

UPM Fray Bentos

ENVIRONMENTAL AND SOCIETAL RESPONSIBILITY 2022



UPM Fray Bentos

The pulp mill is located on the coast of the Rio Uruguay, 5 km away from the city of Fray Bentos.

Construction of this state-of-the-art pulp mill began in 2005. The initial Environmental Authorization for Operation was granted by authorities on November 8th, 2007. Until June 2020, the environmental authority in Uruguay was the Ministry of Housing, Territorial Planning and Environment (MVOTMA) through the National Direction for the Environment (DINAMA). From June 9th, 2020 the environmental authority is the Ministry of Environment through the National Direction for Quality and Environmental Assessment (DINACEA).

Through the use of modern techniques high quality pulp is efficiently produced, most of it for the Asian and European markets.

The annual capacity of the mill is of 1.3 million tons of bleached eucalyptus pulp. Wood procurement is under the responsibility of UPM Forestal Oriental, which has been pioneering the development of eucalyptus plantations in Uruguay for over 30 years, since 1990. UPM has a 91% ownership of the Fray Bentos pulp mill and 100% in UPM Forestal Oriental. The UPM mill complex also accommodates the operations of four chemical plants that supply the bleaching chemicals for the process. These plants are under the responsibility of Kemira, which operates three of them (hydrogen peroxide, sodium chlorate, chlorine dioxide) while the fourth (oxygen) is operated by Linde.

Maintenance of pulp mill operations is outsourced to Andritz, which supplied most of the production equipment for the construction of the mill.



Production capacity	1,300,000 ADt
Personnel	229
Products	UPM Euca (bleached eucalyptus kraft pulp)
Side-products	Electricity
Certificates	EMAS – EU Eco-Management and Audit Scheme ISO 14001 – Environmental Management System ISO 9001 – Quality Management System ISO 50001 – Energy Management System ISO 22000 – Food Safety Management System OHSAS 18001 – Occupational Health and Safety System PEFC Chain of Custody – Programme for the Endorsement of Forest Certification FSC® Chain of Custody – Forest Stewardship Council® All certificates can be found from UPM's Certificate Finder (available at www.upm.com/responsibility)
Environmental labels	EU Ecolabel Nordic Ecolabel UPM pulp products have the approval for use in EU Ecolabel and Nordic Ecolabel paper products.



UPM Fray Bentos Environmental and Societal Responsibility 2022 is a supplement to the Corporate Environmental and Societal Responsibility Statement of UPM's pulp and paper mills (available at www.upm.com) and provides mill-specific environmental and societal performance data and trends for the year 2022. The annually updated mill supplements and the UPM Corporate Environmental and Societal Responsibility Statement together form the joint EMAS Statement of UPM Corporation. The next Updated UPM Corporate Environmental Statement and also this supplement will be published in 2024.

UPM delivers renewable and responsible solutions and innovates for a future beyond fossils across six business areas: UPM Fibres, UPM Energy, UPM Raflatac, UPM Specialty Papers, UPM Communication Papers and UPM Plywood. As the industry leader in responsibility, we are committed to the UN Business Ambition for 1.5 °C and the science-based targets to mitigate climate change. We employ 17,200 people worldwide and our annual sales are approximately EUR 11.7 billion. Our shares are listed on Nasdaq Helsinki Ltd. UPM Biofore – Beyond fossils. www.upm.com



The mark of responsible forestry

For more information about FSC® certification visit www.fsc.org



For more information about PEFC certification visit www.pefc.org

Review of the year 2022

Performance

Fray Bentos pulp mill continued to achieve high level of capacity utilization in 2022 with steady operations, maintaining its reliability in pulp quality as well as high level of environmental performance.

In October 2022 final effluent samples, analyzed by an external laboratory, indicated unusual values of thermotolerant coliforms in two occasions. During weekly final effluent routine, on October 18 and 25, thermotolerant coliform results of $6,3 \times 10^3$ and $1,8 \times 10^3$ CFU/100 mL respectively were obtained. In both cases *E. coli* resulted undetectable, excluding a possible event of sanitary effluent contamination. General maintenance shutdown was carried out though the second and third weeks of October and the effluent plant follow up and control plan ensured the good performance achieved (no control parameters were observed out of the ordinary in final effluent).

In 2022, UPM Fray Bentos mill received one odor complaint from neighbors and one request for information from local media regarding noise. On the date the mill received the odor complaint, November 7, the production process was stable and the effluent inventory accumulated during the general maintenance shutdown was being carefully fed to the wastewater treatment plant. As a preventive action, to avoid sludge to be exposed, the minimum liquid level of the equalization basin was increased. The solids were removed as soon as it was operationally feasible. On October 3 a disturbance in the steam network caused the safety valve to open generating unusual noise. UPM received inquiries from local media about the event and explanation was provided in interviews. Safety systems worked correctly.

