

AQUILA CAPITAL TIMBER INVESTMENT FUND

IMPACT REPORT 2019

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1. Fund

Theory of change

Long-term investments in forests and their sustainable management form an important contribution to maintaining and improving the functionality of diverse and valuable ecosystems. **The reconciliation of economy and ecology through sustainable forest management, which gives equal consideration to the productive as well as protective functions of a forest, is a key objective of the Aquila Capital Timber Investment Fund S.A., SICAV-SIF (ACTIF or "the Fund").** The Fund's investment and management processes combine internationally recognised certification, ESG (environmental, social and governance) criteria and impact targets.

The **integration of ESG criteria** serves to consider environmental and social factors as well as the principles of good governance in the context of investment processes. Many investors, such as signatories to the **UN Principles for Responsible Investment initiative (UN PRI)**, **Aquila Capital being one of them**, integrate ESG criteria into their analysis of investments.



Investing in ESG-oriented strategies is also a key component of the Paris Agreement to combat climate change, which aims to limit the increase in global temperature to 1.5 degrees Celsius above pre-industrial levels and align financing flows with climate targets. **ACTIF's investments contribute to the achievement of the objectives set out in the Paris Agreement in the context of climate change mitigation and adaptation, as well as several of the 17 sustainable development objectives developed by the United Nations.**

All investments of the ACTIF are **impact investments**. These are investments aimed at achieving manageable and measurable goals to solve defined problems. ACTIF is geared to the UN's 17 sustainability goals in order to ensure sustainable development at an economic, ecological and social level. Goal 15, which aims to protect and restore terrestrial ecosystems and promote their sustainable use, is particularly relevant for forestry investments. Proof of the sustainable management of forest areas held by ACTIF is provided through **certification schemes which label economically, socially and ecologically sustainable forest products, such as the PEFC (Programme for the Endorsement of Forest Certification Schemes) and FSC (Forest Stewardship Council).** The Fund's investments are also managed in accordance with internationally recognised standards that exceed the requirements of local laws.

The destruction of forests causes about one fifth of the world's annual greenhouse gas emissions. At the same time, more than a quarter of all CO₂ emissions are sequestered in forests each year. **The contribution to CO₂ sequestration made by a sustainably operating forest and timber industry consists of maintaining or building up the carbon storage in forests and removing part of the carbon from the cycle through the production of long-life wood products.**

Forest areas are most effectively protected from deforestation and land-use conversions through sustainable management. In this respect, forestry is the form of land use that can sequester the most carbon. It removes CO₂ from the atmosphere long-term by storing it in biomass and soil and through the use of wood as a raw material. Against this background, ACTIF prefers to invest in forests whose strong tree growth sequesters large volumes of CO₂, and in countries whose wood-processing industries allow for the highest possible proportion of wood to be used as a raw material (e.g. as construction timber) as opposed to a source of energy.

The technological advantage gained through the development of engineered wood products in countries such as Finland allows for the comprehensive use of harvested trees, so that hardly any woody material is wasted. In addition, this form of management maximises the carbon storage function and makes it superior to the contribution of unused forest areas over the long term. This does not mean that all land is used for timber production. In every forest enterprise in which ACTIF invests, partial areas are also reserved for environmental protection and are generally not managed.

ACTIF also aims to **transfer and exchange know-how** within its internationally diversified portfolio and through Aquila Capital's globally experienced management team so that forest operations, though small in an international context, can be developed and managed efficiently. Among other things, innovative technologies for optimisation and forest-protective management are applied, which can be subsumed under the term **"precision forestry"**. The principle of precision forestry consists of the use of modern tools, machines and technologies, such as remote sensing, navigation and geo-information systems, to improve decision-making processes on the basis of comprehensive information to ensure the objectives of forest management are met.

In this respect, sustainable forestry investments offer an opportunity to sensibly combine economy and ecology - for the **preservation of the creation.**

Key achievements 2019



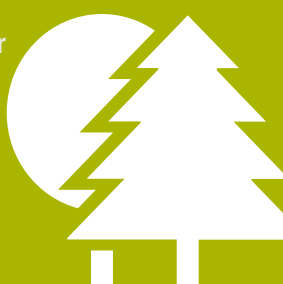
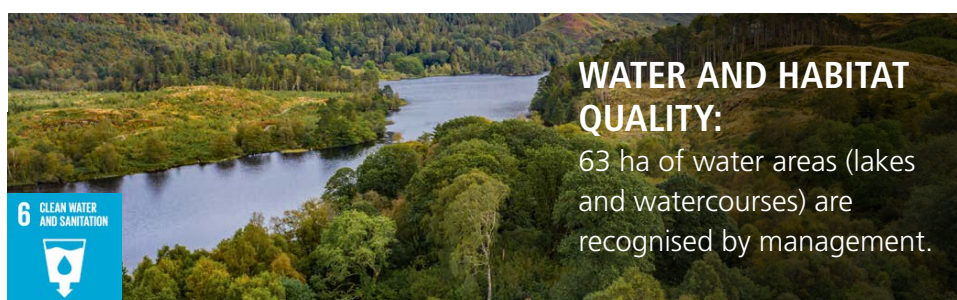
Total area of 8,600 ha increased to **8,850 ha** (+3%). The entire area is managed sustainably.

