SONAE ARAUCO
Taking wood further

Innovation in sustainability

VALUE CARD

Contributing to the creation of a sustainable future, with wood-based solutions

V2W
Value2Win

1. Intro

Sonae Arauco believes that Innovation plays a central role in transforming business models, supply chains, and consumer behavior towards circularity. This includes the use of sources with a low carbon footprint, including raw materials and energy, the application of the best practices in production and recycling technologies, and the development of sustainable products.

By fostering a culture of innovation and investing in research and development, we can pave the way for a sustainable future, where economic growth, social well-being and environmental protection go hand in hand.

2. Innovation in sustainability features

- Implementing an open innovation process allows us the collaboration with institutes, suppliers and customers.
- Implementing a development model with key indicators for value creation and sustainability enables us to develop new and improved wood solutions for construction and furniture applications.
- Adoption of state-of-the-art equipment and partnerships with key suppliers allows us to continuously improve our production process to maximise the efficient use of resources.
- Adoption of renewable energy is transforming the way we generate power, decreasing our dependence on non-renewable sources and reducing greenhouse gas emissions.

3. Figures

8 FTEs	Implementation of a training program in Innovation and Eco-design
38	Ideation sessions with external partners and Innovation Forum (38 associates involved)
53,000	More than 53,000 hours spent by Sonae Arauco teams in Innovation projects
Multiple	Participation in several International and Collaborative projects (e.g., EcoReFibre, Activas, ADM.IN, Friendship, Agenda transForm)
COTEC 24	Recognised with the COTEC 24 INNOVATOR status by COTEC Portugal (Business Association for Innovation)

4. Customer value

- Enhance brand reputation: partnering with an innovative climate-responsible supplier reinforces brand's image.
- Guarantee future-proof supply and long term competitiveness: a supplier committed to innovation stays ahead of industry trends and technological advances on sustainable products.
- Collaborative growth: working closely with our Product Development team brings opportunities for knowledge sharing and co-development.
- Circular partnership: access to products and services designed to promote the circular economy and recyclability (eg. collection of waste wood).

5. Case Studies

R&D Sustainability Projects

Increasing circularity is a strategic issue for Sonae Arauco. We are truly committed to our circular bioeconomy model and the cascading use of wood, and the integration of recycled wood into our MDF portfolio is a very important development towards this goal. Below are two examples of ongoing projects that will generate the necessary knowledge of the full process, opportunities, and risks to implement a reliable MDF recycling process.

1. CircularWood Project

Background

CircularWood is a collaborative project coordinated by Sonae Arauco, part of the Portuguese Agenda transForm. The Agenda transForm represents an unprecedented effort of sectoral cooperation, involving 56 partners in 30 collaborative projects and aims to bring a structural transformation of the forestry sector, addressing the entire value chain. The mission is to make a significant contribution to sustainable forest management, optimise industrial processes, boost the competitiveness of the sector, and ensure greater connection to markets and consumers.

CircularWood is completely aligned with Sonae Arauco's targets and will develop and implement an innovative industrial-scale process to produce high quality products increasing the recycled wood incorporation.

The most relevant innovation step is related with the sorting of post-consumer MDF and the process to generate recycled fibers with the adequate homogeneity and quality to be used in the MDF production.

The CircularWood project 2023-2025 has received funding from Component 5 (C5) of the Recovery and Resilience Plan (RRP) from Portugal.

Goal:

Replace up to 10% of virgin fibers with recycled fibers from post-consumer MDF, in MDF product range.

What has been done until now:

- Benchmark and pilot scale testing of different sorting equipment to separate a MDF fraction from the wood waste stream;
- Benchmarking and pilot testing of different technologies to recycle MDF, generating "open fibres" that can be incorporated in the production process;
- Laboratory testing of the impact of recycled fibres on MDF properties;
- Design of a new MDF sorting and recycling process;
- Selection of the partner to work with us on the industrial installation.

Next step:

Installation of an infrastructure and equipment for the new MDF recycling and sorting process (2025).

This project is a perfect example of Sonae Arauco's sustainability and innovation agenda and our commitment to develop functional and renewable wood solutions. We are confident that we will achieve a positive outcome with the installation of the world's first dry fiberboard recycling line, in Mangualde (PT), and we will continue the work to optimise the solution and extend the benefits along Sonae Arauco industrial plants.

2. EcoRefibre project

Ecological Solutions for Recovery of Secondary Raw Materials from Post-consumer Fiberboards.