In 2022 emissions to air complied with permit limits but the internal management targets for malodorous gases were not met.

UPM Fray Bentos pulp mill is designed to be self-sufficient in electrical con-

sumption through the energy generated by burning black liquor. In 2022, due to a failure in one of the turbines, the mill's electricity generation has been reduced since the end of August, causing the need to purchase power from the grid.

The mill's emissions are within the ranges associated to Best Available Techniques (BAT) as established in the European Commission Implementing Decision of 26 September 2014.

Environmental monitoring

UPM Fray Bentos mill is one of the most monitored pulp mills worldwide, with more than 130 control parameters covering the Uruguay river (water and biology), air, soil, fauna, groundwater, noise, among others.

Environmental monitoring activities under the responsibility of UPM Fray Bentos and implemented by several external experts continue to show, fifteen years after the startup, that there is no negative impact on the environment related to the operation of the pulp mill.

Transparency

Press releases related to events at the mill that could affect the community are shared with the local press, follow-up

commission, Uruguayan environmental authorities as well as published in UPM's corporate website.

During 2022 no sessions of the follow-up commission have been convened by the authorities.

In 2022, 12 inspections were carried out by the Scientific Committee (integrated by Uruguayan and Argentinian members) of the Uruguay River Executive Commission (CARU), reaching 134 in total by December 2022. Results of the monitoring carried out during these inspections are available in [CARU's website](#).

Results of the environmental monitoring plan requested by Uruguayan environmental authorities are available in [UPM's webpage](#).

Additional information on compliance with legal requirements can be found both in UPM's and Ministry of Environment's webpages.

The environmental product declaration for Fray Bentos pulp was updated and made available to customers.



Federico Mantiñan
General Manager



Gervasio González
Environmental Manager

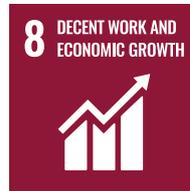
Contribution to UN Sustainable Development Goals in 2022



Supply chain

94%

of contract raw material spend covered by UPM Supplier and Third Party Code (wood not included).



Community

24 Projects

promoted by UPM Foundation in 2022 (18 educational programs and 6 community development)

- 108 communities involved
- 21 NGOs in partnership
- over 2,000 participants
- over 170 institutions



Water

Reduction in total phosphorus discharge per ton of pulp:

45%

Reduction in total nitrogen discharge per ton of pulp:

12%

Both figures calculated comparing 2022 to 2012 performance.



Waste

52%

of total non-hazardous waste generated in 2022 returns to plantations, used as soil improver.

22%

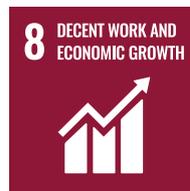
of total non-hazardous waste generated in 2022 is disposed in landfill.



Certified fiber

96%

of fibre used in pulp production was FSC and/or PEFC certified. UPM's target is to use only certified fibre by 2030.



Taxes

Total tax impact approx.

USD **33** million

related to Fray Bentos mill and forestry operations in Uruguay in 2022, including:

- Income taxes on salaries
- Corporate income taxes and Free Trade Zone fees
- Property taxes including real estate tax
- Value Added Tax cost



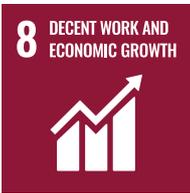
Environment

80 environmental observations

By actively doing environmental observations and taking needed actions beforehand, we efficiently prevent environmental deviations.

23 environmental rounds

carried out with subcontractors working within UPM Fray Bentos mill premises.



Employment

UPM Fray Bentos employed

229

people directly.



Air

Reduction in particulates emissions per ton of pulp:

33%

Calculated comparing 2022 to 2021 performance.

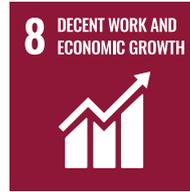


Biodiversity

UPM is the first private company in Uruguay to manage an area within the National System of Protected Areas.

14,292 ha

of formal conservation areas are managed by UPM, covering native forest, grasslands, wetlands, riparian zones and palm areas.



Safety

Total Recordable Injury Frequency (TRIF):

2.3 injuries

per million hours worked (Process areas: UPM employees & Contractors).

740

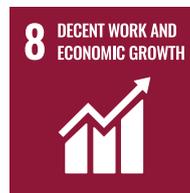
Reported Safety Walks and Inspections.