15 LIFE ON LAND

AFFORESTATION: 160,000
Approximately trees have been planted in the year 2019. This corresponds to approximately two to three trees for every cubic metre of timber harvested.

REFORESTATION: 1.4 km²
Approximately have been reforested in the year 2019.

13 CLIMATE ACTION

WATER AND HABITAT QUALITY:
63 ha of water areas (lakes and watercourses) are recognised by management.

6 CLEAN WATER AND SANITATION



FOREST PRESERVATION:
There has been no loss of forest area in the year 2019.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

ENVIRONMENTAL PROTECTION:

96 ha are protected by law, but **three times this area (275 ha)** is voluntarily protected and not used for forestry.

15 LIFE ON LAND




SUSTAINABLE FORESTRY:
Two thirds of the forest areas are already certified according to FSC/PEFC. The aim is to achieve full certification. All areas are therefore managed as if they were already certified.

FSC **PEFC**

8 DECENT WORK AND ECONOMIC GROWTH **12** RESPONSIBLE CONSUMPTION AND PRODUCTION



TIMBER HARVEST:
67,500 m³ of timber from forests that are 100% sustainably managed has been sold in the year 2019.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Investment targets

The investment objective of ACTIF is to enable its investors to participate primarily in the performance of timberlands and forestry assets and in the income from renting out or leasing out these properties.

The Fund's economic guidelines only allow investments in:

- Countries that offer adequate **legal and political stability** and an appropriate **level of taxation**;
- Countries with suitable **site conditions** for timber production;
- Assets with balanced **risk/return structures and reasonable valuations**.

In accordance with these economic guidelines, investments in forestry companies are made exclusively in regions with a sufficient availability of

- **Suitable forest areas**,
- Selection of **qualified management companies**;
- **Good infrastructure**.

The Fund's ethical guidelines allow investments that

- Take account of their **environmental impact**. Negative environmental impacts from the projects are actively reduced and generally avoided;
- Create **fair working conditions**. Child labour and forced labour are prevented and high safety standards are applied to protect the health and safety of the people employed in the operating companies;
- Preserve **cultural heritage**. Cultural heritage is protected from the possible negative impacts of an investment project.

The investment company aims to prove the **sustainable management of all investments** through appropriate third-party **certification systems**.

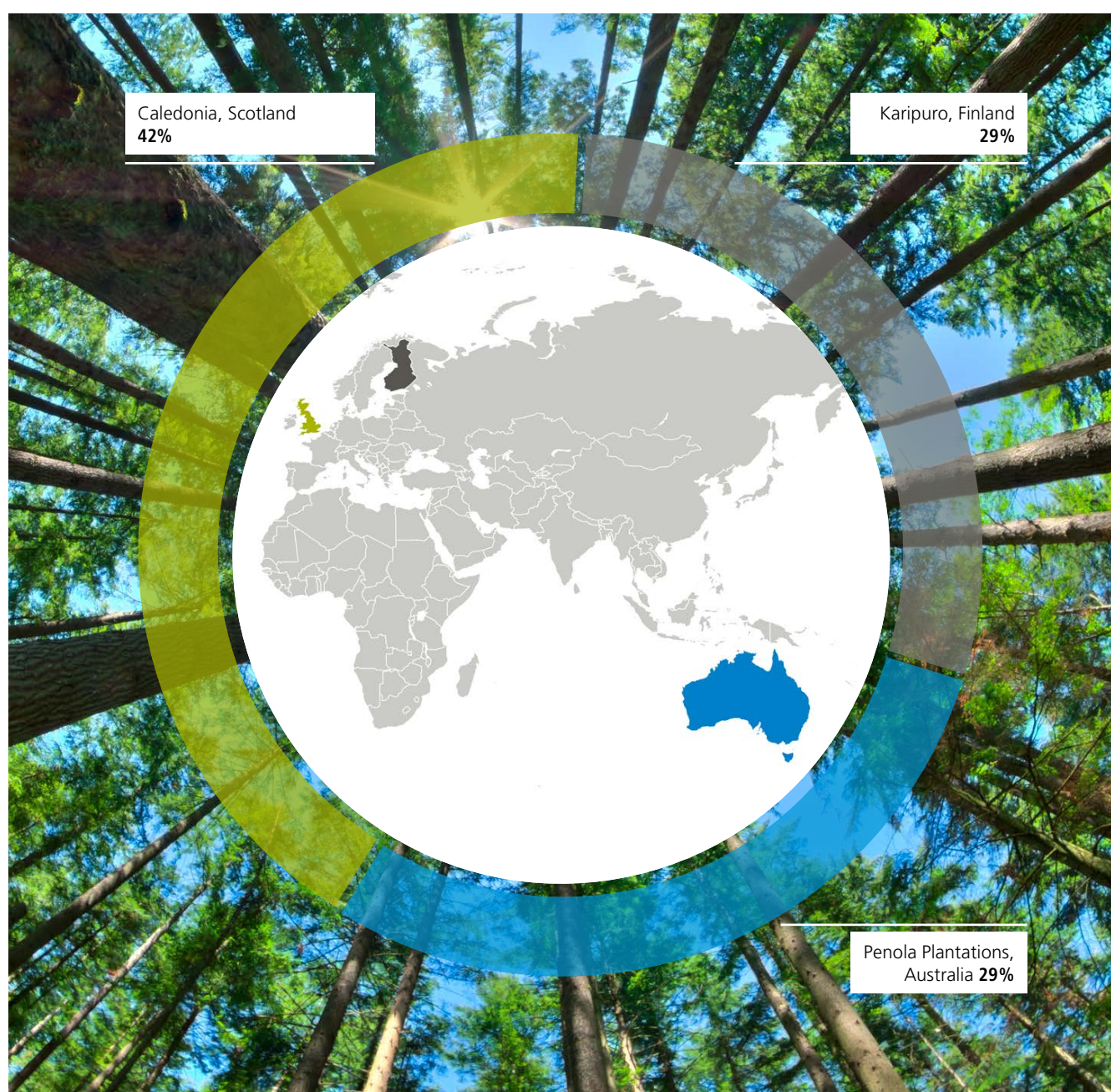
The **value drivers of forestry investments** are essentially the biological growth of trees and management techniques to steer value development through sustainable forestry. In this respect, optimisation and know-how transfer across the forest enterprises can be decisive, for example, in the securing of timber sales through long-term purchase contracts with regional and international customers; or the diversification of income streams through alternative forms of use with a positive influence on the risk profiles of assets. A further prerequisite for sustainable value development is a favourable timber supply to demand ratio in the target countries.

