

AGENDA FOR
A LEADING
**FOREST-WOOD
INDUSTRY**
2022 REVISION

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CONTEXT

INTRODUCTION

Wood is renewable, sustainable and it can be used, reused and recycled. Therefore, it is a key raw material for Europe's transition model to a circular Bioeconomy, which is bound to drive global competitiveness, foster sustainable economic growth as well as creating new jobs.

The European forestry and wood industry leans towards a Bioeconomy, due to the mature market of modern forestry products and the increasing need to use renewable products. The European Bioeconomy is valued at 2 trillion euros a year and it generates 22 million jobs (9% employment in Europe). According to the European Forestry Institute (EFI), the forestry and wood industry value chain accounts for over 20% of this sector.



In developed countries, the contribution of forestry mass to economic growth is relevant due to its potential development in a future context based on 'Green Economy', 'Bioeconomy' or 'Circular Economy', even though its contribution to GDP is relatively modest. The evidence that the current uncertain and often turbulent economic dynamics will be consolidated in the future should force companies and economic sectors to adopt flexible and fast strategies in reaction to competitive changes. The latter terms are not generally used when referring to the Forest Industry, and less so in the earliest stages of the wood processing chain. The dependence on raw materials, directly related to the management of forestry resources (either in the same geographic area or remote areas), the great need for capital as well as the *commodity* status of a large amount of the processed products, except for those in the later processing stages, have resulted in production units which are, in general, very inflexible and with little product differentiation.

Wood and plant fibres played an important role in all the different periods of history. There is no prospective study which shows that wood and fibre based products will not be fundamental from now until 2050. Many governments and international organisations believe in the great potential of the Forest Industry to promote a 'green economy' through the use of wood, bioenergy and the new biomaterials. Therefore, generally speaking, it is difficult to think about future policies which might discourage the use of forestry products.

Nevertheless, their success will be shaped by consumers' perception as well as the industry's ability to promote

their use. The fact that most forestry products can be recycled should be a strong selling point for more environmentally aware consumers and more demanding policies of waste management. However, taking into account the economic fragility of future consumers in relation to older generations, the environmentally-friendly element by itself won't sway the consumer's choice from other options offering a more competitive price.

Besides this competition with other products, the competition with companies from the same sector will increase. Developed countries will continue to lose their market share due to the bigger production costs and smaller investment returns, in comparison with developing countries. These latter, besides, have competitive forestry resources. This will be especially notable in less added value products as well as commodities, with a critical high cost of supply and production, which will also affect other segments. Thus, this will also include product differentiation strategies, supply chains and customer loyalty well as original strategies, even bordering Free Trade Agreements. The importance of quality, which was so far the most widely used differentiation strategy, seems likely to decrease in time since similar production technologies will finally be implemented in any producer country.

The systems of forestry certification will continue to play a qualitatively relevant role. However, they are likely to be subjected to greater mutual competition and especially to other initiatives to which they will have to adapt. These include climatic change

policies, illegal forestry exploitation, bioenergy and biomaterials, Fair Trade of forestry products, etc. The development of 'Green Building' initiatives in Europe, USA and Asia is expected to continue and have a significant impact on wood products as well as the choice of construction materials which comply with certain criteria: recycled content, biodegradable and locally sourced. Furthermore, the certification systems will be revised and adapted within the context of government policies which fight against wood coming from controversial sources. Examples of this are the Lacey Act in the USA and the EU Timber Regulation. The benefits of certification and other market-based support mechanisms to sustainable forestry management will have to adapt in technical and economic terms in order not to penalize small private entrepreneurs, as it has happened, and allow them to access the market in fair terms.

Generally speaking, in the last four decades, technological innovation in the Forest Industry was modest in comparison with a large part of the rest of economic sectors. An approach based on innovation and technological development is expected to be given priority in all those areas which are potential leaders in a forestry based economy. Obviously, this will require investment in R&D as well as training the workforce in technological knowledge and resources. In this sense, it has been widely acknowledged that both the achievement and maintenance of any results in the development of the sector which involve relevant innovation, depend on the capacity of multiple interconnected actors (governments, civil society, private sector and

individual companies, universities and technology centres, etc.) to work together in an efficient way. This combination of interconnected actors is an 'ecosystem' which helps to create, develop and prove innovative ideas so that they will be later applied to improve the sector. The whole is greater than the sum of its parts.

On the other hand, the traditional approach to make more profit in the wood processing industry used to consist of simply either increasing the performance or the quantity of processed wood products. Nowadays, the management of produced wood value, the degree of processing, the related sub-products and the channels of commercialization of the products will be key points.

The increase of future consumption of forestry biomass to generate energy will be a complex function depending on political will to promote renewable energies, production costs, public financial support, general price of energy sources and other fuels, as well as society and consumer choice, among others. Even though all the different scenarios assume there will be a growth in the market of forestry based bio-fuels, it is generally accepted that there is great uncertainty in relation to the availability of the biomass and its price.

In the field of biomaterials, especially bioplastics, there has been a large number of innovative applications in the hygiene, health and packaging market segments. These innovative products have found interesting niches in the electronic and automotive industries. Furthermore, products of 'technical wood' as well as wood mechanized elements offered



great advantages for the innovative use of timber in construction, with better structural properties as well as in terms of durability, aesthetics and environmentally speaking. The implementation of these constructive solutions is being carried out at uneven pace, depending on the local construction traditions, the presence of a supplying Forest Industry and the significance of public investment and support. On the other hand, the new bio-refineries are now capable of putting valuable and useful chemical products in the market. Some of them can replace other traditional oil by-products or textile fibres coming from intensive agriculture.

The recent economic crisis will continue to affect the Forest Industry markets and companies for quite a long time, due to its intensity and the very nature of the industry itself. Even though the future is uncertain, the consumers and social agents' demands will continue and the economic pressures will become more noticeable. Companies will have to make greater efforts to manage their corporate communication, both internally and externally.

Despite the efforts that the forestry sector has made in terms of communication, society is not fully aware of the role that forests and forestry areas play in the production of goods and services we all use in our daily lives and their contribution to employment or economic development, especially in rural areas. On the other hand, public opinion generally understands the Forest Industry as an old-fashioned sector with a merely extractive approach. Nevertheless, despite its enormous variability among subsectors, the

facts show an industrial sector which has been capable to adapt to technological, social and economic changes all throughout its long work history based around a renewable and endogenous resource such as wood.

THE FOREST AND WOOD INDUSTRY IN GALICIA. MAIN FIGURES

Galicia consists of a forestry area of over two million hectares and forestry activity in Galicia generates opportunities and economic worth, which is distributed among thousands of forestry experts and hundreds of neighbouring communities which sell wood every year.

Forestry-based industry accounts for more than 30% of all industry in 52 out of 315 Galician municipalities. Although it is based on not greatly varied raw materials, the industry of primary wood conversion is a diversified sector with a great capability for change, despite the economic instability in recent years.

The forestry-wood value chain in Galicia had a turnover of almost 2 billion euros (1,996 million euros) in 2020, figures that represent a decrease of -7.4% compared to 2,156 million euros in 2019 and 2,294 million euros in 2018 (the year with the best figures since 2008). However, this figure is below the expectations of the industry itself, which have been expressed in the COVID-19 Impact Survey, which predicted a greater year-on-year decline (-17%) 2019-2020, due to the effects of the pandemic. Provisional calculations indicate that in 2021 turnover would have reached approximately 2,500 million euros.

If the turnover of products derived from wood and forestry biomass (electricity, pellets, among others) is added to the figures of the usual aggregate formed by finishers, sawmills, pulp and board, and second transformation, this figure should be increased by between 70 and 100 million euros.

According to the IGE (2021), in 2018 the forestry-wood chain contributed 1.8% of the Gross Domestic Product (GDP) of the Galician economy, 1,144 million euros. Jobs totalled 24,107, accounting for 2.1% of total employment.

The internal composition of the sector shows that forestry and silviculture and the wood industry -excluding furniture- are the predominant activities, especially in terms of employment, as 72% of the jobs in the forest-wood chain come from these activities.

Field	GVA	% of GDP	% of sector	Jobs	% of employment	% of sector
<i>R02 Silviculture and forest exploitation</i>	417	0.7	36.5	9346	0.8	38.8
<i>R16 Wood and cork industry</i>	324	0.5	28.3	7,982	0.7	33.1
<i>R17 Paper industry</i>	247	0.4	21.6	1,904	0.2	7.9
<i>R31 Manufacture of furniture</i>	156	0.3	13.7	4,875	0.4	20.2
<i>Forest-wood chain</i>	1,144	1.8	100.0	24,107	2.1	100.0
<i>Total economy</i>	62,226	100.0		1,122,719	100.0	

Source: IGE. Economic records of Galicia. 2019 Statistical Review published at IGE (2021)



The qualitative relevance of the sector increases when we consider the many lateral chains and suppliers of assets, complementary supply, research services and infrastructures (especially train and ports), which are linked to it. In this way, the increase in production of the main chain not only causes employment growth in that main branch, but also influences employment as it requires intermediary consumption of other branches.

The Forest Industry acquires products from 80% of the economic sectors in Galicia, with purchases over 10 million euros per year in 23 of these sectors. The acquisitions within the forest-wood chain, which exceed 1 billion euros, are considerable. Next are 'chemicals' (226 million euros); 'transport-related services' (155 million euros); 'energy production, transport and distribution services' (114 million euros); 'acquisition and repair of machinery' (110 million euros) which can be broken down to 'machinery' (50 million euros) and 'installation and repair of machinery and equipment' (60 million euros); metal products (88 million euros); and 'land transport of passengers and goods' (87 million euros).

Due to the very nature of the raw material and complementarities in the existing conversion lines in Galicia, if we were to represent it in terms of material and product flow, the resulting image would be distant from a pyramid with a clear hierarchy of business organisations and subsectors. On the contrary, the true representation of the reality of the sector is a complex network which consists of over 30 nodes and 60 connectors. This is the reason why the future of the sector also requires an engine with different support points which will take into account the potential of exploiting the synergies among its different parts.

If we analyse the evolution with time over the last two decades, we see how the contribution of the sector to the Gross Domestic Product has been losing ground since 2000. In that year, it represented 2.4% of Galician GDP, compared to 1.8% in 2018. In terms of employment the sector is losing similar ground. In 2000 it contributed 2.7% of the jobs in the economy, but in 2018 it represents 2.1%.

In the period 2000-2008 the main branches with the highest growth are the wood industry and the manufacture of furniture. In this period the paper industry registers negative average growth rates, differing from the rest of the branches of the value chain and the Galician economy as a whole.

In the years of recession 2008-2013, all the fields of activity that make up the sector recorded negative average rates and once again the branches of the wood industry and manufacture of furniture were responsible for the largest declines.

In the period 2013-2018, the paper industry (R17) stands out for its growth, which, together with the wood industry, grew above the average of the economy. This trend was consolidated until 2020 when the economy was disrupted by the COVID-19 pandemic. Health measures adopted worldwide in the second quarter of 2020 have reduced activity but already in the second half of the year much of the links in the forest-wood chain have increased their activity significantly.

In short, the forest-wood chain grew less than the total economy in the expansionary phase (2000-2008); it was strongly affected by the economic recession (2008-2013); it grew above the average of the Galician economy until 2020 and then after the period of confinement of the economy due to the -19 pandemic, late 2020 and 2021, it experienced a strong activity driven by an unprecedented global price increase.

The Industrial Production Index (IPI) is a short-term indicator that measures the monthly evolution of the productive activity of the branches of industry. The overall IPI shows a similar behaviour for Galicia and for Spain as a whole. In 2008 the IPI suffered a sharp decline due to the financial crisis, but since the end of 2014 it has begun a recovery which has been slower than the fall. In the second quarter of 2020, the IPI suffered a sharp drop (up to 60 in Galicia and up to 70 in Spain) due to the entry into force of the state of alarm caused by COVID-19, with a subsequent recovery that led to values similar to previous years in the first quarter of 2021. For the wood industry (CNAE-16), the IPI of Galicia, which had been lower than the Spanish figure in the recovery period, from 2015 changes, being constantly higher in Galicia than in Spain as a whole. Since 2018, the index has started a declining trend, bottoming out in the first quarter of 2020 with the declaration of the state of alarm and health emergency caused by COVID-19. In mid-2020, the IPI grew again in both cases, but for Galicia the recovery of activity is much faster and more intense than in the case of Spain.

Despite the positive evolution of some of these indicators, it is noteworthy that the change in the structure of the value chain changes in its composition from 2008 to 2020. There was a decrease in the number of companies of 38% (1,202) in just the industrial branches. On the contrary, in the branch of silviculture and forestry there has been an increase in the number of companies in the same period.

CNAE	2008	2017	2020
02 Silviculture and forest exploitation	n.d.	1673	1769
16 Wood and cork industry, excluding furniture	1758	1178	1084
17 Paper industry	53	50	47
31 Manufacture of furniture	1384	1031	862

Source: Companies directory. IGE

Employment

All the branches of the Forest and Wood chain have stabilized their contribution in the global affiliations to Galician Social Security at around 1.85%. A trend that did not weaken even in 2020.



The sector consolidated creating about 2% of total employment in Galicia. The sector consolidated, creating about 2% of total employment in Galicia the set of industrial branches of the Forestry Wood Value Chain (16 + 17 + 31) have contributed since 2016 a stable contribution of at least 12% of industrial employment.

The economic activity of 2018 in the forest-wood chain involved the payment of wages and contributions for direct employment totalling 550 million euros, of which 425 million would be for employee salaries and about 125 million euros for the corresponding social security contributions. For direct employees, 48% employment corresponds to CNAE16 (Wood Industry), 25% to CNAE02 (Silviculture), 19% to CNAE31 (Manufacture of furniture) and 8% to CNAE17 (Pulp and Paper Industry). In terms of provincial distribution, A Coruña leads by far in the associated jobs (48%), more than doubling for each branch the employment values associated with each of the others. The exception is Pontevedra's leadership in branch 17 'Paper industry'.

In addition to its quantitative importance, this employment is important from a qualitative point of view, as much of it occurs in rural areas where it is one of the few industrial activities.

Exports

In 2020, exports from the Galician wood sector accounted for 15% the Spanish sector, 31% wood and wood products, 27% in pulp and 5% in furniture.

It should be noted that these figures are from a year, 2020, in which international trade suffered months of collapse due to health measures imposed on the declaration of pandemic due to COVID-19 and the consequent disruption of logistics chains. Compared to 2019, Galician exports in the sector fell by 20%, 6% wood and its manufactured products, 31% for paper pulp and 37% for furniture.

In addition to the sustained increase in export value, which has doubled in value since 2000, the composition of Galician exports in the sector has changed radically over the last two decades. In 2000 the most exported products corresponded to Pulp (42%) while Manufactured wood products accounted for 37% and furniture 10%. In 2020 61% of Galician exports corresponded to wood and its manufactured products, 19% pulp and paper, and 20% to furniture.