Safety walks are conducted with the aim of improvement.

1,037

Safety observations

Safety observations: identification of potentially unsafe working environment or unsafe working.



Health

100%

preventive health checks

- 100% workplace health risk assessments
- 48% voluntary workers participated in the influenza vaccination program



Renewable energy

98%

of the energy produced in UPM Fray Bentos during 2022 came from renewable sources.

Emissions into the air remained at very good levels, with all parameters within the conditions of the environmental permit.

Handling of malodorous gases from production process did not meet internal targets in 2022. In three occasions the recovery boiler tripped while the auxiliary boiler GOS was undergoing maintenance, leaving no backup for burning of concentrated odorous gases (GOS or CNCG). Two of them occurred due to a failure in a component of the oxidizing inlet system to the recovery boiler and the other due to a failure in a boiler control system. Finally, a lightning disconnected the mill from the grid and the disturbances caused by some of the mill equipment's shutdowns caused a recovery boiler trip. None of these events generated external complaints. In two occasions, while using methanol together with other fuels in the GOS auxiliary boiler, during usual maneuvers, a deflagration occurred in the boiler's furnace. As a safety precaution, the auxiliary boiler was operated with fuel oil since then, until the root cause analysis was completed and necessary measures implemented. During that time, methanol was burned in the recovery boiler.

In 2022, UPM Fray Bentos mill received one odor complaint from neighbors (on November 7). The production process was stable. However, according to the wind direction, it could not be discarded that the perceived odors could be assignable to the mill. The effluent inventory generated during the general maintenance shutdown was being reduced by feeding it cautiously into the wastewater treatment process that was stable and running normally. This operation started by the end of October and lasted until mid-November without affecting the effluent treatment's performance. In addition, according to operators rounds, no odor was perceived in

the area during this operation. During general maintenance shutdown, it is expected that sludge is accumulated in equalization basins. The minimum liquid level of the basins was increased as a preventive action to avoid sludge exposure to air. The accumulated solids were removed as soon as it was feasible.

Despite the potential nuisance to people, odors originated at the pulp mill do not pose any potential risk of harm to the environment or human health. The mill continues to proactively inform to the community, local press, national stakeholders and members of the follow-up commission when there will be a planned activity that might cause emissions of odorous compounds to the air, as well as answering openly all related questions from stakeholders. In 2022, 11 press releases were published.

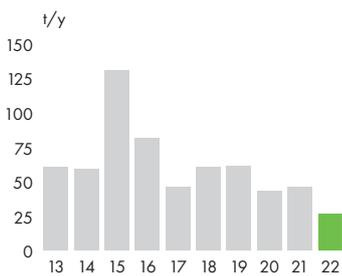
UPM Fray Bentos monitors ambient air quality since 2005. Results to date show that the operation of the pulp mill has no significant effect on the concentrations of pollutants in the air. Concentration of all measured parameters have remained below limits established by Uruguayan environmental authorities and within the limits established in the environmental permit and BAT.

UPM Fray Bentos acquires raw water from the Uruguay river. Operations in 2022 required about 0.96 m³ of water per second and generated about 0.70 m³ per second of treated effluent.

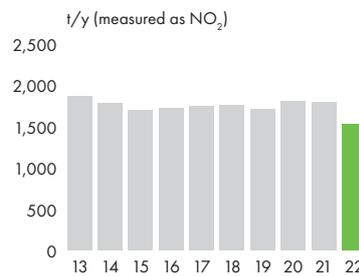
On July 2022 a fraction of an overflow event from the digestion process area reached one of the stormwater ponds in mill area. However, discharge to the river was prevented. The filtrate contained in the stormwater channels was pumped to the wastewater treatment plant and, as a precaution, the pond was emptied to the treatment as well.

On October 2022 during final effluent routine, two unusual thermotolerant coliforms results were obtained. The figures obtained by external laboratory on October 18 and 25 were 6,3x10³ and 1,8x10³ CFU/100 mL respectively. UPM reviewed the process conditions during the referred period and carried out a detailed analysis of the effluent plant feed streams. According to the observations and the results obtained, it was concluded that thermotolerant coliforms detected in the effluent treatment plant income streams come from sources different from the mill's sanitary effluent, and possibly from environmental origin. Also, a reduction of microorganisms was observed in the primary treatment and a growth after leaving the cooling towers. This growth was identified as *Klebsiella pneumoniae*. Finally, another reduction of microorganisms was observed until reach the discharge effluent. This information, together with the fact that in both referred events *E. coli* resulted undetectable, indicate that there was no risk of sanitary contamination. The event is being analyzed by authorities.