Description of the fund's portfolio

The ACTIF's forestry investments are currently spread over three geographies in Finland, Scotland and Australia, covering a total area of around 8,850 ha. They comprise two direct investments (in Finland and Scotland) and one fund investment in the Green Triangle region of south-east Australia. This distribution features diversification across different countries and locations with varying vegetation zones and

silvicultural systems. Various timber markets in different currency zones are being supplied. The fund can invest in three economically well-developed regions: Europe, Oceania and North America. Possible future ACTIF target countries, in addition to those already mentioned, are New Zealand, Canada and the USA.

World map with investment locations



2. Assets

Finland

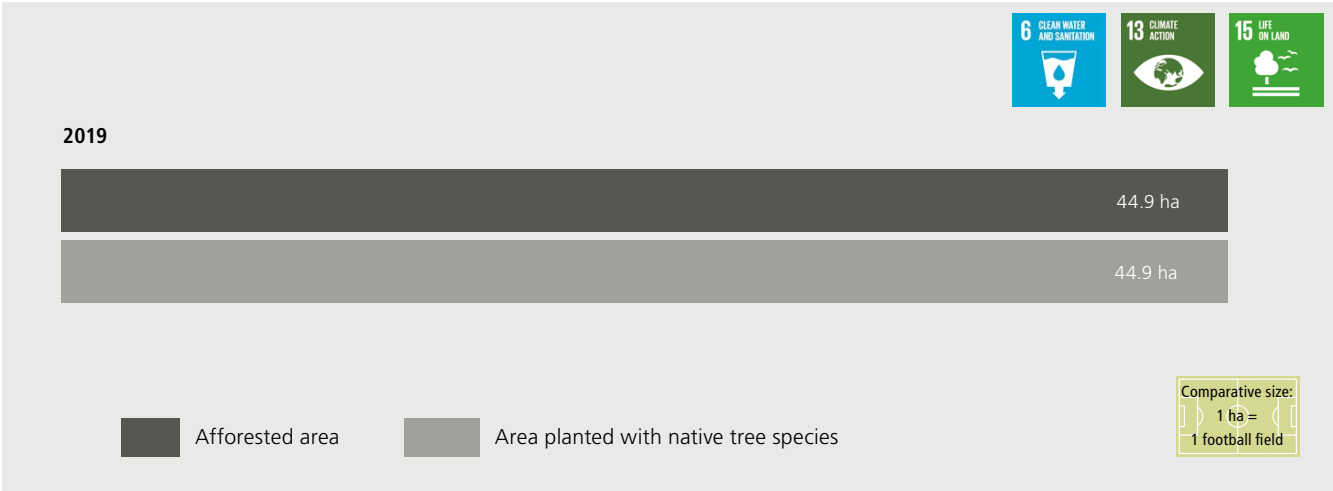
- **Direct investment in mixed forests** with a total area of around **3,400 ha**, consisting of two assets
- The investment is located in eastern central Finland, near Rautavaara and Juuka. The region has been characterised by industrial forestry for decades.
- Tree population (mixed forest): Pine (68%), spruce (22%), other species (11%)
- Ownership share of the fund: 100%.
- **The investment benefits from the economies of scale of the sale-and-leaseback partner UPM**, one of Scandinavia's largest forest industry companies.
- The forest areas have a good management history and a well-developed infrastructure.
- The timber is sold via a long-term purchase agreement.
- The forest areas are certified in accordance with PEFC (Programme for the Endorsement of Forest Certification Schemes) and FSC (Forest Stewardship Council) standards.

