

2.

**MAKING
THE WORLD
HEALTHIER &
CLEANER**

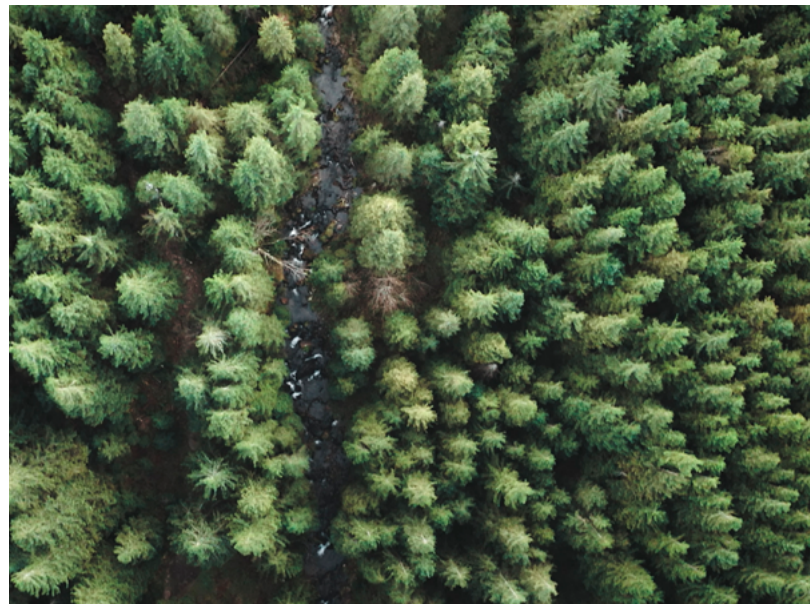


2. MAKING THE WORLD HEALTHIER & CLEANER

Through the corporate program ‘Eco Together’, created in 2009, the group establishes its commitment to environmentally responsible management and the implementation of environmental conservation efforts together with customers, suppliers, production outsourcing partners, local communities, NGO, governments and other stakeholders.

In 2020, based on the medium and long-term goals of our Kirei lifestyle plan, targets for 2030 were changed and set with respect to the environment and safety. From the review of targets, in 2021 the group maintains the targets except for decarbonisation for which a more ambitious target for 2030 is being set.

Our objectives cover various areas: environmental decarbonization, increasing the rate of renewable energy from purchased electricity and reducing the absolute value of GHG emissions, waste reduction (zero waste in landfill and simple incineration) as well as in the prevention of air and water pollution to improve the disclosure of VOC and COD emissions.



The commitments made by 2030 are as follows:

AREA	INDICATOR	TARGET VALUE	BASE YEAR
DECARBONIZATION	Reduction emissions scope 1+2 CO ₂ , absolute	55%	2017
ENERGY	Renewable purchased electricity	100%	—
	Energy consumption	1%	Previous year
ZERO WASTE	Ratio to landfill and to incineration	<1%	—
WATER CONSERVATION	Water consumption	45%	2005
RESOURCES	Procurement of RSPO-certified palm oil	100% ¹	—

The target value is that to be achieved in 2030, taking a specific year as a starting point (base year) set for each indicator, except for some that do not need it.

¹ Target to be achieved by 2025.