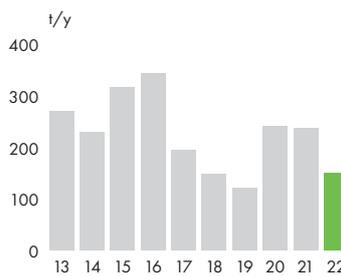
Sulphur dioxide, SO₂



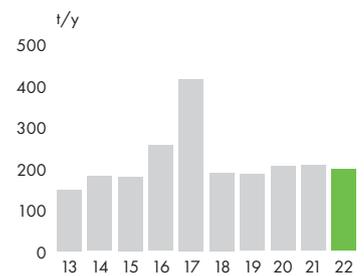
Nitrogen oxides, NO_x



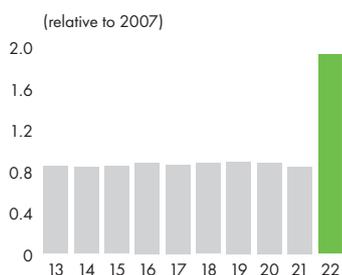
Dust



Biological oxygen demand, BOD₅

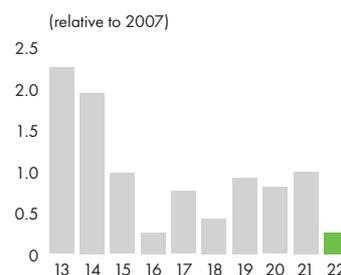


Fuel oil consumption

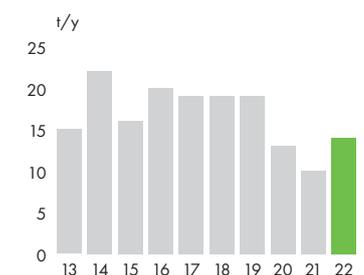


Please see air section for further information regarding 2022 fuel oil consumption

Electricity supplied to the national grid



Phosphorus, P



Waste

In 2022, the phosphorous annual average load was within the permit limit (60 kg/d) as well as the internal monthly average (55 kg/d), 37.6 kg/d. The good phosphorous removal performance achieved and maintained over the last few years are the result, among other things, of the continuous effort to optimize the operation of the phosphorus removal system since its start-up in 2015.

Water quality monitoring results show that there is no significant variation between the sampling points located upstream and downstream from the mill that could be caused by the mill operation. Variation in time is similar in all sampling points, either reference points or near receptors of the mill's effluents. It was agreed with authorities to reduce the frequency of the Uruguay river water and fish analyses based on the monthly results obtained from 2005 until 2019.

Fish monitoring has been carried out twice a year since 2005 and since 2020 the frequency was reduced to annual as results continue to show that there is no diminishment in the variety of fish species, biomass or abundance in the zone of influence of UPM Fray Bentos mill's effluent discharge with respect to the reference area during baseline studies. Furthermore, no differences were found in the situation at all three study areas, either upstream or downstream from the mill. The condition of fish caught has been observed to be good without any macroscopic deformities or abnormalities. There are no differences in the general condition of fish caught from the different study areas.

Up to this point exposure monitoring has revealed no concentration values of chlorophenolic substances, phytosterols or resin acids in bile that suggest an impact of the UPM Fray Bentos pulp mill that could have repercussions on indicators of condition like Gonadosomatic index or Hepatosomatic index. The same happened with the concentrations of dioxins and PCBs. In muscle of the studied species, these values continued to be always low and below the maximum limits recommended by international organizations, Health-Canada, 2010, and by regional regulations, CARU's Digest 2020.

2022 fish monitoring study results suggest that there is no impact in the diversity, abundance and biomass of the fish community in the areas that receive effluents from the UPM Fray Bentos pulp mill. So far, there is no history of negative effects of effluents from pulp mills that use BAT on the fish community, and the monitoring carried out in Uruguay river waters does not represent an exception.

The UPM Fray Bentos landfill site is located inside the mill complex. In 2022 the landfill received 22.276 t of waste on dry basis¹⁾. This amount represents 22% of total non-hazardous waste generated at the Fray Bentos mill premises during 2022. Green liquor dregs represented 82% of the total dry weight of solid waste bound for the landfill site.

Wood waste (mainly bark and wood fines) continues to be returned to plantations as soil amendments, together with sludge from the primary clarifier and dry biosludge from the activated sludge system. These types of waste, in 2022, represent a total of 54.161 t on dry basis (53% of total non-hazardous waste generated at the mill).