AXENCIA GALEGA DA INDUSTRIA FORESTAL (GALICIAN AGENCY FOR FOREST-BASED INDUSTRY)

Axencia Galega da Industria Forestal (Galician Agency for the Forestry Industry) was created via Decree 81/2017, of 3rd August, with the aim to reassess the value of the competition and innovation of forestry companies, especially in the second and subsequent conversion stages. It also participates, as a qualified representative, in the drafting of planning instruments as well

as organisation and progressive management and exploitation of forestry resources as regulated by Law 7/2012, of 28th June, on Galician forests.

The Axencia Galega da Industria Forestal (Galician Agency for the Forestry Industry) has the purpose of acting as an efficient management tool in the exercise of functions which are related to the promotion of the Forest Industry related economic activity. It also aims to improve competition and innovation among the different companies in the sector as well as coordinating research and technological centres which are linked to the Forest Industry.

Without prejudice to other organisations and entities' responsibilities, and in any case, in close collaboration with them, the Agency's objectives are:

- a) Ensure the diversification of forestry products which are destined to the Forest Industry, promoting the synergy among the different sectors from the forestry-industry value chain.
- b) Improve competition and innovation among businesses in the forestry sector from the first stage of conversion of the raw material and with a special emphasis on the second and subsequent stages.
- c) Become the service centre for the Forest Industry sector, both wood and others, and analyse and implement measures that contribute to their development, acting as a spokesperson for the Administration to the total of the Forest Industry related economic agents.
- d) Define and foster strategies to achieve a healthy and sustainable co-existence between the exploitation and industrialization of natural resources, which will take place taking into account the natural heritage and biodiversity, on the basis of a sustainable use of the latter mentioned natural resources.
- e) Participate in the planning, organisation and progress of the management and exploitation of forest resources, without damaging environmental, social and conservational values of the natural heritage and avoiding the fragmentation of the natural habitat, taking into account its integrity.
- f) Coordinate the research and technological centres related to the Forest Industry, which are assigned to the Agency.
- g) Promote the use of biotechnology as a technique for the innovation of forestry products.
- h) Encourage the design of forestry by-products with the aim to reach structural green solutions which contribute to the environment.
- i) Foster quality job creation in the rural areas.
- j) Facilitate the knowledge and technology transfer among the different agents linked to the Forest Industry, especially among the businesses in the sector, Galician universities and public forestry research centres.
- k) Foster the certification of forest-related processes and products which are destined to the Forest Industry in order to certify the quality and sustainability of the activities and thus increase the competition among the companies in the sector.
- l) Give support to the transformation, differentiation and diversification of use of forestry exploitation.
- m) Encourage the workforce in the forestry sector to get professional training



In this context, the Agenda for a Leading Forest Industry has been created by XERA (Axencia Galega da Industria Forestal [Agency for the Forestry Industry]) to identify measures for development, promotion and participation, to contribute to the efficient development of its original objectives and allow the constant improvement of the forest-wood industry in Galicia.

and qualifications and thus improving productivity and competition among the companies in the sector, as well as information/training in activities linked to the conservation of the natural heritage and biodiversity, as well as a sustainable management of resources.

n) Provide advice to the actors and companies within the sector on the different lines of national and international financial support they can benefit from.

THE REFERENCES OF THE AGENDA

Some of the references used during the process of drafting and updating the Agenda were the following:

- Vision 2040 of the European forest-based sector. Forest-based Sector Technology Platform
- Rovaniemi Action Plan (RAP) for the Forest Sector in a Green Economy. UNECE / FAO
- United Nations Sustainable Development Goals (UNSDG)
- Innovating for sustainable growth: A bioeconomy for Europe. European Commission 2012
- Estratexia de Formación da Industria Forestal 2018-2020 (Forest Industry Training Strategy 2018-2020). Xunta de Galicia
- *Estratexia Galega de Cambio Climático e Enerxía 2050 (Galician Strategy on Climate Change and Energy 2050)*. Xunta de Galicia
- VII Plan Estratéxico de Galicia para a Igualdade de oportunidades entre mulleres e homes 2017-2020 (VII Galician Strategic Plan for Equal Opportunities between Women and Men 2017-2020). Xunta de Galicia
- *Axenda de Competitividade Galicia Industria 4.0 (Competitiveness Agenda Galicia Industry 4.0)*. Xunta de Galicia
- *Estratexia de Especialización Intelixente (RIS3) (Smart Specialisation Strategy)*. Xunta de Galicia
- *Estratexia de Internacionalización da Empresa Galega 2020 (Galician Companies Internationalization Strategy 2020)*. Xunta de Galicia
- Plan estratéxico de la industria de la madera en Euskadi 2011- 2014 (Strategic plan of the wood industry in the Basque Country 2011-2014). Gobierno Vasco
- *Programa Estratégico Mesoregional Industrial de la Madera de Alto Valor Chile 2017 (Strategic Industrial Mesoregional Program for High Value Wood Chile 2017)*. CORFO
- Plan de Movilización de Recursos Forestales en Castilla y León 2014- 2022 (Forestry Sector Mobilisation Programme of Castilla y León 2014-2022). JCyL
- Growing the Bioeconomy: Improving lives and strengthening our economy: A national bioeconomy strategy to 2030. United Kingdom 2018
- Forestry-wood chain analysis. Galician Institute of Statistics, 2021.
- Plan estratéxico de Galicia 2020-2030 (Galician Strategic Plan 2020-2030)

Due to their importance, some of these will be highlighted in the following sections.

GALICIAN STRATEGIC PLAN

The Galician Strategic Plan 2020-2030, approved by the Council of the Xunta on March 10th, 2022, incorporates among the challenges and needs of Galicia towards 2030 the following, which are of special interest for the development of the Agenda for a Leading Forest Industry:

- Transform the industrial network into one which is advanced, intelligent and in line with the international trends of the Smart Factory and Industry 4.0.
- Improve the training of human capital adapted to the new needs of the labour market, promoting and updating vocational training for employment, both unemployed and employed workers and the promotion of the procedure for recognizing professional skills acquired through work experience.
- Support the innovation ecosystem and encourage greater interactions to stimulate the transfer of knowledge, with special emphasis on the constant updating of the training specialities of vocational training for employment, depending on the needs of the productive sectors, namely the most innovative ones.
- Advance in the process of specialization established by the RIS3 of Galicia, reinforcing the capacities of R&D in the different fields of specialization. Promote investment in R&D in strategic sectors to move towards a productive model capable of innovating and competing with the rest of Europe.
- Increase investment in R&D in Galicia the public administration and private initiatives. Strengthen collaboration between actors in the R&D ecosystem, especially with companies. Stimulate the transfer of knowledge to the market (universities, public and private research centres, industrial groups and companies) and the valorisation and commercialization of research results.
- Increase business cooperation as an element of inorganic growth of companies, which in turn increases competitiveness and economic activity. Support new investments that act as drivers of the economy, and promote the shared infrastructure needed by SMEs.
- Use the Galician strategic sectors as a driver for innovative entrepreneurship through open innovation models.
- Promote economic activity linked to the concept of the circular economy, compared to other models that are questionable from the point of view of sustainability.
- Promote the sustainable use of terrestrial ecosystems, the sustainable management of forest areas, combating desertification, halting and reversing land degradation and halting the loss of diversity.
- Establish population in rural areas and promote generational change in the activities of the primary sector. Invigorate the complete value chain of the primary sector, from the extraction, production, transformation and commercialization of products of the primary sector.
- Take advantage of the opportunities offered by the circular economy to improve efficiency on farms and generate new business niches.
- Dignify the professions linked to the primary sector and encourage lifelong learning and vocational training for workers.



- Promote employment, growth, social inclusion and local development in rural areas, including the bioeconomy and sustainable silviculture.
- Optimize forest governance and land mobility as elements to make operations more profitable and eliminate management inefficiencies. Support the specialization of companies and encourage the control of marketing channels of wood. Promote the use of local wood in construction and rehabilitation so the Forest Industry becomes the driver of the bioeconomy.

The actions planned in the development of the Agenda for a Leading Forest Industry are consistent with the Strategic Plan and fit into Main line 3 Competition and Growth.

–Action Priority 3.3. Promote the growth and competition of SMEs, industrial transition and entrepreneurship, and specially the strategic objectives:

–Strategic Objectives OE 3.3.1. Promote the creation of new companies, the consolidation and growth of existing ones, their internationalization and to decisively encourage the entrepreneurial spirit. Guarantee compliance with the safety conditions of the facilities with regard to industrial safety and industrial equipment and the protection of consumers and users, protecting safety, health and their legitimate economic interests.

–Strategic Objectives 3.3.2. Increase the competitiveness of Galician companies through innovation and technological development, support the development of growth poles based on ICT and STEM skills in all phases of the educational process, and the competitiveness of the productive sector by betting on high value-added products differentiated on the basis of the technological component, the quality of the design and OE 3.3.3. Attract productive investment and encourage and facilitate the internationalization of Galician companies, especially SMEs.

THE FOREST PLAN OF GALICIA

In 2021, the first revision of the Galician Forestry Plan (GFP) towards carbon neutrality was approved by decree 140/2021, of 30th September, in which the Agenda constitutes one of the actions of the **“Main line IV: forest resources and moorland-industry chain”, specifically “IV.3. Agenda for a Leading Forest Industry”**. Therefore, the agenda adopts as references the derivatives of the Galician Model of Forest Governance established by the 1st revision of the GFP.

In this way, sustainable forest management will seek productive activities that generate income and employment to contribute to the sustainable socio-economic development of the rural environment that will allow the forestry sector to join the future of green economy, which includes low carbon bioeconomy and renewable energy (bioenergy from biomass), the circular economy with forestry products derived from renewable, recyclable and reusable resources, as well

as responsible consumption and sustainable construction, in addition to other innovative applications from forest resources. According to the United Nations, long-term public policies that take into account the rights of future generations (Brutland Report) and other aspects such as the valuation of natural and environmental assets of forest heritage, or the compensatory payment for the provision of environmental services will be key, the differentiated tax treatment of forest property and the prevalence of quality and efficiency of management over land ownership, social cohesion and public-private participation, as well as encouraging entrepreneurs of economic activities in rural areas, innovation and technology transfer of production and the Forest Industry to facilitate the incorporation of the forestry sector into the green economy.

The guiding principles of the 1st revision of the GFP are:

- Guarantee a sustainable forest management of the Galician forests, understanding by this the administration and the use of the forests, in a way and to such an extent that they maintain their biodiversity, productivity, capacity for regeneration, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions on a local, national and global scale, without causing harm to others. In short, a Galician forestry policy that contributes to sustainable rural development, the stabilisation of its population, the conservation and improvement of the environment and the quality of life.
- Guarantee a productive forestry activity compatible with biodiversity, which preserves and increases, as far as possible, the presence in the forest of native masses of Galicia, betting on the existing systems of forest certification as a guarantor of the three basic pillars of sustainability (economic, environmental and social) through professional forest management.
- Commit to the incorporation of Galician forestry policy into a future green economy, sustainable construction and responsible consumption in the context of the bioeconomy, decarbonisation and circular economy. Areas to which the Galician forests must be incorporated without too much delay in the middle of the 21st century. The Galician forests provides green products.
- Guarantee productivity, promoting multifunctional Galician forests that values all forest uses, resources and services that can generate wealth for society.
- Ensure that the PFG has a sustainable public budget over time that supports the Galician forestry policy and that complements the economic effort made by all actors linked to the Galician forests (owners, organizations, companies ...) in the search for compatibility of goods and of the environmental, economic and social services that forest resources provide to society.
- Involve companies and the Galician Forest Industry in the promotion and financing necessary for the activation of the Galician forests policy and in the support of the MVMC, private owners and their groups to improve the production, protection and safety of the forests.
- Promote a simplified, favourable, agile and stable regulatory scenario to generate opportunities for economic activity and work in the Galician forests, which speeds up the bureaucratic procedures of current forestry regulations.



- Guarantee compensation for changes in forest use or forest mass due to environmental reasons and biodiversity conservation.
- Encourage various mechanisms for the grouped and effective management of the forest, which allow the activation and mobility of underused or abandoned forest resources.
- Facilitate the participation of social, economic and environmental agents interested in or involved in the forestry sector to improve the transparency, legitimacy, objectivity and effectiveness of Galicia's forestry policy.
- Adapt the availability of information and forest statistics of Galicia, as a mechanism that allows suitable diagnoses for the decision-making related to the forest sector to be made, facilitating the follow-up of the Galician Forestry Plan.
- Coordinate the Galician Forest Plan with other strategic plans that affect the Galician forests: Pladiga, Agenda for a Leading Forest Industry.
- Establish an efficient model of the Galician Forestry Administration, in accordance with current needs and future challenges, in order to reduce administrative barriers and avoid duplication and excessive bureaucracy.

A VIEW ON THE FOREST-WOOD INDUSTRY IN THE FUTURE

Within the framework of EU policies, it is well-recognised that forests and the forestry sector play a fundamental role to contribute to the objectives of Climate Change Mitigation of the Paris Agreement.

In the same way, the Forest Industry will be strategic to face the main challenges in line with the UN Objectives for Sustainable Development:

- Woodlands and human welfare (SDGs 1, 2, 3)
- Sustainable landscapes and Food (SDGs 2,6)
- Equal opportunities, gender equality and landholding (SDGs 4, 5, 10, 16)
- Climate change, energy and low carbon development (SDGs 7, 13)
- Value chains, financial support and investment (SDGs 8, 9, 12)
- Forestry management and restoration (SDGs 14, 15)

Additionally to the EU Forestry Strategy Agreement in 2013, the forestry sector is protagonist of some of the EU horizontal and sectoral policies, such as:

- The 2050 Climate Change Mitigation Strategy, which aims to maximize the potential of carbon storage in forests, and at the same time provides raw materials for renewable products which will replace non-renewable materials and the energy coming from fossil sources.
- The EU Regulations UE 2018/841 on the inclusion of the emissions and greenhouse gas absorption resulting from current land exploitation, the land-use change and forestry activities in the current action framework in climate and energy issues until 2030.

The European Commission proposal in May 2018 for the development of an Action Plan on sustainable investment which can cover an investment deficit estimated at 180 billion euros per year. It is necessary to reach the EU objectives for 2030 as agreed in Paris, including a 40% reduction of greenhouse gas emissions.

- The EU Renewable Energy guidelines, which establish the bioenergy sustainability criteria in relation to forestry management as well as the saving of greenhouse gas emissions.
- The EU Bioeconomy updated strategy which fosters a transition to a circular economy that relies more on natural resources, reducing the dependency on fossil fuels and materials and granting new opportunities for employment and growth in rural areas.
- The future CAP, which is the main EU instrument to finance measures which support sustainability and competitiveness within the forestry sector.

