

SUSTAINABILITY*

Company

Foundations of the group

The foundations of the group and information about its management and corporate structure are described in detail in the “Foundations of the group” section on page 24 – 26.

Strategy and corporate management

Sustainable business activity, i.e., reconciling ecology, economics and social responsibility, is a central element of CropEnergies’ corporate strategy and is in accord with its vision of preserving well-being for current and future generations. The Chief Technical Officer has overall responsibility for sustainability. Observing corporate social responsibility includes the planning, implementation and communication of social and ecological measures as well as their integration into strategy and organisational development.

CropEnergies pays particular attention to the following aspects:

- Creating a work culture that actively encourages safe behaviour
- Guaranteeing safe production plants and working conditions
- Reducing the consumption of resources due to the fullest possible use of raw materials
- Procurement of biomass that complies with high quality and sustainability requirements and is of mainly regional origin
- Continuous improvement of business activities in respect of their impact on the environment and climate
- Continually optimising the energy efficiency of the production processes
- Efficient implementation and execution of management systems (environment, energy and quality)
- Respecting the interests of all stakeholders material to CropEnergies
- Maintaining long-term partnerships, e.g., with raw material suppliers and customers

Employees

Information about employees can be found in the section “Employees” on pages 42 –45.

Ratings and initiatives

In addition to credit ratings, sustainability ratings are gaining in importance for capital market participants. CropEnergies was able to confirm Prime status (C+) in the ISS ESG Corporate Rating. CropEnergies, as an integral part of the Südzucker Group, also participates in the Carbon Disclosure Project (CDP) Climate Change, in which specific environmental data are published. In addition, the Südzucker Group was subject to an evaluation by EcoVadis focusing on sustainability in the supply chain. Ryssen Alcools SAS was again awarded gold status.

Furthermore, the Südzucker Group has submitted a declaration of intent with regard to participating in the Science-Based Target initiative (SBTi). The identification of concrete science-based corporate targets consistent with the 2015 Paris Climate Agreement is at the core of the internationally recognised standard for climate targets. CropEnergies makes a significant contribution to the Südzucker Group’s emission reduction targets and effectively helps mitigate climate change.

Energy, environment and climate

As a company that develops and produces sustainable biomass-based solutions for industries and consumers, CropEnergies bears responsibility for environmentally relevant processes. It uses and further develops site-adapted technologies, from the withdrawal of primary raw materials from the environment to their preparation and transportation through to processing in biorefineries. CropEnergies also deploys and continually improves suitable technologies in distributing and using products as well in collecting and treating waste and waste water.

Biorefineries / Circular economy

CropEnergies' aim is to embed the fundamental idea of a circular economy in all of its biorefineries. That means continually and systematically minimising resource requirements, energy and water use as well as the input of harmful substances and wastes into the environment whilst observing the highest quality standards. What is essential here is the fullest possible utilisation of the deployed biomass and the closing of energy and material cycles.

CropEnergies' biorefineries manufacture products based on renewable raw materials which replace fossil raw materials and hence contribute to avoiding greenhouse gas emissions harmful to the climate. This currently includes, in particular, sustainable alternatives to fossil fuels and protein-rich, GMO-free food and animal feed products. Other application areas and products will be increasingly integrated into CropEnergies' portfolio of sustainable, biomass-based solutions in future.

Additional potential in terms of careful and efficient use of resources is realised by means of integration into the Südzucker Group's network of sites. For example, a product portfolio including sugar, molasses, sugar beet pulp, calcium fertiliser, glucose, gluten, bran, fuel ethanol, technical alcohol, neutral alcohol, liquid and dried protein animal feed as well as biogenic carbon dioxide is being produced from sugar beet and grain in a total of five production plants in Zeitz.

Biodiversity

Biomass for fuel production is subject to strict statutory regulations, which ensure the sustainability of the raw materials. This means, in particular, that the biomass used must not be acquired from sensitive areas with high levels of carbon, such as moors, or from areas with high biological diversity, such as first-growth forests.