2.1. MAIN ENVIRONMENTAL FACTORS

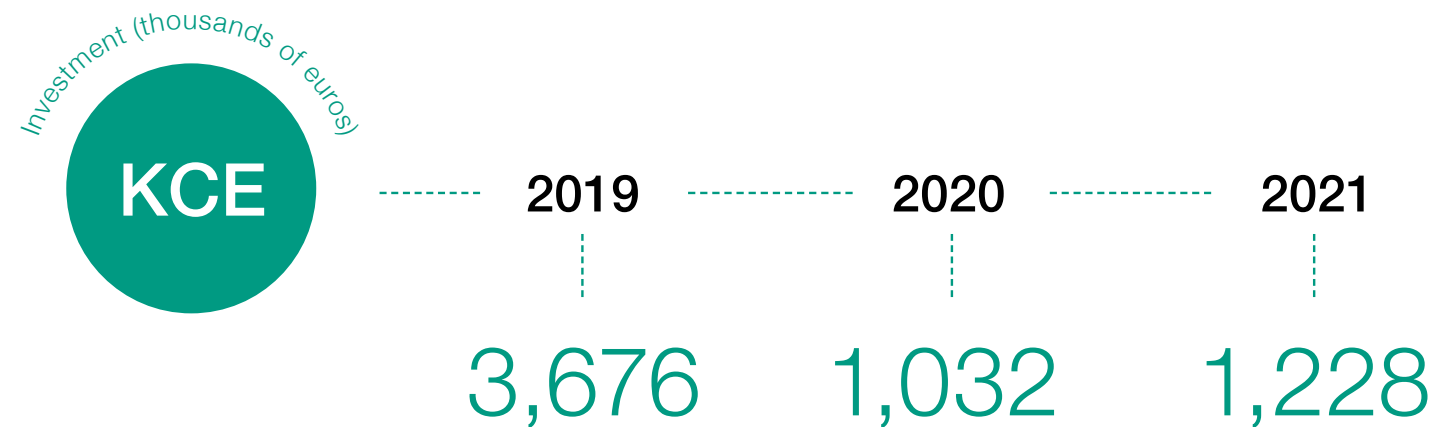
The global environmental trend of most concern to KCE is **climate change**. The possibility of suspending operations due to extreme meteorological phenomena, such as drought, floods and global warming, as well as the increase in costs due to more severe regulations pose risks for the company.

Current lifestyles also contribute to the development of a number of specific environmental problems, including climate change, resource depletion, environmental pollution, water security and biodiversity loss.

Taking all these risks into account, the company has identified five areas on which it aims to focus its environmental efforts:



KCE dedicates significant financial resources to promote efficiently and effectively its environmental activities.



2.1.1. DECARBONIZATION

KCE's activity involves the emission of greenhouse gases either from the activity itself (direct emissions) or because of the activity itself (indirect emissions).

KCE considers the amount of greenhouse gas emissions from fuel and electricity consumption from production activity itself and sales as the most significant problem. The following are the initiatives developed to reduce such emissions:



IN THE ACQUISITION OF RAW MATERIALS:

green purchasing concepts are incorporated, and specific actions are carried out in the different subsidiaries.



INCLUSION IN THE MANUFACTURING PROCESS OF

initiatives to reduce energy consumption, use of cleaner energy, use of more environmentally friendly coolants and equipment maintenance to prevent coolant leaks and other greenhouse gases.



IN THE DEVELOPMENT PROCESS:

when deciding to launch new and improved products, it is verified that they meet the environmental standards described by the design guidelines for the environment.



IN THE DISTRIBUTION PROCESS:

through the increase in volumes dispatched by shipment, the use of cleaner methods and the improvement of load ratios.

Contribution to the SDGs



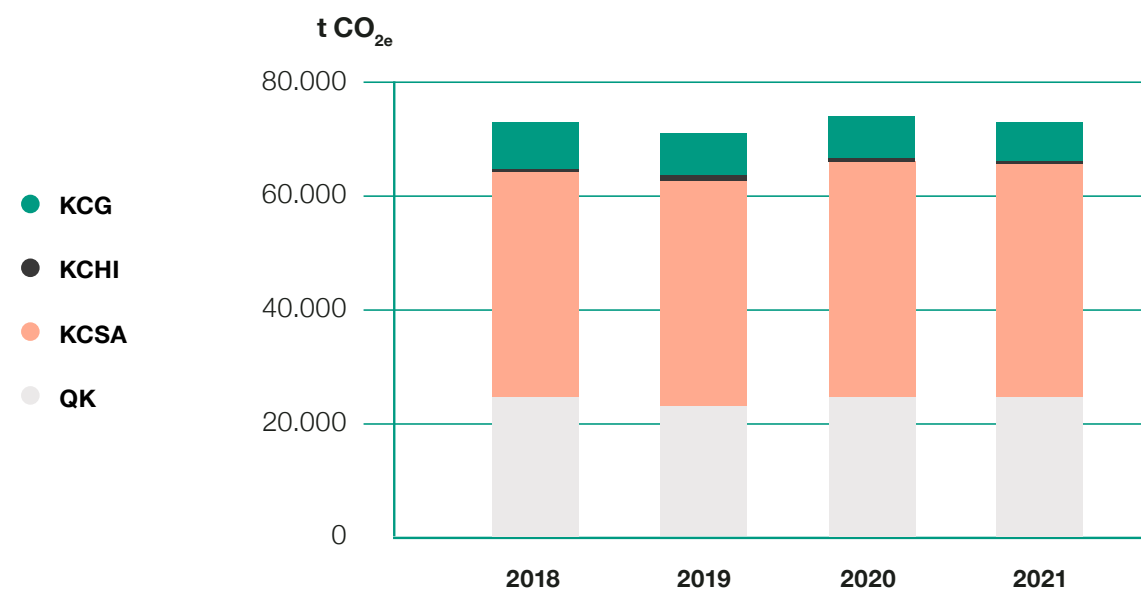
Energy efficiency is one of the environmental aspects that allows us to improve our environmental impacts insofar as greater efficiency implies a more efficient use of resources and a lower impact on the generation of CO₂ emissions.