Taking into account all the above mentioned, the Agenda is set up to define **paths for improvement** which allow the Galician Forest Industry to participate in the **Vision 2040 of the European Forest-Based Sector**, which was defined in November 2018 by the **Forest-based Sector Technology Platform (FTP)**.

This vision can be summarised in the following objectives for 2040:

- The forestry sector must be protagonist and a facilitator of a circular Bioeconomy.
- The sector must be based on fulfilling consumers' needs as well as an intelligent and sustainable use of forestry resources.
- The sector should consist of business activities which generate employment and transform both rural and urban areas.
- Both knowledge and investment leading to a sustainable increase in wood production should be the base of all forest industry.
- The sector will be capable of satisfying the people's desire to live in greater harmony with nature and reduce their carbon footprint.
- The smart services and products designed to be re-used, recycled and recovered will contribute to people's good health and a general welfare feeling.

On the other hand, the **Forest Sector Outlook Study 2020-2040** published in 2021 by the FAO indicates as reference scenarios for the future of the sector the following:

- Increased forested areas and wood production in the UNECE region. Consumption and production of forest products are also expected to grow, and prices to rise slightly.
- Structural increases in demand outside the UNECE region, for example due to increased wood use by the Chinese housing sector, would increase production and prices of round wood also inside and outside the UNECE region, and increase net exports from the UNECE region.
- Structural increases in demand within the UNECE region, for example due to a higher share of wood in construction, would also increase round wood production and lead to an increase in round wood prices. European net exports would be lower than the benchmark scenario, while Russian round wood exports would be higher.

If wood-derived fibres increased their share of the textile market by up to 30%, world production of round wood would be 81 million m³ higher than the benchmark scenario, mostly from the UNECE region, and round wood prices



- would rise, negatively affecting the production of sawn wood and panels.
- In the most demanding scenarios, the growing forest stock in the UNECE region continued to increase, but more slowly than in the reference scenario.
 - If the global forest area were expanded by 10%, in line with policy objectives, the production of round wood would be 2% higher, and the prices of round wood, sawn wood and panels would be lower than in the baseline scenario.
 - If there were a rapid increase in planted forests, mostly outside the UNECE region, prices would fall and consumption and production of forest products would increase.
 - Currently, the consequences of natural forest disturbances (forest fires, insects, pathogens, storms, drought) are mostly limited in time and space, and absorbed by market adjustments, in particular salvage logging. However, the long-term future impacts of disturbances on world markets due to climate change are unknown, and further research is needed.
 - Higher tariffs and non-tariff barriers to trade in forest products depress the overall economic output of the forestry sector, although in each circumstance there are winners and losers.

DETERMINATION OF TRENDS

In the course of the review of specialized sources, the following trends were detected with potential influence on the future development of the sector on an international and local scale:

International trends:

- The world population will reach 9.2 billion in 2040. Aged population in USA and EU, with smaller households. Continuation of urbanization and continuous decline of biodiversity.
- Economic growth shifts to 'emerging' and eastern markets, boosting demand for forest products, overlapping with a possible slowdown in international trade due to trade conflicts and changes in flows.
- The production is an accelerated irruption of new products, techniques and technologies.
- Price increases are projected on primary and secondary forest products. Although consumption is increasing, there is no substantial increase in wood shortages at a global scale, although there will be regional mismatches.
- Industrial round wood production is expected to increase worldwide. The EU will remain a net importer. Sawn wood production is expected to increase most strongly in the EU, which will become increasingly important in this production over the next 20 years.
- Paris agreement provides that approx. 25% of the emission reductions of the national contributions come from the LULUCF sector.
- The 2050 Climate Change Mitigation Strategy and the EU Bioeconomy Strategy encourage a transition towards a circular economy based on natural resources. In this field, new market opportunities are opened for wood and an increase in demand is expected.
- Globally, greater use of wood is being promoted, especially in construction, as a contribution to climate change mitigation and sustainable forest

management, as well as for economic reasons. There are many opportunities to increase the use of wood in construction, especially with new wood-based materials (CLT, LVL, etc.).

- There is considerable interest in replacing more carbon-intensive products, e.g. plastics and artificial textiles with wood derivatives. By 2040 the textile sector expects wood fibres to account for 30% of its raw material.
- Despite the uncertainty of the analyses, it is likely that the effects of natural disturbances –some associated with climate change– on markets will increase in the next 20 years. Although its effects can be profound on a national and subnational scale, world markets would tend to record only attenuated effects, as trade adjusts to supply globally, at least within a range of non-catastrophic disturbances.
- The increase of bioenergy also means an opportunity for biofuels, especially for biomass, both as a heat as well as an energy producing source.

Galician Trends

- The Galician forest-wood industry has shown itself to be a moderately resilient sector which, despite the break in 2Q2020, has managed to recover its pace in 3Q2020 and especially in 4Q2020. However, the impact was uneven, and some activities suffered significant loss of income and decline in hours worked.
- Importance of workers for business organisations in the sector: in general, there has been no reduction in the workforce –staff or salaries– and there has been an effort in the widespread application of preventive measures and among the main concerns that affect the health of workers.
- The changes which are detected in the retail sector might mean a threat for the companies which are devoted to contract, affecting their business model directly.
- Uncertainty remains the main concern, followed by demand. Among the underlying trends that are generally considered positive for the sector are those that have to do with habitat improvement and comfort but also those that indicate a preference for returning to rural areas, in search of natural and healthy spaces or the preference for local products. In the opposite case, the resurgence of national borders is seen with concern.
- NextGeneration tractor project proposal for the manufacture of sustainable wood-based textile fibres.
- NextGeneration TechMadeira tractor project proposal that includes the construction of a pilot plant for new sustainable materials derived from wood with application in strategic Galician industry, the promotion of ecodesign and eco-innovative projects, or digitization of the industry, and the promotion of local wood construction.
- Implementation of the design of the Continuous Forest Inventory of Galicia.
- In 2022 for the first time, the forest-wood industry is placed in the top 5 of the most attractive sectors of the Galician economy to attract investments (Challenges And Investment Perspectives In Galicia For 2022 - BDO).
- Uncertainty about the continuity of the Pontevedra pulp and paper mill.



THE GLOBAL MARKET AFTER 2020: UNCERTAINTY AND RESILIENCE

Like most other industries, the global forest-wood industry was severely affected initially by the COVID-19 pandemic, in which the sector proved to be an essential sector.

In 2020 the health emergency disrupted a market that was previously under increasing pressure as housing construction in both the United States and China reached simultaneous highs for a decade. The large capacity lost in North America due to closures and bankruptcies after the 2008 crisis meant they were unable to respond to growing demand.

In addition, there has been a sustained increase in demand for wood produced by the development of new products in a context of decarbonisation of the economy and public policies to promote the circular bioeconomy.

The sharp take-off of demand after the COVID-19 confinements in the first months of 2020, the stimulus measures put in place, the increase in consumption in the segment of DIY and home improvements, and the total rupture of the logistics chain, especially the maritime one –with collapsed ports and ships without the capacity to unload and return– which meant a three-digit increase in costs in much of the world, made wood prices reach historic highs.

In 2021 maritime logistics was recovering very slowly from an unprecedented disruption and the pressure was waning at a time when prices were falling but at much higher quotas than in 2019.

In 2021 a global energy crisis began with widespread rises in fuel and energy prices.

At the end of 2022 a price correction was experienced internationally but the invasion of Ukraine by the Russian Federation meant a further rise in prices to new records. In response to this Russian war action, large parts of the global economies have imposed economic measures and sanctions against the Russian Federation and Belarus that at the time of writing we cannot yet predict how much they may affect the global economy and for how long.

In addition to these socio-economic and political disturbances, we must not forget that climate change is also causing effects on the wood market and therefore on the sector.

Natural disturbances, such as those that Central Europe has been suffering in recent years, put a large amount of wood on the market, causing changes in the markets, while they can condition this supply in the medium and long term.

Numerous studies document the potential effects of climate change on the sector through changes in timber supply/demand, changes in primary production of ecosystems, increased natural disturbances, changes in wood

quality, conditions of use, on the human capital and workers in the sector, in facilities and equipment, or in supply chains.

If anything has been learned in the last two years is that uncertainty will dominate any macroeconomic forecast that is to be made for any economic sector, and more so in those dependent on the natural environment.

Some of the issues that at the time of writing this report are still unknown in its evolution, and that may condition the environment in which the sector will develop are:

- Will the long-term growth rate of GDP, and therefore the demand for forest products, resume its previous trend when this pandemic is under control?
- Will the relative competitiveness of the different countries/regions change? Will it have permanent effects on trade flows?
- Will the recently observed changes in consumer behaviour (increased e-commerce, remote working, reduced travel and tourism, habitat change) persist in the long run?
- How far will there be changes in the structure of supply chains and how long will they persist?
- How long will the economic stimulus measures put in place by governments persist?
- What will be the evolution of the War in Ukraine, its duration and potential for escalation?
- What will be the effect of the economic sanctions put in place as a result of the conflict?
- What impact will the restrictions and higher prices of energy, especially gas, have on the Forest Industry?
- What additional restrictions on the supply of the Forest Industry can cause, given this energy scenario, a potential uncontrolled increase in the burning of wood suitable for processing?
- What changes will occur in the structure of the market for timber and forest products with trade restrictions with the Russian Federation, Belarus and Ukraine?
- What additional traceability requirements will be demanded of wood to maintain the embargo on economic flows to the Russian Federation and Belarus?
- What effect will this new scenario have on the general economy and especially on the consumption of forest products?
- Will policies to combat climate change and the development of the bioeconomy be indirect victims of this situation and of the new priorities?
- Can forest management and deforestation prevention help minimize future risks of zoonotic diseases at the wild-managed land interface?
- How will the effect of climate change on different economic sectors and geographical areas continue to manifest itself?

In the face of these uncertainties, there is no other strategy than to improve the resilience of value chains as much as possible in the face of potential adverse effects; diversify raw materials, products and markets; and to interrelate as

much as possible the subsectors of the Forest-Wood Industry with each other and with other strategic sectors of the economy of Galicia with the intention of strengthening each other.



OBJECTIVES AND METHODOLOGY

PROMOTING A CIRCULAR BIOECONOMY

Wood has shown itself to be a central element in the drive for Bioeconomy; a forestry certification guarantees that it comes from sustainably managed forests; it is, by its very nature a recyclable and reusable asset and its use in construction guarantees healthier, less polluting spaces with lower energy consumption. Also, the new uses in the textile field and in new composite materials result in actions towards a healthier environment.

The Forest-Wood Industry works to solve the current challenges of humanity, favouring a healthy, carbon-neutral society, based on green employment and the consumption of local products.

The Agenda will foster the modernization and competition of the Forest Industry to turn it into the gear stick to address and solve society's demands.

AGENDA MAIN LINES: PATHS TO IMPROVEMENT

The main lines for the development of the Agenda were set up in 2019 as **paths for continuous improvement** on which actions will be articulated.

The paths for improvement are, by definition, endless and they must allow the realization of the actions proposed in this document, either those which must replace the ones with limited duration or others which will be integrated following the evolution in the sector or possible contingencies.

The main lines have been defined by means of an **open, dynamic, participating and assessable** process.



AGENDA UPDATE PROCEDURE

The working procedure for updating the Agenda from the 2019 version was as follows:

- Review of the Agenda and the execution of its 2019-2021 actions
- Analysis of references and trends
- Evaluation of paths for improvement
- Survey on the weighting of actions planned in the 2019 version of the Agenda (60 business organisations)
- Open interview with relevant actors from each of the links in the value chain of the Forest Industry (26 interviews)
- Prioritising of the actions of the Agenda for the new period in each one of the paths
- Establishment of new indicators
- Elaboration of the documentation for selected actions
- Presentation to the monitoring committee composed of sectoral associations
- Interaction with interested parties, contrast panel
- Final paper

The process of drafting of the Agenda was carried out in collaboration with the University of Vigo, through the co-participation of the actors of the industrial sector, with representative associations of the sector and also visiting companies of the different sub-sectors directly participating to detect sectoral points of interest.

The drafting team would like to express our gratitude to all the people and entities who have contributed to the development of the Agenda update, for their involvement and their contributions and reflections.

MAIN RESULTS

Surveys

For the development of the survey, an online form was created in which for each path the different actions included in the Agenda in its 2019 version were set out and the respondent was asked to mark, in order of preference, the three most important.

In addition, by means of an open-ended question, an opinion was requested on the lack of any action that was considered relevant, the proposal to eliminate any of the existing ones, or any comment that the respondent deemed appropriate to express.

The results of the evaluations of the different actions in each of the paths are shown on the following pages.

Interviews

For the 26 open interviews, the following script was used for each of the paths:

- What is your degree of objective agreement with the path?
- Do you think it should be reformulated in some way?
- What action do you consider most notable for achieving the objective (initial or reformulated)?
- Would you propose any other action in addition to those described above?
- What is the assessment of the path development in 2020 and 2021?
- What action do you consider best developed?
- What is the action that stands out among those that have not been developed (and should be) or considered unsatisfactorily developed?

Responses were collected, coded, and processed for the definition of objective and measurable patterns and themes.

As an example of the result of this process, a word cloud is shown below that assigns a size to each term proportional to the number of times it was cited in the transcripts and codings of the interviews conducted.



Word cloud of the transcripts of the interviews carried out in the process of updating the Agenda for a Leading Forest-Wood Industry

CONCLUSIONS OF THE PARTICIPATORY PROCESS

The following conclusions were drawn from the participatory process:

- A new name of the Agenda is proposed, going from ‘Agenda for a Leading Forest Industry’ to ‘Agenda for a Leading Forest-Wood Industry’.
- It is considered appropriate to maintain the paths provided for in the 2019 version.
- It is considered appropriate to maintain the actions provided for in the 2019 version.
- Two new actions are proposed: a new one linked to the visibility of talent and equality, and another from a sub-action in 2019 on resource development and the industry based on broad-leaf species.
- It is considered appropriate to proceed with a selection of priority actions for the next period.

SELECTION OF PRIORITY ACTIONS

For the determination of the actions to be considered priority for the next period, the results of the surveys and those of the interviews were combined as shown in the graphs on the following pages. It is evident that there is clear agreement on the most important issues in most cases.

In addition to the crossing of the results, the analyses made through the references and the tendencies to complement those actions to be selected were taken into account.

Surveys + Interviews + Visits	1.2.2. Promotion of vocational training
	1.1.1 Specific training actions
	2.1.4 CIS-Madeira
	4.1.3 incentives for the improvement of competitiveness
	2.1.2 Network of knowledge and innovation in the sector
	3.6.2 Promoting vocations and attracting talent to the sector
	3.2.1 Intrasectoral cooperation
	3.5.1 Communication
	1.2.1. Modular specialisation courses
	3.4.1 Promotion of wood with target customers and end-users
	4.1.1 Support for the conifers plan
	2.1.1. Innovation ecosystem in the framework of the bioeconomy
Trends	4.2.5 Improvement of Labour Risk Prevention
	3.1.2 Intersectoral forums
	4.1.4 Programme to promote the use of wood for construction
	4.3.1 Promotion of new products in the Forest Industry
	2.2.1 Promotion of industrial Doctorate study in this sector
	4.2.4 Promotion of the use of wood in public purchases and green recruitment

MONITORING

The implementation of the Agenda will generate a number of actions, programmes and research and innovation projects in constant change. In order to assess each individual initiative and finally propose new actions, an effective monitoring system must be established.