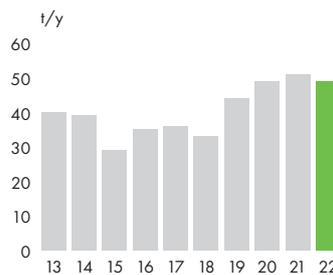
About 36% of the wood waste was used as a biofuel for electricity generation in external facilities during 2022.

In 2020 Rio Negro city hall installed a waste sorting site where, through social cooperative, authorize sorters handle the following materials for subsequent commercialization: paper and cardboard, plastic, combustible waste, and metals. In 2022, UPM Fray Bentos delivered in total 261 t of paper, cardboard, plastics and combustible waste.

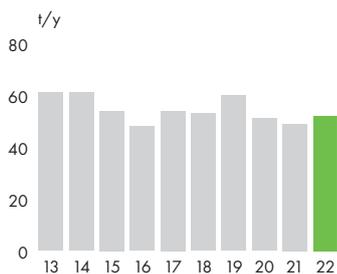
The generation of hazardous waste in 2022 amounted to 148 t, representing 0.10% of total waste. About 57% corresponded to used oil and water – hydrocarbon mix mainly from the mill shutdown maintenance works.

¹⁾ Waste disposed of in Municipal landfill not included.

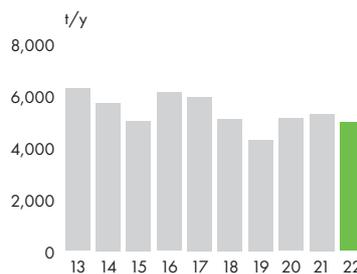
Adsorbable organic halogen compounds, AOX



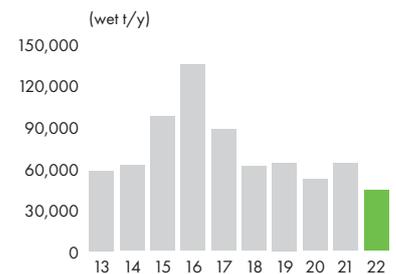
Nitrogen (inorganic), N



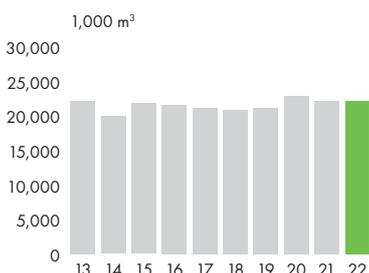
Chemical oxygen demand, COD



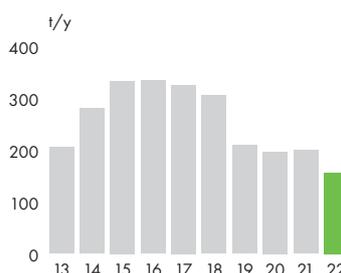
Solid waste to industrial landfill



Effluent flow (process wastewater)



Total suspended solids, TSS



Management of crises and exceptional situations

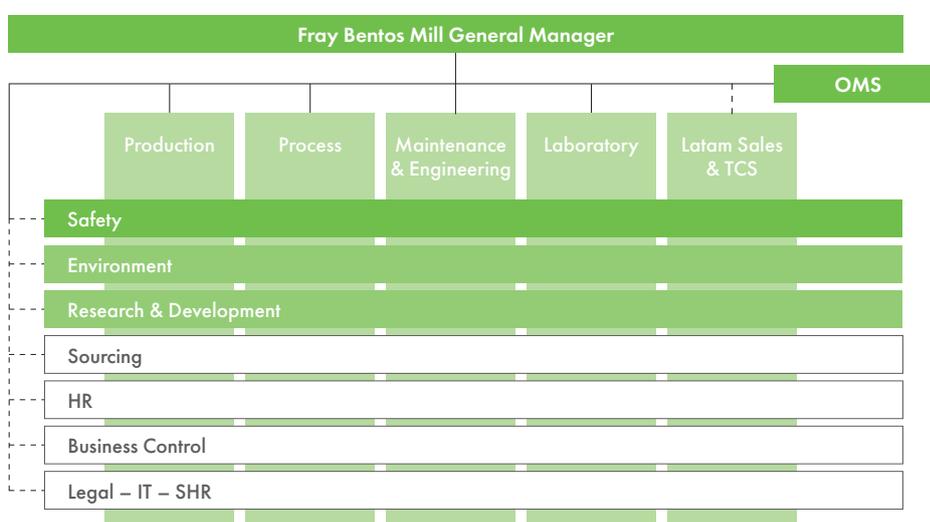
Constant awareness of environmental issues is an integral part of UPM Fray Bentos mill's way of working. All employees are responsible for the effects their own field of operation has on the environment. Production Manager is responsible for the environmental performance. The Environmental Manager coordinates environmental issues within the company, with authorities and with other partners. As part of the Operational Environmental Management Plan, UPM Fray Bentos mill has a contingency plan approved by Uruguayan environmental authorities which describes the internal procedures to follow in case of environmental contingencies related to the mill operations as well as responsibilities and communication flowchart.