For this reason, considering the origin of our CO₂ emissions, the decarbonization objective is unequivocally linked to the energy efficiency objective, which translates into lower consumption. For the latter, we must achieve an annual reduction of 1% compared to the previous year and, in relation to emissions, an ambitious 55% compared to the initially set target (22%) to align ourselves with the commitments of the European Union through the 'Fit for 55' program.

This is the first target to achieve the goal of reducing CO₂ emissions to zero by 2040 and becoming carbon negative by 2050 to combat global warming.

The KCE indicators for 2021 are shown below, as well as their comparison with the previous year.

Direct GHG emissions (scope 1) per company



Direct Greenhouse gas emissions (GHGs)²

KCE	2019	2020	2021
TOTAL DIRECT (SCOPE 1) GHG EMISSIONS (t CO ₂ e)	71,018	74,492	72,620
SCOPE 1 EMISSIONS / PRODUCTION (kg CO ₂ e/t)	166.05	170.85	168.96
TOTAL ENERGY INDIRECT (SCOPE 2) GHG EMISSIONS (t CO ₂ e)	3,925	4,527	5,675
SCOPE 2 EMISSIONS / PRODUCTION (kg CO ₂ e/t)	11.61	12.51	15.45
OTHER INDIRECT (SCOPE 3) GHG EMISSIONS (t CO ₂ e)	23,754	22,645	22,960
SCOPE 3 EMISSIONS / PRODUCTION (kg CO ₂ e/t)	91.56	56.77	51.59
TOTAL GHG EMISSIONS (ALL SCOPES) (t CO ₂ e)	98,697	101,664	101,256
GHG / PRODUCTION (kg CO ₂ e/t)	223.44	225.93	236.00

² In italics, modification of the scope 1 emissions reported previously, by including the CO₂ from the emissions of the decarboxylation process corresponding to KCSA.

Greenhouse gas (GHG) emissions in absolute value decrease, same as per ton of final production. The decrease compared to 2020 for Scope 1 and 2 emissions was 724 tons (0.9%).

Compared to 2017, the base year for this indicator, CO₂ emissions were reduced by 18%.

Energy consumption data

Both energy consumption and consumption rate have slightly decreased (1%) due to:

- The growing demand for products that require higher energy consumption for their preparation to the detriment of those that require less consumption.
- Construction of new facilities without associated production and/or that have been in the start-up regime.
- Climatic conditions, such as abnormally low temperatures (-20°C) and heavy snowfall in KCG, which have led to higher consumption.

KCE	2019	2020	2021
TOTAL ENERGY CONSUMPTION (MWh)	404,308	422,342	407,246
TOTAL ENERGY CONSUMPTION / PRODUCTION (MWh/t)	0.95	0.96	0.95
ELECTRICITY CONSUMPTION (MWh)	79,168	82,802	85,129
RENEWABLE ELECTRICITY CONSUMPTION (%)	71.25	80.88	80.74
ELECTRICITY CONSUMPTION / PRODUCTION (MWh/t)	0.18	0.16	0.20
NATURAL GAS CONSUMPTION (GJ)	1,225,451	1,288,536	1,276,190
NATURAL GAS CONSUMPTION / PRODUCTION (GJ/T)	3.68	3.81	3.93
THERMAL CONSUMPTION (MWh)	307,392	323,543	326,431
THERMAL CONSUMPTION / PRODUCTION (MWH/T)	0.69	0.72	0.75
OTHER ENERGY CONSUMPTION (MWH)	4,645	4,474	4,332

During 2021, all electricity consumed by KCG, KCSA y KCHI (except KCHI France) came from renewable sources. For its part, QK is in the process of contracting this type of energy and 17% of the energy consumed by KCHI France is of renewable origin. As a result, renewable electricity consumption has increased to 81% in 2021.