Therefore, XERA will set up a Committee to develop the monitoring of the Agenda. Business organisations from the sector will participate and establish the punctual assessment protocols of the actions which will require so.

This monitoring Committee will consist of an equal number of male and female members.

INFOGRAPHIC SUMMARY

AGENDA FOR A LEADING FOREST INDUSTRY

AGENDA FOR A LEADING FOREST INDUSTRY

IT WAS BORN
TO IDENTIFY ACTIONS THAT CONTRIBUTE TO THE GENERATION OF VALUE IN THE FOREST-INDUSTRY CHAIN

APPROACH

THE **FOREST INDUSTRY** AS A CENTRAL ELEMENT IN THE **DRIVE** FOR **BIOECONOMY** MEETING THE DEMANDS OF SOCIETY

IN LINE WITH

THE **EUROPEAN INNOVATION STRATEGIES**
THE OBJECTIVES FOR SUSTAINABLE DEVELOPMENT

BIOECONOMY AS A STRATEGIC PRINCIPLE

CAN THE FOREST INDUSTRY HELP TO EXCEED IT?
WHAT IS THE SOCIETY CHALLENGE?
WOOD AND FORESTRY PRODUCTS AS A CENTRAL ELEMENT IN THE DRIVE FOR **BIOECONOMY**

BIOECONOMY
IDENTIFICATION OF TRENDS

VALUE CHAIN
ACTIVE PARTICIPATION OF ALL ASSOCIATIONS

ERA
AXENCIA DA INDUSTRIA FORESTAL

UNIVERSITY
METHOD AND ELABORATION BY THE UNIVERSITY

ADMINISTRATION
OVER 150 QUESTIONNAIRES

BUSINESS ORGANISATIONS
VISIT 25 BUSINESS ORGANISATIONS

COLLABORATIVE ELLABORATION

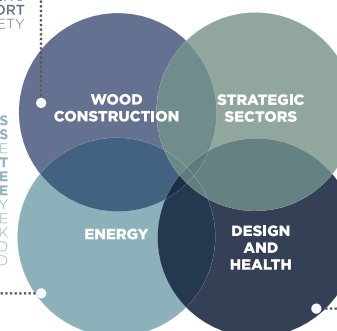
CHALLENGE

A HEALTHY, CARBON-LOW SOCIETY BASED ON GREEN EMPLOYMENT AND LOCAL PRODUCT CONSUMPTION

FIELDS

NEW MODELS OF SUSTAINABLE BUILDING
REDUCING CONSTRUCTION TIMES
NEW WORK OPPORTUNITIES
SETTING CO2 ATMOSPHERE DURING THE LIFE CYCLE
ALLOWING INDUSTRIALIZATION USING LOW ENERGY AND FOSSIL FUELS
GREATER THERMAL EFFICIENCY
GREATER SOUNDPROOFING
GREATER SENSATION OF COMFORT
FIRE SAFETY

REDUCING ENERGY CONSUMPTIONS
CHANGING FUEL SOURCES
USING THE WOOD TO PRODUCE ELECTRICITY AND HEAT
USING THE FORESTRY WASTE
PROMOTING BIOFUEL USE
IMPROVING THE ENERGY EFFICIENCY
IMPROVING THE COMPETITIVENESS OF THE BUSINESS NETWORK
VALUATION OF AGRICULTURE BIOMASS AND SCRUBLAND



COMPETITIVENESS IS MEASURED BY THE CONTRIBUTION TO CIRCULAR BIOECONOMY THAT GALICIAN STRATEGIC SECTORS (AUTOMOTIVE, NAVAL AND TEXTILE) BECOME **INCREASINGLY COMPETITIVE**
CO-LABORATE WITH THE FOREST INDUSTRY APPLYING PRINCIPLES OF BIOECONOMY TO DEVELOP NEW PRODUCTS, NEW PROCESSES AND NEW MARKETS
PROMOTION OF **SECTORAL FORUMS**
ORGANISATION OF **INTERSECTORAL FORUMS**
IMMERSION PROGRAMME FOREST-INDUSTRY

IMPROVING HEALTH AND QUALITY OF LIFE USING THE WOOD:

THE BIOPHILIC DESIGN IMPROVES CONFORT, REDUCE STRESS AND HAS POSITIVE EFFECTS ON HEALTH
RESEARCH AND INNOVATION PROJECTS

LEVERS



TALENT



INNOVATION



COMPETITIVENESS

MAIN LINES PATHS FOR IMPROVEMENT



CONSEQUENCES AGENDA 2019-2021

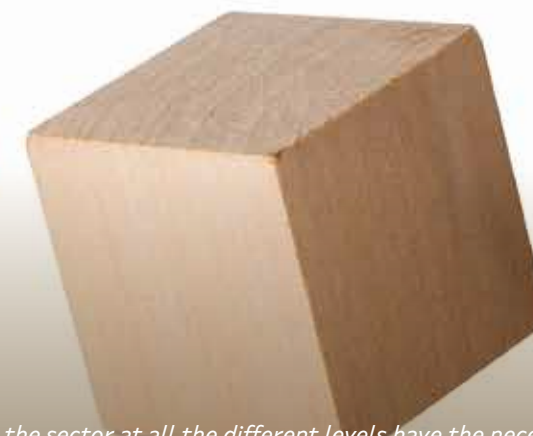
- INVESTMENT MOBILISATION FOR OVER **125 MILLION EUROS**
- ASSISTANCE TO THE INITIATIVES OF **350 SMEs** (SMALL AND MEDIUM-SIZED COMPANIES)
- PROMOTION OF TRAINING IN BUSINESS ORGANISATIONS
- FORMALISATION OF **600 WORK PLACEMENT CONTRACTS**
- TRAINING OF OVER 5,600 PEOPLE LINKED TO THE SECTOR

AGENDA FOR A LEADING FOREST INDUSTRY

The main lines for the development of the Agenda are set up as paths for continuous improvement on which actions will be articulated.

The paths for improvement are, by definition, endless and they must allow the realization of the actions proposed in this document, either those which must replace the ones with limited duration or others which will be integrated following the evolution in the sector or possible contingencies.





PATH 1 MORE HIGHLY QUALIFIED WORKFORCE (TRAINING)

Training is one of the foundations of competition among sectors and companies and it allows the workforce to improve their professional activity as well as their career prospects.

Path 1 will be based on:

- In-company training programmes for staff.
- Training offered by the Administration for active workers (sectoral training programmes, transversal training programmes, qualification and professional accreditation programmes).
- Training offered by the Administration for the unemployed.

OBJECTIVE: *Ensure that the workforce in the sector at all the different levels have the necessary skills to carry out the more and more complex and diverse tasks which are necessary in a quality job market based on the Bioeconomy.*

ACTIONS

1.1 Non-compulsory education, professional recycling and long-life learning

- 1.1.1 Development of specific training actions*
- 1.1.2 Analysis and improvement of the impact of existing training programmes and incentives in the sector*
- 1.1.3 Training programme for the Managing Directors*
- 1.1.4 Development of training standards recognised by the job market in the sector*
- 1.1.5 Training programme and trainers' certification*

1.2 Compulsory education (Vocational training, University training)

- 1.2.1. Development of modular specialisation courses*
- 1.2.2. Promotion of vocational training related to the sector*
- 1.2.3 Programme of scientific and knowledge transfer activities*

1.3 Entrepreneurship

- 1.3.1 Analysis and improvement of the impact of the existing incentives to entrepreneurship in the sector*

1.1.1 DEVELOPMENT OF SPECIFIC TRAINING ACTIONS



Description /Rationale

Development of actions derived from the Forest Industry Training Strategy 20182020, developed by XERA. It details main lines and strategic objectives, actions to develop, indicators and timeline to ensure professional qualification and training, adapting them to the new trends and challenges in the forest industry, in the framework of the evolution towards a society based on the Bioeconomy.



Related actions

- Forest Industry Training Strategy (XERA)



Collaborators

- Business organisations and Associations in the sector
- Universities
- Vocational training centres
- CIS-Madeira



Instruments

- Forest-wood Industry Training Strategy-forecast



Indicators

- Forest-wood Industry Training Strategy-forecast

1.1.2 ANALYSIS AND IMPROVEMENT OF THE IMPACT OF EXISTING TRAINING PROGRAMMES AND INCENTIVES IN THE SECTOR



Description /Rationale

Review of the incentives and existing training programmes. The incentives and existing training programmes, as well as the aspects which will improve their impact on the sector will be determined, in terms of greater eligibility, adaptation to the timeline, etc.

Among others, we will include the analysis of:

- Aid for the organization of non-regulated training and dissemination activities that promote knowledge, competitiveness and innovation of the Galician Forest Industry (IN501A, Axencia Galega da Industria Forestal).
- Programme of incentives for the training of active workers in strategic sectors for Galician business organisations (FSE Galicia 20142020)
- Dual Employment Workshops (Galician Department of Economy, Employment and Industry)



Related actions

- Training Strategy (Galician Agency for Forest-based Industry)



Collaborators

- Business organisations and sectoral associations
- CEI Dirección Xeral de e Ordenación Forestal (Galician Directorate-General of Forestry Regulation)
- Training centres or training organisations



Instruments

- Design and development of the evaluation methodology
- Panel with business organisations, experts and administrative service staff involved



Indicators

- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]
- % of improvements implemented compared to those identified [code X2]

1.1.3 SPECIFIC TRAINING PROGRAMME FOR MANAGING DIRECTORS



Description /Rationale

The advances in the Forest Industry sector force many professionals to develop new managerial skills which will consolidate their professional career, and give worth to the organisation and the whole sector.

Relying on a sector with a better and up-to-date managerial profile is fundamental to become more efficient in our daily duties in the organisation and the sector.

Integrating new concepts and experiences in the field of Bioeconomy, green economy and circular economy in managerial organs becomes essential to accelerate the update of the sector to face the before mentioned challenges.

A training programme of this kind is directed to all those professionals with management or executive duties who need extra training or want to be up-to-date in everything which may help to improve their particular contribution to the organisation.



Related actions

- Training Strategy (Galician Agency for Forest-based Industry)



Collaborators

- Representative organisations in the sector
- Business organisations
- Training centres or training organisations



Instruments

- Specific training actions (sectoral and transversal)



Indicators

- Participants in training actions, grouped by category (employed, jobseekers and students), specified by gender [codes X3, P227.H, P227.M, R1304a]
- SME staff completing alternative training for knowledge-intensive service activities, specified by gender [X4 codes, RCR 99]
- Training and information actions developed in the field of labour risk prevention [codes X5, P00325]
- People, grouped by sectors, recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

1.1.4 DEVELOPMENT OF TRAINING STANDARDS RECOGNISED BY THE JOB MARKET IN THE SECTOR



Description /Rationale

Viability analysis and implementation of training standards recognized by the sector or job market

- Definition of training units
- Development of processes of certification of professional capacity and skills
- Certification of training actions
- Development of a 'corporate training school' for sectors in special need of specific education profiles



Related actions

- Training Strategy (Galician Agency for Forest-based Industry)



Collaborators

- Vocational training centres
- Organisations and training organisations
- Associations in the sector
- CIS-Madeira
- Other training and higher education organisations (universities within the Galician University System)



Instruments

- Training units
- Processes of certification of professional capacity and skills
- Panel with business organisations, experts and administrative service staff involved



Indicators

- New training programmes developed, grouped by category (training units, certificates of professionalism, own certificates) [code X7]
- Accredited people, grouped by category (employed, jobseekers and students), specified by gender [codes X8, R1303a, R1505a, P422.H, P422.M]
- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]

1.1.5 TRAINING PROGRAMME AND TRAINERS' CERTIFICATION



Description /Rationale

- Creation of a trainer database
- Development of training actions for trainers



Related actions

- Remaining actions Path 1



Collaborators

- Vocational training centres
- Organisations and training organisations
- Associations in the sector
- Universities
- CIS-Madeira



Instruments

- Trainer database
- Training actions for trainers



Indicators

- Number of trainers' actions
- Number of trainers incorporated into the database specified by gender [code X9]
- Participants in training actions, grouped by category (active or job-seeking teachers), specified by gender [codes X3, P227.H, P227.M, R1304a]
- People, grouped by sectors, recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

1.2.1. DEVELOPMENT OF MODULAR SPECIALISATION COURSES



Description /Rationale

Development of specialisation courses on processes and products in cooperation with other reference centres in Galician universities. These will be made up by modules which can be done independently and in combination.

After completion of a certain number of credits, the title of expert can be obtained. The participation of business expert staff as well as trainers from some of the modules will be prioritized.

This will allow an increase in the market of certified professional experts as well as the training update of highly qualified staff in business organisations.

This model makes it possible to react fast in order to cope with technological changes or new products and tools, such as software.



Related actions

- Training Strategy (Galician Agency for Forest-based Industry)



Collaborators

- Universities within the Galician University System
- Vocational training centres



Instruments

- Specialisation courses



Indicators

- Participants in training actions, grouped by category (employed, jobseekers and students), specified by gender [codes X3, P227.H, P227.M, R1304a]
- SME staff completing a formal training for knowledge-intensive service activities, specified by gender [codes X10, RCR 100]
- Training and information actions developed in the field of labour risk prevention [codes X5, P00325]
- People, grouped by sectors, recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

1.2.2. PROMOTION OF VOCATIONAL TRAINING RELATED TO THE SECTOR



Description /Rationale

Collaboration to promote the vocational training system

- Improve the coordination and dialogue between the industrial network and the Administration to make training needs at mid/high level and the impulse to Dual Training compatible.
- Strengthen the role of the vocational training centres.
- Make the vocational training and job training programmes more flexible in order to match them with the skills of future workers in the sector.
- Prioritize modules oriented to business management in training programmes with the objective to increase a viable entrepreneurship rate coming from the education system.
- Propose the development of new certification for those profiles for whom there is no regulated vocational training, participating in the design carried out by the Ministry.



