



FSC® EXECUTIVE SUMMARY

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To invest in ecosystem services from Asturian forests is to invest in services which are essential to human life.

Forest ecosystems are not simply producers of materials such as wood and/or paper. They provide invaluable benefits for society and carry out an important ecological role in the long term health equilibrium of the planet.



They regulate the climate helping to purify the air and water.



They produce natural resources such as clean water and fertile land.



They are a source of extraordinary biodiversity without which we would not be able to survive.



They are widely in human demand for the purposes of leisure, well-being, sport, physical and mental health, inspiration, creativity and culture.



According to scientists, and as evidenced by the virus covid-19, their conservation is the best vaccine against future pandemics.

According to the UN Food and Agriculture Organisation (FAO), between 1990 and 2020 the world has lost 178 million hectares of forest. If we want to preserve the forests and respond to current emergencies as well as the needs of future generations, forest management has to be capable of maintaining all of the forest's aforementioned ecological, social, cultural and economic functions.

Such **responsible forest management** is the very purpose of FSC (Forest Stewardship Council) whose quest is that today's society recognise and appreciate the true value of forests and the fundamental services that they provide, the said "ecosystem services".

01/ Asturias, a reference in ecosystem services

Asturias is a well conserved natural paradise where 22% of its territory enjoys some form of protection or another, being one of the highest percentages in Spain. It is a wooded and mountainous region with over 333,000 hectares of forestland.



Biesca Ingeniería is a company specialised in the provision of engineering services and forestry and environmental consulting in Asturias. In 2020 it received the certificate of Ecosystem Services FSC from NEPCom in recognition of the positive impact of its ecosystem service management practises in various Asturian forests, with a total area of **3,500.75 hectares** certified to FSC standards.

- **597,34 ha** of productive forestlands with the rest being protected indigenous broad leaved forests.
- **2.903,65 ha** have received certification of its ecosystem services divided between:



Biodiversity conservation
(976,27 ha)



Carbon capture and storage
(239,74 ha)



Water basin management / services
(1687,64 ha)

BIODIVERSITY CONSERVATION

Restoration of species diversity: 976.27 ha

Asturias is home to the **Cantabrian brown bear**, a species in danger of extinction. For the purpose of collaborating in the bear's conservation, Biesca have incorporated a series of activities in its daily forest management designed to improve the bear's habitat. These include the repopulation of indigenous fruit trees, primarily **the cherry** (*Prunus avium*) and **the wild apple** (*Malus sylvestris*), helping not only this particular endangered omnivore but also other protected species located in the areas of operation. This is one of the principal measures adopted by Biesca and forest owners who together also work hand in hand with the Asturian Wildlife Protection Fund (FAPAS) to prevent bear poaching in the municipalities of Santo Adriano and Teverga in the Natural Park of Las Ubiñas–La Mesa.

With this FSC certification the proper conservation of the habitats of the different species of flora and fauna that can be found in the forests is guaranteed. Selective clearing and pruning is also carried out to maintain the natural pasturelands and encourage the conservation of threatened botanic species. This objective is managed by the UGF (Forest Management Unit) located in Ribadedeva through the improvement of the coastal holm oaks' (*Quercus ilex* and *Quercus rotundifolia*) habitat which in turn includes repopulation and the elimination of non-native species such as the eucalyptus (*Eucalyptus globulus*).



Verification method

- **Standard applied:** The Forestry Integrity Evaluation (FIE) by way of field readings.
- **Sampling frequency:** annual.
- **Coverage:** total, given that the UGF size is relatively small.
- **Analysis of data:** the annual averages of the readings of all the parcels of a specific forest or subunit (the sum total of the readings of all the land parcels of the unit divided by the number of land parcels), taking in consideration factors relevant to biodiversity conservation.
- **Test duration:** monitored over sufficient time to detect positive (improved management) or negative changes.



CARBON CAPTURE AND STORAGE

Conservation of the forest carbon reserves: 239,74 ha

FSC certified Asturian forests are small tracts of low management intensity forestland which act as an important carbon sink. They also contribute to the purification and quality of the air in the central area of Asturias. The forests included in this ecosystem service are located in the municipalities of Santo Adriano and Teverga in the Natural Park of Las Ubiñas–La Mesa.