2.1.2. WATER CONSERVATION AND POLLUTION PREVENTION

Currently, KCE is working to reduce water consumption in each production plant and to reduce wastewater through the application of the 3R (reduce, reuse, and recycle) technique, the search for new technologies, the optimization of maintenance work and the improvement of wastewater treatment facility management.

Contribution to the SDGs



The long-term goals for 2030 are aligned with those of the group, if they are achievable for each of the organizations that constitute KCE.

To reach the long-term objective (45% by 2030), the objective for 2021 was to achieve a reduction of 41% compared to 2005.

Water consumption data

KCE	2019	2020	2021
TOTAL WATER WITHDRAWAL (m ³)	1,492,891	1,606,119	1,525,046
WITHDRAWAL / PRODUCTION (m ³ /t)	2.76	2.96	2.92
WATER CONSUMPTION (%)	235,015	224,528	212,971
WATER CONSUMPTION / PRODUCTION (m ³)	0.53	0.50	0.51

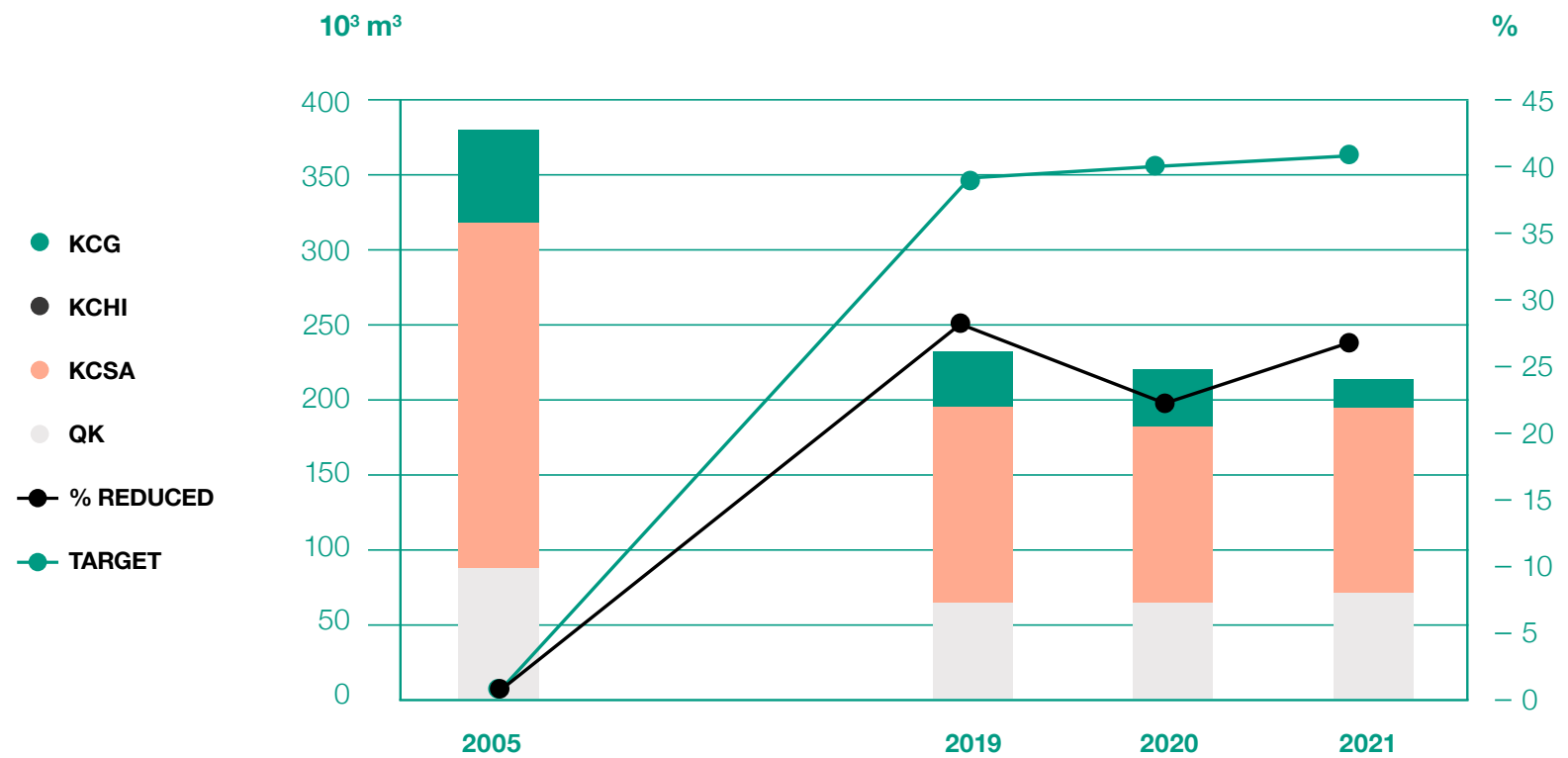
KCE's water extraction has decreased by 81,000 m³ compared to the previous year. Approximately 14% has been for consumption. The extraction rate per ton produced has decreased by 1% compared to the previous year and 44% compared to 2005 (base year).



