse Kust Zuid. The solution provided by Wildlife Imaging System consists of 12 outwards looking cameras deployed at the base of the turbine. These monitor the entire area below the rotor for falling objects. This is then complemented by four upwards looking cameras providing context on the activity in the rotor area.

A full year of data collection, including the spring and autumn migration periods, has now been completed and data analysis is carried out by independent experts from Wageningen Environmental Research. Results will be reported in mid-2026.

Read more here: Sealab - Windpark Hollandse Kust Zuid - EN

Advancing understanding of seabird collision risk using cameras and AI to track flight behaviour

Aberdeen Bay, Scotland

Seabirds

Trialling camera and AI based system to track seabirds in close vicinity of wind turbines and document collisions

2023-2025

Existing technologies have fallen short in documenting three-dimensional flight tracks of seabirds near wind turbines. This has been shown by the European Offshore Wind Deployment Centre (EOWDC) seabird study (Read more here). Accurate, objective evidence on close-range behaviour is crucial for reliably predicting collision risks for new wind farms.

To address this gap, a collaborative project was initiated with the Norwegian start-up spoor.ai to trial innovative technology that combines video cameras with Artificial Intelligence (AI). The British Trust for Ornithology (BTO) provided scientific validation, and a panel of key stakeholder experts was established to ensure high-quality outcomes. The results showed significant potential for the technology and opportunities for further improvement (Read more here).

Following this trial, further data was collected and 19 months of video data analysed to document seabird collision numbers at one of the Aberdeen wind farm turbines. No collisions were observed, a finding that was corroborated by collision risk calculations based on observed seabird activity, which estimated that far fewer than one collision would have been expected during this time period.

Nature inclusive design at Hollandse Kust Zuid

- Hollandse Kust Zuid (HKZ), Netherlands
- Marine life
- Enhance biodiversity and evaluate benefits of Nature Inclusive Design (NID) measures
- 2021–ongoing

Nature-inclusive design is an approach in offshore wind that aims to boost ecological functions. It does this by integrating features into wind farm structures, making them more suitable for native species.

At the HKZ offshore wind farm in the Netherlands, Vattenfall has implemented measures to enhance biodiversity as part of its permit obligations. Each foundation has water replenishment holes to allow marine life to settle within or move freely in and out of the hollow foundation. In addition, large rocks were added to the scour protection at nine locations to increase habitat complexity.

Vattenfall will monitor biodiversity development after 2, 6, and 11 years.

In 2024, Vattenfall joined the JIP-LIFE project, funded through the Top consortium for Knowledge and Innovation (TKI) program, together with Deltares, Wageningen Marine Research, The Rich North Sea and Seaward. The project aims to gain a better understanding of the ecological functions provided by the water replenishment holes and how these are governed by hydrodynamic forcing within the monopile interior. Preliminary findings indicate that, when appropriately sized and configured, water replenishment holes can maintain oxygen and food conditions suitable for a diverse and unique species community to develop. The report will be made publicly available around March 2026.

Photo: The Rich North Sea

Mult-use concept, combining food production with offshore wind farms

Danish Kriegers Flak and Vesterhav Syd offshore wind farms, Denmark

Marine ecosystems

Test the multi-use concept of combining aquaculture with wind farms and identify risks and opportunities for scaling up regenerative aquacultures

2023-2026

At Vattenfall's Danish Kriegers Flak (DKF) and Vesterhav Syd (VHS) offshore wind farms, a Danish research consortium is testing the multi-use concept of producing food alongside fossil-free electricity. Specifically, the project WIN@sea aims to build the practical experience of combining the aquaculture of seaweed and mussels with wind energy production.

Seaweed was successfully harvested in 2025 at both wind farms, while at DKF there was an additional harvest of mussels. As the project is going into the final reporting year in 2026, all cultivation structures have been decommissioned at the DKF site. Meanwhile, another seaweed growing season is currently underway at VHS. The project will use the practical learnings from the pilots to assess risks and opportunities for scaling up aquaculture practice in wind farms. Such expansion could help improve conditions in marine ecosystems of the Baltic Sea and the North Sea.

In August 2025, Vattenfall launched a brand campaign featuring Hollywood star Samuel L. Jackson. The campaign aimed to promote the multi-use concept and raise awareness about the potential benefits of growing seaweed inside offshore wind farms. The campaign was built around the production of Windfarmed Seaweed Snacks, made from seaweed grown at VHS as part of WIN@sea. (Read more here).

Enhancing marine life and mitigating coastal erosion with stone reefs

- Island of Samsø, Denmark
- Marine fauna and flora, coastal ecosystems
- Investigate coastal stone reefs as a solution for coastal erosion and to support marine life.
- 2021-2028

Assessing nature-based solutions to mitigate biodiversity impacts from offshore wind requires a broad perspective that extends beyond the wind farm. Areas outside the operational zone can offer opportunities for more effective and beneficial biodiversity interventions. To assess the potential of nature-based solutions, Vattenfall is actively following and co-funding with Velux Foundation, the BARREEF project, led by the National Institute of Aquatic Resources at the Technical University of Denmark (DTU Aqua).