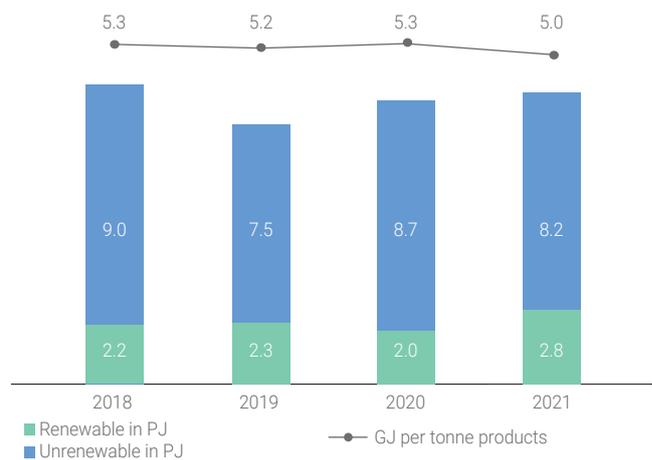
CropEnergies also procures raw materials of European origin in the main, thereby avoiding land use changes in, say, tropical rain forests. Agricultural raw materials from the EU also fulfil the principles of cross-compliance applicable to agricultural production with the corresponding requirements for agriculture. These requirements ensure environmentally sound farming.

Energy

CropEnergies' production stands out for its efficient processes and modern energy supply plants. CHP plants and heat recovery systems, for example, bring about above-average levels of energy efficiency. This reduces the fuel requirement and simultaneously lowers the emissions of air pollutants and greenhouse gases that affect the climate.

The requirements arising from the Energy Efficiency Directive (EED) have been implemented at all CropEnergies' production sites as well as in administration. A certification in accordance with ISO 50001 was performed in Zeitz. Furthermore, an audit in accordance with ESOS (Energy Savings Opportunity Scheme) was carried out in Wilton. The biorefinery in Wanze is participating in a voluntary, industry-specific agreement to improve energy efficiency ("Accords de branche de deuxième génération"). Energy audits in accordance with EN 16247 were successfully conducted in Loon-Plage and for the administration in Mannheim.

Energy use (direct and indirect)

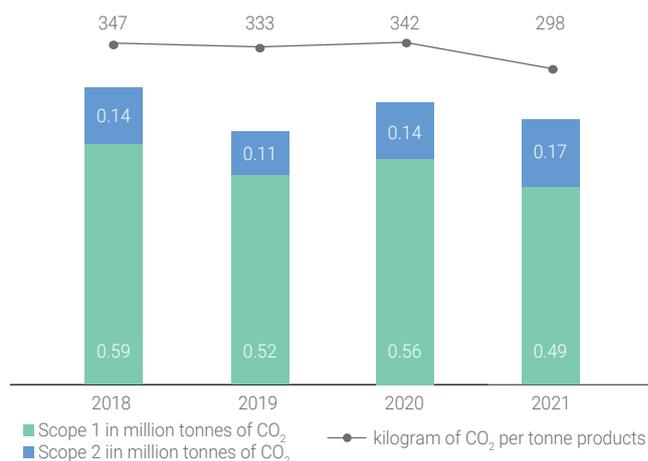


Specific energy use depends not only on process management and applied technologies, but also, among other things, on the type and quality of the raw materials used. The flexibility of the plants means that CropEnergies is able to adjust raw material use to the respective market conditions.

In 2021, 11.0 PJ* of energy were used for the processes, with the proportion of renewable energy already being 25%. The specific energy requirement was 5.0 GJ per tonne of products (see figure).

At Wanze, a large part of the thermal and electrical process energy required is produced from the husks of the wheat grain. The steam supply in Wilton, around half of which comes from a plant for recovering energy from household wastes, is sourced externally. CropEnergies will gradually reduce the consumption of fossil fuels over the next few years. Site-specific measures have been planned and already started, in part, for each biorefinery. The energy supply in Loon-Plage, for example, was converted in 2021, with the result that, going forward, 75% of the steam requirement will be met by waste heat from a neighbouring industrial plant.

