
E S G
Synthesia
Chemistry for the future
REPORT ON THE SUSTAINABLE DEVELOPMENT OF SYNTHESIA, a.s.

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https://www.synthesia.eu/eng/sustainability

About Synthesia

Synthesia, part of the Kaprain Group, is a leading European manufacturer of specialty chemicals with more than a century of tradition. Its production portfolio consists of pigments and dyes, cellulose derivatives and organic intermediates.

The company´s organisational structure is based on this wide range of products. It is divided into four strategic business units (SBUs) – Pigments and Dyes, Nitrocellulose, Organic Chemistry and Energy. SBUs are units with a high degree of independence and central coordination..

Our values

Focus on the customer

- we are a reliable supplier of products and services

Performance and self-confidence

- we deliver high performance backed by our expertise and continuous education. We believe in our ability to achieve ambitious goals.

Responsibility

- we assume responsibility for our activities, including their impact on the environment

Cooperation

- through joint efforts, we are constantly improving the quality and efficiency of all activities

Respect and recognition

- we value high-quality people and see them as the drivers of our company´s success

Our vision

A modern, safe, environmentally friendly, prosperous and growing company – the best employer in the region.

Business Model

Synthesia, a.s.

Pigments and Dyes

- Pigments
- Dyes
- Optical brightening agents (OBA)

Nitrocellulose

- Energetic nitrocellulose
- Industrial nitrocellulose
- Oxycellulose
- Inorganics acids and salts
- Diethylether

Organic Chemistry

- Custom syntheses
- Intermediates
- Pesticides
- Pharmaceutical substances

Energy

- Energy for all divisions
- Steam and electricity
- Energy independence

Management

The company has implemented an integrated quality management system in accordance with **ISO 9001**, an environmental management system in accordance with **ISO 14001** and an occupational health and safety management system in accordance with **ISO 45001**. At the same time, a quality management system in accordance with **ISO 13485** has been implemented for the manufacture of medical devices and for the manufacture of medicinal substances in accordance with good manufacturing practice.

ISO 9001
ISO 14001
ISO 45001
BUREAU VERITAS
Certification

Since 2015, we have been involved in the sustainability assessment system on the **EcoVadis** platform.

Overall score
↗ 70/100
Percentile ⓘ
91st

SILVER | Top 15%
ecovadis
Sustainability Rating
SEP 2024

Since 1996, we have been authorised to use the **Responsible Care** logo.

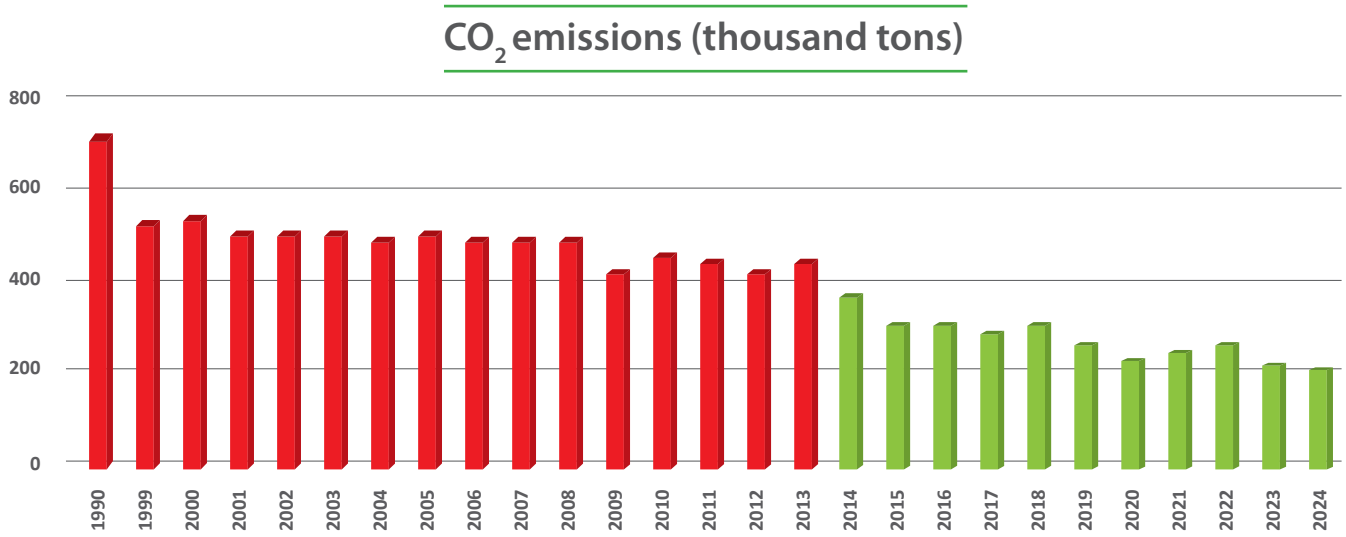
RESPONSIBLE CARE℠
Driving Safety & Sustainability