A pilot on Samsø Island, Denmark, will test whether a stone reef deployed in 2025 can provide coastal protection while creating habitats for marine life. Coastal erosion is an increasingly important societal challenge, and traditional methods like beach nourishment can damage coastal ecosystems and exacerbate climate impacts. In contrast, deploying coastal stone reefs has the potential to absorb wave energy, while also benefitting marine biodiversity. The project also involves discussions with local stakeholders and authorities to minimise harmful practices and improve climate resilience.

Biodiversity monitoring by DTU Aqua is expected to take place in May 2026, approximately one year after the construction of the reef. The collected video data will be compared with the baseline data collected in 2023. This comparison will assess any developments in terms of abundance and diversity of marine species following the reef construction.

Photo: Jon C. Svendsen

Impact of offshore wind farm decommissioning on marine biodiversity

Denmark

Biodiversity in general

Analyse the impact of decommissioning offshore wind farms on marine biodiversity

2022–ongoing

As offshore wind farms enter later stages of their lifecycle, strengthening the evidence base is needed to enable robust, science-based and cost-effective decommissioning strategies. To support this, Vattenfall has initiated a series of projects focused on generating empirical impact data and developing decision-support tools that integrate environmental evidence to inform decommissioning.

We are advancing several R&D initiatives that address some key knowledge needs with more studies underway.

Biodiversity and decommissioning: To further strengthen the scientific foundation for decommissioning strategies, Technical University of Denmark and Vattenfall have conducted a PhD research project examining how different decommissioning scenarios influence marine biodiversity. The research developed a modelling framework that integrates ecological effects into life cycle assessments, supporting transparent evaluation of structural end-of-life options. It also included a national survey exploring public perspectives on alternative approaches, assessing how information on reef effects biodiversity, and climate considerations shapes societal support.

Biodiversity and non-native species: Aarhus University's biological monitoring during the removal of the Stor Middelgrund metocean mast has documented the establishment of a diverse native marine community over 16 years of operation, alongside a limited number of non-native species that are already widespread in Danish waters. These findings provide valuable empirical insight into ecological communities associated with the artificial reef formed by offshore wind infrastructure. Read more here.

Underwater noise during decommissioning activities: Field measurements collected during mast removal operations showed that dredging and jack-up vessel activity generated higher noise levels than cutting operations. Analysis indicated a low risk of auditory injury to harbour porpoises, with any behavioural responses expected to be localised and short-term. These measurements provide an important baseline for future planning and mitigation of decommissioning-related noise impacts.

Exploring potential electro-magnetic disturbance in wild porpoises (EMPACT)

Denmark

Harbour porpoises

Investigate the effects of electromagnetic fields on harbour porpoises and design of the SEMLA device, which will be capable of measuring electromagnetic fields from offshore cables.

2024-2027

There is a critical knowledge gap concerning the potential impact of electromagnetic fields (EMF) on marine mammals. This gap is particularly important given the increasing electrical cable installation and other human activities in marine environments. In collaboration with the University of Southern Denmark (SDU), this research project aims to determine whether EMF from underwater infrastructure may disturb harbour porpoises.

In the first stage of the project, completed in June 2024, it was established that the proximity of underwater power cables can be detected through electromagnetic anomalies in biologging data from tagged porpoises. This indicates some level of electromagnetic exposure in wild porpoises. Moreover, data from three wild animals showed different behavioural reactions when porpoises were close to underwater cables. Results of the first stage of the EMF project are expected to be submitted for peer-review publication in 2026.

In the second stage, which began in January 2025, additional lab experiments were conducted at Fjord&Bælt in Denmark. At the facility, harbour porpoises in captivity are trained to work voluntarily in various research projects. The animals are never subjected to any form of punishment, whether verbal or physical. The animal trainers are guided to ensure that the animals can participate in various projects responsibly. Porpoises were exposed to a range of EMF, and their behaviour was observed showing that harbour porpoises are able to sense electrical fields.

To better understand how this relates to EMF emitted by offshore cables, Vattenfall is running a complementary project with Ocean Wave Xploration. The aim is to build a bespoke device capable of measuring EMF in offshore environments. This project started in 2025, with construction planned for 2026 and offshore testing scheduled for 2027.

Photo: Heloise Hamel

Coexisting with Capercaillie: innovative forestry methods at Bruzaholm wind farm

- Bruzaholm wind farm, Sweden
- Capercaillie
- Develop a method for coexistence between capercaillie and monitor wildlife in capercaillie habitats
- 2022-2025

At the Bruzaholm wind farm in Sweden, a new approach for balancing wind power and capercaillie conservation was developed as part of the permit process in 2020. This solution involves a declaration of intent with the landowner to adjust forestry practices to benefit the capercaillie population. Measures include preserving “skirt spruces” to protect the birds from predators and avoiding clear-cutting the area and retaining larger deciduous trees.

To increase our understanding of the species and its boreal habitats, Vattenfall launched a project led by the Swedish University of Agricultural Sciences. The project uses AI-based software to monitor wildlife in capercaillie habitats at four sites across Sweden. Monitoring began in 2023 using remote cameras, audio recorders, and GPS-tracking, with the first phase of the monitoring concluding in 2024, yielding promising results. Additional studies will be conducted during 2026 to increase the data quantity and quality for further study.