Scope 1 and 2 CO₂ emissions



Emissions

Scope 1 and Scope 2 emissions comprise all direct emissions as well as indirect emissions from energy use. So-called Scope 3 emissions include all other indirect emissions in the upstream and downstream supply chain.

Scope 1 and 2 emission

The amount of CO₂ emissions depends on both the total energy demand and the fuel and energy mix. The absolute Scope 1 and 2 emissions in 2021 amounted to 0.66 million tonnes of CO₂. This represents a year-over-year reduction of 5%, which is largely due to the increased use of steam from natural gas in Zeitz.



SCOPE 01
DIRECT EMISSIONS FROM OWN SOURCES

Examples:
own CHP generation, production process



SCOPE 02
INDIRECT EMISSIONS FROM PURCHASED ENERGY

Examples:
purchased thermal and electric energy



SCOPE 03
ALL OTHER INDIRECT EMISSIONS IN THE VALUE CHAIN

Example Upstream:
raw material supply, transport, auxiliary materials

Example Downstream:
use of products sold, transport



* 1 petajoule (PJ) = 10¹⁵ joules (equivalent to around 278 million kWh)

Scope 3 emissions

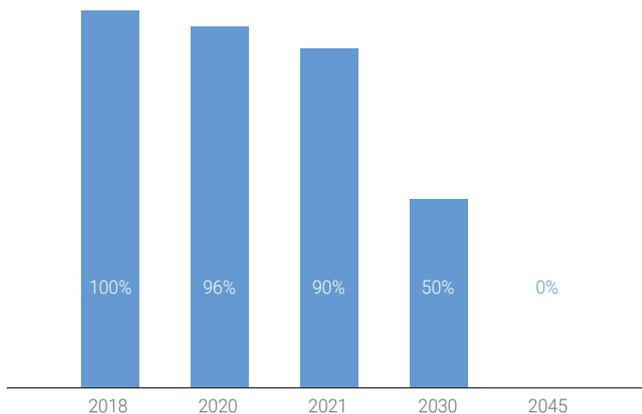
In Scope 3, the upstream activities in raw material cultivation are particularly relevant to CropEnergies. Upstream and downstream transport processes as well as packaging are not significant, as the products are mainly loaded loosely onto ships, trains or lorries. Disposal of the products (end-of-life emissions) is not relevant.

A considerably positive influence is to be found in the downstream activities, particularly in the use of the sold fuel ethanol. By replacing fossil fuels, CropEnergies' renewable fuels bring about emissions savings of more than 1 million tonnes of CO₂ p.a. in the transport sector.

Climate neutrality 2045

CropEnergies aims to have climate-neutral production by the year 2045. As the first milestone, CropEnergies intends, by the year 2030, to reduce direct and indirect emissions (Scope 1 and 2) from production by 50% compared with 2018.

Scope 1 and 2 CO₂ emissions in %



The intended measures can be grouped into three main categories:

- improvement in energy efficiency,
- technological advance and
- replacement of fossil energy sources by renewable ones.

While a further improvement in the energy efficiency of the production plants using currently existing technologies is possible only to a limited extent, the use of alternative energy sources like sun, wind and biomass offers greater potential for reducing emissions. CropEnergies is examining concrete projects for using solar and wind energy at various sites. At the site in Zeitz, CropEnergies started to phase out coal in 2021 and has already covered more than 20% of the required process heat through natural gas. A second important component of the energy supply strategy is the construction of a second biomass boiler in Wanze, which is expected to start operating at the end of 2023. This will create the conditions for being able to supply the biorefinery in Wanze with process energy in a completely climate-neutral manner.

Adaptation to climate change

The opportunities and risks for CropEnergies are described in detail in the section "Risk and opportunities report" on pages 67 – 79.