In 2015, we received the **Sustainable Development Award from the Czech Association of Chemical Industry.**

Climate Change

The main source of CO_2 emissions in the company is the combustion of fossil fuels for steam production for heating and electricity generation. Fossil fuels are also burned in various technological nodes of chemical production.

Development of CO_2 emissions



Company´s decarbonisation vision

Between 1990 and 2024, CO2 emissions were reduced due to lower energy consumption, reduced energy losses, limited production, and investments in energy source reconstruction.
The goal of reducing emissions to 55% of the 1990 level, as set out in "FIT FOR 55," was thus achieved by Synthesia as early as in 2014.

Emissions reduction measures implemented by 2024

- Gasification of the boiler room, installation of a K15 gas boiler – 2015.
- Ongoing replacement of public lighting lamps with LEDs.
- Repairs to steam pipe insulation. Ongoing for the last 5 years.
- Installation of a photovoltaic power plant on the M42 building with a total output of 54 kWp.
- Commencement of the TG14 turbogenerator installation.
- Energy savings in technologies (e.g. large-volume autoclaves for NCL production, condensate utilisation, installation of more efficient exchangers, installation of frequency converters, etc.). Ongoing for the last approx. 15 years.

Our goals

Increase the share of renewable raw materials in energy production – up to 50% of heat from certified biomass by 2030 and 100% by 2050.

Achieve a 10% reduction in CO_2 emissions by 2030 compared to 2023.

Planned measures to reduce emissions by 2050

- Photovoltaic panels on roofs
- Steam pipe insulation
- Installation of Rankine cycles at selected production plants
- Modernisation of transformer stations
- Electromobility

Monitored values in the energy sector

Consumption of energy resources and fuels

Non-renewable resources	Unit of measurement	2022	2023	2024
Coal and coal products	MWh	653,902	552,989	541,496
Heating oil	MWh	1,154	2,132	1,594
Natural gas	MWh	28,533	77,647	37,724
Diesel fuel for energy purposes	MWh	1.2	2.14	1.94
Petrol	litres	26,000	34,566	37,733
Diesel	litres	114,000	83,788	119,622
Renewable resources	**Unit of measurement**	**2022**	**2023**	**2024**
Biomass	tons	3,000	14,610	20,915

Energy purchase and generation

Non-renewable resources		Unit of measurement	2022	2023	2024
Purchased energy	Electric power	MWh	1,806	3,882	4,570
	Heat	MWh	1.53	23	0
Total annual energy production	Electric power	MWh	117,958	128,357	101,468
	Heat	MWh	567,423	568,442	508,881
Renewable resources		**Unit of measurement**	**2022**	**2023**	**2024**
Purchased energy	Electric power	MWh	104	0	312
	Heat	MWh	0	0	0
Total annual energy production	Electric power	MWh	7,931	7,226	10,468
	Heat	MWh	37,949	34,576	52,501

CO_2 emissions

Total annual direct and indirect GHG emissions	MJ	2022	2023	2024
Gross annual SCOPE 1 emissions	tCO_2e	246,880	223,140	209,682
Gross annual SCOPE 2 emissions	tCO_2e	4,257	669	1,554
HG emissions from F-gas consumption	$kgCO_2e$	0.25	0.57	93.2

Pollution

Our goal

Implement measures by the end of 2026 to achieve BAT limits for waste gas treatment in the chemical industry.

Air

In 2022, the investment project "Ecologisation of the energy source - Zelená louka heating plant" was implemented, which consisted of two stages: the conversion of two coal-fired boilers to fluidised combustion boilers and the construction of a natural gas boiler. The operation of this investment project has a significant impact on improving air quality and ensures compliance with the new, stricter BAT limits valid from 18 August 2021.

In 2024, an investment project was launched at NCL SBU to reduce NO_x emissions.

