UPM Green Finance Report 2024

Contents

LEADER IN SUSTAINABILITY

Dow Jones Sustainability Index: The only forest and paper company in the Dow Jones European and World Sustainability Indices (DJSI) for 2024–2025.

MSCI ESG ratings: An AAA rating in the assessment. MSCI ESG Research provides ESG ratings on global public companies, according to their exposure to industry specific ESG risks and ability to manage those risks relative to peers.

CDP Program: A score for our leadership in corporate transparency and action on climate change and leadership level score A- for forests and water stewardship.

S&P Global's Sustainability Yearbook: Top 10% S&P Global CSA Score in the Sustainability Yearbook 2024 as one of the top-scoring companies in our industry.

EcoVadis: The highest possible Platinum level for our sustainability performance for which only 1% of over 100,000 companies assessed globally attain.

We are a participant in the UN Global Compact.

Executive summary

We have science-based targets and a solid track record of concrete action to both mitigate climate change and safeguard biodiversity. We source our raw materials from sustainably managed forests and process them into climate positive products that help our customers achieve their sustainability goals.

Sustainability also plays an important role in our financing and we have issued four Green Bonds under our Green Finance Frameworks totaling EUR 2,350 million. Our initial Framework was published in November 2020, with a Second Party Opinion (SPO) from CICERO Shades of Green. The Framework received a Dark Green overall rating. We have issued three Green Bonds under this Framework: EUR 750 million in November 2020, EUR 500 million in March 2021 and EUR 500 million in May 2022.

In November 2023, we updated our Green Finance Framework, with a SPO from S&P Global Ratings. The updated Framework also received a Dark Green overall rating. Under this updated framework, we issued the fourth Green Bond of EUR 600 million in August 2024.

A summary of the framework can be found in Appendix 2, and the links to the frameworks and the SPOs are provided below.

In this report, we present the allocation of the proceeds and impacts achieved by these four bonds. Detailed information on the final allocation of the EUR 600 million August 2024 bond proceeds can be found on pages 11–17. Details of the previously issued bonds are available in the summary table on page 6 and in the 2020, 2021, 2022 and 2023 Green Bond Reports. Links to the reports can be found below.

This report is based on the green finance portfolio as at 31 December 2024 and the November 2023 Framework. The November 2020 Framework and the November 2023 Frameworks are aligned concerning all material issues and the new Framework further aligns our financing strategy with our objectives, and sustainability targets. In this report, we use the updated category names as there are no material changes in the content and definitions of the categories between the frameworks.

We have reported our EU Taxonomy-eligible and Taxonomy-aligned activities in the 2024 Annual Report and have also made an internal assessment on the alignment share of the use of proceeds from the issued bonds.

Green Bond portfolio

EUR 2,350m

using Eligible Green Projects and Assets from the following categories:

Sustainable forest and plantation management

- 826,000 certified hectares
- 2.1 million tonnes carbon sink
- Net-positive impact on biodiversity

Targets 13.1 and 15.2

Climate positive and circular bioeconomy adapted products and solutions

- 1,132 patents
- 96 trademarks
- Bio-based solutions to replace fossil-based materials
- 1,152,844 tonnes emissions saved

Targets 13.1

Renewable or CO_2-free energy

- 954 GWh hydropower generation

Targets 7.3 and 13.1

Basic information	
Green Bond Frameworks applied	Report covers projects financed under frameworks dated November 2020 and November 2023
Second Party Opinions provided	CICERO Shades of Green for November 2020 framework and S&P Global Ratings for November 2023 Framework
Related Green Bond ISIN(s)	XS2257961818, XS2320453884, XS2478685931, XS2886143770
External verifier for the report	PwC for the reports 2020–2023 and EY for the 2024 report
Report publication date	14 April 2025
Frequency of reporting and next report	Annual, next report estimated to be published in April 2026
Reporting approach	Portfolio approach for allocation and impacts, but bond by bond information also shared concerning the allocation

- Green Finance Framework November 2023
- S&P Global Ratings Second Party Opinion November 2023
- Green Finance Framework November 2020
- CICERO Second Party Opinion November 2020
- Green Bond Report 2023
- Green Bond Report 2022
- Green Bond Report 2021
- Green Bond Report 2020
- UPM Annual Report 2024
- UPM Sustainability Policy Statement
- UPM Annual Report 2024 – EU Taxonomy

Green Bond summary

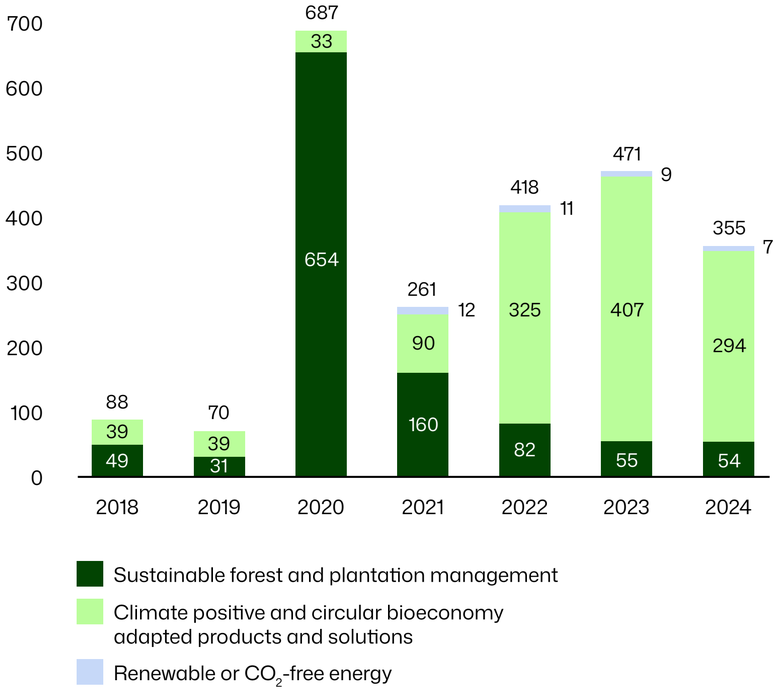
Green Bond Allocation 31 December 2024

EUR 2,350 million Proceeds

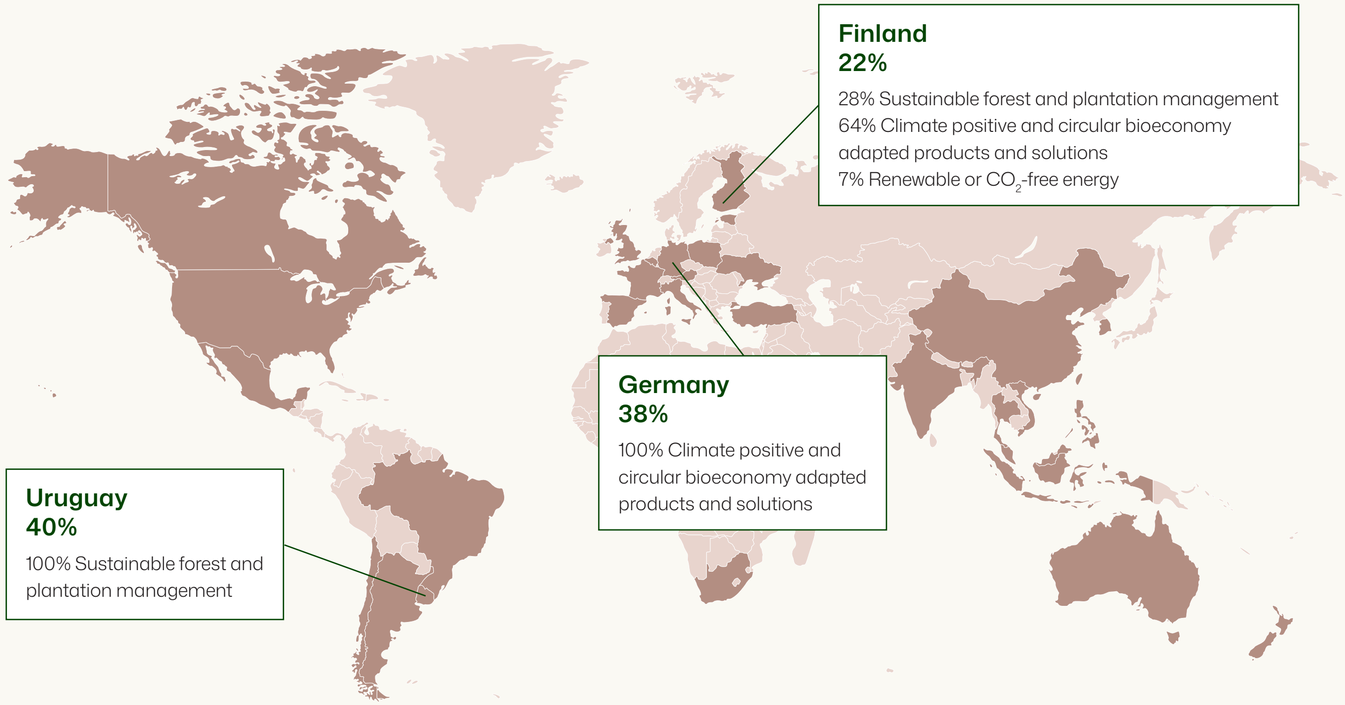
EUR million (%)