Related actions

- Competitiveness Agenda Galicia Industry 4.0
- Strategic plan for agricultural training in Galicia



Collaborators

- CCEU Secretaría Xeral de Educación e Formación Profesional (General Secretariat for Vocational Education and Training)
- CCEU Secretaría Xeral de Universidades (General Secretariat of Universities)
- CEI Subdirección Xeral de Emprego (Subdirector General for Employment)
- CMR Axencia Galega da Calidade Alimentaria (Galician Food Quality Agency)
- Vocational training centres and Universities within the Galician University System



Instruments

- Creation of a coordination system
- Panel with business organisations, experts, teachers and administrative service staff involved
- Training sessions, courses, seminars
- Distribution of documentation and executive summaries of completed projects



Indicators

- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]
- New training programmes developed, grouped by category (proposed units of competence, modules and qualifications) [code X7]
- Students enrolled in training linked to the sector, grouped by category (intermediate or higher degree, in public or private schools), specified by gender [codes X11, R1508b, P1019H, P1019M, P1020H, P1020M]

1.2.3 PROGRAMME OF SCIENTIFIC AND KNOWLEDGE TRANSFER ACTIVITIES



Description /Rationale

The results of research projects generate benefits at different levels, they result in the creation of new economic activities or a productive diversification from existing ones; they improve productivity, increase production, markets or cover, and they contribute to create an environment in which business organisations innovate and adapt better to the market.

Therefore, the development of specific training and transfer activities based on research results and the consequences, generated by the global results from the projects, being scientific, economic, political or social, are suggested.



Related actions

- Actions Path 2
- Actions 1.1



Collaborators

- Universities
- Vocational training system
- Research centres
- Departments of innovation from business organisations



Instruments

- Training sessions, courses, seminars
- Distribution of documentation and executive summaries of completed projects



Indicators

- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]
- Participants in training and transfer actions, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [codeX12]

1.3.1 ANALYSIS AND IMPROVEMENT OF THE IMPACT OF THE EXISTING INCENTIVES TO ENTREPRENEURSHIP IN THE SECTOR



Description /Rationale

Among the support tools that the Galician Government has for the creation of new businesses, there are several helplines to promote entrepreneurship and try to boost new business projects as well as the participation of people from priority groups, such as women, the youth and returned emigrants.

The measures which are specifically directed to male and female entrepreneurs are complemented with the ones destined to small and middle-sized businesses and freelancers, in order to offer global solutions to aspects which are as important as access to credit, work and family conciliation, recruitment, innovation, etc.

Review of the incentives and existing training entrepreneurship programmes will be carried out and the aspects which will improve their impact on the sector will be determined, in terms of greater eligibility, adaptation to the timeline, etc.



Related actions

- Galician VII Strategic Plan for Equal Opportunities between Women and Men 2017-2020
- Galicia Enterprise Unit



Collaborators

- Business organisations and sectoral associations
- CEEI Galician Institute for Economic Promotion
- CEI Subdirección Xeral de Promoción da Igualdade (Subdirectorato General for Promotion of Equality)
- CEI Dirección Xeral de Emprego, Traballo e Economía Social (General Directorate for Employment, Labour and Social Economy)
- Vocational training system



Instruments

- Design and development of the evaluation methodology
- Panel with business organisations, experts and administrative service staff involved
- Equal opportunities plan in business organisations



Indicators

- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]
- % of improvements implemented compared to those identified [code X2]



PATH 2 INNOVATION ECOSYSTEM TO THE SERVICE OF THE SECTOR

The Forest Industry business organisations are mostly SME (small and medium-sized businesses) which are often located in rural areas where they make an important contribution to the local economy, the job markets and demographic structure. All this helps to reduce the migration to the cities. These characteristics often make development or access to innovation difficult.

It is widely recognised that the achievement and maintenance of any result of sectoral development that involves relevant innovation depends on the ability of multiple interconnected actors (governments, civil society, private sector and businesses, universities and technological centres, etc.) to work together in an efficient way.

This group of interconnected actors which makes innovative ideas to be generated, developed, proved, and finally, be applied to improve the sector, is an 'ecosystem' where the whole is greater than the sum of its parts.

In this way, an innovation ecosystem is a geographic concentration of business organisations and related agents with innovative vocation, involving 'driver' enterprises, component and intermediary business, vertebrated by information research and technological centres as well as universities.



OBJECTIVE: *Developing and strengthening the concept of innovation ecosystem for the Forest Industry and the wood sector in Galicia.*

ACTIONS

2.1. Development of the innovation ecosystem

2.1.1. Development and reinforcement of the innovation ecosystem in the framework of the Bioeconomy

2.1.2 Network of knowledge and innovation in the sector

2.1.3 Creation of a research strategy

2.1.4 Positioning and development of CIS-Madeira

2.2 Better access for businesses to innovation and research

2.2.1 Promotion of industrial Doctorate study in this sector

2.2.2. Analysis of the impact of the existing incentives for innovation on the sector

2.3 Participation in national and international forums and platforms

2.3.1 Participation in national and international forums and platforms

2.4 Development of the information system in the sector

2.4.1 Development of regular sectoral reports

2.4.2 Development of annual report on project results

2.4.3 Development of the sectoral observatory with service of alerts

2.4.4 Editing and publication of regular bulletin

2.4.5 Support to the forestry information system

2.1.1. DEVELOPMENT AND REINFORCEMENT OF THE INNOVATION ECOSYSTEM IN THE FRAMEWORK OF THE BIOECONOMY



Description /Rationale

- Promoting collaboration among the different agents of the Galician innovation system fostering the creation and strengthening of information and knowledge networks between public and private agents from a perspective of exchange and open research.
- Coordination of the R&D resources in the sector with similar ones coming from national plans and EU funds.
- Consolidation and coordination of the R&D centres which are relevant in the sector.



Related actions

- 2.1.2. Forest Industry Research Strategy
- Plan Galicia Innova
- RIS3 Smart Specialisation Strategy of Galicia 2021-2027
- Competitiveness Agenda Galicia Industry 4.0



Collaborators

- CIS-Madeira
- Universities within the Galician University System with specialized centres in the sector
- Other reference Research Centres (FCBA, NEIKER, etc.)
- Galician Innovation Agency



Instruments

- Cooperation agreements
- Joint participation in projects
- Panel with business organisations, experts and administrative service staff involved



Indicators

- Strategy documents
- Number of cooperation agreements
- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]
- Actions developed in cooperation, grouped by category (strategies, agreements) [code X13]
- Participation in international project consortia, grouped by category (H2020, Interreg, Life...) [codes X14, R1101a]
- Beneficiary entities in R&D projects [codes X15, P0076A]
- Business organisation cooperating with research organizations [codes X16, RCO10]
- Research staff participating in co-financed projects, by year, specified by gender [codes X17, DE021H, DE021M]
- Private investment in parallel with public support for innovation or R&D projects [codes X18, DOC027]

2.1.2 NETWORK OF KNOWLEDGE AND INNOVATION IN THE SECTOR



Description /Rationale

A network of knowledge and innovation is a space where members of the innovation ecosystem can work together, collaborate and form a community. Interaction among all the users is encouraged so that they become collaborative communities, by means of:

- Education programmes, talks and workshops
- Competitions and challenges
- Marathon of collaborative development
- Immersion programme in the forest industry for the development of new products or services
- Brainstorming



Related actions

- Action 2.1.2
- Competitiveness Agenda Galicia Industry 4.0



Collaborators

- CIS-Madeira
- Universities within the Galician University System with specialized centres in the sector
- Other reference research centres
- Galician Innovation Agency
- Galician Department of Environment, Territory and Housing (Antena CLIMATE KIC)



Instruments

- Development of the knowledge and innovation network
- Events to develop in the framework of the knowledge and innovation network



Indicators

- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X14]
- Participants in training and transfer actions, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X12]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

2.1.3 CREATION OF A RESEARCH AND INNOVATION STRATEGY



Description /Rationale

The Forest Industry Agenda for Research and Innovation can be understood as a prioritized, articulated and systematized group of research lines with the objective to generate evidence for decision-making oriented to improve the Forest Industry through knowledge.

The methodological approach for the construction of agendas comes from the need to generate strategies and manage knowledge through the innovation ecosystem. This provides us with elements for strategic decision-making prioritising demands of research and development.

**Related actions**

- RIS3 Smart Specialisation Strategy of Galicia
- Competitiveness Agenda Galicia Industry 4.0

**Collaborators**

- CIS-Madeira
- Universities within the Galician University System with specialized centres in the sector
- Other reference research centres
- Galician Innovation Agency

**Instruments**

- Agenda, process
- Creation of a validation committee
- Panel with business organisations, experts and administrative service staff involved

**Indicators**

- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]
- Actions developed in cooperation, grouped by category (strategies, agreements) [code X13]
- Forest-Wood Industry research and innovation strategy-forecast

2.1.4 POSITIONING AND DEVELOPMENT OF CIS-MADEIRA**Description /Rationale**

CIS-Madeira must be created as a model in the innovation ecosystem. In order to do this, a collaboration network between CIS- Madeira and the rest of knowledge centres will be developed (signing agreements, synergy creation, etc.).

Furthermore, CIS- Madeira will work jointly with other excellence centres in their areas, especially those such as wood construction, forestry bioeconomy, etc.

Research placements for CIS-Madeira staff as well as the innovation ecosystem in international reference centres will be programmed.

An assessment and redefinition of tasks and resources assigned to CIS-Madeira will be developed

**Related actions**

- Actions 2.1.2 and 2.1.3

**Collaborators**

- Reference research centres in the national and international stage
- Universities within the Galician University System
- Other technological centres
- Research departments of 'driver' enterprises

**Instruments**

- Cooperation agreements
- Joint projects

**Indicators**

- Working people, grouped by category (researchers, technicians and support staff) [codes X20, P01004, R1101c]
- Research staff participating in co-financed projects, by year, specified by gender [codes X17, DE021H, DE021M]
- Business organisation cooperating with research organizations [codes X16, RCO10]
- Participation in international project consortia, grouped by category (H2020, Interreg, Life...) [codes X14, R1101a]

2.2.1 PROMOTION OF INDUSTRIAL DOCTORATE STUDY IN THIS SECTOR**Description /Rationale**

The need for innovation in the trend towards the Bioeconomy requires to get the research culture closer to business organisations in a flexible way. In this respect, attracting and recruiting profiles such as PhD students could result in an opportunity for fast-track improvement for some businesses.

Therefore, the Industrial PhD studies will be promoted according to the article 15 bis from the Real Decree 99/2011, January 28th, which regulates official PhD studies.

The objective of encouraging the latter is:

- Develop research activities in business organisations
- Attract talent with research skills to the business network
- Strengthen the relationship between universities and business organisations
- Generate valuable scientific production in the market
- Facilitate the participation of business organisations in research projects

**Related actions**

- Actions 2.1.2, 2.1.3 and 2.1.4

**Collaborators**

- Universities (doctoral programmes)
- Business organisations
- Galician Department of Culture, Education and University

**Instruments**

- Specific PhD scholarship programme
- Access to other regional, national or international programmes
- Assessment for other types of financial assistance to business organisations

**Indicators**

- People presenting the thesis, specified by gender [code X21, R1101c]
- Participants in the industrial doctoral programme, who join the sector, specified by gender [codes X22, R1301a, RCR102]
- Innovating SMEs, grouped by category (product, process, commercial, organizational or internal innovation) [codes X23, RCR03, RCR04, RCR05, R1101b]

2.2.2. ANALYSIS OF THE IMPACT OF THE EXISTING INCENTIVES FOR INNOVATION ON THE SECTOR



Description /Rationale

Review of the incentives and existing training innovation programmes will be done and the aspects which will improve their impact on the sector will be determined, in terms of greater eligibility, adaptation to the timeline, etc.



Related actions

- 2.1.2 Research and innovation agenda
- 2.4.2 Annual report on project results



Collaborators

- Galician Innovation Agency
- Associations and representative organisations in the sector



Instruments

- Review report



Indicators

- Innovating SMEs, grouped by category (product, process, commercial, organizational or internal innovation) [codes X23, RCR03, RCR04, RCR05, R1101b]
- Private investment in parallel with public support for innovation or R&D projects [codes X18, D0C027]
- Participation in international project consortia, grouped by category (H2020, Interreg, Life...) [codes X14, R1101a]
- Beneficiary entities in R&D projects [codes X15, P0076A]

2.3.1 PARTICIPATION IN NATIONAL AND INTERNATIONAL FORUMS AND PLATFORMS



Description /Rationale

The international forums are a mechanism of access to the exchange of experiences and technical knowledge, which allow and encourage networking, and the exchange of the international best practice and standards.

Participation in forums, platforms and national and international networks will be promoted, both by staff assigned to XERA as well as staff from the innovation ecosystem and business organisations. Eventually, assistance for participation in relevant fairs might be given.



Related actions

- Action 2.1



Collaborators

- Sectoral associations
- Business organisations
- CIS-Madeira
- Universities within the Galician University System with specialized centres in the sector
- Galician Department of Environment, Territory and Housing (Antena CLIMATE KIC)



Instruments

- Assistance for participation in networks, forums or platforms



Indicators

- National and international forums and platforms [X24 codes]
- Participants in training and transfer actions, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X12]

2.4.1 DEVELOPMENT OF REGULAR SECTORAL REPORTS FOR INNOVATION



Description /Rationale

The Forest Industry production complex in Galicia was not studied in a comprehensive way with as much rigour or frequency as in other sectors.

This is particularly obvious when we refer to forestry resources and the productive structure of the different processing chains.

The development of regular reports with updated enough statistic sources about the evolution of forestry resources, subsectoral characterizations, wood consumption as well as supply options in wood economic terms would result in the elaboration of appropriate diagnosis which would help in the decision-making in the business and public fields.

It is necessary to write a regular annual report and additionally, different specific or current analysis by subsectors (forestry exploitation, sawmills, technical wood, pulpwood, biomass, new materials, woodwork/furniture, contract) or relevant features on aspects which must be analysed.



Related actions

- Actions 2.4.2 and 2.4.5



Collaborators

- Universities
- Technological centres
- CIS-Madeira



Instruments

- Annual statistic report
- Current reports
- Other sectoral reports



Indicators

- Actions developed, grouped by category (bulletin, report) [code X26]
- Entities contributing providing information [code X25]
- Participants in training and transfer actions, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X12]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

2.4.2 DEVELOPMENT OF ANNUAL REPORT ON PROJECT RESULTS



Description /Rationale

In order to improve the results and knowledge transfer on developments which affect the sector, the writing of an annual report is suggested. The results from the main research projects will be collected (promoted both from the public or private field) in relation to the areas dealt with in this agenda.



Related actions

- Remaining actions from Path 2



Collaborators

- CIS-Madeira



Instruments

- Annual report



Indicators

- Actions developed, grouped by category (bulletin, report) [code X26]
- Entities contributing providing information [code X25]
- Participants in training and transfer actions, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X12]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

2.4.3 DEVELOPMENT OF THE SECTORAL OBSERVATORY WITH SERVICE OF ALERTS



Description /Rationale

The creation of a sectoral observatory which allows alerts to be sent to business organisations which are subscribed to different themes is suggested. Additionally, it would also be possible to have feedback and additional information.

It would also be interesting to create a repository for public data, sharing of good business practice and success stories.

This action can be carried out through specific actions, either directly or, preferably, in collaboration with business intermediaries which are capable of leading common interest projects for a group of organisations.