Significant opportunities arise due to increasing customer demands for regional procurement and security of supply against the background of increasing disruptions of international supply chains. Establishing an early presence in new business areas also offers opportunities for the CropEnergies Group's sustainable development.

Possible risks associated with climate change include harvest losses, disruption of raw material and/or product logistics, damage to production plants due to acute physical risks (extreme weather events such as flooding and storms) or to chronic physical risks (e.g., higher sea level and rising average temperatures), production restrictions due to shortage of water (in the event of heat or low tide) and energy (biomass), as well as loss of reputation due to CO₂-intensive production.

Water, waste water and waste

Water sourcing

CropEnergies aims to manage water resources sustainably by reducing fresh water requirements in its production facilities by means of its recycling concept. The water withdrawn is mainly surface water and is usually sourced from adjoining rivers.

Water discharge

To treat the waste water from production, CropEnergies operates biological industrial sewage treatment plants that have both aerobic and anaerobic units, at most of its sites. In the case of the anaerobic units, the biogas arising is used to generate energy. The water that has been cleaned is returned to neighbouring rivers. The remaining quantity of waste water is discharged into third-party waste water treatment plants or urban sewage plants, which means that environmentally responsible treatment is always ensured. The requirements on waste water discharge and disposal to third parties, respectively, are defined by the competent approval authority.

Water withdrawal and return

(information in million m³)

	2019	2020	2021
Surface water	5.8	5.6	6.3
Ground water	0.3	0.4	0.2
Water supplier	0.5	0.5	0.7
Water withdrawal	6.6	6.5	7.2
Water return	5.6	5.8	6.6

Strictly speaking, the difference between the withdrawn and the discharged water does not represent consumption of water, as it remains in the natural water cycle. This is mainly water that, for example, is released into the atmosphere via cooling or drying processes or is contained in the product.



2021



WATER WITHDRAWAL

7.2

MILLION m³



6.3 SURFACE WATER
0.2 GROUND WATER
0.7 WATER SUPPLIER



WATER RETURN

6.6

MILLION m³

Areas with water stress

Water availability depends on water resources, on the one hand, and on water withdrawal, on the other. If withdrawal exceeds a certain percentage of resources, this is referred to as water stress.

According to the World Resources Institute’s Aqueduct Water Risk Atlas and local evaluations, the Zeitz, Wanze and Loon-Plage production sites have been identified as areas with high levels of water stress. Wilton, according to the analysis, is in the low-to-medium range in terms of water stress. Measures to increase water efficiency in production processes are being examined.

Waste

As the components contained in the raw materials are almost completely refined into ethanol and protein-rich products, very little waste quantities are generated. Where wastes cannot be avoided, CropEnergies aims to achieve a high recycling and recovery rate in accordance with sustainability and resource conservation.

Wastes for re-use and disposal
(information in 1,000 tonnes)

	2019	2020	2021
Recycling	65.7	81.4	72.0
Composting	7.3	7.8	5.6
Landfilling	0.8	4.8	7.5
Energy recovery	2.1	3.8	2.6
Other	0.5	0.5	2.2
<i>of which hazardous wastes</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>
Total	76.4	98.3	90.0

In the past financial year, 89% of wastes were recycled, composted or used to generate energy. 0.1% of all waste materials involves hazardous waste as defined by the EU Waste Framework Directive. These consist primarily of used lubricants from production, alcohol residues or insulation materials.



2021

IN THE PREVIOUS FINANCIAL YEAR, 89% OF ALL WASTE WAS REUSED, RECYCLED, USED FOR COMPOST OR ENERGY GENERATION.



Since the components of the raw materials are almost completely refined into ethanol as well as food and animal feed products, only small amounts of waste are generated.

Raw materials, products and logistics

Raw materials

CropEnergies' sustainability activities begin as early as the upstream stages of the value chain, particularly in respect of the procurement of raw materials. CropEnergies' biorefineries use only agricultural raw materials of European origin that are mostly procured close to the respective site. CropEnergies has set itself the target of sourcing 95% of raw materials from Europe and 75% from within a radius of 250 km.