Allocation per year per category

EUR million



Allocation per country per category



Annual carbon sink 2024

1,970
tonnes CO_2eq/EUR 1 million
(calculated for the Sustainable forest and plantation management, EUR 1,085m)

or

910
tonnes CO_2eq/EUR 1 million
(calculated for the whole nominal value of the bond portfolio, EUR 2,350m)

Green Bond summary

Green Bond portfolio allocated proceeds and impacts	
Issuer	UPM-Kymmene Corporation
Bond type	Senior, unsecured
Listing	Euronext Dublin
Second Party Opinions	CICERO (11/2020–11/2023), S&P Global Ratings (11/2023 ->)
Nominal value total	EUR 2,350 million
Proceeds allocated	EUR 2,350 million/ 100%
Look-back period	1–3 yrs
Re-financing*	EUR 1,427 million/61%
Financing*	EUR 923 million/39%
Capex or capitalized	EUR 2,048 million/87%
Opex	EUR 302 million/13%
EU Taxonomy alignment**	44%
Geographical split	40% Uruguay, 22% Finland, 38% Germany

All proceeds of the bond portfolio allocated to Dark Green categories

Categories used	EUR 2,350 million	Impact indicators	Related SDGs
Sustainable forest and plantation management	**EUR 1,085 million in total**	• 826,000 hectares of certified forests • Carbon sink of UPM's own and leased certified forests 2.1 million tonnes of CO_2 equivalents • Net-positive impact on biodiversity measured in UPM's own forests in Finland and land in Uruguay by selected indicators	Targets 13.1 and 15.2
Forest assets carrying value	EUR 592 million		
Sustainable forest management costs	EUR 316 million		
Plantation acquisition Uruguay	EUR 121 million		
Nursery investment Uruguay	EUR 21 million		
Forest asset acquisition Finland	EUR 35 million		
Climate positive and circular bioeconomy adapted products and solutions	**EUR 1,227 million in total**	• 1,132 patents and 96 trademarks in Biochemicals and Biofuels businesses at the end of 2023*** • This represents the amount of patents and trademarks that generated costs during the period of 2018–2023 • Biochemicals plant investment will offer new bio-based solutions that replace fossil-based solutions for the material sector. • 1,152,844 t CO_2 saved emissions from Biofuels production for the period of 2022–2024	Targets 13.1
R&D costs in biobusinesses	EUR 258 million		
Biochemical plant investment (Leuna)	EUR 898 million		
Biofuels plant costs (Lappeenranta)	EUR 71 million		
Renewable or CO_2-free energy	**EUR 38 million in total**	• Generation of 954 GWh renewable hydropower	Targets 7.3 and 13.1
Hydropower	EUR 38 million		

* Costs occurred prior bond issuance: re-financing, costs occurred after bond issuance: financing.
** EU Taxonomy alignment calculations restated due to change on the Forest Management category alignment assessment.
*** Patents and trademarks related to Biocomposites and Biomedicals businesses have been excluded due to decision to discontinue these businesses.
Note: Carbon sink information is based on a recent study by the Natural Resource Institute of Finland for UPM's own and leased assets in Finland and Uruguay.
Note: Figures presented in this report are rounded and therefore the sum of individual figures might deviate from the presented total figure.

Green Bond allocated proceeds per bond				
Issuer	UPM-Kymmene Corporation	UPM-Kymmene Corporation	UPM-Kymmene Corporation	UPM-Kymmene Corporation
Bond type	Senior, unsecured	Senior, unsecured	Senior, unsecured	Senior, unsecured
Listing	Euronext Dublin	Euronext Dublin	Euronext Dublin	Euronext Dublin
Framework	Green Finance Framework 2020	Green Finance Framework 2020	Green Finance Framework 2020	Green Finance Framework 2023
Second Party Opinion	CICERO	CICERO	CICERO	S&P Global Ratings
Nominal value per bond	EUR 750 million	EUR 500 million	EUR 500 million	EUR 600 million
ISIN	XS2257961818	XS2320453884	XS2478685931	XS2886143770
Bond Ratings	Baa1 Moody´s, BBB Standard & Poor´s	Baa1 Moody´s	Baa1 Moody´s	BBB+ Standard&Poor´s
Issue date	19 November 2020	22 March 2021	23 May 2022	29 August 2024
Maturity date	19 November 2028	22 March 2031	23 May 2029	29 August 2034
Fixed coupon	0.125%	0.500%	2.250%	3.375%
Proceeds allocated	EUR 750 million/100%	EUR 500 million/100%	EUR 500 million/100%	EUR 600 million/100%
Look-back period	2–3 yrs	1–2 yrs	1–2 yrs	1–2 yrs
Re-financing*	EUR 750 million/100%	EUR 125 million/25%	EUR 70 million/14%	EUR 482 million/80%
Financing*	-	EUR 375 million/75%	EUR 430 million/86%	EUR 118 million/20%
Capex or capitalized	EUR 677 million/90%	EUR 438 million/88%	EUR 400 million/80%	EUR 533 million/89%
Opex	EUR 73 million/10%	EUR 62 million/12%	EUR 100 million/20%	EUR 67 million/11%
EU Taxonomy alignment**	2%	42%	63%	84%
Geographical split	77% Uruguay, 23% Finland	43% Uruguay, 16% Finland, 40% Germany	20% Uruguay, 35% Finland, 46% Germany	8% Uruguay, 14% Finland, 78% Germany
Categories used	**EUR 750 million**	**EUR 500 million**	**EUR 500 million**	**EUR 600 million**
Sustainable forest and plantation management	**EUR 672 million in total**	**EUR 222 million in total**	**EUR 137 million in total**	**EUR 54 million in total**
Forest assets carrying value	EUR 592 million			
Sustainable forest management costs	EUR 80 million	EUR 88 million	EUR 98 million	EUR 50 million
Plantation acquisition Uruguay		EUR 112 million	EUR 6 million	EUR 3 million
Nursery investment Uruguay		EUR 21 million		
Forest asset acquisition Finland			EUR 34 million	EUR 1 million
Climate positive and circular bioeconomy adapted products and solutions	**EUR 78 million in total**	**EUR 278 million in total**	**EUR 340 million in total**	**EUR 530 million in total**
R&D costs in biobusinesses	EUR 78 million	EUR 76 million	EUR 53 million	EUR 50 million
Biochemical plant investment (Leuna)		EUR 202 million	EUR 229 million	EUR 467 million
Biofuels plant costs (Lappeenranta)			EUR 59 million	EUR 13 million
Renewable or CO_2-free energy			**EUR 22 million in total**	**EUR 16 million in total**
Hydropower			EUR 22 million	EUR 16 million

* Costs occurred prior bond issuance: re-financing, costs occurred after bond issuance: financing.
** EU Taxonomy alignment calculations restated due to change on the Forest Management category alignment assessment.
Note: Figures presented in this report are rounded and therefore the sum of individual figures might deviate from the presented total figure.