Related actions

- Competitiveness Agenda Galicia Industry 4.0



Collaborators

- CIS-Madeira
- Associations in the sector
- Business organisations



Instruments

- Sectoral observatory



Indicators

- Developed digital services and products [codes X28, RCO 13]
- People subscribed to the digital platform [code X27]
- Entities contributing providing information [code X25]

2.4.4 EDITING AND PUBLICATION OF REGULAR BULLETIN



Description /Rationale

The publication and distribution of a regular bulletin (3-4 issues per year) which informs on the results of the actions in this agenda, summaries of research project results, significant constructive projects, features on business organisations in different sub-sectors, as well as interviews with people of interest.

The objective is to increase the feeling of belonging, improve the knowledge transfer among all the sub-sectors and agents involved in the Forest Industry. Thus, the fact that the publication is led by CIS-Madeira will allow the centre to be particularly noticed by a great number of agents from the sector.



Related actions

- Actions from Path 5



Collaborators

- CIS-Madeira



Instruments

- Editing and publication of regular bulletin



Indicators

- Actions developed, grouped by category (bulletin, report) [code X26]

2.4.5 SUPPORT TO THE FORESTRY INFORMATION SYSTEM



Description /Rationale

Galicia needs to have a forestry statistic information system, following the functions and jurisdictional system of Galician forests as regulated in articles 102, 103 and 126 of the Law 7/2012 28th June. This should involve the resource to transformation under a co-participating government by the scientific areas linked to the forest sector.

The development of this system at Galician scale would achieve the following objectives:

- Create and publish relevant information and forest mapping.
- Create the update and detailed framework for the supply-consumption-exchanges of wood, forestry biomass and other forestry products used by the value chains, with the traceability and transparency that the market regulations require globally.
- Generate future scenarios which help to optimize public policies to be developed and determine potential impacts which will benefit the forestry sector.
- Optimize the use and information generation capacity of the different existing departments (IGE, IET, research centres...).

**Related actions**

- > In relation with the implementation of actions A.3.1, A.3.2, A.3.3, A.3.4, A.3.5 of the RAP (*Rovaniemi Action Plan for the Forest Sector in a Green Economy*. UNECE/FAO)

**Collaborators**

- Rural Environment C, Galician Institute of Statistics
- Institute of Territorial Studies
- Galician Innovation Agency
- Associations in the sector
- MAPA
- Research centres
- Universities

**Instruments**

- Inventory, forestry monitoring system, mapping, sectoral statistics, forest registry

**Indicators**

- Actions developed, grouped by category (bulletin, report) [code X26]
- Actions developed in cooperation, grouped by category (strategies, agreements) [code X13]



PATH 3 COOPERATION AND VALUATION

In order to face the Bioeconomy challenge, it is necessary to join efforts both in the industrial as well as the social fields.

As for the sector, both the promotion and strengthening of cooperation between businesses, associations and sectoral agents of innovation are required. This can be done within the sector or with other close sectors that hold a greater potential to increase relationships with the Forest Industry even though they are not usually linked together.

As regards for society, public perception about the sector is often based on lack of knowledge and misinformation. The efforts of the sector to improve its social and environmental impact, and the sustainability of its products are not generally well-known and least understood. The sector is not properly rated according to its impact on job creation and rural development. The results of this image problem spread to policy making, consumer behaviour and attracting talent for the sector.

This path aims to improve the aspects before mentioned and provide feedback on a large number of previous paths.



OBJECTIVE: *Promote intrasectoral and intersectoral cooperation and strengthen the relationship between the sector and society.*

ACTIONS

A) INTRASECTORAL AND INTERSECTORAL COOPERATION

3.1 Sectoral forums as a tool for collaboration and communication

3.1.1 Promote sectoral forums as a tool for collaboration and communication

3.1.2 Organisation of intersectoral forums

3.2 Promotion of associations and intrasectoral cooperation

3.2.1 Promotion of associations and intrasectoral cooperation

3.2.2 Immersion programme forest-industry

3.2.3 Talent visibility programme: #ElasXeranSector

3.3 Participation in processes with impact on the sector

3.3.1 Participation in processes with impact on the sector

B) VALUATION, COMMUNICATION AND DISSEMINATION

3.4 Programme for promoting wood and other forestry products

3.4.1 Promotion of wood with target customers and end-users

3.4.2 Semana da Madeira (Timber Week)

3.5 Forest Industry Agency Communication Plan

3.5.1 Forest Industry Agency Communication Plan

3.6 Education and promotion of vocations

3.6.1 Creation and distribution of educational materials

3.6.2 Actions for promoting vocations and attracting talent to the sector



3.1.1 PROMOTE SECTORAL FORUMS AS A TOOL FOR COLLABORATION AND COMMUNICATION



Description /Rationale

The celebration of at least two annual forums (spring and autumn) is suggested. A group of experts could be invited to talk about issues to be defined annually by the monitoring committee.



Related actions

- In relation with the action A.4.1 of the RAP (*Rovaniemi Action Plan for the Forest Sector in a Green Economy*. UNECE/FAO)



Collaborators

- Sectoral associations
- Business organisations
- CIS Madeira and universities
- Experts



Instruments

- Organisation of forums, training sessions and seminars



Indicators

- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

3.1.2 ORGANISATION OF INTERSECTORAL FORUMS



Description /Rationale

It is suggested that intersectoral forums should be held. They will be targeting Forest Industry business organisations as well as other businesses from sectors which offer opportunities for new markets, collaboration or transfer technology. It is necessary to explore the potential cooperation and hybridisation among close sectors which don't usually interact together but have a great potential to increase their relationship with the Forest Industry. Sector hybridisation goes beyond punctual alliances since it means stability and continuity through time. On a first approach, the TEXTILE, NAVAL and AUTOMOTIVE sectors were identified as important ones.



Related actions

- Action 3.1.1



Collaborators

- Sectoral associations of the forest industry, textile, naval and automotive industries
- Business organisations of the forest industry, textile, naval and automotive industries
- CIS-Madeira and universities
- Experts
- Galician Institute for Economic Promotion



Instruments

- Celebration of forums, training sessions and seminars



Indicators

- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

3.2.1 PROMOTION OF ASSOCIATIONS AND INTRASECTORAL COOPERATION



Description /Rationale

Even though the implementation of the actions in the agenda involves an additional creation of workgroups, it is considered necessary to make an extra effort to develop a strategy of associationism and networks in the sector so that team work and its potential is maximized.

Measures which foster cooperation, synergies and other measures which minimize the issue of the medium size of the companies in the sector will be implemented.

Furthermore, relationships between the different sub-sectors in the forestry chain will be promoted, especially between primary and secondary wood conversion. The coordination between the different sub-sectors will be analysed in order to ensure appropriate communication from XERA.



Related actions

- Actions 3.1.1 and 3.2.2



Collaborators

- Sectoral associations of the forest industry
- 'Driver' enterprises



Indicators

- New sectoral groups or associations [code X29]
- Actions developed in cooperation, grouped by category (strategies, agreements) [code X13]

3.2.2 IMMERSION PROGRAMME FOREST-INDUSTRY



Description /Rationale

An exchange between forest and industry is suggested, with the aim to improve holistic understanding of the wood value chain. In this way, the following measures will be promoted:

- Industry immersion for technicians from forestry associations, silviculturists and CMVMC (Municipal Communal Woodland Joint Owners).
- Forestry immersion for industry managers and target customers.



Related actions

- Actions 3.1.1 and 3.2.1



Collaborators

- Sectoral associations, especially silviculturist associations
- Business organisations and target consumers and their associations
- CIS-Madeira and universities
- Experts

**Instruments**

- Training sessions for exchanging experiences

**Indicators**

- New sectoral groups or associations [code X29]
- Actions developed in cooperation, grouped by category (strategies, agreements) [code X13]

3.2.3 TALENT VISIBILITY PROGRAMME: #ELASXERANSECTOR**Description /Rationale**

Despite being considered a masculinised sector, women work in all links of the value chain, and develop different professional profiles, from technical positions to managers. With the aim of transmitting this reality to society and encouraging the recruitment of new talent for the sector, the #ElasXeranSector programme has emerged with the main objective of making visible the role of women in the forest-wood industry..

**Related actions**

- Transversal action to all the actions of Path 1, 2, 3 and 4

**Collaborators**

- CEI Subdirección Xeral de Promoción da Igualdade (Subdirectorato General for Promotion of Equality)
- CEI Subdirección Xeral de Emprego (Subdirectorato General for Employment)

**Indicators**

- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

3.3.1 PARTICIPATION IN PROCESSES WITH IMPACT ON THE SECTOR**Description /Rationale**

It is necessary to make a coordination effort between Administrations to avoid duplicated or unnecessary paperwork, facilitate understanding of regulations, administrative procedures and paperwork. It is also fundamental to review sectoral regulations, modernise them and bring them up-to-date in order to adapt to the changing business reality in a fast and dynamic way, establishing a clear stable, common business culture.

XERA, in collaboration with the spokesperson from the different sectors, will establish a proactive monitoring and participation policy in those processes that can have an impact on the sector, once the obstacles are identified for the competition and will seek appropriate measures for their elimination.

According to the Competitiveness Agenda Galicia Industry 4.0 regulations, it is essential to carry out a systematic evaluation of the impact of legislation on SMEs (small and medium-sized businesses) through the 'SME Test', specified in the Small Business Act of Europe. This test will be a key element in the pre-evaluation of the impact on public actions, as provided in the article 20 from the Law of Galician Industrial Policy.

**Related actions**

- Competitiveness Agenda Galicia Industry 4.0

**Collaborators**

- Galician Department of Rural Areas
- Galician Department of Environment, Territory and Housing
- Other departments

**Instruments**

- Workgroup for administrative simplification
- Panel with business organisations, experts and administrative service staff involved

**Indicators**

- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]

3.4.1 PROMOTION OF WOOD WITH TARGET CUSTOMERS AND END-USERS



Description /Rationale

Promotion of the demand of wooden products through cooperation with target customers and end-users.

Project visits.

Documentation and dissemination of reference works.

Creation of awards or quality denominations for wood construction, project of contract, etc.

Cooperation with corporate organisations which include target customers (colleges, associations...).



Related actions

- Actions 3.5.1 and 4.4.3



Collaborators

- Target customers
- Professional associations



Instruments

- Document and disseminate reference works
- Awards or quality certifications



Indicators

- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]
- Actions developed, grouped by category (bulletin, report), [code X26]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

3.4.2 SEMANA DA MADEIRA (TIMBER WEEK)



Description /Rationale

A week of dissemination and promotion activities from the sector will be celebrated. This will involve the participation of different agents and organisations sharing information and thus multiplying its effects.



Related actions

- Actions 3.1.1



Collaborators

- Professional associations
- Professional colleges of target customers and engineers



Instruments

- Training sessions



Indicators

- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

3.5.1 FOREST INDUSTRY AGENCY COMMUNICATION PLAN



Description /Rationale

The development of a strategy, led by XERA, is suggested in this action in order to structure the communication from the rest of actions in the agenda or the creation of specific campaigns.

This specific work should identify public objectives, key messages and methodologies for each of them.



Related actions

- Actions 2.1, 2.3 and 3.2.1



Collaborators

- Associations in the sector



Instruments

- Communication plan
- Social networks



Indicators

- People subscribed to the digital platform [code X27]
- Interaction rate [code X30]

3.6.1 CREATION AND DISTRIBUTION OF EDUCATIONAL MATERIALS



Description /Rationale

The development of teaching materials to ensure a better understanding of the production of raw materials and forest-based products will make it possible to provide the school population with knowledge, behaviour codes and proposals that will raise awareness of the relevance of the Forest Industry for Galicia and its key role in the fight against climate change, thus contributing to society's welfare.



Related actions

- Actions 1.1 and 2.1



Collaborators

- Associations in the sector
- Cultural and educational sector



Instruments

- Development of teaching materials



Indicators

- Actions developed, grouped by category (bulletin, report, educational material) [code X26]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

(intermediate or higher degree, in public or private schools), specified by gender [codes X11, R1508b, P1019H, P1019M, P1020H, P1020M]

- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

3.6.2 ACTIONS FOR PROMOTING VOCATIONS AND ATTRACTING TALENT TO THE SECTOR



Description /Rationale

Definition of actions to enrol students in vocational training in higher education centres.

Organisation of dissemination events in primary and secondary schools.

Documentation of success stories about people working in the sector.

Development of competitions of forestry machine operators, using simulators, including a competition in training centres.



Related actions

- Actions 3.6.1 and 1.1



Collaborators

- Associations in the sector
- Training and educational institutions



Instruments

- Actions to enrol students in vocational training in higher education
- Dissemination events about the sector in primary and secondary schools
- Documentation of success stories about people working in the sector
- Competitions of forestry machine operators



Indicators

- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]
- Students enrolled in training linked to the sector, grouped by category



PATH 4 COMPETITION, DEVELOPMENT AND DIVERSIFICATION

In a society which tends towards the Bioeconomy, the Forest Industry in Galicia should aim to reach the highest quality standards, diversification, sophistication as well as transformation of its products, granting access to a diversity of emerging markets, and strengthening its position in the existing ones, particularly, the most demanding ones.

OBJECTIVE: *Cope with technological, environmental (working on the reduction of GHG emissions), management and organisation, product, business models and market related advances.*

ACTIONS

- 4.1 Programme of improvement of competitiveness in the Forest Industry**
 - 4.1.1a *Assistance to the comprehensive plan of stimulation and recovery of conifer forests*
 - 4.1.1b *Assistance to the comprehensive plan of stimulation and recovery of broad-leaf forests*
 - 4.1.2 *Programme to improve family businesses*
 - 4.1.3 *Programme of incentives for the improvement of competitiveness in the Forest Industry*
 - 4.1.4 *Programme to promote the use of wood for construction*
 - 4.1.5 *Programme to improve energy efficiency in business organisations from the sector*
- 4.2 Improvement in the development of the Forest Industry towards the Bioeconomy**
 - 4.2.1 *Development of a differentiation strategy for wood in Galicia*
 - 4.2.2 *Participation in the monitoring of compliance of FLEGT and EUTR*
 - 4.2.3 *Participation in prevention, monitoring and implementation of measures to avoid the spreading of the pine wood nematode*
 - 4.2.4 *Promotion of the use of wood in public and private construction as well as public purchases and green recruitment*
 - 4.2.5 *Improvement of work health and safety protocols in the Forest Industry*
 - 4.2.6 *Digitalization of new technologies in the Forest Industry*
 - 4.2.7 *Support to the internationalization of the Forest Industry*
- 4.3 Promotion of the diversification of the Forest Industry**
 - 4.3.1 *Promotion of new products in the Forest Industry*
 - 4.3.2 *New developments in Galician wood*
- 4.4 Promotion of the industrial design in the wood value chain**
 - 4.4.1 *Promotion of the industrial design in the wood value chain*

4.1.1A ASSISTANCE TO THE COMPREHENSIVE PLAN OF STIMULATION AND RECOVERY OF CONIFER FORESTS



Description /Rationale

On the 24th of October 2018, representatives from a number of associations, business organisations and institutions signed the comprehensive plan for the revitalization and recovery of conifer forests and the promotion of wood consumption in Galicia.