Preliminary findings show high accuracy for both camera (95%) and acoustic (90%) monitoring. The data also provide detailed insights into peak vocalisation periods, enabling more efficient future monitoring. Reports and scientific papers are currently under preparation.

Enhancing bird safety: increasing turbine visibility to reduce collision risk

- Norway and the Netherlands
- Birds (white-tailed eagles and willow ptarmigan)
- Testing of colouring to reduce collision risk
- 2012-2025

Increasing turbine visibility to birds is one strategy to reduce collision risks, and it is an approach that we are interested in exploring. Vattenfall participated in the INTACT project on Smøla, testing innovative measures to enhance turbine visibility. Painting one rotor blade black and the tower base black showed promising results, particularly for species such as white-tailed eagles and willow ptarmigan.

Building on these findings, Vattenfall has entered a new collaborative research project in the Netherlands to further test the black blade measure (more information can be found here). Vattenfall has also recently started a project with Oxford University to understand the potential of alternative colours and patterns on turbine blades.

Mitigation and monitoring activities for upland wildlife at Ray Wind Farm

- Ray wind farm, United Kingdom
- Mammals, birds, reptiles and invertebrates
- Biodiversity mitigation during construction and operation
- 2015–ongoing

Ray Wind Farm in England encompasses diverse upland habitats, including coniferous woodland, blanket bog, wet and dry heath, acid grassland, and waterways. During construction, mitigation measures were implemented to support a wide range of wildlife, including several rare and protected species.

The site hosts species such as red squirrels, badgers, otters, bats, reptiles, white-clawed crayfish, and several owl and raptor species, such as barn owls, merlins, and goshawks. Protecting these species from construction impact was crucial, and the habitat management plan was a key component of the wind farm's permit.

Following construction, operational monitoring and mitigation have been undertaken to maintain and enhance the site's ecological sensitivities. This includes managing moorland habitats, conducting dedicated breeding bird surveys, protecting sensitive nest sites and implementing targeted monitoring and mitigation for bat populations. Furthermore, there is ongoing collaboration with the local raptor study group to ring merlin chicks. Operational control measures are also being implemented to avoid disturbance at the nest.

Flower-rich grassland initiative at Princess Ariane wind farm

Wieringermeer, Netherlands

Grassland species

Repurpose agricultural land for biodiversity enhancement

2022-2024

Vattenfall's Princess Ariane Windfarm (Wieringermeer) is located in an agricultural region in the Netherlands. The installation of cables and turbines imposed land use restrictions that rendered some farmland unsuitable for traditional agriculture. Consequently, Vattenfall repurposed part of this land – including the service centre area – to enhance biodiversity in general but with ground-breeding birds in particular. Fifteen hectares have been converted into flower-rich grassland, and in 2024-2025, some of the land leased to a local farmer was transitioned to ecological farming.

Restoring peatlands: forest to bog transformation in the UK

Clashindarroch and Pen y Cymoedd, United Kingdom

Peatland habitats

Restore peatland ecosystems and increase biodiversity

2019-2042

At two sites in the UK, Vattenfall has been converting land previously under commercial conifer plantations into open peatland habitats. The smaller project at Clashindarroch in Scotland (approximately 35 ha) was completed in early 2022. A larger-scale restoration at Pen y Cymoedd in Wales – spanning up to 1500 ha - began in late 2021 and will continue for several years.

At Pen y Cymoedd, Vattenfall is investing £3m in the project and has partnered with the neighbouring Lost Peatlands of South Wales Project, making it an even larger restoration initiative (more information can be found here). Although both projects are mandated by the permits,

Vattenfall has also voluntarily funded a research programme at Pen y Cymoedd with Swansea University. The programme focuses on peatland restoration in connection with wind farm development on forested peatlands. The initial three-year programme has now been extended with two years.

Peat restoration within these Habitat Management Plans involves ditch blocking and ground smoothing to raise the water table – an essential step in re-establishing a functioning peat bog. Healthy peatlands can reduce green-house gas emissions, store carbon, and increase biodiversity.

Multi-functional land use initiatives in solar projects

- Netherlands, northeast Germany
- Smaller mammals, birds, and insects
- Enable multi-functional land use
- 2024–ongoing

At Vattenfall's solar farms, efforts are underway to enable multi-functional land use by combining fossil-free ambitions with broader sustainability objectives such as agriculture, soil restoration and climate adaptation.

In northeast Germany, the Tützpatz project is pioneering agrivoltaics. One area of the park will host chickens while two other areas will remain under conventional agriculture. In 2026, two coops will be installed, hosting approximately 5 000 chickens. This number will be expanded up to 15 000 chickens in the coming years. Mobile chicken coops will be used which are better for nitrogen infiltration of soil, as the coops will be repositioned during the year and thus the chickens will not remain on the same location all the time. Due to the mobile coops, the chickens will have more space to roam. The solar modules also protect the chickens from attacking birds and extreme weather. A fence with dug-under protection and electric wires will serve two purposes as a standard solar park security measure and to protect the chickens from foxes and wolves. Furthermore, native shrubs will be planted and a flower meadow spanning around two and a half hectares will be established.