Monitored air emission values

Emitted substance	Unit of measurement	2022	2023	2024
SO_2	tons	296	217	210
NO_x	tons	243	226	197
Solids	tons	4.6	6.2	4.9
CO	tons	75	69	62
Ammonia	tons	0.26	0.32	0.23
Gaseous chlorine compounds such as HCl	tons	4.6	4.3	4.3
Gaseous fluorine compounds such as HF	tons	0.54	1.03	0.14
Total volatile organic compounds (VOC)	tons	23.5	18.9	5.9
VOC – heating plant	tons	15.3	13.8	1.3
VOC – technology	tons	8.2	5.1	4.6

Wastewater

In 2024, the company continued to systematically monitor wastewater discharged from individual production facilities and defined outlets from the entire industrial complex into surface watercourses.

In 2024, the limits set in the wastewater licence were met and, as in 2023, the pollution produced in wastewater was below the charging limits.

Monitored water emission values

Emitted substance	Unit of measurement	2022*	2023*	2024*
Nitrogen emissions (total nitrogen)	tons	10.9	16.3	19.4
Mercury	tons	0.0	0.0	0.0
CHSK-Cr	tons	20.1	19.8	8.2
BSK 5	tons	8.9	13.6	6.7
RAS	tons	1,734	1,675	1,714
AOX	tons	0.019	0.013	0.010

**The volume of water discharged in 2022 was 2.5 million m^3, the volume of water discharged into surface watercourses in 2023 was 2,4 mil. m^3 and the volume of water discharged into surface watercourses in 2024 was 2.6 million m^3*

Emergency preparedness and response

The company has developed a system for identifying potential emergency hazards and for emergency situations, which also specifies appropriate responses to minimise any impact on the environment or human safety.

The Transport Information and Accident System (TRINS) provides continuous assistance through its centres in dealing with emergency situations related to the transport or storage of hazardous substances in the Czech Republic. Synthesia, a.s. is one of the founding members of the TRINS system and represents companies operating in the industrial complex within the system. The company´s operations centre provides assistance for levels 1 and 2 in this system. In urgent cases, it is also able to provide technical assistance.

The company´s fire brigade) is on duty 24/7. The company uses a warning system that informs nearby municipalities, state authorities, regional crisis management, and the Czech Environmental Inspectorate about extraordinary events at the company via SMS messages, and it is also used to provide information about possible threats to the company´s surroundings. A "hotline" has been set up to facilitate communication on overloaded lines.

Water and Marine Sources

According to the company´s flood plan, the entire assessed area lies above the 100-year flood level for the Elbe River. The industrial site **is not located** in areas with an increased risk of drought, in areas of so-called water stress.

Chemically polluted wastewater is discharged through the sewerage system and treated in a biological wastewater treatment plant or at the end-of-pipe treatment facility (NCL) before being discharged back into the Elbe River.

A major water consumer in the complex is the Zelená louka heating plant, where we are placing increasing emphasis on water reuse. At the Zelená louka heating plant, the water used to cool the machines was previously discharged back into the Elbe River or used to flush fly ash to the sludge pond. The current situation allows for the reuse of heated water from the cooling of TP ZL generators.

Our goal

Permanently reduce surface water consumption.

Monitored water consumption and recycling values

Parameter	Unit of measurement	2022	2023	2024
Surface water consumption	thousand m^3	5,652	5,472	5,422
Drinking water consumption	thousand m^3	154	150	145
Recycled water volume	thousand m^3	431	452	746
Water storage capacity potential	thousand m^3	2.96	2.96	2.96

**A significant reduction in surface water consumption from 10,000,000 m^3 occurred in 2020, when the washing of fly ash from the KU and K12 boilers was discontinued.*

Biodiversity and Ecosystems

Our industrial site contains areas that represent old environmental burdens – remnants of chemical production activities that have already been terminated, but which have left behind a legacy of hazardous waste dumps. We are keen to ensure that these affected parts of the site do not pose a risk to health and the environment – that they are removed or at least properly secured.

- Remediation work has been completed at two sites to date – the ironsludge lagoons (2009 and 2018) and the beta-pitch lagoons (2014).
- Another example of landscape reclamation at the Synthesia site is the ongoing project to reclaim sludge pond no. 5, which aims to reuse a by-product from the combustion of energy resources at the Zelená louka heating plant for landscaping this part of the site.