EcoReFibre is a research project that aims to develop and demonstrate innovative technologies for the environmentally sound and commercially viable recycling of end-of-life fiberboards (MDF).

EcoReFibre builds a strong pan-European consortium bringing together leading research institutes, companies and European associations that will develop and demonstrate a range of recycling technologies for waste fiberboards. Validation and demonstration of the technologies will take place in an operational environment as system prototypes and in the relevant industrial environment.

The quantities of fiberboard waste are growing exponentially in line with the growth in production capacity, and it is highly likely that more than 60 million tons of fiberboard waste have been created in Europe over the last 5 years.

EcoReFibre will carry out a detailed market study to deliver data that can determine and predict the current and future availability of waste MDF as a basis for recycling business activities in Europe.

Sonae Arauco R&D team is responsible for developing in laboratory the conditions to incorporate the recycled fibers from the new technologies in particleboard and MDF. As a major impact, the recycled fibers will substitute up to 25% of the virgin fibers currently used in the manufacture of new fiberboards.

We are also part of the team that assesses the life cycle and the economic viability of these technologies through a synergistic circular economy approach that exploits multiple valorisation pathways of recycled raw materials.

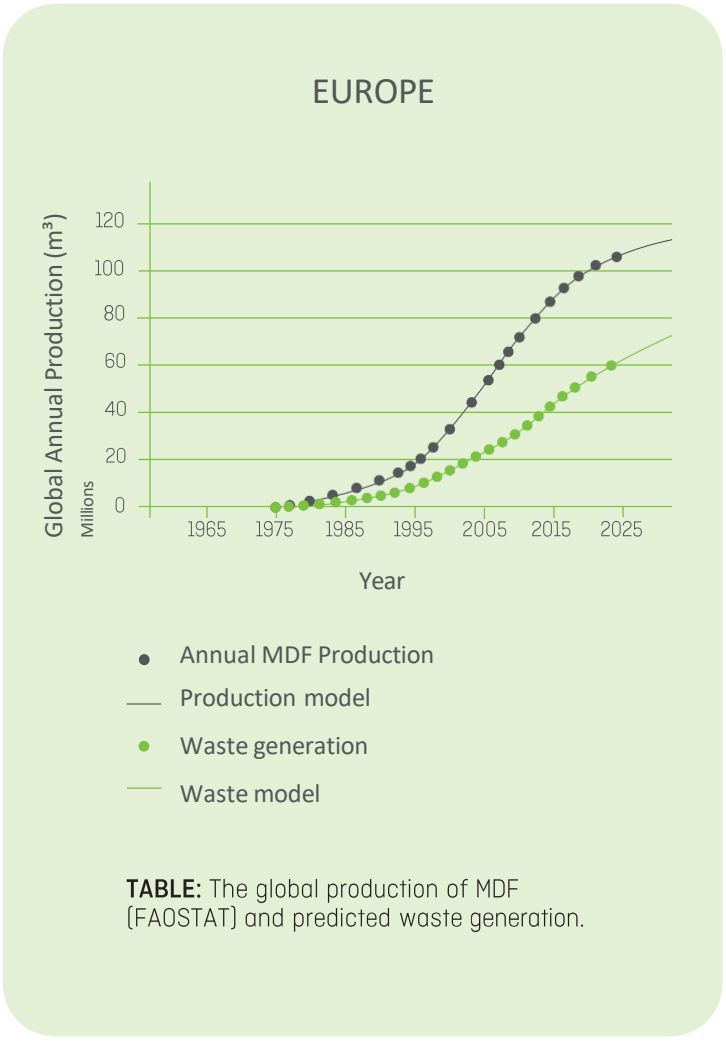

TABLE: The global production of MDF (FAOSTAT) and predicted waste generation.

Successful prototypes will be tested on an industrial scale at Sonae Arauco Deutschland's premises.

20	4 years'	€14,819,221
Participants	Duration	Budget

Goal:

Replace up to 25% of the virgin fibers currently used in the manufacture of new fiberboards.

Value proposition:

- Increase fiber use with cascade applications;
- Lower carbon footprint of fiberboard, improved sustainability;
- Lower costs for production (economics);
- Recyclability of own product grades in products instead of energy recovery.

The EcoReFibre project 2022-2027 has received funding from the Horizon Europe research and innovation program under the grant agreement no. 101057473.

Learn more:

For more information about these projects:

CircularWood Project

EcoRefibre Project

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