The main KCE's water users are KCG and KCSA, which have reduced their extraction in 2021. However, this decrease is not transferred to the rate (m3/t) because certain uses (such as refrigeration or steam systems) are necessary in facilities that they do not have associated productions such as storage tanks.

On the part of QK, the increase is due, on the one hand, to the water needs demanded by the new plant built in 2020 and which has been operating normally throughout the year, and, on the other, to the consumption of water from the State wastewater treatment plant, the quality of which requires treatment prior to use, which translates into a higher volume to compensate for the rejection due to quality aspects. KCHI water consumption only represents 1% of KCE's water consumption.

The discharge remains unchanged compared to the previous year. The TOC pollution load dropped by 9,249 tons compared to the previous year, a per-ton reduction of 10%, mainly due to the actions carried out by QK.



2.1.3. AIR POLLUTION PREVENTION

The main commitments made in this area are aimed at strict compliance with specific laws and regulations, as well as the development of the principle of pollution prevention. This entails, among other actions, the gradual introduction of better available techniques, the modification of processes in favour of reducing emissions and close monitoring thereof.

The promotion of communication with interested parties is also contemplated. Along these lines, it should be noted that three of the companies that make up KCE (KCG, QK and KCSA) already publish emission data under the PRTR (Pollutant Release and Transfer Registers).

Contribution to the SDGs



Substances emission data

KCE	2019	2020	2021
CO EMISSION (kg)	21,131	22,310	22,497
CO EMISSION / PRODUCTION (kg CO/t)	0.05	0.06	0.06
NO_x EMISSION (kg)	54,024	56,751	55,440
NO_x EMISSION / PRODUCTION (kg/t)	0.12	0.12	0.13
CH₄ EMISSION (kg)	1,547	1,619	1,582
CH₄ EMISSION / PRODUCTION (kg/t)	0.00	0.00	0.00
HFCS EMISSION (kg)	173	178	72
SO₂ EMISSION (kg)	492	468	439
SO₂ EMISSION / PRODUCTION (kg/t)	0.00	0.00	0.00
PM EMISSION (kg)	953	1,097	1,160
PM EMISSION / PRODUCTION (kg/t)	0.00	0.00	0.00
VOCs EMISSION (kg)	115,428	87,226	68,420
VOCs EMISSION / PRODUCTION (kg VOCs/t)	1.54	1.23	1.02



As regards emissions from fuel gases (CO, NOx and SO₂), there are no significant variations compared to 2020.

On the other hand, regarding particulate emissions, KCSA is the KCE company reporting the highest emissions.

Lastly, there is an improvement in VOC emissions. The KCE company with the highest VOC emissions is KCHI, as the activity itself involves the handling of volatile solvents (the emissions of the rest are negligible in comparison).

The actions taken to minimize diffuse emissions has made it possible to reduce VOC emissions by 18,380 kg (22%) and the rate by 17% compared to 2020.

2.1.4. WASTE MANAGEMENT

KCE is working to reduce waste generation in its plants and offices, encouraging the application of the 4R technique (reduce, reuse, recycle and replace).