In the Netherlands, several pilot projects aim to increase the provision of ecosystem services. For example, the Symbizon partnership – in collaboration with academic and industry organisations – is exploring the integration of cultivation for organic food production between solar panels. In 2025, the first crops – beetroots and field beans – were successfully harvested. Additionally, at the Echteld solar park, sheep are grazing underneath the modules all year round. Finally, in the Netherlands, Vattenfall supports the development of an Eco-certified Solar Label to recognise good biodiversity practices and outcomes during development and operation.

Home

3

Biodiversity in the distribution network

For Vattenfall Distribution, the conservation of biodiversity is one of the most important environmental aspects, both in permit processes and in the maintenance of the operations.

Content chapter 3

Biodiversity enhancement in power line corridors: strategic maintenance and conservation efforts

- Middle and northern Sweden
- Grassland species and pollinators
- Enhance biodiversity in power line corridors
- 2017–2026

Vattenfall's regular clearing of power line corridors is crucial for reliable power transmission. Despite environmental impacts, these clearings create habitats for grassland species, including threatened ones. Research underscores the importance of these corridors in green infrastructure as traditional grasslands decline.

In 2017 and 2019, Vattenfall conducted a GIS-based analysis to identify areas with high biodiversity in its power line corridors. The analysis identified 1,600 km of potentially valuable grassland out of a total of 8,600 km in middle and northern Sweden. Field studies and biodiversity assessments were then conducted to validate and prioritize these areas.

The field studies documented habitats and species, classifying 980 areas covering about 250 km. Vattenfall's maintenance routine involves clearing power line corridors every eighth year and patrol paths every fourth year. Insights from the area identification led to tailored maintenance plans for each area to enhance biodiversity, e.g., through the creation of glades, widening patrol paths and removing the cut material as well as special trimming and thinning out to prevent overgrowth. The measures aim to favour, among others, bumblebees, bees, and butterflies. By 2025, 85% of the areas with high biodiversity had tailored maintenance, with a target of 100% by 2026.

During 2024 and 2025, follow-up inventories were carried out in 20 areas of high biodiversity. The purpose was to assess whether the implemented management measures have had any effect on biodiversity. The results indicate a higher density of conservation-value species, primarily within the patrol path, compared with 2018.

Ecological compensation in overhead line project

Stockholm, Sweden

Birds, insects, amphibians, plants, and fungi

Enhance the reserves' natural values with compensatory measures

2024-2026

Vattenfall Eldistribution AB is undertaking a capacity enhancement of the regional network in Stockholm County, which includes the construction of two new overhead lines in Huddinge Municipality. The lines need to pass through several municipal nature reserves.

To minimize the impact on the natural values of the reserves, early dialogue was initiated with the municipal ecologist and reserve manager to collaborate on appropriate measures. Preventive measures such as the placement of power line towers and transport routes have been developed. Despite this, the construction involves intrusion into the reserves and requires compensation measures. The older forest areas that are felled cannot be replaced, but other natural values can be strengthened and expanded to make the reserves more resilient to future changes.

Several compensation measures have been established, including the construction of livestock fences to expand natural pastures, the placement of birdhouses for species such as swifts, kestrels, and tawny owls, the creation of stone piles for wheatears, and the veteranization of trees to create habitats for birds, insects, bats, lichens, and mosses. Sand beds have been created to benefit ground-nesting wild bees, and hibernation sites for amphibians are planned. The work on compensation measures will be carried out in parallel with the construction of the power lines and handed over to Huddinge Municipality for future operation and maintenance.

During 2025, more measures have been carried out and had an immediate impact, the establishment of one of Sweden's most threatened beetles, the Longhorn beetle. The species depends on sun-exposed dead oak wood and has previously only been found in a few locations in the country. When trees in Huddinge were cut for the power line, oak timber was left behind and placed in sunlit slopes – and that same summer, the beetle was attracted to the site. Read more here.

Photo: Richard Vestin

Strategic biodiversity measures to support pollinators at substations

Sweden

Pollinators (bumblebees, bees, and butterflies)