This is an initiative which seeks the modernisation and revitalisation of the conifer wood sector, from the silviculture and design, in which businesses and institutions with capability for innovation and future outlook can be integrated.

Among other actions, the plan intends to carry the following ones:

- Differentiation of the knot-free wood price, destined for industrial use of high added value.
- Promotion of the genetic improvement of conifers and applied R&D.
- Implementation of technically proved forestry models.
- Promotion of the use of conifer wood and its consumption.



Related actions

- Galicia Industria 4.0 - Industrial Competitiveness Agenda



Collaborators

- Sectoral associations
- Fundación Arume
- Galician Department of Rural Areas



Instruments

- As defined in the Plan scope



Indicators

- Increase in the value of wood, grouped by category (conifer, broad-leaf) [code X31]

4.1.1B ASSISTANCE TO THE COMPREHENSIVE PLAN OF STIMULATION AND RECOVERY OF BROAD-LEAF FORESTS



Description /Rationale

- Make high-quality raw materials available to the market, paying special attention to increasing the use of structural wood in construction, promoting both benefits to owners and an improvement in the green economy. (IV.2.3. PFG)
- Develop innovative products based on broad-leaf species other than eucalyptus.



Related actions

- Galicia Industria 4.0 - Industrial Competitiveness Agenda



Collaborators

- Sectoral associations
- Galician Department of Rural Areas



Indicators

- Increase in the value of wood, grouped by category (conifer, broad-leaf) [code X31]

4.1.2 PROGRAMME TO IMPROVE FAMILY BUSINESSES



Description /Rationale

Development of tools, and improvement of the impact of the existing ones in order to promote the generational replacement and improve the family business viability.



Related actions

- Actions Path 1
- Re-Acciona Programme (IGAPE)



Collaborators

- IGAPE Galician Institute for Economic Promotion



Instruments

- Re-Acciona Programme (IGAPE)



Indicators

- Supported companies, grouped by category (according to size: micro, SMEs, large; and support: grants, financial instruments, non-financial support) [codes X32, RCO01, RCO02, RCO03, RCO04]

4.1.3 PROGRAMME OF INCENTIVES FOR THE IMPROVEMENT OF COMPETITIVENESS IN THE FOREST INDUSTRY



Description /Rationale

- Granting and management of subsidies according to the Galician Subsidy Law 9/2007, from 3rd June, within the corresponding set of regulations.
- EAFRD subsidies.
- Promotion of cost efficiency and sustainability.
- Implementation of LEED certification or Carbon Footprint.
- Improvement of recyclability and contribution of the circular economy.
- Improvement of logistics, geolocalization, production flow, etc.
- Increase in productivity, through technological renovation and applied techniques to engineering.
- Other actions collected in this Agenda.
- Incorporation of aspects such as certification of chains of custody, traceability, quality, commitment to training, etc., as priority objectives.
- Development of priority incentive lines of processes about material sources.



Related actions

Granting and management of subsidies according to the Galician Subsidy Law 9/2007, from 3rd June, within the corresponding set of regulations.



Collaborators

- Sectoral associations
- Business organisations



Instruments

Subsidies in matters of competence



Indicators

- Supported companies, grouped by category (according to size: micro, SMEs, large; and support: grants, financial instruments, non-financial support) [codes

X32, RCO01, RCO02, RCO03, RCO04]

- Private investment that accompanies public aid [codes X33, RCR02, P00103]
- Public funding, grouped by category (area of specialization, strategic objective, framework programme) [code X34, common to framework programme instruments]
- Private investment mobilized with respect to the public granted, grouped by category (area of specialization, strategic objective, framework programme) [code X35, Specific Governance Board]

4.1.4 PROGRAMME TO PROMOTE THE USE OF WOOD FOR CONSTRUCTION



Description /Rationale

According to V2040, green building in Europe will tripled by then its market share in comparison to 2015, and the total added value of the wood industries will doubled. The value increase will come from new products and services as well as a more generalized use of structures of modular and flexible housing as well as functional energy-saving furniture.



Related actions

- 4.2.4. Promotion of wood in public construction, public purchases and green recruitment
- 4.1.1. Assistance to the comprehensive plan of stimulation and recovery of conifer forests



Collaborators

- Sectoral associations
- Business organisations
- Target customers
- Public institutions responsible for promotion and construction (IGVS- Galician Institute of Housing and Land-, Galician Department of Health, Galician Department of Education, University and Vocational training)



Instruments

- Structural and quality characterisation of the product
- Demonstrative projects
- Development of a protocol of reliability on wood in construction works
- Development of a basic protocol in relation to public construction works
- Training/Awareness
- Increase of the penetration of wood in touristy infrastructures (accommodation and hotel management), health and educational infrastructures
- Assistance to LEED, Carbon Footprint certificates, etc.



Indicators

- Promoted housing and buildings, grouped by category (according to performance: new construction or rehabilitation; and developer: public or private development) [codes X36, R1401a, P00314, P00315]
- Promoted housing and buildings, grouped by category (according to performance: new construction or rehabilitation; and developer: public or private development) [codes X37, P00162, P00025]
- Actions developed, grouped by category (bulletin, report, educational material) [code X26]

- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

4.1.5 PROGRAMME TO IMPROVE ENERGY EFFICIENCY IN BUSINESS ORGANISATIONS FROM THE SECTOR



Description/Rationale

- Introduction of innovative technologies. Development of demonstration projects that are bound to reduce the energy demands per unit of manufactured product.
- Improvements in the operation and maintenance of the equipment geared towards fuel and electricity saving.
- Improvement of existing equipment and introduction of auxiliary components which are more energetically efficient.
- Replacement of existing equipment by others with low energy consumption such as heat generators, process equipment, auxiliary equipment (compressed air, etc.).
- Diversification of energy sources and exploitation of non-valuable primary and secondary forestry biomass.



Related actions

Actions promoted by the Galician Energy Institute



Collaborators

Galician Energy Institute



Instruments

- Actions promoted by the Galician Energy Institute
- Specific helplines



Indicators

- Renewable energy production and distribution capacity, grouped by category (thermal or electrical use) [codes X38, R3202a]
- Supported companies, grouped by category (according to size: micro, SMEs, large; and support: grants, financial instruments, non-financial support) [codes X32, RCO01, RCO02, RCO03, RCO04]
- Private investment that accompanies public aid [codes X33, RCR02, P00103]
- Public funding, grouped by category (area of specialization, strategic objective, framework programme) [code X34, common to framework programme instruments]
- Private investment mobilized with respect to the public granted, grouped by category (area of specialization, strategic objective, framework programme) [code X35, Specific Governance Board]

4.2.1 DEVELOPMENT OF A DIFFERENTIATION STRATEGY FOR WOOD PRODUCTS FROM GALICIA



Description/Rationale

Creation of a workgroup to analyse the viability, opportunities and threats of the differentiation of wood from Galicia, by means of a unique collective brand or any other strategy, taking into account the segments in which its implementation would be appropriate as well as other aspects related to the raw material, design, industrialization, markets and commercialization. This workgroup should consist of an equal number of male and female participants. Development of complementary work of technological characterization of products and processes which are likely to be included in the brand.



Related actions

- Actions 4.1.4 and 2.1
- Action A.1.3 of the RAP (*Rovaniemi Action Plan for the Forest Sector in a Green Economy*. UNECE/FAO)



Collaborators

- Associations in the sector
- Technological centres (CIS-Madeira) and universities



Instruments

Brand of technical quality and/or origin



Indicators

- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]
- Actions developed in cooperation, grouped by category (strategies, agreements) [code X13]

4.2.2 PARTICIPATION IN THE MONITORING OF COMPLIANCE OF FLEGT AND EUTR



Description/Rationale

In the year 2003 the European Commission passed the Forest Law Enforcement, Governance and Trade Action Plan (FLEGT) which proposes different measures to fight against the issue of illegal logging and its associated commercialization. Among the proposals in this Action Plan are the demand of legal requirements in public green purchases, the development of bilateral commercial agreements with wood exporting countries and particularly, the legislation associated to the publication of FLEGT and EUTR.

It is strategic for the Galician Forest Industry to count with efficient and verified protocols which guarantee that the wood that enters the value chain, both of local production as well as imports, fulfils the requirements from the regulations before mentioned.



Related actions

Action 3.3.1A



Collaborators

- CMR Dirección Xeral de e Ordenación Forestal (Galician Directorate-General of Forestry Regulation)
- CEEI Dirección Xeral de Planificación Enerxética e Recursos Naturais (General Directorate of Energy Planning and Natural Resources)

• CEEI Dirección Xeral de Comercio e Consumo (General Directorate of Trade and Consumption)

• Associations from the sector and transforming and commercializing business organisations



Instruments

- Participation in the framework of the competencies assigned to the Galician Forest Industry Agency in the application and verification procedures of the requirements of the FLEGT and EUTR regulations
- Development of awareness and training actions



Indicators

- Actions developed in cooperation, grouped by category (strategies, agreements) [code X13]

4.2.3 PARTICIPATION IN PREVENTION, MONITORING AND IMPLEMENTATION OF MEASURES TO AVOID THE SPREADING OF THE PINE WOOD NEMATODE



Description/Rationale

The presence of this harmful organism on detected quarantine in some trees in the south of Pontevedra has forced the adoption of exceptional measures in terms of forestry exploitation and commercialization of the wood in the areas delimited by measures of eradication and plague control.

Their implementation results in an impact on the sector which needs to be evaluated and, as far as possible, mitigated with the adoption of support measures.

On the other hand, the impact on the sector as a whole of an eventual dissemination beyond these areas, especially when linked to the transport of the elaborated product, would have fatal consequences.

In the framework of their competences and in coordination with the rest of the responsible organisations and collaborating with the business sector, XERA will participate in the prevention, monitoring and implementation of the measures to be adopted in awareness actions.



Related actions

- Contingency Plan *Bursaphelenchus xylophilus*
- Action 3.3.1



Collaborators

- CMR Dirección Xeral de e Ordenación Forestal (Galician Directorate-General of Forestry Regulation)
- CMR Dirección Xeral de Gandería, Agricultura e Industrias Agroalimentarias (General Directorate of Farming, Agriculture and Agro-food Industries)
- Spanish Department of Agriculture, Fisheries and Food



Instruments

- Work document
- Training sessions



Indicators

- Actions developed in cooperation, grouped by category (strategies, agreements) [code X13]
- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]

4.2.4 PROMOTION OF THE USE OF WOOD IN PUBLIC AND PRIVATE CONSTRUCTION AS WELL AS PUBLIC PURCHASES AND GREEN RECRUITMENT



Description /Rationale

- Incorporation of preference/priority/valuation of the use of wood in orders of assistance to farming infrastructures, touristic infrastructures (tourist accommodation and hotel management), health and education infrastructures, fencing, signalling, etc.
- Development of a protocol of reliability on wood in construction works.
- Development of a basic protocol in relation to public construction works.
- Training/Awareness raising among IGVS (Galician Institute of Housing and Land) technicians, Galician Health Department, Galician Education Department, University and Vocational training, etc.
- Information for consumers to guarantee they are fully and accurately informed about whether the forestry products they buy come from sustainable sources the certification and labelling systems promote a rational and sustainable use of the wood and forestry products.
- Actions A.2.1 and A.2.2 of the RAP (*Rovaniemi Action Plan for the Forest in a Green Economy*).



Related actions

Action 4.1.4



Collaborators

- Galician Institute of Housing and Land, rehabilitation offices, etc.
- Galician Department of Health
- Galician Department of Culture, Education and University
- CIS-Madeira, technological centres and universities



Instruments

- Orders of assistance to farming infrastructures, touristic infrastructures (tourist accommodation and hotel management), health and education infrastructures, fencing, signalling, etc.
- Development of protocols
- Assistance to LEED Carbon Footprint certificates...



Indicators

- Accredited environmental certificates, validations and verifications, grouped by category (environmental and eco-design management, forest management and custody chain, carbon and water footprint...) [code X39]
- Supported companies, grouped by category (according to size: micro, SMEs, large; and support: grants, financial instruments, non-financial support; and typology: new companies) [codes X32, D0C001, RCO01, RCO02, RCO03, RCO04]
- Private investment that accompanies public aid [codes X33, RCR02, P00103]
- Public funding, grouped by category (area of specialization, strategic objective, framework programme) [code X34, common to framework programme instruments]
- Private investment mobilized with respect to the public granted, grouped by category (area of specialization, strategic objective, framework programme) [code X35, Specific Governance Board]
- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]

4.2.5 IMPROVEMENT OF WORK HEALTH AND SAFETY PROTOCOLS IN THE FOREST INDUSTRY



Description/Rationale

Even though diversity in the sector is large, some job positions are susceptible to a high accident rate. As regulated by RAP (*Rovaniemi Action Plan for the Forest Sector in a Green Economy. UNECE/FAO*) in their actions under epigraph C.2. The current rates of accidents and injuries need to be reduced, taking into account technological changes and their implications for health and safety at work due to the transition to a Bioeconomy.

For this reason, it is necessary to develop work groups with ISSGA (Galician Institute for Occupational Safety and Health), prevention services and business organisations in order to establish action protocols for the different job positions in the sector.

Proposal to develop case studies joint visits and creation of protocols or technical documents with the conclusions of those works.

The possibility of providing businesses with shared services in prevention of occupational hazards through associations.



Related actions

Actions 1.1, 1.2 and 3.3.1



Collaborators

- Sectoral associations
- Instituto Galego de Seguridade e Saúde Laboral (Galician Institute of Occupational Safety and Health)
- Prevention services
- Business organisations



Instruments

- Work document
- Training sessions



Indicators

- Occupational accident incidence index [codes X40, R1305a]
- Training and information actions developed in the field of labour risk prevention [codes X5, P00325]
- Participants in training, grouped by category (employed, jobseekers, active teachers or jobseekers, and students), specified by gender [code X19]
- Recipients of the different activities of diffusion, dynamization and normalization of the Galician language [codes X6, R4203a]

4.2.6 DIGITALIZATION OF NEW TECHNOLOGIES IN THE FOREST INDUSTRY



Description/Rationale

- The promotion of competition of the forest industry through the use of new technologies is a key tool for the development of the Industry 4.0 in the sector and foster business growth, international expansion and quality job creation. Therefore, among others, the following actions should be implemented:
- Implementation of innovative organisation and production models and processes, based around the use of new technologies to promote a technological infrastructure, enhance the Galician workforce skills, articulate relationships with the new technologies cluster or other representative business associations of the technological sector.
- Promotion of an effective use of ICTs across businesses, especially small and medium-sized ones and in sub-sectors where they are hardly used and a greater effort for the modernisation of the business organisation or activity is required.
- Promotion of ICT services in the corporate sector (e-business, on-line business process, etc.) and organising digital accreditation in e-skills, mainly for the small and medium business owner.
- Application of new technologies, such as artificial intelligence and improvements in automation and digitalisation to guarantee a total traceability all through the value chain.
- Assistance to the diversification of digital technologies and their evolution in terms of costs to ensure that the small-sized production units are technologically competitive.