Finland: Key data

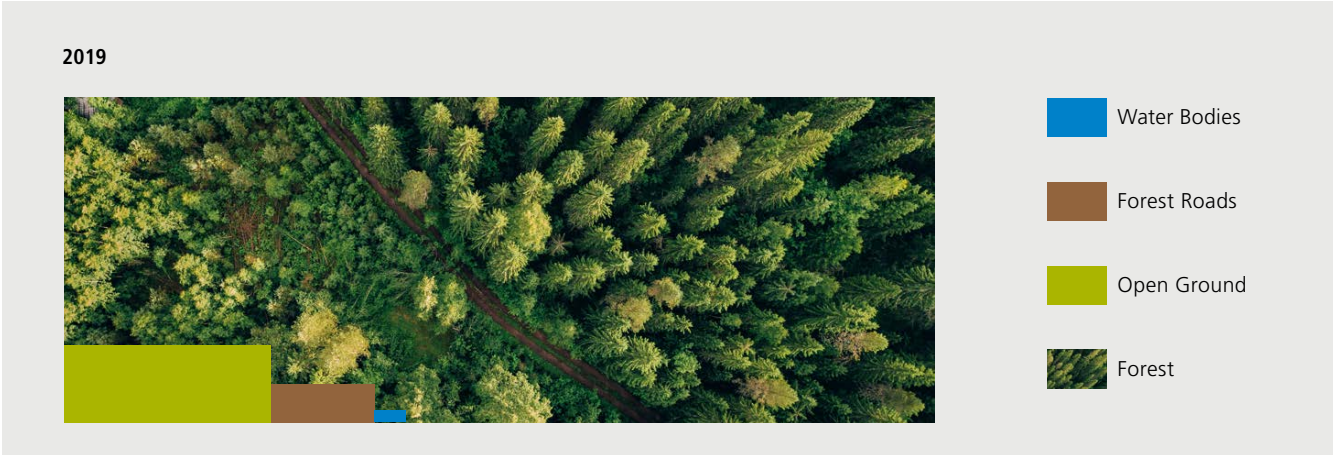
Number of trees planted



Afforested area



Land areas



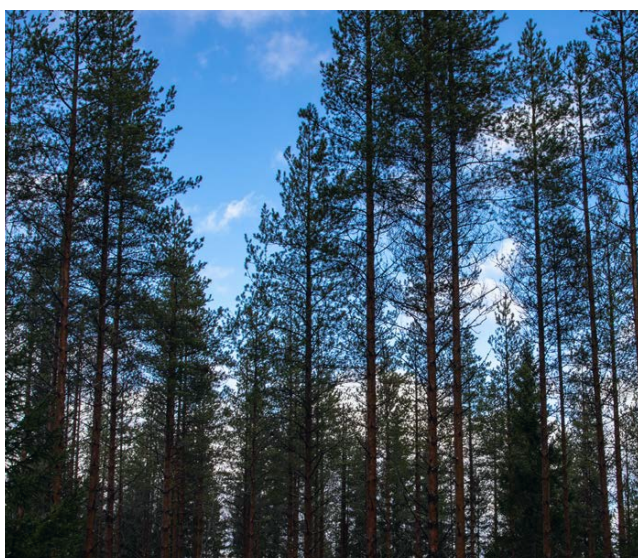
Finland: Insights into local operations

One of ACTIF's goals is to meet the challenges that climate change will bring and, in some cases, is already bringing. Evidence of this can be seen at the Fund's Finnish forest properties, Rautavaara and Juuka. For example, the growing season has been noticeably extended since these properties were acquired, with an immediate positive effect. Nevertheless, in 2019, the asset management team also focused on the long-term development of the two forest operations. The larger context was considered and a plan to focus on so-called "continuous cover forestry" was initiated. A continuous cover forest is a mixed and structured forest with continuous regeneration. Such a system is typically more resistant to the effects of climate change and beneficial to animal and plant species in terms of their conservation. In addition, economic sustainability is increased through the diversification of tree species. Since 2014, this type of management has again been permitted, alongside clear-cutting, after continuous

cover forestry had been banned in Finland for reasons of keeping track of the timber volume harvested. Continuous cover forestry is still in the development and observation phase in Finland, but the asset management team, together with a team comprising the forestry consultant Margules Groome and the manager UPM, nevertheless started to examine which areas of the two properties might be suitable for continuous cover forestry in 2019. The change of the management system is lengthy and not without risk. The first step is either moderate thinning or very small-scale clear-cutting (smaller than 0.3 hectares) to create a checkerboard pattern of unevenly aged forest patches which, in the long run, will be transformed into a



forest pattern where several layers of different aged trees stand together. One benefit of this is a reduction in costs for reforestation, as more emphasis is placed on natural regeneration.