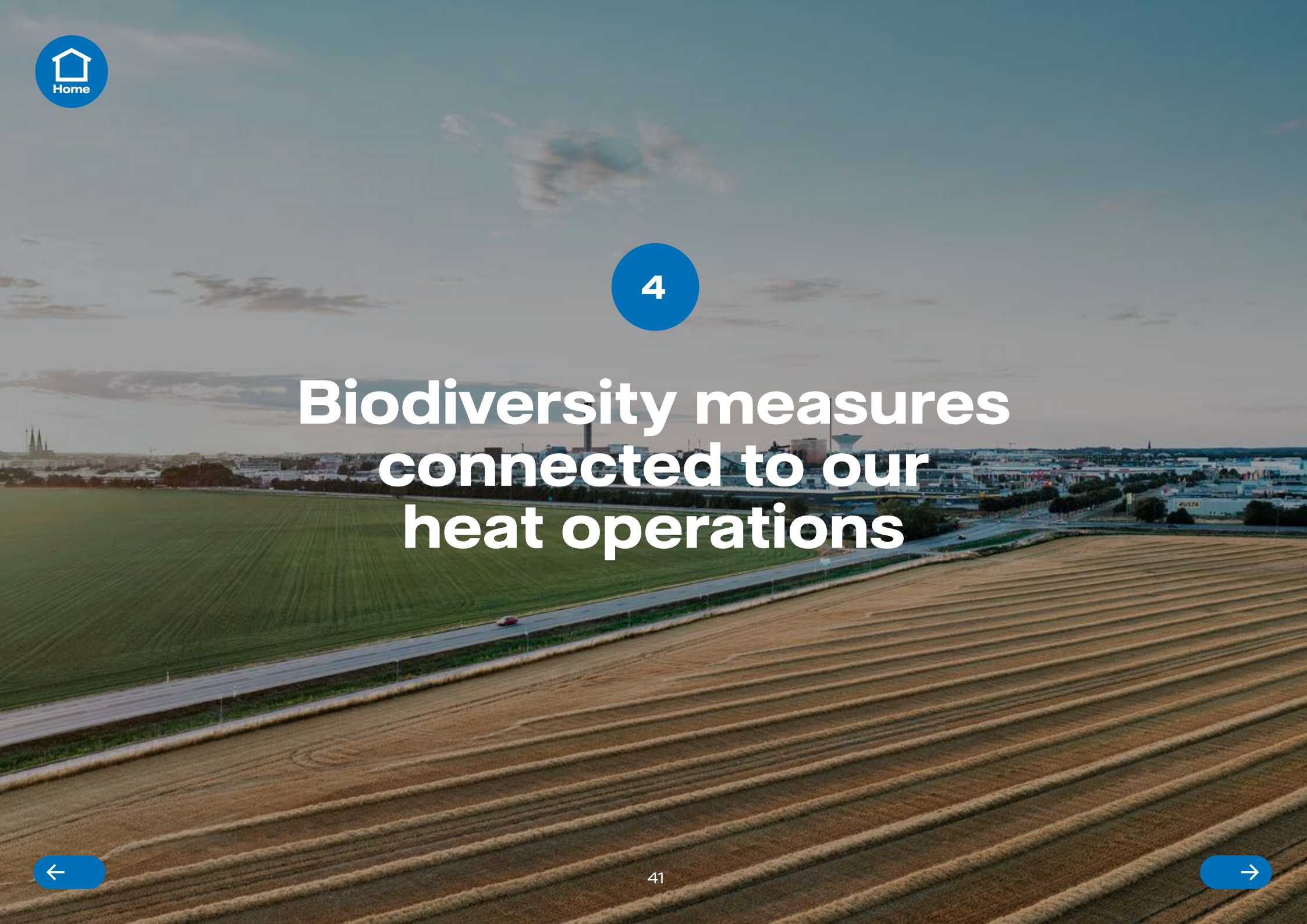
Conduct biodiversity enhancement measures at substations

2022-2024

In recent years, the decline in pollinators like wild bees and bumblebees has threatened biodiversity and ecosystem health. Many of our substation sites across Sweden offer opportunities to benefit these pollinators.

In 2022 and 2023, a GIS-based analysis of 90 substations assessed their potential for biodiversity enhancement. Factors like proximity to species, historical land use, and the surrounding environment were considered. Sixteen of these stations were selected for detailed field visits, and the conclusion was that maintenance practices at some stations could be adapted to benefit various species of bumblebees, bees, and butterflies.

During 2024, customized maintenance instructions were developed for five of the substations and implemented on four of them. Each contractor in charge of maintenance received detailed instructions on how the areas around the substations should be maintained to promote biodiversity, such as when lawns should be mowed, which trees and bushes should be pruned, and which ruderal areas should be disturbed by scraping. Valuable flora and fauna were identified at two station areas, prompting additional measures such as the creation of sand beds for bumblebees and wild bees. During 2025, measures were carried out at one additional substation, and the long-term goal is to systematically improve biodiversity at 20 substations.



4

Biodiversity measures connected to our heat operations

Content chapter 4

Supporting urban ecology around heat operations

- Diemen, Netherlands
- Insects, plants, and birds
- Nature protection and enhancement
- Continuous

Our Heat operations are often situated near urban areas, and the land surrounding our power plants can be utilised to support urban ecology. In Diemen, we have collaborated with FREE Nature (Foundation for Restoring European Ecosystems) to manage two nature reserves (unused industrial land) located around our power plant.

Together with FREE Nature, we continuously seek opportunities to support local wildlife. Ecologists conduct annual visits to monitor the animals and plants. Additionally, we have Highland cows grazing on unused industrial land. These cows are conservation grazers, meaning they help maintain and restore natural habitats. By grazing in a controlled manner, they help manage vegetation, prevent overgrowth, and support biodiversity.

Working for sustainable biomass sourcing

- Sweden and the Netherlands
- No specific species
- Ensure environmentally and socially sustainable biomass sourcing
- Continuous

Biomass is a crucial energy source and a key component in the effort to phase out fossil fuels. Ensuring environmentally and socially sustainable biomass sourcing is of the highest priority to minimize environmental impact while maximizing resource efficiency.

The biomass used in our power plants must be produced in accordance with the Renewable Energy Directive and national legislation. As a priority, we source locally and we commit to using bio-based recycled fuels, forest residues or residual products (e.g. from the forest, pulp, and paper industries) to ensure that high-quality wood is not used for heat production.