Agricultural raw materials from the EU fulfil the principles of cross-compliance applicable to agricultural production with the corresponding requirements for agriculture. These requirements ensure environmentally sound farming. The sustainability criteria for raw materials for the production of biofuels go beyond the cross-compliance requirements. They stipulate, for example, that the raw materials must not be grown in sensitive areas such as first-growth forests or in areas of high biological diversity. In order to guarantee this, all interfaces involved in production are regularly audited by independent experts and certified in accordance with certification systems recognised by the EU. Compliance with the sustainability criteria is laid down in the contracts with raw material suppliers. More than 95% of the raw materials used by CropEnergies have been certified as sustainable.

Apart from agricultural raw materials, CropEnergies also processes residues into renewable fuel. In the past financial year, this made up 6% of the ethanol sold in the transport sector. The quantity of ethanol manufactured from residues is to be gradually increased in the next few years.

Supplier assessment

Raw materials, goods and services are purchased by the CropEnergies Group in accordance with ecological, economic and social criteria.

The code of conduct for suppliers, which specifies guidelines for sustainable procurement and defines the environmental, labour and social standards to be met, is part of the tendering procedures and contract negotiations with suppliers. It applies to suppliers across the entire value chain (<https://www.cropenergies.com/en/downloads>).

Product responsibility and quality

Thanks to its integrated production concepts, CropEnergies refines the raw materials used into high-grade products in a resource-efficient manner in its biorefineries. CropEnergies produces protein-rich food and animal feed products, which also contain valuable dietary fibres, fats, minerals and vitamins, from the non-fermentable contents of the raw materials. These products have a high nutritional value and make an important contribution to meeting European demand for vegetable proteins, thereby reducing, in particular, soy imports from North and South America. Furthermore, the biogenic carbon dioxide produced during fermentation is collected, cleaned and liquefied in Zeitz, in Wilton and, since the end of 2021, also in Wanze. It replaces carbon dioxide of fossil origin in the manufacture of beverages, for instance.

CropEnergies attaches central importance to the production of safe and high-quality products and is conscious of the accompanying responsibility.

A quality management system lays down a structured and effective procedure for all stages of production. The integrated quality management system defines measures that ensure that all products comply with the statutory specifications and customers' requirements. In 2021, CropEnergies introduced software for central and automated administration of processes at the Mannheim, Wanze and Zeitz sites.

The HACCP concept is a central element of the quality management system, with a structured hazard analysis being used to examine each individual step in the production of food in respect of potential hazards for the health of consumers and in the production of animal feed in respect of animal health. Corresponding countermeasures are initiated immediately, where required. The risk assessment is used as the basis for preparing a monitoring plan and defining analyses. The collected data are systematically reviewed, and expert opinions are prepared on a regular basis in order to ensure the continual safety of food and animal feed for the end consumer. Any discrepancy is examined by the HACCP team and, if necessary, by an expert team or even a crisis team.

Other essential elements of quality management relate to long-term supplier relationships and detailed raw material specifications, qualified employees, safe production processes and the close coordination with customers. Rigorous complaint management for the entire product portfolio is also integrated into the system as an additional tool for the constant improvement of processes and products.

External certifications

CropEnergies' customers attach great importance to the verification of safety and legislative compliance of products by external certification bodies. Accordingly, production processes are geared to internationally recognised standards involving extensive requirements on the evaluation procedures. Depending on customer requirements, the production sites have various specific certificates that are listed in the table below. In addition, CropEnergies plans to conduct a SMETA (SEDEX Members Ethical Trade Audit) 4-pillar audit in Wanze in 2022, which places additional requirements on social responsibility, ethical behaviour, environment management and business practices.

In the "Renewable Energy Directive", the European Union has defined sustainability requirements for the cultivation of biomass for energy uses. The entire value chain, from raw material extraction to the production of the fuel through to its delivery, must be completely certified as sustainable. Independent certification systems approved by the European Commission and national authorities are responsible for monitoring these processes.