Name	Origin	Volume in tons
Iron sludge lagoon	Waste from the reduction of aromatic nitro compounds	Approx. 74,000t removed
Beta-pitch lagoon	Waste from betanaphthol production	Approx. 120,000t removed

Our goal

*By 2030, commence work on the reclamation of the **STOH V** solid waste landfill after it reaches its capacity and ceases to be used.*

Use of Resources and Circular Economy

We are involved in the „Green Company" project, which aims to protect the environment by ensuring the take-back and effective recycling of waste from end-of-life electrical appliances, batteries and accumulators, and other collective systems:

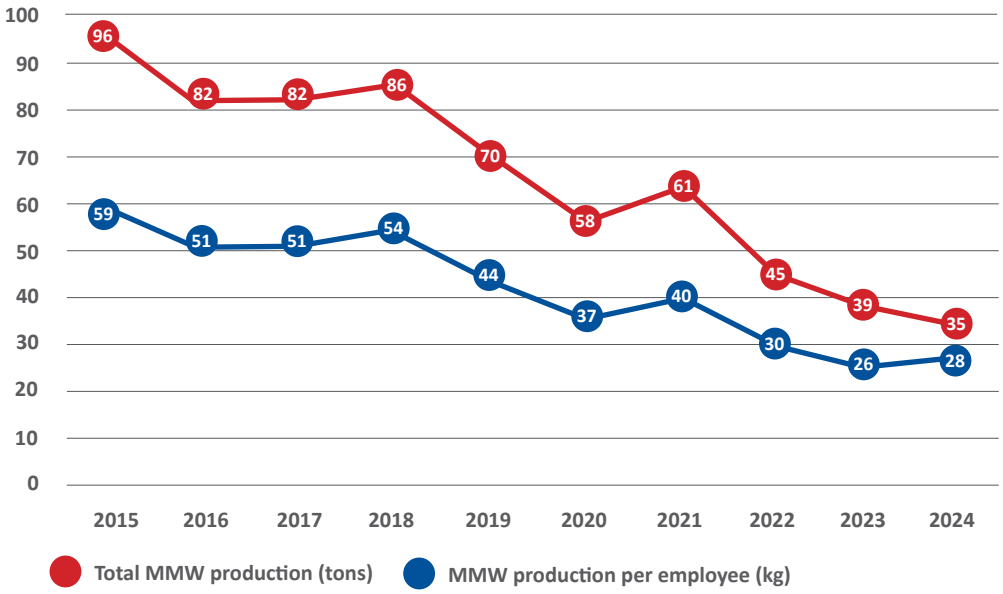
- **EKOKOM** (take-back of packaging materials),
- **EKOLAMP** (collective system for the collection of end-of-life lighting equipment)
- **ELTMA** (collective tyre collection system).

Our goal

Continuous reduction in the amount of mixed municipal waste.