All biomass sold through Vattenfall Energy Trading is certified. Vattenfall Energy Trading holds the following certificates for biomass: SBP, FSC and ENplus. As a founding member of the SBP, Vattenfall Energy Trading has been involved in developing global sustainability standards for biomass and continues to support the programme by relying on SBP- and/or FSC-certified suppliers.

5

Biodiversity measures connected to our nuclear power operations

Vattenfall runs nuclear operations in Forsmark and Ringhals in Sweden, and we are also part-owners of SKB, who are accountable for responsible management of radioactive waste from nuclear power plants in Sweden. Our biodiversity work within nuclear encompasses both complex ecological investigations and permit related biodiversity measures as well as voluntary measures to support biodiversity.

Content chapter 5

New habitats for pool frogs & forest management in Forsmark

- Forsmark, Sweden
- Pool frog, great crested newts, and orchids
- Mitigate impact from building the final nuclear fuel repository
- Continuous

When the Swedish Nuclear Fuel and Waste Management company (SKB) establishes the nuclear fuel repository in Forsmark, a pond that is home to endangered pool frogs will be filled. To protect the frogs, SKB has created six new ponds years in advance to strengthen the conditions for this and other amphibian species, ensuring that the population of pool frogs continues to exist in the area. As an add-on, a hibernacula or 'frog hotel' was built to provide shelter for the frogs during winter. Before the pond infilling starts, amphibians living in the pond are caught and transferred to the new ponds.

This relocation project was finalised in 2025 after three years. In total, 200 pool frogs and about 580 great crested newts have been relocated. In addition, SKB has also developed a forestry plan aiming to enhance biodiversity around Forsmark and preserve high-value forest areas. Efforts include, for example, maintaining habitats for the protected lady's slipper orchid through targeted clearance and maintenance.

SKB also carries out habitat management measures to create and maintain good living conditions for protected wetland species on the company's land in Forsmark. In autumn, reed cutting is carried out in selected wetlands to benefit rich fen plants such as the rare fen orchid (Liparis loeselii). Reed cutting was also performed in two of the constructed ponds during winter 2025 to maintain the right conditions for frogs and salamanders.

We are participating in a regional initiative by the County Administrative Board called "Roadmap for a sustainable county" where SKB in 2024 signed five so-called "sustainability promises" showing our commitment to protecting biodiversity. Building the final repository in Forsmark involves extensive ecological work, which SKB has been committed to for a long time.

Photo: SKB

Supporting pollinators in Forsmark

- Forsmark, Sweden
- Pollinating insects
- Support local biodiversity by taking active measures
- Continuous

The industrial area at the nuclear power plant in Forsmark includes diverse habitats like coniferous forests, open grasslands, and sand. The topography also shifts throughout the industrial area. All these habitats and features exist in a rather small area, which increases the potential to implement effective measures for different types of pollinating species.

Initial site visits identified areas for enhancing pollinator diversity, and several biodiversity measures were implemented between 2022-2023. This included creating new nesting habitats, two fauna depots, a bee hotel and a sandbank. Grass cutting routines were also adjusted to allow full-season blooming and parts of the lawn were replaced with wildflower seeds.

These are practices that will continue to be maintained, including routines for how grass is cut and bushes are cleared, as well as improvements to the sandbank created in 2023. Additional actions are planned but not yet confirmed and a follow-up inventory is planned in 2026. This project supports the Uppsala County Administrative Board's 'Roadmap for a sustainable county'.

New fish passage in Forsmark's Bruk

Forsmark

Sea trout, eel and perch

Remove the migration obstacles and create spawning and nursery habitats

2026

The small community of Forsmark's Bruk is located a few kilometres from Forsmark's nuclear power plant, and here, Vattenfall has identified potential to construct a new fishway that aims to contribute to creating and maintaining valuable living conditions for animals and ecosystems in the area.

Restoring free migration routes for fish is aligned with the EU Water Framework Directive and national environmental goals. The planned actions include building a 160-meter bypass channel and a stone-lined canal that will give the fish access to an interconnected lake system of 800 hectares. In addition, spawning and nursery habitats will be improved along the river aiming to enhance biodiversity both locally and regionally. The project aims to benefit species like sea trout, eel and perch which will benefit from the removal of migration obstacles.

The new fish passage will be constructed in collaboration between Sportfiskarna and Forsmark's nuclear power plant, who will share costs for planning, contractors, and materials. Following a period of soil sampling and analysis for soil contamination, the project is planned to start and be carried out in 2026.

Photo: Vattenfall

Biodiversity assessment for nuclear fuel suppliers

- Globally
- No specific species
- Mitigate supply chain impacts and risks
- Continuous

Biodiversity is not only a topic related to our own operations but also something that we address in connection with our supply chain. A biodiversity assessment, not only of our own operations but also of uranium mining, is included as part of our Environmental Product Declaration for electricity from nuclear power.

In this assessment the potential impact of the mining operations on biodiversity is qualitatively described, based on available material such as Environmental Impact Assessments, the mining companies' environmental programs, and information from open databases on the flora and fauna of the areas, including for example rare species, as well as the effects of land use changes mentioned earlier.