Safety Manager, together with the mill's Safety Supervisor and the Fire Chief, plans and supervises health & safety activities within the company, with authorities and partners. The mill has an operation plan and a program of activities setting out goals, safety targets and plans for achieving them. In the event of an emergency response, UPM Fray Bentos mill has a fire brigade made up of sixty brigadiers including mill engineers and technicians from



UPM and other companies working within the mill boundaries (Andritz, Kemira, Linde). The brigadiers are strategically distributed in five shifts in accordance with the mill's operations. The fire brigade is continuously trained by qualified personnel.

In 2022, eighty training sessions were carried out. Furthermore, drills of emergency situations are planned and conducted during the year. A height victim rescue drill was carried out in 2022. The international company Hazmat Argentina provided a basic course in first response to chemical emergencies including practical and theoretical content.



Societal responsibility

“Youth inspiring youth” in partnership with Salir Adelante Foundation

The program “young innerspring youth” lead by Salir Adelante Foundation was developed in Nuevo Berlin high school in 2022. The program seeks to encourage and motivate young people to broaden their educational trajectories.

There were more than 90 participants in different activities virtual and face to face ones. Local speakers were involved to inspire the youth to complete their studies, expand their educational trajectories, and grow as proactive citizens.

Nuevo Berlin is a city of 2450 inhabitants from Río Negro department, within the area of influence of UPM Fray Bentos mill.



“Written language diploma” in partnership with the Catholic University of Uruguay

29 scholarships were offered for teachers from Fray Bentos and rural communities of Río Negro department.

The diploma included 150 training hours and aimed to provide the participants with conceptual frameworks that allow a systemic and integrated vision of all the different aspects involved in the learning processes. This program also focused on deepening the reading and writing concept.

“Future preparation” Seminar and “Partners for a day” in articulation with Desem Junior Achievement Uruguay



“Future preparation” was the kickoff workshop for over 100 students from Fray Bentos’s private and public schools. This seminar enabled students to acquire tools for personal self-awareness and vocational guidance.

From this seminar, 20 students were selected to participate in the “Partners for a day” experience in UPM Fray Bentos mill site.

30 volunteers from 13 different areas (HR, Finance, Communication, Security, Sourcing, Sales, IT, Technical Department, Laboratory, Development and Innovation, Environment, Production and Logistics) have hosted the students. During 8 working hours, students participated in all the activities areas carried out by their corporate partner (UPM collaborator), such as working meetings, planning, discussions, lunch, etc.

Through this experience students were able to live a day in a company in partnership with a professional finding inspiration and role models for their future.

Biodiversity

UPM’s eucalyptus plantations in Uruguay: Managing diverse landscapes – Biodiversity and native species protection

In 2022 UPM Uruguay integrated the launch new UPM global Forest Action programme that considers the regional regulations, requirements and guidelines regarding forest management. Furthermore, biological surveys have been carried out in areas owned by UPM since the early 1990s to help identify, classify and protect species and native ecosystems.

As in Uruguay plantations grow on grass land formerly used for cattle grazing, the biodiversity values of the area have been assessed before the plantation is established. All valuable biodiversity hotspots and native forest are protected. The work focuses on invasive species control and the active management of protected inhabitants. Most of the species’ indicators from the last five years show a positive trend of occurrence compared to the last 15 years.

In 2020 UPM defined the following biodiversity targets for its land holding as part of its global biodiversity program established in 1998: (1) Developing the nature conservation area network (2) Maintaining and enhancing endemic (i.e., native only to Uruguay) and threatened species populations in formal conservation areas and (3) controlling and decreasing the invasion of exotic woody species populations in conservation areas.

In 2022 UPM include three new conservation areas to its Natural Conservation Areas Network reaching 34 Conservation and High Conservation Value areas (together are called formal conservation areas) spread out in the different eco-regions where UPM operates in Uruguay. At present the network of formal conservation areas covers nearly 14,000 hectares. Conservation work is carried out in close cooperation with local environmental organizations and third-party experts. The aim is to increase

protected areas within UPM and continue with UPM’s long-term biodiversity program.