EU Taxonomy alignment

The EU Taxonomy is a sustainable finance classification system that defines criteria for economic activities that are considered environmentally sustainable. It is an important step towards achieving carbon neutrality by 2050 in line with the EU's climate goals.

UPM conducts a thorough annual assessment of the eligibility and alignment of its taxonomy activities based on the requirements defined in the regulation. All our taxonomy activities aim to substantially contribute to climate change mitigation (CCM).

In 2024, our Taxonomy key performance indicators (KPIs) developed as follows: UPM's total Taxonomy-aligned turnover, including the nuclear activities* was 7% (10%) of total turnover, Taxonomy-aligned CapEx was 40% (35%) of total CapEx, and Taxonomy-aligned OpEx 11% (20%) of total OpEx as defined in the Disclosures Delegated Act. Our Taxonomy assessment and its results are based on current knowledge and available interpretation of the regulation.

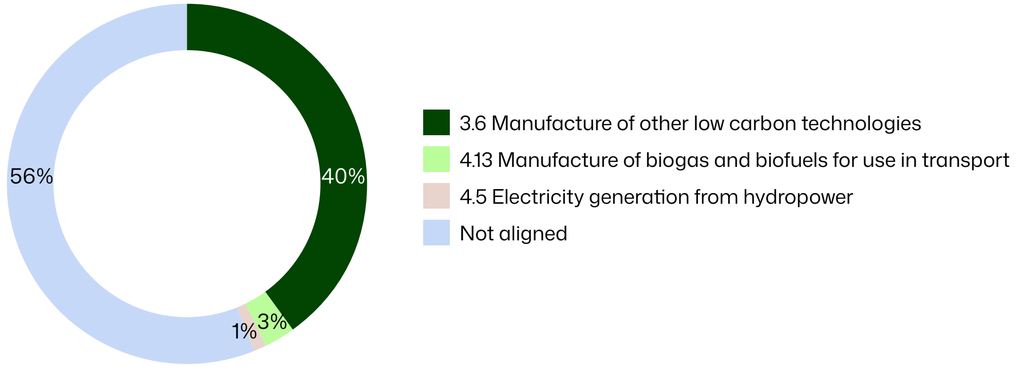
In 2024, UPM reported previously Taxonomy-aligned activities 1.1 "Afforestation" and 1.3 "Forest management" as Taxonomy-eligible. UPM considers that these activities fulfill all alignment requirements except for third party verification. UPM has been looking for a partner who would meet the requirements of the Taxonomy certifier and is able to conduct the specific audit on forest management. UPM has yet to identify a suitable service provider in the market, resulting in their forest management activities being reported as not aligned.

The Taxonomy regulation is still under development and does not cover all sustainable economic activities. The majority of our products and services, such as pulp, paper, timber, plywood, and label materials that contribute to the turnover, are not included in the EU Taxonomy. More information can be found in our Annual Report 2024, pages 163–175.

UPM has reported taxonomy alignment from 2022. The assessment of the taxonomy eligibility and the assessment of the alignment of the use of proceeds of the issued Green Bonds have been based on the 2024 assessment. The bonds issued in 2020 and 2021 are assessed retrospectively based on this assessment and therefore include estimates. The main categories used, which are fully Taxonomy-aligned, are capitalized investments in the Leuna biochemicals project and capital expenditure and maintenance related to our biofuels business. The total taxonomy-eligibility of the Green Bond portfolio was 61%, but the taxonomy alignment was 44% due to the change in classification of the forest management alignment.

› UPM Annual Report 2024 – EU Taxonomy

EUR 2,350m bond portfolio taxonomy alignment

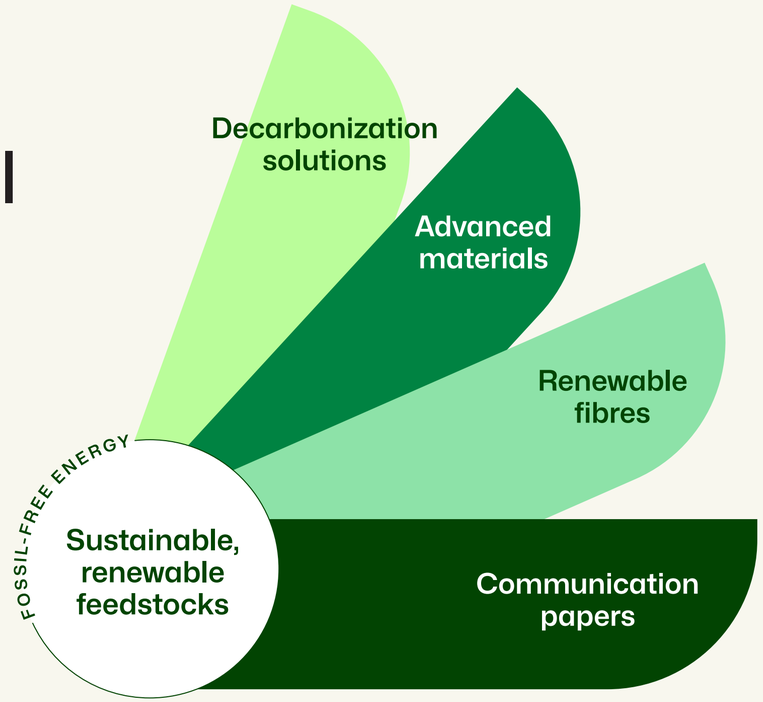


Framework category	Taxonomy category	EUR 750 m XS2257961818	EUR 500 m XS2320453884	EUR 500 m XS2478685931	EUR 600 m XS2886143770	Total portfolio
EUR million (%)						
Climate positive and circular bioeconomy adapted products and solutions	3.6 Manufacture of other low carbon technologies	11	207	239	473	**930**
	4.13 Manufacture of biogas and biofuels for use in transport	3	3	60	15	**81**
Renewable or CO_2-free energy	4.5 Electricity generation from hydropower			17	16	**33**
	Total aligned	**13/2%**	**211/42%**	**317/63%**	**503/84%**	**1,044/44%**
	Not aligned	**737/98%**	**289/58%**	**183/37%**	**97/16%**	**1,306/56%**

* Nuclear activities are not part of the Green Finance Framework.
Note: Figures presented in this table are rounded and therefore the sum of individual figures might deviate from the presented total figure.

In 2024, UPM reported previously Taxonomy-aligned activity 1.3 "Forest management" as Taxonomy-eligible, and recalculated previous bonds accordingly. UPM considers that the mentioned activities fullfill all the alignment requirements, except for the third-party verification.
Note: Figures presented in this table are rounded and therefore the sum of individual figures might deviate from the presented total figure.

We are a material solutions company



DECARBONIZATION SOLUTIONS

Our wood-based renewable biochemicals replace fossil-based materials in textiles, PET bottles, packaging, cosmetics, pharmaceuticals, detergents, rubbers and resins. UPM's renewable diesel is suitable for all diesel engines and renewable naphtha serves as a biocomponent for gasoline. Our CO_2-free electricity supports the decarbonization of the energy system and we explore opportunities in the electrification of the society.