Biodiversity will continue to be an integrated part of the sourcing process of uranium. All Vattenfall's current and potential uranium suppliers are assessed from a biodiversity risk perspective, and new suppliers are expected to demonstrate how they consider biodiversity and how they apply the mitigation hierarchy if their operations are located in or near areas with high biodiversity, i.e., nationally appointed areas of high biodiversity importance, areas with vulnerable and threatened species, formally protected areas, etc.

Conservation of the Sand Lizard at Krümmel, Germany

- Krümmel, Geesthacht, Northern Germany
- Sand lizard (Lacerta agilis)
- Preserve and enhance habitat conditions
- Continuous

The sun-exposed sandy slopes north of the Krümmel nuclear power plant provide ideal habitat conditions for the strictly protected sand lizard. To minimise ecological impacts during construction of the storage facility for low and intermediate level radioactive waste, Vattenfall implemented a comprehensive conservation strategy.

Between 2018 and 2019, a high-quality replacement habitat was created west of the site, featuring a diverse mosaic of sand patches, stone structures, low vegetation, and dead wood to support basking, sheltering, foraging, and reproduction. Following habitat preparation, individuals were relocated and temporary reptile fencing ensured safe separation from active construction zones. Monitoring in 2020 confirmed successful juvenile development, demonstrating the ecological functionality of the new habitat. Ongoing habitat man-agement helps ensure long-term stability and supports nature-inclusive project development.

Photo: Karsten Wulff

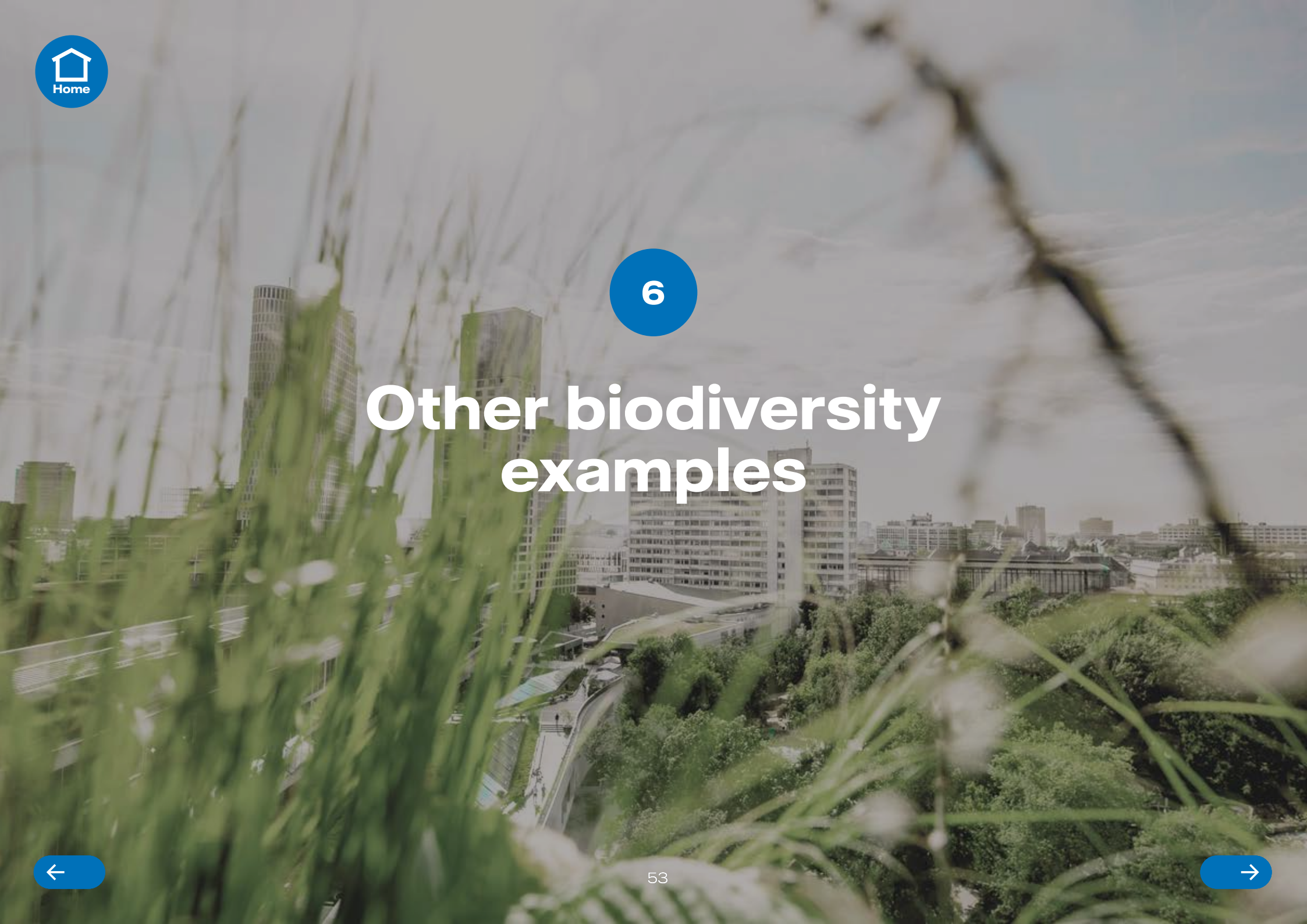
Return of fish and control of invasive species at Ringhals

- Ringhals, Sweden
- Aquatic species
- Mitigate biodiversity impacts and control of invasive species
- 2011-ongoing

Cooling water is necessary for electricity production at Ringhals, and it is taken from the sea via two intake channels to the nuclear power plant. Although most fish can swim against the current, the cooling water inevitably comes with animals and plants that are normally found in the sea.