Sparse mixed pine forest becoming a continuous cover forest



Young spruce shoots from sowing



Harvester in a thinning operation



Biodiversity in the Finnish natural forest, here a capercaillie

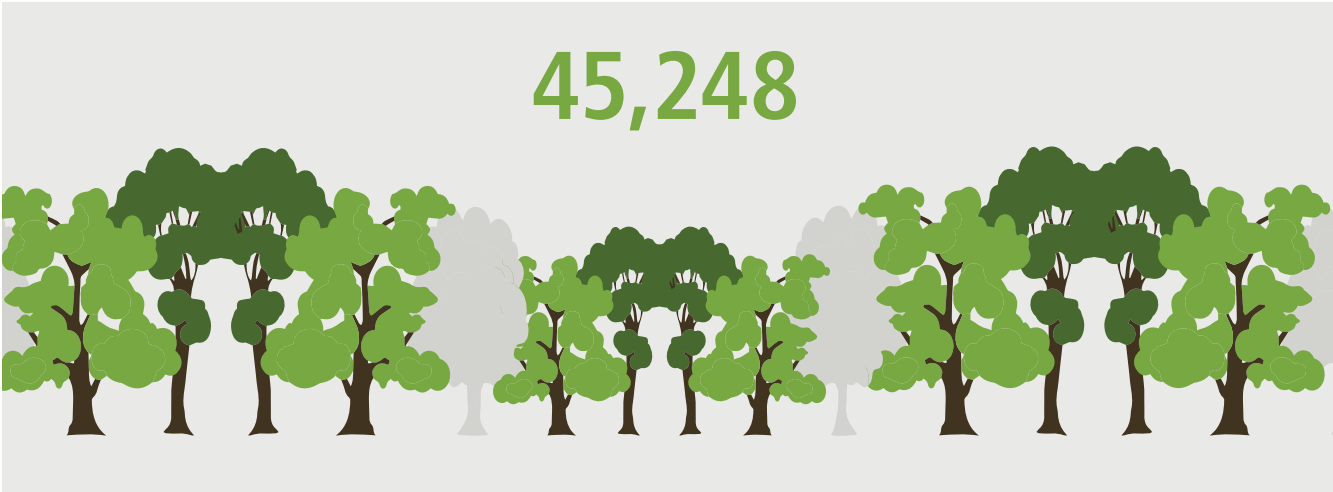
Scotland

- **Direct investment in coniferous forests** with a total area of **4,050 ha**
- The investments are spread over four locations in central and northern Scotland.
- Tree population: Spruce (69%), pine (30%), other species (1%)
- Ownership share of the fund: 100%.
- **Great Britain has a timber deficit and imports around three quarters of its timber (internal currency hedge for the fund managed in EUR).**
- The British timber industry is concentrated in Scotland and is subject to constant development along with the growth of forest resources.
- Opportunistic timber sales to take advantage of the hedging effect; long-term timber purchase agreement possible
- Partial areas certified in accordance with **PEFC** (Programme for the Endorsement of Forest Certification Schemes) and **FSC** (Forest Stewardship Council) standards; full certification will be achieved step by step