Among many other actions, work is being done to improve the performance of production processes to reduce the generation, reuse of packaging and revaluation of waste. Adequate waste management is also carried out to ensure that its impact is the most environmentally friendly.

The objectives in this area, as for the water vector, are aligned with those of the group. In this sense, it is defined as an objective for 2030 that the waste of industrial origin destined for landfill or incineration is less than 1%.

Contribution to the SDGs



Waste management data

KCE	2019	2020	2021
TOTAL WASTES (t)	15,284	15,448	14,395
TOTAL WASTES / PRODUCTION FINAL (kg/t)	38.93	37.62	35.65
TOTAL HAZARDOUS WASTES (t)	12,545	12,533	11,878
TOTAL HAZARDOUS WASTES / PRODUCTION (kg/t)	29.15	27.15	26.08
VALUATION OF TOTAL WASTES GENERATED (%)	70.73	61.22	67.07

The amount of waste generated has decreased by approximately 1,000 tons compared to the previous year; and the rate of waste generation per ton produced has decreased, improving by 5%.

All companies have contributed to reducing the amount of waste, with KCSA and QK being the ones that have contributed most significantly.

Another fact to note is that of the reduction of 1,000 tons, 68% comes from hazardous waste.

In terms of recycling, the recovery rate of reused or recycled waste has been 67%, including energy recovery.

2.1.5. MATERIALS MANAGEMENT

KCE's business involves the use of materials to manufacture and package the products. In this area, work is being done to provide more indicators that include not only the raw materials but also the materials used for packaging the product and auxiliary materials.

As previously mentioned, KCE is working on improving the performance of production processes, directly impacting the reduction of waste and, therefore, lower consumption of raw materials.

Another line of work that year after year acquires more relevance is related to the design of products that are more respectful of the environment; either by the consumption of less dangerous raw materials, use of recycled raw materials, material delivery format and reuse and/or use of recycled packaging mainly.

In the acquisition of materials, the quantities, format, and origin of the supply are also taken into consideration.

Raw materials usage data

KCE	2019	2020	2021
RAW MATERIALS (t)	304,109	307,491	290,012
RAW MATERIALS / FINAL PRODUCTION (t/t)	0.80	0.80	0.79



Responsible consumption and production of materials

Kao recognizes the importance of global issues and risks such as scarcity of resources, global warming, degradation of biodiversity and other environmental problems, as well as human rights, and, to contribute to resolution of global issues, Kao strives for sustainable procurement of raw materials.

KCE uses a wide range of raw materials in the production of its products. The consumption of raw materials in 2021 was 290 thousand tons and the production was of 380 thousand tons, maintaining the ratio of raw materials / final production (t/t).

Palm oil is used in many of our products, and it is predicted that future demand will increase steadily as a result of population

increases on a global scale, making deforestation and shortages of raw materials issues of concern. At KCE, we continue to develop technologies that use non-edible natural oil sources as alternatives to palm oil.

Kao has made a public commitment to support the reduction of forest destruction and achieve zero deforestation by implementing two projects related to the consumption of sustainable materials (palm oil and wood, paper and pulp derivatives).