- UPM Energy
- UPM Biorefining

RENEWABLE FIBRES

UPM's renewable fibres cover a wide range of applications, providing pulp grades well suited for tissue, specialty papers, packaging papers, graphic papers and board. We also offer sawn timber that is perfect for joinery, packaging, furniture, planing and construction.

- UPM Fibres

ADVANCED MATERIALS

UPM's advanced materials deliver value-added technical solutions for a variety of growing applications, including paper and film labels, graphic solutions, flexible packaging, and labeling. Our plywood is ideal for construction, vehicle flooring, and LNG shipbuilding.

- UPM Raflatac
- UPM Specialty Papers
- UPM Plywood

COMMUNICATION PAPERS

UPM's communication papers offers the widest range of magazine papers, newsprint and fine papers. These products are ideal for advertising and publishing, as well as for everyday use in homes and offices.

- UPM Communication Papers

This is UPM

Your partner in renewing materials and value chains

UPM contributes to the sustainable transformation of society with material solutions, utilizing renewable feedstocks. We create long-term value through our extensive portfolio of renewable fibres, advanced materials, decarbonization solutions and communication papers, collaborating with industries and brands worldwide.

www.upm.com

54 production plants in 11 countries

15,800 employees in 43 countries

10,000 b2b customers

190 million end-users worldwide

WE RENEW THE EVERYDAY

Our ability to innovate and our commitment to customers and sustainability have transformed us as a company. With our expertise and broad portfolio of materials and solutions, we enable sustainable everyday choices and the transition from fossil-based materials to renewables across multiple value chains.

We strive to create value for our customers every day through the performance and quality of our products, the reliability of our service, and the sustainability of our own actions. We want to be the trusted partner to our customers and stakeholders and make a positive impact to their lives through our daily actions and choices.

We are committed to creating value for our customers, using sustainable, renewable feedstocks, reducing our own environmental footprint and enhancing our positive societal impact. Our leading position in sustainability is based on world-leading standards, commitment to respected global initiatives and third-party verification.

Our renewable and recyclable products meet the everyday needs of consumers while addressing many global challenges, including climate change and resource scarcity. Many of our products offer sustainable alternatives to fossil raw materials and energy. In addition, we offer our customers completely new solutions, creating new innovative growth businesses.

Sales in 2024

EUR 10,339m

Company ratings

Moody's	Standard & Poor's
Baa1	BBB+
with stable outlook	with stable outlook

WE OFFER RENEWABLE AND RECYCLABLE PRODUCTS FOR

- Packaging
- Communication
- Labeling
- Tissue and hygiene end uses
- Transportation
- Manufacturing
- Electrification
- Bioplastics
- Construction

Allocation and impacts

Sustainable forest and plantation management

Our business is based on sustainable forest management. We grow and harvest wood to produce renewable and recyclable materials and products.

Climate positive and circular bioeconomy adapted products and solutions

We develop innovative, high-quality products made from sustainable feedstocks. Many of our products offer sustainable alternatives for fossil-based raw materials and energy, such as replacing fossil plastics in consumer products, steel and cement in construction, and fossil fuels in traffic, aviation and electricity markets.

Renewable or CO_2-free energy

We produce CO_2-free hydropower to meet the growing demand for renewable energy. We seek new solutions and optimize energy sources and generation methods.

Sustainable forest and plantation management

Our business is based on sustainable forest management. We grow and harvest wood to produce renewable and sustainable materials and products.

Use of proceeds – EUR 600 million Green Bond issued in August 2024

Sustainable forest and plantation management includes the financing of assets, acquisition, R&D and management of forests and plantations such as nurseries, harvesting and related infrastructure that are certified (or will be certified within 12 months) by FSC™ (Forest Stewardship Council™, FSC N003385) or PEFC (the Programme for the Endorsement of Forest Certification, PEFC/02-44-41). Proceeds may also be used to finance activities that ensure and increase biodiversity.

The total amount used for this category was EUR 54 million in 2024. EUR 50 million was allocated to sustainable forest management costs. These include, but are not limited to, sub-contracted activities, such as land preparation, planting, fertilization, as well as costs related to leased plantation areas and the operation of nurseries. This category also includes biodiversity activities such as maintaining the conservation areas and controlling and decreasing the invasion of exotic woody species population in the conservation areas in Uruguay and increasing the amount of deadwood in forests in Finland. The major part of the sustainable forest management costs is related to the plantations in Uruguay.

EUR 4 million was allocated to the acquisition of new forest assets in Finland and new plantations in Uruguay.

Commitments and targets

By managing our forests sustainably, we safeguard the availability of wood, protect biodiversity, and mitigate and adapt to climate change. We take a holistic approach to sustainable forestry wherever we operate, adhering to the following commitments:

- Third-party verified and credible certification systems for all our forests
- Third-party verified and certified chain of custody systems to ensure 100% wood traceability
- No wood from tropical rainforests or from forest plantations that have been established by converting natural forests
- No operations in areas where the rights of indigenous peoples are endangered
- No plantation operations in water stressed areas
- Strong stakeholder engagement
- Focus on UPM's 2030 sustainability targets: Climate positive land use and net-positive impact on biodiversity

Our impacts

Forest certification

Finland and Uruguay are our main wood sourcing regions. At the end of 2024, we owned 840,000 hectares of forest land in Finland and Uruguay, of which 826,000 is certified. 14,000 hectares are in the process of certification as the land was acquired recently. Most of the forest land is in Finland, totaling 522,000 hectares. In Uruguay, we have 318,000 hectares of eucalyptus plantations, grasslands and conservation areas. We lease 174,000 hectares in Uruguay and manage about 1.6 million hectares of private forest in Finland.

We also promote forest certification to private forest owners and our other customers. We have established the FSC group certification scheme, which covered approximately 570,000 hectares in Finland and over 14,000 hectares in Uruguay in 2024.

Forest carbon sink

We are committed to climate positive forestry. To ensure that our forests remain carbon sinks, they need to grow more than we use them. We improve the health, growth and carbon sequestration of our forests. The annual carbon sink from owned and leased forests in Finland and Uruguay has averaged 2.1 million tonnes of CO_2 equivalent over the past five years. The main reasons for the lower sink in 2024 compared to the previous year are changes in methodology and higher logging volumes in own forests in Finland and on plantations in Uruguay following the start-up of the UPM Paso de Los Toros pulp mill.

Work is ongoing to harmonize methodologies and to improve the accuracy of the calculations. The previous year's figure is therefore not fully comparable.

We aim to constantly improve our understanding of carbon. In 2022, we started a project with the Natural Resources Institute Finland (Luke) to improve soil carbon models for Uruguay with actual field measurements. An improved model for carbon calculations was used for our 2024 carbon calculations.

Biodiversity

We understand the vital role that biodiversity plays in the health and sustainability of our forests and plantations. Since 1998, we have been committed to preserving biodiversity through our global biodiversity program. This program takes into account the specific regulations, requirements, and guidelines for forest management in all the regions where we operate: Finland, Uruguay, and the United States. Since 2022, we have integrated biodiversity-related activities into our global

ICMA CATEGORY

Environmentally sustainable management of living natural resources and land use

Targets 13.1 and 15.2

826,000 hectares certified forests

Five years annual average carbon sink of 2.1 million tonnes of CO_2 equivalents

Forest Action Program, ensuring a comprehensive approach to protecting biodiversity in all regions.

The global Forest Action program encompasses sustainability actions under five main pillars: climate, biodiversity, water, soil, and social contribution. For example, in 2024 we published a new forest habitat program aimed at increasing biodiversity in UPM's own forests in Finland. The program includes both habitat restoration and nature management measures that can increase biodiversity and support nature's own processes. Restorative measures will return altered habitats back to their natural state, for example by restoring drained peatlands.