All CropEnergies' ethanol plants are certified as sustainable in accordance with at least one of the certification systems recognised by the European Commission (e.g., REDcert EU, ISCC EU or 2BSvs) and are audited on an annual basis. The certifications ensure that the fuel ethanol produced fulfils the sustainability criteria of the Renewable Energy Directive. This also includes, for example, greenhouse gas emissions being reduced by at least 50% compared with fossil fuels. This statutory requirement is being significantly exceeded at CropEnergies, with the fuel ethanol produced saving, on average, over 75% of greenhouse gas emissions.

External certifications

Code	Standard for	Sites covered
ISO 9001	Quality management system	CropEnergies AG, BioWanze SA, CropEnergies Bioethanol GmbH, Ryssen Alcools SAS
ISO 50001	Energy management system	CropEnergies Bioethanol GmbH
ESOS	Energy Savings Opportunity Scheme	Ensus UK Ltd
EN 16247	Energy audit	CropEnergies AG, Ryssen Alcools SAS
REDcert ²		BioWanze SA, CropEnergies Bioethanol GmbH
REDcert EU	Renewable energies	BioWanze SA, CropEnergies Bioethanol GmbH, Ryssen Alcools SAS
ISCC EU	Renewable energies	Ensus UK Ltd
2BSvs	Renewable energies	Ryssen Alcools SAS
IFS Food	Food safety	BioWanze SA
GMP+	Animal feed safety	CropEnergies AG, BioWanze SA, CropEnergies Bioethanol GmbH
FEMAS	Animal feed safety	Ensus UK Ltd
Koscher		BioWanze SA, CropEnergies Bioethanol GmbH, Ryssen Alcools SAS
Halal		BioWanze SA
VLOG	GMO-free animal feed	CropEnergies Bioethanol GmbH

Logistics

Smooth operation of the plants is contingent upon efficient goods movement. This means needs-oriented raw material supply on the one hand, and continuous product delivery, on the other; both against the background of limited storage possibilities and optimum use of production capacity.

CropEnergies' biorefineries are located in close proximity to raw materials on water routes or near railways. This shortens transport routes or enables low-emission deliveries to be made, mostly via sea or rail. Loon-Plage is connected to the port of Dunkirk via pipeline, procurement being mainly based on the sea route. At Wilton, around 70% of the raw materials used are delivered via sea, while it is more than 55% at Wanze. The plant at the network site in Zeitz is connected to Südzucker AG's sugar and starch production via pipeline networks.

CropEnergies also takes care, when delivering the manufactured products, to reduce the emission of CO₂ as far as possible

by selecting suitable means of transport and optimising the distances travelled.

The distribution logistics to the customer are therefore likewise climate-friendly, for the most part. In total, around 50% of products are transported by lorry, particularly DDGS, DGS, and CDS, which are mostly delivered over short distances. Two-thirds of the ethanol, on the other hand, is transported by ship or rail. At all sites, the fermentation gas reaches the respective CO₂ liquefaction plant via pipeline.

EU taxonomy

Background

The EU taxonomy (EU sustainable finance taxonomy) is a classification system for defining sustainable economic activities. The regulation supports companies and financial market players in assessing the sustainability of investments objectively. The European Commission's aim is to channel financial flows into sustainable activities so that private invest-