According to Ivan Grela, UPM’s Biodiversity Coordinator-Pulp and Forestry Operations in Uruguay, “Our eucalyptus plantations are FSC™ and PEFC certified, and in addition there are four categories of conservation areas. High conservation value areas are the most important, followed by conservation areas, connectivity areas or biodiversity corridors, and representative areas. We now have over 74.800 hectares dedicated to conservation if we combine those four areas.”

The aim of UPM in Uruguay is to have 20% or more of its own land holding designated as under conservation management. To help further this aim the company continually works with external experts to have an up-to-date list of total species, flora and fauna, and endangered species. In 2022 UPM reached 30 years of continuous biodiversity surveys in different farms, most of which are currently managed as conservation areas or areas of high conservation value. As a result of the surveys, we know that from the 2,430 native flora species in Uruguay recorded by the end of 2022, about 75% of those species were also present on land owned by UPM. Similar percentages were observed for fauna species. Likewise, 259 native continental birds were present on UPM-owned land out of a total of 410 seen across the entire country and 63% of the non-marine native Tetrapod’s of Uruguay are living in UPM’s Conservation Areas Network, (many of them are listed in the endemic, rare or threatened species list).



“As part of the biodiversity strategy, a comprehensive database was created to keep 30 years of field surveys. Around 80,000 records have been added so far. UPM also developed a set of indicators which help us to grasp the real scale of the positive impact on biodiversity conservation,” says Grela.

In addition, UPM preserves the most important vegetation type found in Uruguay, which is natural grasslands where cows graze. The company also undertakes ecosystem services such as managing soil erosion, for example.

A couple of remarkable recent findings, emerging from the surveys carried out so far, are worth mentioning. In 2021 a new native flower species was detected on UPM’s conservation areas. It was the first time the *Antiphytum charruasorum*, the white flower, had been identified in the country. In 2022 it was started a monitoring program for Fish, including Killifish (or “annual fish”) in “Estereos y Algarrobos del Río Uruguay” an environmental protection area located in the department of Rio Negro defined as a habitat and species management area included in the National System of Natural Protected Areas of Uruguay. This new monitoring program has already revealed relevant information. Three Killifish species included in the list of prioritized species for conservation were found in temporal ponds and over than 50 species of other fish were identified in the area.

“We consider ourselves as complimentary to the official government efforts. I am proud that we are making an important contribution to Uruguayan biodiversity conservation,” Grela concludes.

Environmental parameters

The figures related to production as well as raw material and energy consumption are published as aggregated figures on group level in the UPM Corporate Environmental and Societal Responsibility Statement.

		2020	2021	2022
Production capacity	Pulp	1,300,000 t	1,300,000 t	1,300,000 t
Raw materials and additives	Wood	1)		
	Pulping and bleaching chemicals			
Energy ¹⁾	Biogenic fuels	93%	92%	91%
	Fossil fuels	7%	8%	9%
Emission to air	Carbon dioxide, CO ₂ (on-site fossil emissions, scope 1) ⁴⁾	142,868 t	137,036 t	154,132 t ⁶⁾
	Carbon dioxide, CO ₂ (fossil emissions from purchased energy, scope 2) ⁵⁾	125 t	2,132 t	13,145 t
	Nitrogen oxides, NO ₂	1,800 t	1,779 t	1,525 t
	Sulphur dioxide, SO ₂	43 t	46 t	26 t
	Particulates Total	239 t	235 t	149 t
	Reduced sulphur, TRS	7 t	8 t	10 t
Water intake	Process and cooling water	30,048,539 m ³	30,125,282 m ³	30,500,127 m ³
Discharges to water	Process wastewater	22,811,413 m ³	22,092,935 m ³	22,078,755 m ³
	Process wastewater quality indicators			
	– Biochemical oxygen demand, BOD ₅ ⁷⁾	204 t	206 t	229 t
	– Chemical oxygen demand, COD	5,109 t	5,282 t	4,949 t
	– Suspended solids, TSS	198 t	200 t	156 t
	– Nitrogen, N (total)	51 t	49 t	51 t
	– Phosphorus, P (total)	13 t	10 t	14 t
	– Adsorbable organic halogen compounds, AOX	48 t	52 t	49 t
Waste ²⁾	Non-hazardous waste			
	Waste to recycling, energy recovery and/or composting			
	– Sludges	14,668 t	14,495 t	15,085 t
	– Bark and wood waste	60,217 t	59,164 t	64,413 t
	– Green liquor dregs	14 t	–	2 t
	– Others	368 t	750 t	690 t
	Waste to landfill and incineration w/o energy recovery			
	– Green liquor dregs	17,660 t	23,097 t	18,175 t
	– Sludges	4,905 t	6,113 t	3,843 t
	– Others	2,318 t	1,685 t	207 t
Hazardous waste		123 t	109 t	148 t ⁸⁾
Total use of land		553 ha	553 ha	553 ha
	Total sealed area	50 ha	53 ha	53 ha
	Total nature-oriented area on site	503 ha	500 ha	500 ha
	Total nature-oriented area off-site ³⁾	1,550 ha	1,550 ha	1,550 ha