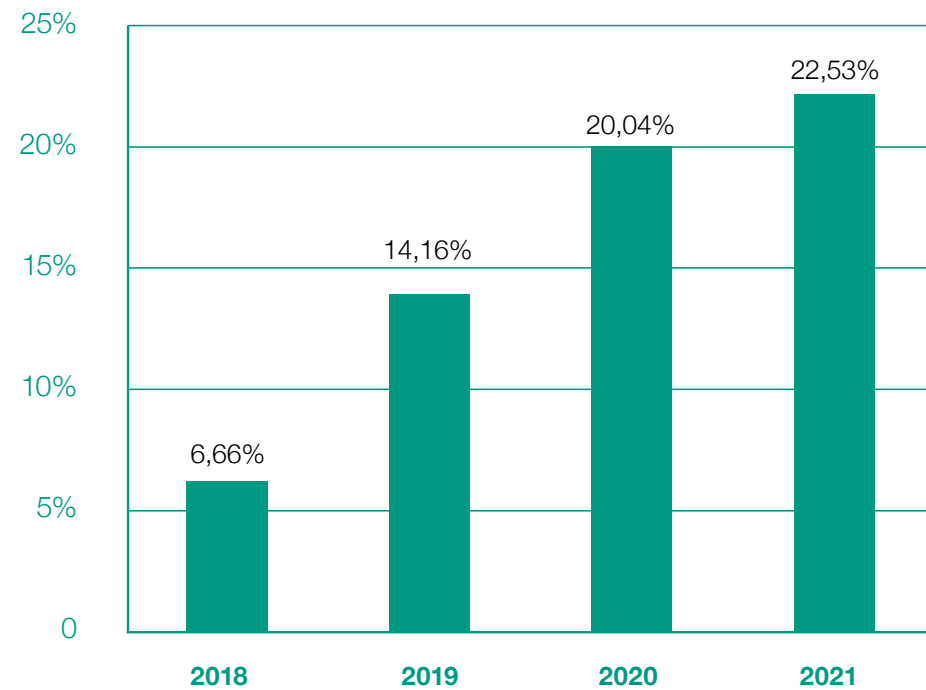
Likewise, KCE has done the same with its customers, through the supply of sustainable products, in particular, using sustainable palm oil. All KCE subsidiaries have obtained RSPO certification – the most

complete for the palm oil sector, with the exception of KCHI, which does not use palm oil in its processes. KCE's commitment is to supply all products based on sustainable palm oil if the customer so requires.

In 2020, Kao Corporation, the parent company of KCE, established the initiatives for the acquisition and supply of sustainable palm oil, setting a series of priority activities, among which it is worth highlighting the objective set for 2025 to acquire 100% certified oil according to the RSPO for palm oil used by the Kao Group.



The following graph shows the percentage of RSPO raw materials that KCE has consumed in 2021.



According to the results shown, a growing consumption of products based on sustainable palm oil can be observed. Collaboration with clients and with Kao's subsidiaries has made it possible to increase the percentage of RSPO certified products and thus be able to contribute to the transformation of the market towards more sustainable supply chains.

Decarbonization is one of the challenges that we have set ourselves as strategic and one of the measures adopted to achieve decarbonization is the continuous study of renewable raw materials to replace those derived from oil.

Some of the raw materials purchased by KCE may contain minerals from conflict zones.

On January 1, 2021, a new EU regulation came into force around four minerals from conflict zones: gold, tungsten, tin and tantalum. The regulation requires EU importers of these metals and minerals to ensure that they use only responsible and conflict-free sources.

KCE is not a direct importer of these minerals and therefore has no obligations under the aforementioned regulation.

However, we believe that we have a responsibility to verify the origin of such substances from our suppliers. To this end, all suppliers are requested to provide information on the use of minerals from conflict zones through the CRC (Certificate of Regulatory Compliance) document, and when applicable, are required to present evidence of origin in the validation process in accordance with established internal protocols. This process is performed annually to ensure that all products supplied to KCE are free of conflict minerals.

2.1.6. CHEMICAL MANAGEMENT

Within the Kao Group, there is a global procedure of its own for all affiliates –called the Comprehensive Chemical Substances Management System– that since 2017 has been implemented in all Kao affiliates worldwide.

The company continuously strengthens the functionality of the Comprehensive Chemical Substances Management System, in response to the increasingly strict regulatory requirements, the growing diversity in the chemical substances handled and the planned commercial expansion in new countries and commercial areas.

Taking this objective into account, the series of initiatives that mark the course of KCE in the field of chemical substance management can be summarized in the following measures:



RISK ASSESSMENT OF CHEMICAL SUBSTANCES



MANAGEMENT OF THE LIFE CYCLE OF CHEMICAL SUBSTANCES



COMMUNICATION OF RISKS ON CHEMICAL SUBSTANCES WITH INTERESTED PARTIES





RISK ASSESSMENT OF CHEMICAL SUBSTANCES:

On the one hand, carry out risk assessments of the priority substances for KCE, in accordance with the medium-term plan, and implement the global deployment of the Comprehensive Chemical Substances Management System in order to guarantee product safety and its use in the applications and countries for which it is being designed. On the other hand, carry out detailed studies of any product or new raw material that is used in KCE.