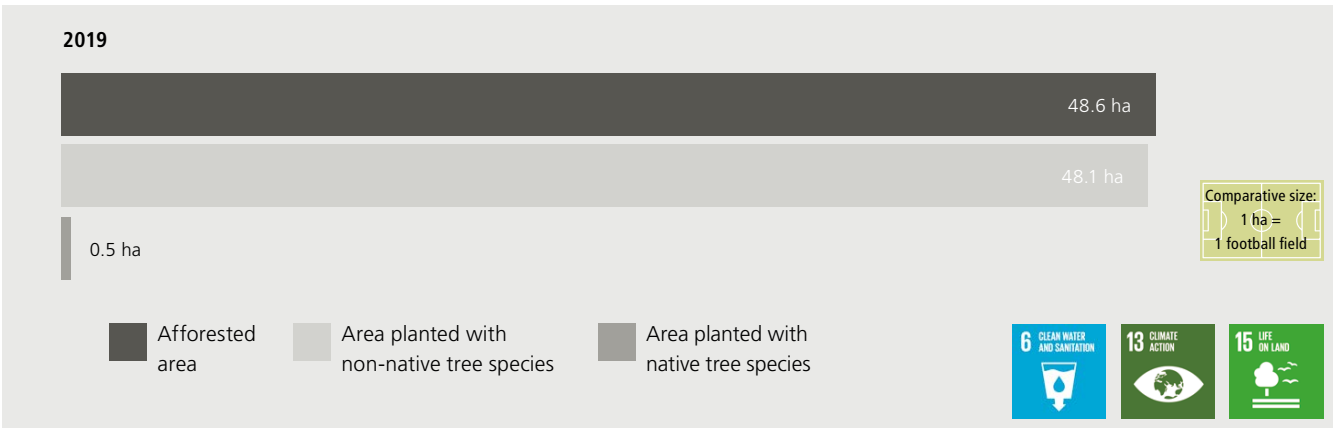


Scotland: Key data

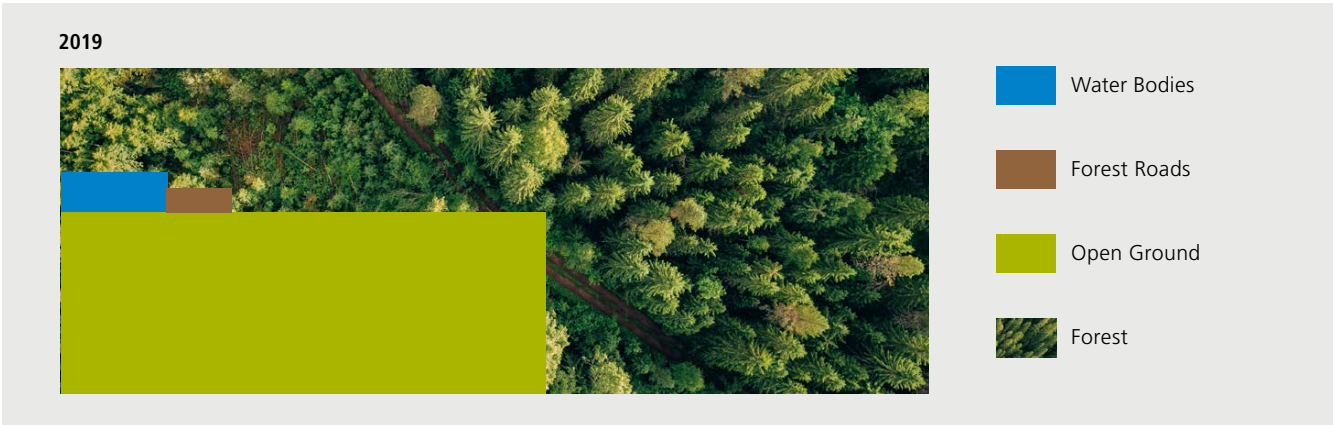
Number of trees planted



Afforested area



Land areas



Scotland: Insights into local operations

Forestry in Scotland is characterised by a comparatively simple silvicultural system, with two main tree species: Spruce (*Picea sitchensis*) and pine (*Pinus contorta*), which are not indigenous to Scotland, but both of which show above average growth rates there. These species account for approximately 80% of Scotland's annual roundwood production. After harvesting, the areas are usually reforested with the same tree species.

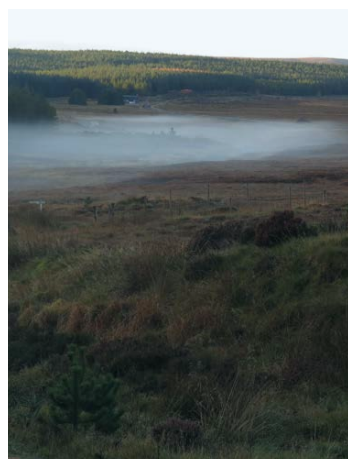
In 2019, all harvested areas of the Sauchen and Achaglass assets were reforested. The asset management team increasingly used alternative tree species to reduce the dominance of Sitka spruce and pine and their associated risks, such as bark beetle damage or windthrow. On lower-yielding microsites, Tilhill, the forestry manager, planted mainly deciduous trees, which contribute to the biodiversity and stability of the tree population.

At the Strathmore asset, consideration has been given to the possibility of establishing a rail loading point on existing tracks at the northern edge of the site. This would shift timber transport from road to rail and both save CO2 and protect local infrastructure. At the same time, rail loading would allow the site to reach more distant customers, especially in the south of Scotland, who pay higher timber prices than customers in the north. Other forest owners in the vicinity of the Altnabreac asset would also have the opportunity to transport timber via the planned loading point.

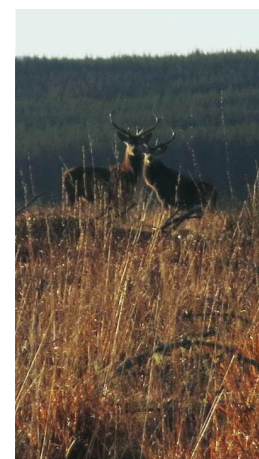
The Scottish government agency Scottish Forestry and the national transport agency identified the Strathmore asset as one of three possible sites for a loading point. The asset management team evaluates a positive outcome of the assessment as very likely.



Track connection of the forest



Scottish forest in the morning haze



Red deer in November 2019



Planting of alternative tree species: *Sorbus aucuparia* (rowan tree)