Nature management measures, such as increasing the share of broadleaved trees, bring the structural features of commercial forests closer to those of natural forests. We also use many solutions to manage the impact of forestry on water resources. Our main harvesting approach is to leave untouched buffer zones along watercourses and aquatic habitats. Healthy forests are an essential asset to clean water throughout the country. Our forest inventory system is updated annually to show the location of important habitats and waterbodies in relation to harvesting activities.

Role of plantations and improving biodiversity in Uruguay

Uruguay's native forests are all protected. The country is located in a temperate climate zone with no rainforests. Most plantations are established on former grazing lands classified for commercial forests. The Uruguay Forestry Act sets strict rules for the design and structure of plantations. These include rules on location, tree types and identification of suitable forestry soils for plantation development, as well as safe zones around roads, native forests and waterways.

Eucalyptus availability for the new pulp mill in Uruguay is secured through our own and leased plantations, as well as through wood sourcing agreements with private partners. Our plantation areas in Uruguay cover 492,000 hectares of own and leased land. 40% of the land area we own in Uruguay is not planted and includes conservation areas and land in traditional use such as cattle grazing.

The biodiversity values of the area are assessed before the plantation is established, and all valuable biodiversity hotspots and native forests are protected. Our work focuses on the active management of protected habitats and the control of invasive species.

In Uruguay, the UPM-owned area where we carry out some form of conservation measures covers 62,100 hectares. This includes a network of 31 biodiversity reserves, covering 12,800 hectares. Each biodiversity reserve has specific management and monitoring plans. Our biodiversity program has been implemented in the plantations since the early 1990s. We have been measuring our impact on biodiversity since 2020. The set of selected key indicators and targets was reviewed and expanded in 2024:

Indicator	Target
Biodiversity conservation areas in UPM's own land	Ensure that the areas with conservation purposes represent at least 20% of the land owned by UPM
Endemic and threatened species	Maintain or enhance endemic and threatened species populations
Control of invasive exotic woody species	Reduce by 8% per year the active area of invasive exotic woody species
Coverage of UPM's network of biodiversity reserves	Cover at least 85% of the landscape units in which UPM owns land
Conservation status index of UPM's biodiversity reserves	>0.75

In 2024, the majority of indicators showed a positive development compared to the previous year.

Plantations are a significant carbon sink, the size of which is calculated annually by the Natural Resources Institute Finland. They do not compete with food production or affect natural forests.

UPM's first forestry research center specializing in eucalyptus plantations started operations in Paysandú, Uruguay in May 2022. The center is also part of several research streams related to the sustainability of eucalyptus production, such as water usage on plantations and biodiversity surveys.

Our plantation operations also strengthen rural regions and communities through increased opportunities for education and employment, as well as through developing services and infrastructure.

Enhancing biodiversity in Finland

We work continuously to enhance biodiversity in our forests. We promote biodiversity as part of our day-to-day forest management and through conservation and collaborative stakeholder projects. We monitor our biodiversity development, based on indicators and targets developed in cooperation with researchers.

In 2019, we set a target of having a net-positive impact on the biodiversity in our own forests in Finland, with specific key performance indicators to measure progress. We currently have nine indicators and corresponding targets:

Indicator	Target
Tree species	Increase broadleaved tree species volumes
Deadwood volumes	Increase deadwood volumes in commercial forests
Forest age	Maintain a diverse forest age structure
Forest structure	Maintain and increase diverse forest structure
Protected areas	Improved nature conservation network
Valuable habitats	Diverse network of protected valuable habitats
Habitat restoration	Improved biodiversity in restored environments
Species and habitat projects	More joint stakeholder projects to protect biodiversity
Indicator development	Complement the set of indicators and develop monitoring with researchers

In 2024, overall positive development was measured for all indicators. The share of broadleaved trees increased, and the protected area continued to grow. New data on the amount of deadwood was available in connection with the national forest inventory. The increased amount of deadwood in our forests had a direct link to the increased number of deadwood-dependent species.

Forest Action: the forest responsibility program

The global Forest Action program, launched in 2022, includes responsible actions under five main pillars: climate, biodiversity, water, soil, and social contribution.

For example, we use many solutions to manage the impact of forestry on water resources. Our main harvesting approach is to leave untouched buffer zones along watercourses and aquatic habitats. Healthy forests are an essential asset to clean water throughout the country. Our forest inventory system is updated annually to show the location of important habitats and waterbodies in relation to harvesting activities.

› More about UPM Forest Action program

We act through forests

Case examples

CASE STUDY

IMPROVING AND RESTORING THOUSANDS OF HECTARES OF HABITATS

› CHALLENGE

Biodiversity loss threatens the balance of ecosystems and the diversity of life in forests.

› ACTION

In February 2024, we published a new forest habitat program in Finland, identifying more than 20,000 hectares of potential management and restoration sites. The program includes measures such as increasing the share of broadleaved trees, managing peatlands, groves, sunlit esker slopes and burnt environments, and restoring drained peatlands. Under the program, we will restore a minimum of 3,000 hectares of peatland habitats and implement a management plan on at least 100 other sites by 2030.

› IMPACT

We increase biodiversity and carbon sequestration and improve the restoration of hydrology in our own forests in Finland. We also gain experience to educate our own personnel.

CASE STUDY

COLLABORATION CONTINUED WITH THE SCIENCE BASED TARGETS NETWORK (SBTN)

In 2023–2024, we participated in SBTN's Initial Target Validation Pilot to test methods for setting targets to enhance biodiversity. Initially, the whole UPM portfolio was in scope, but we narrowed it to wood sourcing, forest and plantation management in Finland, Uruguay and the USA, as well as water use in our production units. In addition to our own data, we used information from the authorities and researchers, and tools like the WWF Risk Filters.

The SBTN methodology provided new insights into data availability and tools. For our own operations and wood sourcing, good-quality data exists, but for the rest of the supply chain, we currently lack sufficient data to measure our impact on biodiversity. We have tools to gather primary data on carbon emissions from suppliers, and similar tools have the potential to be used in the future to gather biodiversity-related primary data.

We already have metrics for setting and following up our biodiversity targets. Participating in the pilot helped us reflect on our initiatives and insights how to develop our targets.

› upm.com/sustainability/forests

Climate positive and circular bioeconomy adapted products and solutions

We develop innovative, high-quality products from sustainable feedstocks. Many of our products offer sustainable alternatives to fossil-based raw materials and energy, for example replacing fossil plastics in consumer products, steel and cement in construction or fossil fuels in traffic, aviation and electricity.

Use of proceeds – EUR 600 million Green Bond issued in August 2024

Climate positive and circular bioeconomy adapted products and solutions include financing of assets, R&D and maintenance of production units and facilities, including equipment, processes and technologies that replace fossil raw materials with renewable alternatives. This includes, for example, biochemicals and biofuels based on FSC™- or PEFC-certified wood, its residues or plants certified by The Roundtable on Sustainable Biomaterials (RSB) as raw material.

The total amount used for this category was EUR 530 million in 2023–2024. EUR 467 million was allocated to the investment in the biochemicals refinery in Leuna, Germany, of which EUR 186 million in 2023 and EUR 281 million in 2024. The commissioning and start-up phase of the refinery was initiated in late 2024, integrated commercial production is expected to start in the second half of 2025 and the refinery is expected to reach full production in 2027. The Leuna biochemicals refinery will enable a switch from fossil-based raw materials to wood-based sustainable alternatives in textiles, PET bottles, packaging, deicing fluids, cosmetics, detergents and pharmaceuticals products, for example.