With correct management, the proper conservation of the forest ecosystems is guaranteed through the use of management activities designed to maintain and improve the storage of carbon in the forest. This objective is ensured by means of its protection and the implementation of a low impact forestry management system of the carbon reserves.



CARBON CAPTURE AND STORAGE

Verification method

- **Standard applied:** FSC carbon-monitoring plan. A system of inventory sampling is used which takes into account the heterogeneity of the forests and the areas in which the forest management take place.
- **Sampling frequency:** annual.
- **Coverage:** if in consecutive years there are no changes registered in the forests, the volumes can be estimated basis the occupied area per stratum and the annual increase in volume for those species present.
- **Analysis of data:** the carbon reserves are calculated for the unit identified for management basis the annual measurement of forest parameters (expressed in terms of tonnes of CO₂).
- **Test duration:** monitored over sufficient time to detect changes in the carbon reserves.



WATER BASIN MANAGEMENT / SERVICES

Maintenance of the water basins' capacity to purify and regulate the water flows: **1.687,64 ha**

The FSC certificate verifies Biesca's initiatives to improve the **protection of the water sources by way of responsible forestry management in the Sella basin.**

The forests contribute to the filtration, regulation, absorption and release of water and by maintaining the forest cover in good condition, the trees preserve their capacity to purify and regulate the water flow which is a crucial factor for those communities that live in the basin.

The said certification guarantees an appropriate conservation of the existing plant formations found in those forests included in the UGF, thereby ensuring the upkeep of the vegetation cover and its regulating function within the hydrological regime of the water basin.

The forests that are included in this ecosystem service are located in the municipality of Amieva which is a protected area within the Red Natura 2000, Ponga-Amieva Special Coservation Zone. The waters from these forests flow into the River Sella.

Verification method

- **Standard applied:** remote sensing techniques based on the "normalised difference vegetation index" (NDVI) and calculated via Sentinel images.
- **Analysis of data:** a classification of the existing vegetation on the ground is effected for the purpose of monitoring the area occupied by treed forest mass.



02/ Invest in nature

To invest in forest produced ecosystem services is to invest in the future given that their tangible benefits are of benefit to society as a whole.

Until now, forest maintenance and preservation has been financed purely by the extraction of forest products. The purpose of FSC procedure is to respond to the global problem that forest governance and economic systems operated in many parts of the world provide a greater incentive for deforestation than for responsible forest management.

FSC certification of ecosystem services offers an additional economic incentive to forest owners and administrators alike and one which satisfies the needs of companies and government agencies who want to spearhead conservation schemes in a social context of constantly increasing awareness. This is also relevant to those investment funds in the "sustainable and responsible economy" (SRE) sector who promote social and environmental principles.

The new standard FSC-PRO-30-006 (FSC Ecosystem Services Procedure) is the solution:

- 1 It permits the verification of the positive impact of responsible forest management.
- 2 It is a new market tool that incentivises the protection of forest ecosystem services.
- 3 It gives value to responsible management by those holders of the certificate.
- 4 It will compensate holders and users of FSC certificates with the help of governments, investors, purchasers and businesses who wish to invest in these services.



03/ Objective of the ecosystem services certificates

The ecosystem services certificates are in increasing demand. Across the world there is a growing interest in certificating and investing in these forest services. This is due to the following:

Reasons for acquiring ecosystem services certification:

- For forest managers it forms part of their responsible management plan as certificated by the FSC.
- It generates additional funding to facilitate a sustainable form of forest management.
- The ecosystem services statements also highlight the impact that investment has in mitigating global challenges such as the decline in biodiversity, water scarcity and climate change. These are all challenges that many companies and institutions have earmarked in order to achieve the Sustainable Development Objectives (SDO) of the United Nations (UN). They also form part of their Corporate Social Responsibility (CSR) policy.



FSC

FSC is an independent non-governmental and non-profit organisation created to promote environmentally correct, socially beneficial and economically viable forest management worldwide.

FSC's vision is one of forests worldwide satisfying the needs and social, ecological and economic rights of the present generation without compromising the said needs and rights of future generations.

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