Australia

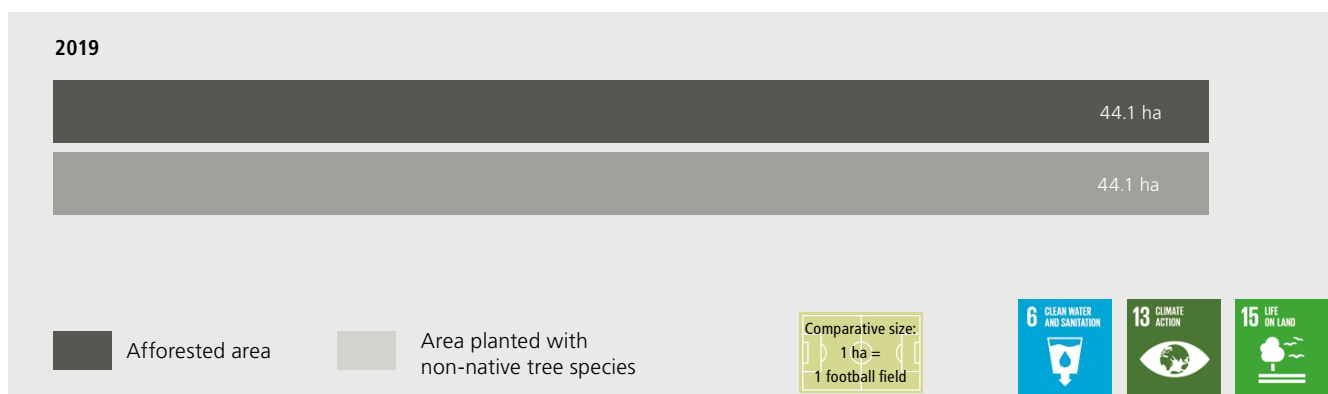
- **Co-investment** with mainly European institutional investors in a **forestry company with a total area of around 44,500 ha** in South Australia
- Share of the Fund: Approximately 3.2% of the company
- Tree population: 100% pine
- The investment is located in the Green Triangle region, South Victoria, Australia. This area has been used for forestry for many years and has proved to be a good place to plant Radiata pines. It has an above-average infrastructure and can serve well-developed demand markets.
- **The investment benefits from the economies of scale of a large forestry operation.**
- There is a long-term purchase agreement with a local sawmill
- Lower quality timber from thinnings is marketed directly to Asia.
- Certification according to the Australian standard AS 4708-2007, **FSC** (Forest Stewardship Council) and **ISO 14001-2004**

Australia: Key data*

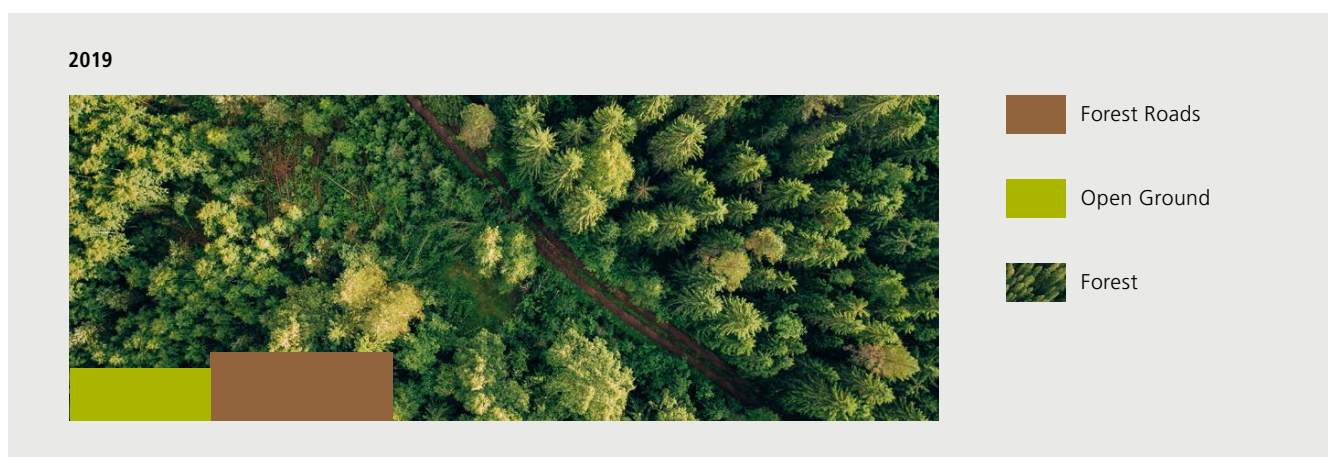
Number of trees planted



Afforested area



Land areas



* These figures refer only to the share owned by ACTIF.

Australia: Insights into local operations

The previous owner of this forest enterprise had reduced the amount of thinnings over several years and finally terminated some of them completely. Following acquisition, the thinning programme was resumed, in order to improve the management of the qualitative development of younger forest stands. In the meantime, the necessary entrepreneurial resources were no longer available. Therefore, a “preferred partner program” was created, which allowed entrepreneurs to purchase machines for thinning work and hire labour on the basis of an almost guaranteed capacity utilisation. These advantageous conditions helped create long-term local jobs.



In Australia, non-native plant species that sometimes spread invasively have major negative effects on the native flora. In this forest enterprise, areas which had been affected by invasive plant species and predominantly bore native trees, have been improved by eliminating plant species that were harmful to the local ecosystem.

The team of the target fund manager New Forests identified around 80 hectares of heathland on the Penola Werrikoo forest property – a sub-area of the Penola Plantations – in 2013. As in other countries,

heath is a valuable habitat for various animal and plant species. In Werrikoo, the two threatened species *Pseudomys shortridgei* (heath mouse) and *Antechinus minimus* (swamp antechinus) have been confirmed. A survey of the site was commissioned in 2019 to identify potential habitat improvements for the two species. The typical conservation measure for heathland – burning competing vegetation – is not an option in this case, due to the sensitivity of the two species to fire events. Instead, the target fund manager chose so-called “cold burning”, in which significantly lower temperatures are applied. On a total of 14 individual plots, the heath was treated in a mosaic-like manner, allowing both mouse species to escape their habitats in time. Afterwards, a vegetation analysis carried out by a local non-governmental organisation demonstrated the positive effects of the area treatment. So via this measure, New Forests was able to make a significant contribution to the conservation and development of local species and habitats. The next treatment of the land is expected to take place in 2022.