To minimise the impacts, species that are found are returned to the sea via a common sewer pipe that empties into the sea at a depth of 10 meters. This procedure is carefully followed up, and the result shows that eels have a particularly high survival rate (86% survive).

Since 2011, a biological control program for invasive species has also been part of the ecological monitoring at Ringhals and it is carried out by the Swedish University of Agricultural Sciences (SLU). Surveys along the coast and inside the nuclear plant have identified invasive species like The Asian blue crab, the Pacific oyster and several invasive algae species. Findings are reported to the County Administrative Board in Halland and documented in a database for authorities and researchers.



6

Other biodiversity examples

Content chapter 6

Supporting biodiversity in our office premises

- United Kingdom, Germany, Netherlands and Sweden
- Various species
- Enhance biodiversity around our offices
- 2020-ongoing

Vattenfall has set a goal to enhance biodiversity around its offices and created an idea catalogue available on Vattenfall.com to inspire others. Here are some examples of measures we have implemented so far:

In the United Kingdom, we have installed insect houses at both Hexham and Penzance offices. A more detailed inventory conductedin 2024 identified potential to further enhance habitats, resulting in the installation of wildflower-enriched turf and an outdoor seating area within the grounds of the Hexham office, as well as the addition of planters filled with biodiversity-friendly flowers at the Penzance office.

In Germany, at the two office buildings in Berlin and Hamburg, we created insect-friendly surroundings in an urban environment. A green roof was planted at the Berlin location, and in 2024, we created a green roof and large terrace at the Hamburg office with many native plants.

In the Netherlands, ecological inventories have been conducted in several locations, and activities have already been implemented. Native plants have been sown at Slootdorp, standard tiles have been replaced by grass concrete tiles in parking lots at Zoeterwoude, and insect houses have been placed.

In Sweden, bird and bat nests have been installed at Ringhals, Trollhättan, and Älvkarleby. Native plants, flowers, trees, and bushes were planted outside the Ringhals office. In Trollhättan, veteranisation of trees was conducted to create old tree structures, with a view of enhancing habitats for a range of species.

In Poland, at our new office in Katowice, we planted native flowers and placed beehives to support biodiversity-friendly habitats.

Vattenfall Umweltstiftung

Germany

Various species

Support local biodiversity project and education

1994–ongoing

The Vattenfall Umweltstiftung, an independent German environmental foundation managed by Vattenfall, has supported over 246 environmental projects since 1994. This non-profit organization offers grants to schools, associations, nature protection groups, and other NGOs for projects often with a strong emphasis on biodiversity. The foundation received the “Protection of Species Award 2021” from the initiative “Artenschutz in Franken®” for its efforts in protecting endangered species like wild bees and bats. Below are examples of projects supported by the foundation:

Re-settlement of endemic species: A project where kindergarten and school children have been involved in re-settling brown trout, minnows, and fire salamanders in streams around Wernigerode.

Creating urban gardens: A project in collaboration with a Hamburg association that helps young people in social work programs.

Forest development: A project aiming to create a mixed forest with near-natural structures and endemic tree species. This aims to make the forest more resilient to climate change and promote woodland ecosystems.

Quantifying and valuing biodiversity

- The Nordics
- No specific species
- Developing a tool for quantifying and valuing biodiversity
- 2020-2025

Measuring biodiversity with a single indicator is a challenge since biodiversity is complex. At the same time, there is an increased pressure on businesses to be more transparent and report biodiversity indicators.

To find a way forward, Vattenfall has been part of a cross-sector business initiative to develop a calculation model that can help companies quantify and communicate their impact on biodiversity. This model is called CLIMB (Changing Land use Impact on Biodiversity) and it was officially launched in September 2023 after approximately three years of work.

During 2024-2025, Vattenfall conducted a pilot test of the tool in several projects to see how we can use such a metric in our biodiversity work, and we will continue to be a part of the standardization of the tool.

CLIMB received the Sustainability Achievement of the Year 2023 award from the Network for Sustainable Business (Hållbart Näringsliv) recognizing its significant contribution to sustainability.

Nature photo app contest

- Available for all Vattenfall countries
- No specific species
- Raise awareness around biodiversity and collect biodiversity information
- 2021-ongoing

Biodiversity has not gained as much attention as climate change, but it is important to build awareness around the importance of healthy ecosystems and a rich flora and fauna. To enhance internal awareness, Vattenfall has created a user-friendly app accessible to all employees, allowing them to share photos and videos of nature at various locations throughout the company's operations.

The primary goal is to raise awareness, advance scientific knowledge, and promote environmental protection. Additionally, the app allows employees to participate in the annual Nature Photography Contest, where an internal jury selects the best images for people to vote on. A range of photographs have been submitted also during 2025, showcasing nature on Vattenfall's sites.

Photo: Niklas Lindström