MANAGEMENT OF THE LIFE CYCLE OF CHEMICAL SUBSTANCES:

Plan and implement risk reduction measures and hazardous labelling based on the Global Harmonized System (GHS), a standard defined by the United Nations to standardize classification criteria and labelling throughout the world, using the appropriate language for each country.



COMMUNICATION OF RISKS ON CHEMICAL SUBSTANCES WITH INTERESTED PARTIES:

Through a public disclosure of the results of the activities to promote the management of chemical products at the international level and communication of interested parties.

Every chemical substance that we use or manufacture at KCE follows an exhaustive verification program of European regulations as well as the main regulations worldwide in order to know the real situation of these materials and thus be able to guarantee their safety and proper use.

Without a doubt, REACH is the most important European regulation to follow when it comes to Product Safety. During 2021, several substance registrations have been carried out with ECHA and others have been updated. In this sense, the European team is in charge of monitoring and obligations at the level of the entire Kao Group, for both our products and the raw materials we use. In particular, all suppliers are requested to provide information on the REACH registration of raw materials by means of the CRC (Certificate of Regulatory Compliance) document.

In order to improve our environmental performance globally, during 2021 a team has been created to implement the calculation of the Life Cycle Assessment and the Carbon Footprint of KCE products. The objective is to implement the integration of this calculation in future developments of new products or modifications of existing processes, with the purpose of improving their Carbon Footprint.

2.2. BIODIVERSITY MANAGEMENT

The company defines biodiversity conservation as an area of environmental intervention as part of its 'Responsible Care' activities.

Greater knowledge, awareness and sensitivity to environmental aspects entails expanding the scope of KCE's actions, among which conservation and promotion of biodiversity stand out.

The following are the consolidated indicators for the last years:

KCE	2019	2020	2021
SOIL OCCUPANCY (%)	42.06	41.99	42.06
TOTAL LAND USE (m²)	187,259	186,934	187,793
TOTAL SEALED AREA (m²)	254,556	256,006	254,834
SURFACE PERMEABILITY (SEALED SURFACE /SURFACE ESTABLISHMENT) (%)	57.17	57.50	57.08
TOTAL AREA IN THE CENTRE ORIENTED ACCORDING TO NATURE (m²)	96,286	94,836	97,289
INTERNAL OCCUPATION BIODIVERSITY (INTERNAL SURFACE ORIENTED TO NATURE / SURFACE ESTABLISHMENT) (%)	21.63	21.30	21.79
TOTAL AREA OUTSIDE THE CENTRE ORIENTED ACCORDING TO NATURE (m²)	24,874	24,874	24,874
EXTERNAL OCCUPATION BIODIVERSITY (SURFACE EXTERNA ORIENTED TO NATURE / SURFACE ESTABLISHMENT) (%)	5.59	5.59	5.57

³ Japan Business Initiative for Biodiversity is a cluster made up of different companies committed to biodiversity conservation. Kao is member since the foundation in 2008.

Basic biodiversity indicators

Kao Group has deployed a methodology based on the land use standard – developed by JBIB³ – to better understand the situation of biodiversity and evaluate the progress of conservation in all its facilities worldwide. For this purpose, each establishment formalizes an evaluation questionnaire, distributed into the following concepts:

- Biodiversity management
- Response to exotic species
- Circulation of matter
- Water circulation
- Biological monitoring
- Employee participation
- Cooperation with externals
- Others

KCE carries out a series of actions to improve year after year. Although this year has been somewhat atypical due to the emergence of COVID-19 - it has led to the cancellation of some of the planned actions and the modification of the approach of others - initiatives to improve biodiversity have continued.

The planting of different species has been carried out in the centres.

In KCSA, invasive species control actions have been maintained; the monitoring of the nest boxes and the insect hotel installed in 2020 has been carried out and the placement of nest boxes has been expanded in the centres of Olesa de Montserrat and Mollet del Vallès.

The initiative to choose the species of the year, in this case the sparrow, has also been launched and, throughout the year, information has been disseminated to make it known. The purpose of this initiative is to disclose the species that inhabit our establishments and learn more about them.

For its part, KCHI has proceeded to install nest boxes, carry out outreach activities in which information has been provided on the most common species in the area, information on natural areas around the centres, etc.

Contribution to the SDGs



Placement of nest boxes



Specie of the year



Species plantation