¹⁾ See UPM Corporate Environmental and Societal Responsibility Statement for more information.

²⁾ Dry weight

³⁾ Corresponds to Mafalda protected area, included in the National System of Protected Areas as a requirement for the mill's environmental authorization. This area is managed by UPM Forestal Oriental.

⁴⁾ The increase in carbon dioxide from scope 1 is due to a greater consumption of fuel oil due to the GOS auxiliary boiler and the turbine failure.

⁵⁾ In 2021 there was a drought in the region an Uruguay produced more fuel oil based energy to sell so the energy UPM bought had a high CO₂ emission factor. In 2022 UPM purchased more energy than usual as a consequence of the turbine failure.

⁶⁾ For further information please see air section.

⁷⁾ Fray Bentos permission reefer to DBO5. DBO7 can be estimated (197 for 2022).

⁸⁾ The increase in 2022 hazardous waste figure is due to general shutdown maintenance works – used oil replacement.



Environmental objectives

Among the objectives set for 2023, the following can be highlighted:

- Continue transparent and effective proactive communication of environmental issues to all stakeholders.
- Contribute to UPM's corporate commitment to environmental responsibility.
- Promote environmental awareness within the mill, its main suppliers and partners, and all subcontractors working in mill area.
- Comply with the key environmental indicators defined for 2023 (see below).
- Renew the environmental authorization for operation (AAO)

Performance against internal targets in 2022

	TARGET	PERFORMANCE*	
COD discharge to the river (annual average)	≤ 5 kg/ADt	Achieved	Stable operation
Effluent discharge to the river (annual average)	≤ 20 m ³ /ADt	Achieved	Stable operation
Total phosphorus discharge to the river (monthly average)	≤ 55 kg/d	Achieved	Optimization of phosphorous removal and stable operation
Availability of strong odorous gases handling (annual average)	≥ 99.9%	Not achieved	99.7% *
Availability of mild odorous gases handling (annual average)	≥ 99.5%	Not achieved	99.4% *
Amount of permit exceedances	None	Achieved	Investment on stormwater ponds and stable operations

* see page 6 for more details

Internal targets for 2023

	TARGET	FOCUS ACTIONS
COD discharge to the river (annual average)	≤ 5 kg/ADt	Stable operations without significant disturbances
Effluent discharge to the river (annual average)	≤ 20 m ³ /ADt	Stable operations without significant disturbances
Total phosphorus discharge to the river (annual average)	≤ 55 Kg/d	Continue optimizing cleaning process, keeping good performance in phosphorous precipitation system
Availability of strong odorous gases handling (annual average)	≥ 99.9%	Stable operation without significant disturbances
Availability of mild odorous gases handling (annual average)	≥ 99.5%	Stable operation without significant disturbances
Amount of permit exceedances	None	Stable operations



Revalidation statement

As an accredited environmental verifier (FI-V-0001), Inspecta Sertifointi Oy has examined the environmental management system and UPM Fray Bentos Environmental and Societal Responsibility 2022 statement as well as the information concerning UPM Fray Bentos in the Updated UPM Corporate Environmental and Societal Responsibility Statement 2022.

On the basis of this examination, the environmental verifier has herewith confirmed on 2023-05-11 that the environmental management system, the UPM Fray Bentos Environmental and Societal Responsibility 2022 statement and the information concerning UPM Fray Bentos in the Updated UPM Corporate Environmental and Societal Responsibility Statement 2022 are in compliance with the requirements of the EMAS Regulation (EC) No 1221/2009.



www.upm.com

UPM Fray Bentos

Ruta Vladimir Roslik Km. 307
65,000 Fray Bentos
Tel. +598 456 20100

For further information,
please contact:
Gervasio González
Environmental Manager
Tel. +598 99 789 400
gervasio.gonzalez@upm.com

Matias Martínez
Communications Manager
Tel. +598 99 371 339
matias.martinez@upm.com