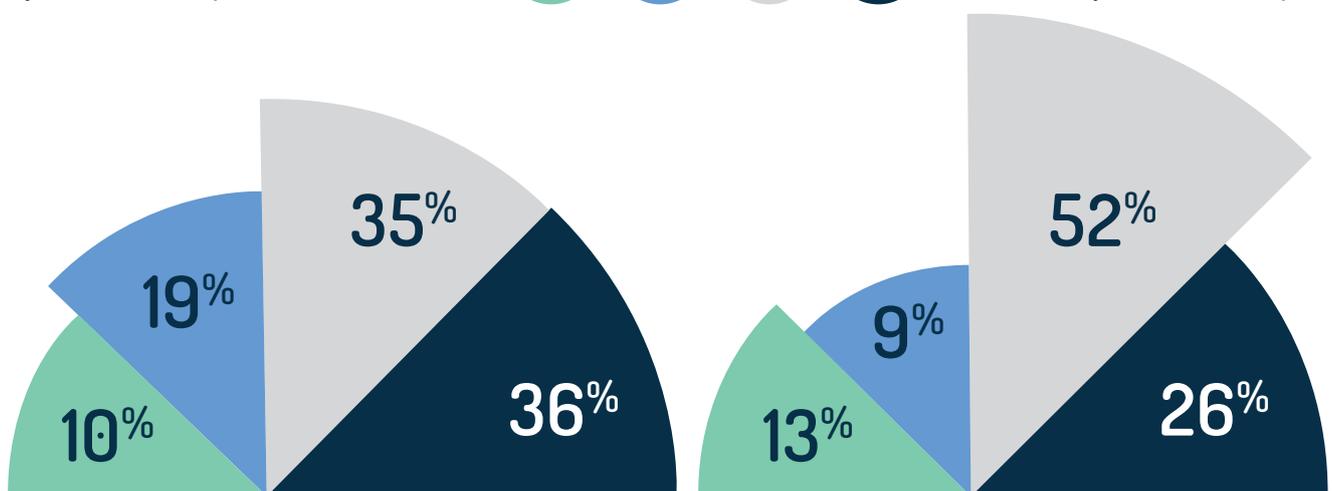
RAW MATERIAL TRANSPORT

By mode of transport



PRODUCT TRANSPORT

By mode of transport



ments also make a contribution to the European Green Deal. The criterion of sustainability is thereby closely linked to six environmental objectives.

A delegated act already exists for the first two environmental objectives (climate change mitigation and adaptation to climate change). This defines the technical screening criteria according to which relevant economic activities within specific sectors (e.g., energy or transport) can be evaluated in respect of their substantial contribution to the environmental objectives. The European Commission is planning to publish a further delegated act for the remaining four environmental objectives in 2022.

Reporting

Sustainability reporting in relation to the EU Taxonomy Regulation is not yet mandatory for CropEnergies. According to the draft Corporate Sustainability Reporting Directive (CSRD),

wider obligations in the context of sustainability reporting and hence in the EU taxonomy are expected to apply to CropEnergies from the 2023/24 financial year onwards. CropEnergies has nevertheless opted to publish figures on taxonomy eligibility on a voluntary basis already for the 2021/22 financial year.

In terms of the two environmental objectives already published, CropEnergies mainly generates revenues in the economic activity "Manufacture of biogas and biofuels for use in transport and of bioliquids".

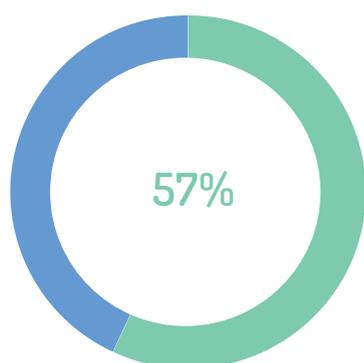
The following graphic shows the proportion of CropEnergies' goods or services in the 2021/22 financial year involving taxonomy-eligible economic activities. The financial indicators revenues, capital expenditure (CapEx) and operating expense (OpEx), include both environmental objectives.



(Source: BMWi; own presentation)

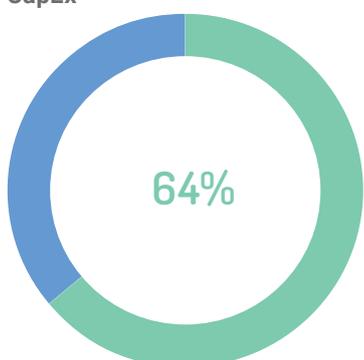
Proportion of taxonomy-eligible business activities

Revenues



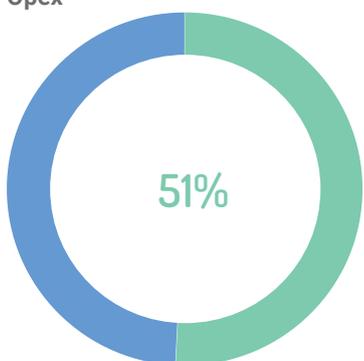
of € 1,075 million

CapEx



of € 36 million

Opex



of € 24 million

Society

Corporate success and assuming social responsibility belong together in our view and are a key prerequisite of sustainable business activity.