Related actions

Competitiveness Agenda Galicia Industry 4.0



Collaborators

Galician Institute for Economic Promotion



Instruments

Among others, those developed from the Competitiveness Agenda Galicia Industry 4.0



Indicators

- People using new products, services and digital applications developed by companies [codes X41, RCR 12]
- Developed digital services and products [codes X28, RCO 13]
- Supported companies, grouped by category (according to size: micro, SMEs, large; and support: grants, financial instruments, non-financial e support; typology: new companies; and goal: to digitize businesses and services) [codes X32, D0C001, RCO01, RCO02, RCO03, RCO04, RCO 12]
- Private investment that accompanies public aid [codes X33, RCR02, P00103]
- Public funding, grouped by category (area of specialization, strategic objective, framework programme) [code X34, common to framework programme instruments]
- Private investment mobilized with respect to the public granted, grouped by category (area of specialization, strategic objective, framework programme) [code X35, Specific Governance Board]

4.2.7 SUPPORT TO THE INTERNATIONALIZATION OF THE FOREST INDUSTRY



Description/Rationale

- Participation in scholarships for external promotion.
- Sharing of good business practice and internationalisation success stories.
- Promotion of professionalisation in small and middle-sized businesses by bigger companies, by means of mechanisms such as training days, participation in cooperation initiatives, support in international destinations, mentoring, etc.
- Support to the definition of priority and strategic markets, especially those which have greater potential



Related actions

Strategy for the Internationalisation of Galician Business Organisations 2020



Collaborators

Galician Institute for Economic Promotion



Instruments

Collected in the Strategy for the Internationalisation of Galician Business Organisations 2020



Indicators

- Exporting companies [codes X42, R1204a]
- Supported companies, grouped by category (according to size: micro, SMEs, large; and support: grants, financial instruments, non-financial e support; typology: new companies; and goal: to digitize businesses and services, etc.) [codes X32, D0C001, RCO01, RCO02, RCO03, RCO04, RCO 12]

4.3.1 PROMOTION OF NEW PRODUCTS IN THE FOREST INDUSTRY



Description /Rationale

Despite the fact that the traditional products from the Forest Industry are evolving and will continue being a main source of income, the V2040 considers that for that year almost half of the growth in the sector comes from products with a biological base.

Some of the most promising niches are:

- Green building. Sustainable wooden construction.
- Colour fixation. Coloured laminated wood.
- Special treatments for new applications/segments.
- New treated wood products for types of service 3.1, 3.2, 4 and 5.
- Incorporation of nanotechnology in improved processes of glueing, durability and fire-proof properties.
- Wood composites, chemical combinations with wood.
- Interest biomolecules, medicines, enzymes, high nutritional value foodstuff.
- Processes: industrialized wooden construction.
- Acoustics, combining wood with glass and cork.
- Textiles based on wood fibre.



Related actions

Actions from Path 2 Innovation



Collaborators

- Sectoral associations
- Business organisations and entities
- Galician Innovation Agency



Instruments

- Projects of innovation and pilot projects of use of new materials
- Dissemination of the potential of new materials



Indicators

- Supported companies, grouped by category (according to size: micro, SMEs, large; and support: grants, financial instruments, non-financial support; and typology: new companies) [codes X32, D0C001, RCO01, RCO02, RCO03, RCO04]
- Private investment that accompanies public aid [codes X33, RCR02, P00103]
- Public funding, grouped by category (area of specialization, strategic objective, framework programme) [code X34, common to framework programme instruments]
- Private investment mobilized with respect to the public granted, grouped by category (area of specialization, strategic objective, framework programme) [code X35, Specific Governance Board]
- Participation in international project consortia, grouped by category (H2020, Interreg, Life...) [codes X14, R1101a]
- Beneficiary entities in R&D projects [codes X15, P0076A]
- Business organisation cooperating with research organizations [codes X16, RCO10]

4.3.2 NEW DEVELOPMENTS IN GALICIAN WOOD



Description/Rationale

- Promotion and assistance to the growth of new exploitation and transformation of forest products destined to the forest industry in rural areas, with particular emphasis on the second and following stages in the industrial wood conversion.
- Promotion of new transformations and application of the *Eucalyptus nitens*.
- Promotion of new transformations and applications of deciduous broad-leaf trees, especially the downy birch (*Betula sp.*).
- Potential development of a Plan similar to 4.1.1 for broad-leaf trees.



Related actions

- Path 2 Innovation
- Action 4.1.1



Collaborators

- Sectoral associations
- Business organisations and entities which signed the Pine tree Agreement (Fundación Arume)



Instruments

- Demonstrative projects
- Innovation projects



Indicators

- Supported companies, grouped by category (according to size: micro, SMEs, large; and support: grants, financial instruments, non-financial support; and typology: new companies) [codes X32, D0C001, RCO01, RCO02, RCO03, RCO04]
- Private investment that accompanies public aid [codes X33, RCR02, P00103]
- Public funding, grouped by category (area of specialization, strategic objective, framework programme) [code X34, common to framework programme instruments]
- Private investment mobilized with respect to the public granted, grouped by category (area of specialization, strategic objective, framework programme) [code X35, Specific Governance Board]
- Participation in international project consortia, grouped by category (H2020, Interreg, Life...) [codes X14, R1101a]
- Beneficiary entities in R&D projects [codes X15, P0076A]
- Business organisation cooperating with research organizations [codes X16, RCO10]

4.4.1 PROMOTION OF THE INDUSTRIAL DESIGN IN THE WOOD VALUE CHAIN



Description/Rationale

There is a proposal to carry out this action with the assistance to the design commission led by the Clúster da Madeira e o Deseño (Galician Cluster of Wood and Design).

Adding the information of constitution of the design commission from the CMD (Galician Cluster of Wood and Design).



Related actions

Actions 2.2, 3.4 and 4.3



Collaborators

- Clúster da Madeira e o Deseño (Galician Cluster of Wood and Design)
- Galician Innovation Agency
- Other organisations and business organisations from the wood value chain
- Technological centres



Instruments

Assistance to the design commission led by the Clúster da Madeira e o Deseño (Galician Cluster of Wood and Design)



Indicators

- People participating in the panel, grouped by category (business organisations, experts and Administration) and specified by gender [code X1]
- Those provided for in the CMD (Galician Cluster of Wood and Design)



DEGREE OF DEVELOPMENT OF ACTIONS IN THE PERIOD 2019-2021

Based on the information gathered in the interviews and the indicators that could be evaluated, a scale was established in the degree of development of the actions of the agenda for the period 2019-2021 which is summarized in the following tables:

PATH 1: MORE HIGHLY QUALIFIED WORKFORCE (TRAINING) 3/5

1.1 Non-compulsory education, professional recycling and long-life learning		
1.1.1 Development of specific training actions	5/5	
1.1.2 Analysis and improvement of the impact of existing training programmes and incentives in the sector	0/5	
1.1.3 Training programme for the Managing Directors	1/5	
1.1.4 Development of training standards recognised by the job market in the sector	0/5	
1.1.5 Training programme and trainers' certification	0/5	
1.2 Compulsory education (Vocational training, University training)		
1.2.1. Development of modular specialisation courses	3/5	
1.2.2. Promotion of vocational training related to the sector	3/5	
1.2.3 Programme of scientific and knowledge transfer activities	3/5	
1.3 Entrepreneurship		
1.3.1 Analysis and improvement of the impact of the existing incentives to entrepreneurship in the sector	0/5	

PATH 2: INNOVATION ECOSYSTEM TO THE SERVICE OF THE SECTOR 3/5

2.1. Development of the innovation ecosystem		
2.1.1. Development and reinforcement of the innovation ecosystem in the framework of the Bioeconomy	4/5	
2.1.2 Network of knowledge and innovation in the sector	3/5	
2.1.3 Creation of a research strategy	0/5	
2.1.4 Positioning and development of CIS-Madeira	2/5	
2.2 Better access for businesses to innovation and research		
2.2.1 Promotion of industrial Doctorate study in this sector	2/5	
2.2.2. Analysis of the impact of the existing incentives for innovation on the sector	0/5	
2.3 Participation in national and international forums and platforms		
2.3.1 Participation in national and international forums and platforms	3/5	
2.4 Development of the information system in the sector		
2.4.1 Development of regular sectoral reports	4/5	
2.4.2 Development of annual report on project results	0/5	
2.4.3 Development of the sectoral observatory with service of alerts	0/5	
2.4.4 Editing and publication of regular bulletin	0/5	
2.4.5 Support to the forestry information system	3/5	

PATH 3: COOPERATION AND VALUATION 4/5

3.1 Sectoral forums as a tool for collaboration and communication		
3.1.1 Promote sectoral forums as a tool for collaboration and communication	5/5	
3.1.2 Organisation of intersectoral forums	0/5	
3.2 Promotion of associations and intrasectoral cooperation		
3.2.1 Promotion of associations and intrasectoral cooperation	0/5	
3.2.2 Immersion programme forest-industry	0/5	
3.3 Participation in processes with impact on the sector		
3.3.1 Participation in processes with impact on the sector	3/5	
3.4 Programme for promoting wood and other forestry products		
3.4.1 Promotion of wood with target customers and end-users	3/5	
3.4.2 Semana da Madeira (Timber Week)	3/5	
3.5 Forest Industry Agency Communication Plan		
3.5.1 Forest Industry Agency Communication Plan	0/5	
3.6 Education and promotion of vocations		
3.6.1 Creation and distribution of educational materials	0/5	
3.6.2 Actions for promoting vocations and attracting talent to the sector	3/5	

PATH 4: COMPETITION, DEVELOPMENT AND DIVERSIFICATION 4/5

4.1 Programme of improvement of competitiveness in the Forest Industry		
4.1.1 Assistance to the comprehensive plan of stimulation and recovery of conifer forests	4/5	
4.1.2 Programme to improve family businesses	3/5	
4.1.3 Programme of incentives for the improvement of competitiveness in the Forest Industry	0/5	
4.1.4 Programme to promote the use of wood for construction	2/5	
4.1.5 Programme to improve energy efficiency in business organisations from the sector	2/5	
4.2 Improvement in the development of the Forest Industry towards the Bioeconomy		
4.2.1 Development of a differentiation strategy for wood in Galicia	0/5	
4.2.2 Participation in the monitoring of compliance of FLEGT and EUTR	0/5	
4.2.3 Participation in prevention, monitoring and implementation of measures to avoid the spreading of the pine wood nematode	3/5	

PATH 4: COMPETITION, DEVELOPMENT AND DIVERSIFICATION		3/5	
4.1 Programme of improvement of competitiveness in the Forest Industry			
4.1.1 Assistance to the comprehensive plan of stimulation and recovery of conifer forests	4/5		
4.1.2 Programme to improve family businesses	0/5		
4.1.3 Programme of incentives for the improvement of competitiveness in the Forest Industry	3/5		
4.1.4 Programme to promote the use of wood for construction	0/5		
4.1.5 Programme to improve energy efficiency in business organisations from the sector	2/5		
4.2 Improvement in the development of the Forest Industry towards the Bioeconomy			
4.2.1 Development of a differentiation strategy for wood in Galicia	4/5		
4.2.2 Participation in the monitoring of compliance of FLEGT and EUTR	2/5		
4.2.3 Participation in prevention, monitoring and implementation of measures to avoid the spreading of the pine wood nematode	2/5		
4.2.4 Promotion of the use of wood in public and private construction as well as public purchases and green recruitment	4/5		
4.2.5 Improvement of work health and safety protocols in the Forest Industry	2/5		
4.2.6 Digitalization of new technologies in the Forest Industry	1/5		
4.2.7 Support to the internationalization of the Forest Industry	0/5		
4.3 Promotion of the diversification of the Forest Industry			
4.3.1 Promotion of new products in the Forest Industry	2/5		
4.3.2 New developments in Galician wood	1/5		
4.4 Promotion of the industrial design in the wood value chain			
4.4.1 Promotion of the industrial design in the wood value chain	2/5		

PRIORITY ACTIONS 2022-2024

As it resulted from the participatory process explained in previous sections the prioritized actions

- 1.2.2. Promotion of vocational training
 - 1.1.1 Specific training actions
 - 2.1.4 CIS-Madeira
- 4.1.3 incentives for the improvement of competitiveness
- 2.1.2 Network of knowledge and innovation in the sector
- 3.6.2 Promoting vocations and attracting talent to the sector
- 3.2.1 Intrasectoral cooperation
- 3.5.1 Communication
 - 1.2.1. Modular specialisation courses
- 3.4.1 Promotion of wood with target customers and end-users
- 4.1.1 Support for the conifers plan
 - 2.1.1. Innovation ecosystem in the framework of the bioeconomy
- 4.2.5 Improvement of Labour Risk Prevention
- 3.1.2 Intersectoral forums

Complementary to the previous ones, they were selected for the conclusions of the analyses of referents and trends and due to their synergy with the previous ones.:

- 4.1.4 Programme to promote the use of wood for construction
- 4.3.1 Promotion of new products in the Forest Industry
- 2.2.1 Promotion of industrial Doctorate study in this sector
- 4.2.4 Promotion of the use of wood in public purchases and green recruitment

RESOURCES. PERIOD 2022-2024

Based on the financial resources managed by the Agency and the EAFRD and ERDF REACT Funds allocated to it, it is estimated that the promotion actions for the Forest Industry for the period 2022-2024 would be:

- From EAFRD funds, sub-measure 8.6, the Agency estimates for the new period of the RDP an allocation of 43.1 million euros total of GPT
- From the XERA-Valor programme (2021-02) it had an annual endowment from the constitution of 2 million euros, estimating for the period a total amount of 6 million euros.
- From the programme XERA-Savia (2018-05) counted with an initial endowment of 600,000 euros annual, estimating for the period 2022-2024 a forecast of 1.8 million euros.
- EAFRD REACT funds:
The Agency has allocated for the period a total contribution of 7 million euros in various programmes:
 - REACT ECOINNOVACIÓN (2021-06) 800,000.
 - REACT DIGITAL TRACEABILITY (2021-07) 800,000 euros.
 - REACT CONSTRUCCIÓN EN MADEIRA (2021-05) 4 million euros.
 - REACT PLANTA PILOTO PRODUCTOS LIGNOCELULÓSICOS (2021-08) 1.4 million euros.

These endowments involve the possibility of mobilizing funds to finance the actions provided for in the Agenda to a total of 52,7 million euros.

These resources may involve a total mobilization of investments in excess of 135 million euros.