EUR 50 million was allocated to the 2023 R&D costs of UPM Biochemicals and UPM Biofuels businesses. A total of EUR 13 million was allocated to the Lappeenranta biofuels refinery. This includes EUR 2.4 million capital expenses related to feedstock expansion, operational improvement and raw material handling, for example, and EUR 10.3 million operating expenses.

Commitments and targets

UPM's three research centers in Germany, Finland and Uruguay accelerate the development of bio-based products. The research center in Leuna, Germany works in connection with the biochemicals refinery and specializes in developing new molecular bioproducts.

The centers focus on research, piloting and analytics, enabling seamless collaboration with customers, value chain partners and research organizations such as universities. They work closely with UPM's mills, businesses and business-specific research centers in various countries.

Our 2030 sustainability targets and our contribution to the UN Sustainable Development Goals are integrated into our R&D activities and product development. We want our products to create value for our stakeholders during the entire product lifecycle. Our Sustainable Product Design concept implementation continued in 2024.

› More information on our website

Our impacts

Biochemicals

The first-of-its-kind biorefinery investment in Leuna, Germany, will open completely new markets for us with large growth potential. The biorefinery will convert solid wood into next-generation biochemicals and produce a range of 100% wood-based biochemicals, the main products being bio-monoethylene glycol (BioMEG), bio-monopropylene glycol (BioMPG) and renewable functional fillers, with a total annual capacity of approximately 220,000 tonnes. Application areas for bio-monoethylene glycol includes textiles, polyethylene terephthalate bottles, packaging, and deicing fluids. Lignin-based renewable functional fillers significantly reduce the CO_2 footprint and weight of rubber and plastic applications as a sustainable alternative to carbon black and silica. Bio-monopropylene glycol is used, for example, in composites, cosmetics, detergents and the pharmaceuticals industry.

The total cost of the biochemicals investment project is estimated at EUR 1,275 million.

ICMA CATEGORY

Circular economy adapted products, production technologies and processes

13 CLIMATE ACTION

Targets 13.1

Biobusinesses IPR portfolio: 1,132 patents and patent applications, 96 active trademarks

1,152,844t CO_2 saved emissions from biofuels production in 2022–2024

We act through products

Biofuels

Our products meet the need to reduce transportation emissions and find renewable alternatives to the production of various fossil-based plastics. Our renewable and sustainable biofuels help to mitigate climate change. Advanced biofuels reduce greenhouse gas emissions by more than 80% compared to fossil fuels.

In addition to decarbonizing road transportation, we help to defossilize various other industries by offering wood-based naphtha. Naphtha is the major raw material for most chemicals and plastics. UPM BioVerno™ naphtha is a drop-in solution to replace fossil-based naphtha, allowing the production of sustainable chemicals and plastics. Our strategy is based on proprietary technology and UPM's integrated feedstocks. Our extensive know-how and experience in biorefinery operations not only gives us a competitive edge, but also opens up growth opportunities in green hydrogen solutions.

In January 2021, UPM started the basic engineering phase of a next-generation biofuels refinery. The planning for the potential biorefinery in Rotterdam, the Netherlands, is based on an annual capacity of up to 500,000 tonnes of high-quality renewable fuels including advanced biofuels and possibly sustainable jet fuels, as well as renewable chemicals. The products would significantly reduce the carbon footprint of road transportation and aviation, and replace fossil raw materials with renewable alternatives in chemicals and bioplastics.

The design for the potential biorefinery has progressed, and major part of the basic engineering has been completed. Before the potential investment decision, the focus will be on testing the novel, proprietary technology at a larger scale and on flexible feedstock options. This work is expected to take approximately two years, until 2026, after which the standard procedure of analyzing and preparing and investment decision will be initiated.

Our current feedstock for biofuels at the UPM Lappeenranta Biorefinery is crude tall oil, a residue from pulp production. In our plans to increase production of advanced biofuels, feedstock sourcing would focus on UPM's integrated feedstocks from its own ecosystem, including various wood-based residues and potential carbon farming.

UPM decided to close the Biocomposites business in 2024 and announced in February 2025 the plan to close the Biomedicals business.

Case examples

CASE STUDY

UPM AND NOKIAN TYRES ENTER A SIGNIFICANT COOPERATION

The partnership with Nokian Tyres marks UPM's entry of UPM BioMotion™ Renewable Functional Fillers (RFF) into the global tyre market and demonstrates the versatility of replacing traditional CO_2-intensive fillers with fully renewable alternatives.

Functional fillers account for around 30% of a tyre and consist of materials such as primarily carbon black and precipitated silica. According to an initial test series by Nokian Tyres, replacing traditional carbon black with renewable functional fillers enables the production of more sustainable tyres.

Nokian Tyres is the first tyre manufacturer to incorporate UPM's Renewable Functional Fillers in concept tyres. The company aims to increase the share of recycled or renewable raw materials used in tyres to 50% by 2030.

› Link to the press release

CASE STUDY

KOX BRINGS WOOD-BASED TEXTILES TO THE FOREST

KOX, a protective clothing brand, has launched new chainsaw trousers that combine high performance with sustainability. The trousers contain wood-residue based textile fibres made with UPM's renewable naphtha and are designed to meet the rigorous demands of forestry work.

The new "KOX Performance" trousers offer a lightweight, strong outer fabric that ensures comfort, safety and durability for those working with heavy equipment. They meet high European personal protection standards for chainsaw users.

KOX uses bio-based Dyneema® fibre, which has a 90% lower carbon footprint than traditional fibres.[1] This innovation not only reduces dependence on fossil raw materials but also brings the concept of "forest to forest" full circle by using wood-based products.

[1] 100% renewable electricity in addition to bio feedstock (UPM BioVerno naphtha derived ethylene) is used to produce bio-based Dyneema® fibre. Please see www.dyneema.com/sustainability/bio-based-dyneema-fiber for further information.

Renewable or CO_2-free energy

We produce CO_2-free hydropower to meet the growing demand for renewable energy. We seek new solutions and optimize energy sources and generation methods.

Use of proceeds – EUR 600 million Green Bond issued in August 2024

This category includes financing for the development, operations and maintenance of renewable or CO_2-free energy solutions. It includes, for example, new investments, modernizations, refurbishments, upgrades and maintenance of existing equipment in hydropower plants owned and operated by UPM Energy.

The total amount used for this category was EUR 16 million, of which EUR 9 million was used in 2023 and EUR 7 million in 2024. EUR 10 million was mainly used for operating and maintenance of hydropower plants and EUR 6 million was mainly used for renovation and modernization of Kuusankoski hydropower plant, including new ultracapacitor investment costs.

Commitments and targets

We are committed to continuous improvements in energy efficiency and to an increased share of renewable and low-emission energy. We seek new solutions and optimize energy sources and generation methods. Our energy portfolio consists mostly of energy sources that do not cause fossil CO_2 emissions.

Our impacts

UPM Energy has eight hydropower plants. Most of UPM's hydropower plants were built between the 1930s and 1950s and have undergone extensive renovations in recent years. In the spring of 2023, we completed the extensive renovation and modernization of the Kuusankoski hydropower plant. The plant's average annual energy production increased from 180 GWh to 195 GWh, producing more electricity with the same amount of water.

Renewable hydropower generates flexible power

Weather-independent hydropower provides quick balancing power for an electricity system that is increasingly reliant on intermittent solar and wind power. Hydropower production can be started, adjusted, and stopped quickly to balance production and consumption. Hydropower is also a cost-effective way to produce electricity. Hydropower plants have a long service life and low operating costs.

CASE STUDY

NEW ULTRACAPACITOR AT KUUSANKOSKI

An ultracapacitor strengthens the ability of hydropower to balance the grid. The system uses short-term energy storage to respond in milliseconds to peaks in demand and production on the grid and to produce balancing power more quickly.