Responsibility to our employees and respect for human rights along the value chain have a high priority in this regard. The same applies to high value creation in rural areas, societal and social commitment and dialogue with our stakeholders.

Respect for human rights, ethics and integrity

CropEnergies is committed to conducting its business in an ethical, legal and responsible manner. Corporate ethics include compliance and integrity; CropEnergies' code of conduct is reproduced in full on its website <https://www.cropenergies.com/en/investor-relations/compliance>. It takes account of applicable legislation and international standards such as the United Nations' (UN) Declaration of Human Rights and the Conventions of the International Labour Organisation (ILO). CropEnergies expects all employees to act in accordance with the values and specifications contained therein. Adherence to the principles of CropEnergies' code of conduct is monitored by the internal audit department and supported by an anonymous whistleblower system.

Every employee is obliged to respect the dignity and personal rights of each and every colleague as well as third parties. At the same time, suppliers and/or contractors are expected to behave in line with the requirements.

Societal and social commitment

The focus of CropEnergies' societal and social commitment is on promoting projects in the vicinity of its production sites as well as supporting and sponsoring clubs, schools, science and teaching.

Stakeholders and forms of dialogue

The following table shows the main stakeholders and forms of dialogue for CropEnergies. As, owing to coronavirus, CropEnergies was unable to continue the personal dialogue with stakeholders in the usual form, communication was adapted to the changed framework conditions. The new formats include, for example, the virtual annual general meeting and numerous other online meetings.

Value creation in rural areas

Value-oriented and profitable growth provides the basis for financing further investment and research projects to produce top-quality products and sustainable manufacturing processes, and to open up new markets. The regional economy also benefits from such growth and economic sustainability. All production sites are in rural areas and in the immediate vicinity of raw material production. They not only

make an important contribution to the preservation and creation of long-term and qualified jobs, but also contribute towards the development of the regional economy and agricultural holdings.

Materiality analysis

In the 2020/21 financial year, CropEnergies asked the relevant stakeholder groups to identify sustainability aspects in relation to CropEnergies that are important for them. This materiality analysis shows potential for improvement in the areas of “gender equality and diversity” and “training and personal development”, in particular. In working groups across the group, the Südzucker Group is developing corresponding measures aimed at more diversity and, in this connection, has signed the Charta der Vielfalt (diversity charter) and launched an Empowering Women programme to more strongly promote and support female managerial staff in future.

Main stakeholders	Main forms of dialogue
Suppliers	Information events (trade fairs, “Grain and Feedstuff” forum), talks with suppliers
Customers	Product specifications, certifications, services
Employees	Works meetings, training courses, appraisal interviews, employee magazine, circulars, video messages, intranet
Shareholders, capital market, investors, financial institutions	Financial reporting, annual general meeting, analysts’ conferences, roadshows, conference calls, website
Society and the general public (residents, authorities, industry associations/interest groups, research/scientific bodies, journalists, media, parties, politicians)	Press releases and talks, factory tours, research collaboration and projects, political dialogues, website

Results of the materiality analysis

Sustainability is a significant business factor for our customers. Oil companies, for example, are increasingly gearing their purchase of fuel ethanol to proven greenhouse gas savings owing to European and national requirements on a low-emission transport sector. Sustainable production is also playing an increasingly important role for food and animal feed product customers. There are other potential partners in various branches of industry, e.g., in the chemical industry, that are likewise showing an ever growing interest in sustainably manufactured products.