Afforestation in Australia



Old and young radiata pines



Rare heath species in Australia

3. Portfolio impact

Review and outlook

The certification of sustainable management of all areas is an important objective of ACTIF, which will be achieved over the Fund's duration, unless forest land is already certified by the time of acquisition by ACTIF. Currently, about one third of the land in Scotland is not yet certified. Such certification requires a management plan approved by the forestry authority. Plans were either not in place at the time of the acquisitions or have to be adjusted due to objectives differing from those of the previous owner. However, all areas will be managed in the same sustainable way, regardless of whether they are already certified or not. In this respect, all ecological and social aspects of certification are taken into account, but the formal achievement of certification status takes time.

Environmental aspects of management often concern the management and protection of surface waters. In Australia and Scotland, areas close to watercourses have already been restored. In Finland, the focus was primarily on the protection and conservation of biodiversity, as the forest areas in the region were already close to nature.

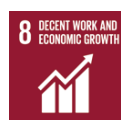
Many assets in Scotland contained areas that were unstocked at the time of purchase and needed to be reforested to restore the ecological and productive functions of the forest. As a result, approximately 100 ha (1 km²) in Scotland were replanted shortly after acquisition. A slight increase in biodiversity has been achieved by using additional tree species.



In commercial forests, the new generation of forest stands is usually established by planting. In Finland, a certain proportion of reforested areas was established by the closer-to-nature seeding method. The management of ACTIF intends to promote the use of near-natural methods such as sowing (or preferably natural regeneration) and increase the diversity of tree species.



Social factors have so far mainly concerned people employed in the respective forest enterprises. In Australia, the resumption of a thinning programme created additional long-term jobs.



Fund management maintains close and trusting relationships with local service providers. In future, it's expected social considerations will extend to more stakeholders.

Every cubic metre of timber sold by the Fund's forestry operations has been certified and has originated from sustainably managed forests. For every cubic metre of timber harvested, about five new trees have been planted.



At present, we cannot make a definitive statement about the CO₂ balance of the Fund's forestry operations, as not all of the operations are yet able to report their CO₂ emissions. Reporting requires consideration of the quantities of carbon stored above and below ground, as well as withdrawals and releases during management and timber harvesting. In the future, management intends to develop and report a CO₂ balance for all the Fund's forest operations and assets.



ACTIF Portfolio Impact Parameters

Parameter	IRIS Code	Unit	2019	6.3		8.2		9.1		12.2		13.1		15.1		15.3	
				6.6	8.3	9.4	12.4	13.1	15.2	15.5							
Area of Land Deforested	PI1489	ha	0.0	x										x	x	x	
Area of Land Reforested	PI4907	ha	137.5	x								x		x	x	x	
Area of Trees Planted: Native Species	PI3848	ha	45.4	x								x		x	x	x	
Area of Trees Planted: Total	PI4127	ha	138.0	x								x		x	x	x	
Ecological Restoration Management Area	PI9556	ha	12.9	x						x		x		x	x	x	x
Forest Management Plan	OI2622	yes		x										x	x	x	
Land Directly Controlled: Cultivated	OI1674	ha	7,215.8	x	x						x			x	x	x	
Land Directly Controlled: Sustainably Managed	OI6912	ha	8,947.8	x	x					x	x			x	x	x	
Land Directly Controlled: Total	OI5408	ha	8,947.8	x	x					x	x			x	x	x	
Length of Streams Present	PI3239	m	39,778	x										x			x
Length of Streams Restored	PI6885	m	0.0	x										x			x
Number of Trees Planted		n	157,090	x										x	x	x	
Product/Service Certifications	PD2756	%	100%	x		x	x	x	x	x	x						
Protected Land Area: Permanent	PI3924	ha	96.3	x						x				x	x	x	x
Protected Land Area: Total	PI4716	ha	274.4	x						x				x	x	x	x
Type of Land Area – barren	PD3922	ha	1,493.2	x						x				x	x	x	x
Type of Land Area – roads	PD3922	ha	134.8	x						x				x	x	x	x
Type of Land Area – water	PD3922	ha	65.9	x						x				x	x	x	x
Type of Land Area – forest	PD3922	ha	7,163.6	x						x				x	x	x	x
Units/Volume Sold: Total	PI1263	m³	67,475.5	x		x	x	x	x	x	x						
Units/Volume Sold: Certified	PI7289	m³	67,475.5	x		x	x	x	x	x	x						
Water Quality Practices	OI7365	yes		x						x	x	x	x				



6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes



8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services



9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities



12.2 By 2030, achieve the sustainable management and efficient use of natural resources

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment



13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries



15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

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