Ultracapacitors are known for their ability to discharge at high power. They are maintenance-free and have a much longer lifetime than batteries, making them an ideal choice for sustainable energy solutions. The project will use digital systems and automation to optimize the performance of the energy system.

UPM's second ultracapacitor will be installed at the Kuusankoski hydropower plant site and is expected to be operational by the summer of 2025. The system was successfully piloted at the Katerma hydropower site in 2022.

ICMA CATEGORY

Renewable energy

Targets 7.3 and 13.1

In 2024, we generated 954 GWh hydropower through our own hydropower plants.

We act through emissions

Governance

UPM Green Finance Committee – internal governance

Independent auditor – external review and assurance

Governance

We established our first Green Finance Framework in November 2020. The framework was developed in accordance with the 2018 version of the Green Bond Principles published by the International Capital Markets Association (ICMA) and the 2020 version of the Green Loan Principles, published by the Loan Market Association (LMA), the Asia Pacific Loan Market Association (APLMA) and the Loan Syndications and Trading Association (LSTA). The framework was reviewed by the second-party verifier CICERO and received the highest possible rating, CICERO Dark Green.

In connection with the framework setup, we established a Green Finance Committee to oversee the use of the framework and created a Green Finance Register.

In 2023, we updated our Green Finance Framework and the related Second Party Opinion. The updated framework received the highest Dark Green rating from S&P Global Ratings, in line with the framework established in 2020. The new framework retains the same six Use of Proceeds categories as before but has been updated to further align with our sustainability strategy and targets. It also aligns with the core components of the ICMA Green Bond Principles 2021 (with June 2022 Appendix I), the recommended external review components and the latest market practices. We have refined and clarified the investments and projects to be included and provided more examples for each category. The Framework is also more explicit about the climate, environmental and sustainability contributions of each category.

The Green Finance Committee will supervise that only projects aligned with the criteria set out in the Framework will be included in the Green Finance Register and selected to be used for Green Finance Instruments.

The Green Finance Committee has approved the final allocation of Eligible Projects and Assets and the impact reporting for the Green Bonds issued. We are committed to transparent allocation and impact reporting and will publish an annual report until the maturity of all issued Green Finance Instruments. We will also engage an independent external auditor to provide limited assurance on both allocation and impact reporting. Previous Green Bond Reports were published in April 2021, April 2022, April 2023 and March 2024.

› UPM as an investment/Debt
› Green Finance Framework November 2023
› S&P Global Ratings Second Party Opinion November 2023
› Green Finance Framework November 2020
› CICERO Second Party Opinion November 2020
› Green Bond Report 2023
› Green Bond Report 2022
› Green Bond Report 2021
› Green Bond Report 2020

Green Finance Framework

Use of Proceeds

1. Sustainable forest and plantation management
2. Climate positive and circular bioeconomy adapted products and solutions
3. Renewable or CO_2-free energy
4. Pollution prevention and control, including waste management
5. Sustainable water and wastewater management
6. Energy efficiency initiatives

External Review

CICERO Shades of Green for November 2020 Framework
S&P Global Ratings for November 2023 Framework

Green Finance Committee

Members from Treasury, Sustainability, Investor Relations, Finance and Investment Management

Project Evaluation and Selection

Green Finance Committee will evaluate and select the Eligible Projects and Assets and to ensure the alignment with the eligibility criteria

Management of Proceeds

Green Finance Register to monitor the Eligible Projects and Assets and the allocation to the used Green Finance Instruments. Unallocated proceeds may be temporarily placed in line with the liquidity reserves, managed by UPM Treasury, taking the exclusion criteria into account.

Reporting

Report published annually until maturity of the Green Finance Instruments containing information on allocation and impacts:

1. List of Eligible Green Projects and Assets
2. Amounts invested in each category, share of re-financing and financing
3. Impacts per category
4. Descriptions and case studies
5. Geographical distribution, look-back period, share of CapEx/OpEx and EU Taxonomy alignment

Post issuance verification

Annual limited assurance on both allocation and impact reporting by independent external auditor

Independent Practitioner's Assurance Report

To the Management of UPM-Kymmene Corporation

Scope

We have been engaged by UPM-Kymmene Corporation (hereafter "UPM-Kymmene") to perform a 'limited assurance engagement,' as defined by International Standards on Assurance Engagements (ISAE 3000), here after referred to as the engagement, to report on the use of proceeds for the bond issued 2024 and related impact indicators presented in Green Bond Summary, disclosed in UPM-Kymmene's Green Finance report (the "Subject Matter") for the period 1.1.-31.12.2024.

Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform assurance procedures on the remaining information included in the Report, and accordingly, we do not express a conclusion on this information.

Criteria applied by UPM-Kymmene

The Subject Matter has been prepared in accordance with UPM-Kymmene's Green Finance Framework (the "Criteria"). As a result, the Subject Matter information may not be suitable for another purpose.

UPM-Kymmene's responsibilities

UPM-Kymmene's management is responsible for selecting the Criteria, and for presenting the Subject Matter in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the Subject Matter, such that it is free from material misstatement, whether due to fraud or error.

EY's responsibilities

Our responsibility is to express a conclusion on the presentation of the Subject Matter based on the evidence we have obtained.

We conducted our engagement in accordance with the International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000' Revised), and the terms of reference for this engagement as agreed with UPM-Kymmene. Those standards require that we plan and perform our engagement to express a conclusion on whether we are aware of any material modifications that need to be made to the Subject Matter in order for it to be in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion.

Our independence and quality management

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants and have the required competencies and experience to conduct this assurance engagement.

EY also applies International Standard on Quality Management 1, Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services engagements, which requires that we design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Description of procedures performed

Procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

The Green House Gas quantification process is subject to scientific uncertainty, which arises because of incomplete scientific knowledge about the measurement of GHGs. Additionally, GHG procedures are subject to estimation (or measurement) uncertainty resulting from the measurement and calculation processes used to quantify emissions within the bounds of existing scientific knowledge.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the Subject Matter and related information and applying analytical and other appropriate procedures.

Our procedures included:

a. Enquiries to UPM-Kymmene management relating to whether the reporting has been prepared in accordance with the UPM-Kymmene Green Finance Framework,
b. Reading Green Finance Committee minutes to confirm allocation of proceeds,
c. Interviews with personnel responsible for gathering and consolidation of the information to understand the systems, processes and controls related to gathering and consolidating the information,
d. Assessing data from internal and external sources and checking the data to reported information on a sample basis to check the accuracy of the data.

We also performed other procedures we considered necessary in the circumstances.

Conclusion

Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to the Subject Matter in respect of use of proceeds for the bond issued 2024 and the related impact indicators presented, in order for it to be in accordance with the Criteria.

Helsinki 14.4.2025

Ernst & Young Oy
Authorized Public Accountant Firm

Heikki Ilkka
Authorized Public Accountant

Appendix 1: Impact calculation methodology

Accounting of impacts

More detailed information about all sustainability indicators is disclosed in our Annual Report 2024 which is available on our website.

The Annual Report includes our Sustainability Statement in accordance with the EU Corporate Sustainability Reporting Directive (CSRD) and its European Sustainability Reporting Standards (ESRS) relevant to our business and the material topics identified through the double materiality assessment (on pages 125–245).

In addition, we follow sustainability reporting standards published by the Global Reporting Initiative (GRI) to measure and report on corporate responsibility at the Group level as outlined in our GRI Content Index 2024.

The content of the Sustainability Statement has been subject to a limited assurance engagement. Scope 1 and 2 emissions has been subject to reasonable assurance by an independent third party, Ernst & Young. Also, the adherence to the GRI standards was covered by the limited assurance engagement.

Forest indicators

Hectares

The sustainability forest management indicator is based on hectares certified by the PEFC and/or by the FSC™ by third-party auditors. The certificates can be downloaded from the UPM Certificate finder.

Carbon sink

The Natural Resources Institute Finland (LUKE) calculates the carbon sink of UPM's own and leased forests and tree plantations in Finland, the USA and Uruguay. The results are reported annually as a five-year average, and the calculation is developed as best practice evolves. Work is ongoing to harmonize methodologies and to improve the accuracy of the calculations. The previous year's figure is therefore not fully comparable. UPM aims to continuously improve the understanding of carbon balance. In 2022, a project started with LUKE to improve soil carbon models for Uruguay with actual field measurements. Field measurements in eucalyptus plantations began in 2023. An improved model for carbon calculations was used in UPM's carbon accounting in 2024.

Finland: Changes in forest carbon stocks cover both the tree stock and the soil. Long-term measurement data and mathematical modelling from LUKE were used in the calculation. Changes in the carbon stock of the stand are calculated as the difference between annual growth and depletion. The calculation has been performed separately for forests growing on mineral soils and on peat soils. Estimates of stand growth are based on the National Forest Inventory (VMI), which has a five-year inventory cycle.

Uruguay: Changes in forest carbon stocks cover both the tree stock and the soil. Measurement data and mathematical modeling from LUKE were used in the calculation. Changes in the carbon stock of the stand are calculated as the difference between annual growth and depletion based on annual increment in volume and harvest information from UPM. The change in soil carbon stock was calculated using the dynamic Yasso07 soil model.

› Luke

The indicator on carbon sink per EUR 1 million was calculated based on the results of the carbon sink calculations for Uruguay and Finland (five-year average annual carbon sink of 2.1 million tonnes CO_2 equivalents) for the year 2024 divided by the proceeds of all four bonds allocated to sustainable forest and plantation management (EUR 1,085 million).

The main reasons for the lower sink in 2024 compared to previous years are changes in methodology and higher logging volumes in own forests in Finland and in plantations in Uruguay following the start-up of the UPM Paso de Los Toros pulp mill.

Net-positive impact on forest biodiversity

UPM's approach comprises a set of biodiversity indicators contributing to the positive development of living conditions for flora and fauna on a specified land area. Indicators have been and new indicators are developed in co-operation with research institutes and other stakeholders.

There is currently no scientific way to evaluate whether the total impact on biodiversity is positive or negative. Thus, UPM proceeds towards "net-positivity" having more indicators with positive than negative development, with the single indicators compared to the previous year. The annual positive development target is achieved when the majority of the biodiversity indicators shows a positive development compared to the previous year.

The target is followed-up separately for UPM's forest in Finland and UPM's land areas in Uruguay. Read more about the indicators here:

› Biodiversity in forests
› UPM Biodiversity indicators

Indicator for climate positive products and solutions

A solid patent portfolio strengthens our competitive edge. The indicator is the number of patents and trademarks that generated costs in a given period and for specific businesses. The figures are reported by UPM IPR.

We are committed to a climate positive product portfolio. Many of our products are already proven to be climate positive. In the future, we aim to scientifically verify the climate impacts of all our products. We initiated a study on climate-related substitution and the carbon storage effects of our products with two research institutes, the German IFEU and the Finnish Environment Institute (SYKE), which was finalized and published in 2022.

A Life Cycle Assessment (LCA) study was carried out to assess the environmental performance of products of the biorefinery in Leuna, Germany. The LCA study conducted by UPM covers all products from the biorefinery and enables UPM to provide environmental footprint data to the biorefinery's customers and to further develop the products and processes. LCA is a scientific method for analyzing the environmental impacts of products. The LCA study was carried out in accordance with ISO standard 14040 and 14044, using the latest CML impact assessment methods. A cradle-to-gate system boundary was applied. The data collection is based on supplier design, process simulation and pre-commercial trials data and represents the current best knowledge of the UPM's biorefinery process. Part of the production process is the uptake of biogenic carbon during the growth of the feedstock beech wood. This removal is included in the CO_2 footprint calculation including biogenic carbon. A critical review has been carried out by an independent party, DEKRA Assurance Services GmbH.

› IFEU/SYKE study

UPM Biofuels assesses and quantifies the lifecycle GHG emission savings according to the mandatory methodology of Article 29 and Annex V & VI RED, EU 2018/2001 for all diesel produced. As required by RED, EU 2008/2001, UPM Biofuels' data, methodology and GHG calculation results are reviewed and verified annually as part of the external certification process of UPM's ISCC EU certificate. The current valid certificate number is EU-ISCC-Cert-US201-43812024. The GHG savings of bio-naphtha are based on the LCA methodology according to ISO 14040 and ISO 14044, taking into account a cradle-to-gate system boundary and the biogenic carbon uptake of the feedstock.

Appendix 2: Green Finance Framework

Updated Green Finance Framework published in November 2023
Second Party Opinion by S&P Global Ratings
Framework overall rating: Dark Green

› Green Finance Framework November 2023
› S&P Global Ratings Second Party Opinion November 2023

Use of Proceeds categories	Sustainable forest and plantation management	Climate positive and circular bioeconomy adapted products and solutions	Renewable or CO_2-free energy	Pollution prevention and control, including waste management	Sustainable water and wastewater management	Energy efficiency initiatives
Description of projects	Sustainably managed certified forests and activities that ensure and increase biodiversity	Climate positive or circular bioeconomy adapted products and solutions that replace fossil raw materials with renewable alternatives	Development, operations and maintenance of renewable or CO_2-free energy solutions	Reduction of environmental impact, and improvement of the environmental performance	Reduction of water use and management of fresh and wastewater. Water-related measures to enhance biodiversity	Developments, modernisations and management of renewable energy solutions
Examples	• Assets, acquisitions, R&D and management of forests and plantations with FSC and PEFC certification (or to be certified within 12 months) • Forestry-related measures that lead to an improvement in the chosen biodiversity indicators • Development of biodiversity measurement and indicators	• Assets, R&D and maintenance of production units and facilities • Biofuels, biochemicals and packaging materials that are based on FSC or PEFC certified wood, its residue or RSB certified plants as the main raw material	• Investments related to distribution and production of waste-heat or electricity from renewable or CO_2-free energy sources • Investments in CO_2-free energy boilers, hydro, wind and solar power, and green hydrogen	• Equipment, systems, initiatives and R&D relevant for circular bioeconomy • Costs related to waste management following the waste hierarchy • Reduction and control of pollution to air, water and soil • Carbon capture and storage technology	• Equipment and management of raw water intake and purification, wastewater treatment, the circular use of water, nutrients and residues from water and wastewater treatment or projects for the protection of soil and groundwater • Creating spawning areas or waterways for migratory fish	• Improving energy efficiency, with the requirement of a minimum 25% efficiency improvement • New boiler or heat recovery systems, technologies or equipment, advanced IT solutions or energy management systems
Significant contribution to GBP Environmental objectives	• Climate change mitigation • Climate change adaptation • Natural resource conservation • Biodiversity conservation	• Climate change mitigation	• Climate change mitigation	• Climate change mitigation • Pollution prevention and control	• Climate change mitigation • Pollution prevention and control • Natural resource conservation • Biodiversity conservation	• Climate change mitigation • Climate change adaptation
UN SDG Mapping	13 CLIMATE ACTION, 15 LIFE ON LAND — Targets 13.1 and 15.2	13 CLIMATE ACTION — Target 13.1	7 AFFORDABLE AND CLEAN ENERGY, 13 CLIMATE ACTION — Targets 7.3 and 13.1	12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 13 CLIMATE ACTION — Targets 12.2, 12.4, 12.5 and 13.1	6 CLEAN WATER AND SANITATION — Target 6.3	7 AFFORDABLE AND CLEAN ENERGY, 13 CLIMATE ACTION — Targets 7.3 and 13.1

UPM

www.upm.com