Environmental

Production of mixed municipal waste: 2015 - 2024

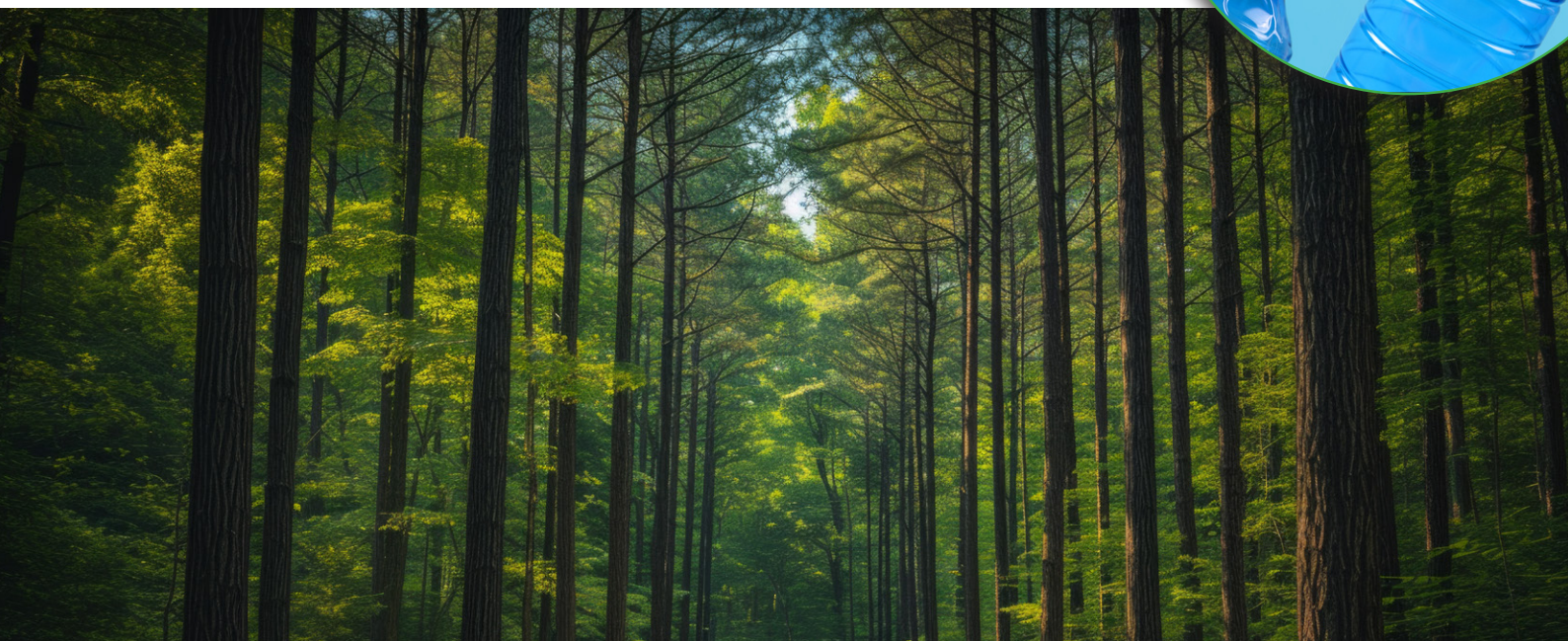


Projects we have completed

- Increasing the share of renewable fuels in heat production.
- Reconstruction of the Mixing Centre (MC).
- Sale of fly ash to construction mixtures

Monitored solid waste production values

Waste materials	Unit of measurement	2022	2023	2024
Total waste produced	tons	3,835	3,816	2,600
of which hazardous waste produced	tons	1,405	1,200	1,000
of which secondary raw materials	tons	700	900	1,200
of which mixed municipal waste	tons	45	39	36



Employees

Our company´s long-term interest is to create and ensure a safe working environment and working conditions through the appropriate organisation of occupational health and safety and fire protection. We have implemented an occupational health and safety system in accordance with the international standard ISO 45001, which takes into account the specific conditions at the workplace and covers the activities of all employees. We monitor the working environment, analyse workplace accidents and implement measures to reduce and prevent risks in the workplace. We work intensively to raise employee awareness and responsibility for occupational health and safety.

Average number of our employees

Employees		2022	2023	2024
Permanent staff	Men	995	1 089	927
	Women	275	305	247
Temporary staff	Men	119	62	80
	Women	50	33	34
Employees with non-guaranteed working hours	Men	8	9	6
	Women	3	2	3

Our goal

Maintain the frequency of accidents resulting in incapacity for work at less than 5 per 1 million hours worked.

Development of occupational accidents in 2007–2024 (occupational accidents resulting in incapacity for work)

Social Part

Occupational accident statistics	2022	2023	2024
Registered occupational accidents	17	11	10
Registered work-related illnesses	1	0	0
Death as a result of an occupational accident or disease	0	0	0
Calendar days lost	1 006	717	516
Frequency of accidents (H-value)	6.52	4.40	4.72

Projects we have completed

- Change of supplier of some basic types of OPPE to ensure satisfactory quality
- New Scania CAS 30/8500/510 special intervention truck
- Replacement of breathing apparatus carriers for firefighters HZSp

In our company, we develop employment relationships in accordance with labour and other legal regulations and in accordance with good morals. We adhere to equal treatment of all employees throughout the entire staffing process, starting with the selection of employees and continuing throughout their employment, including remuneration for work, professional training and opportunities for career advancement. We require all our employees to adhere to the above principles in their employment relationships and also commit our employees to follow the principles of ethical conduct set out in our Code of Ethics and Compliance Policy.

Synthesia in the region

We also direct a significant portion of the funds we generate toward supporting our region. Our goal is to be close to the region and help in areas that need the support of a strong partner. We want to accompany it from childhood to old age and be a proud part of our city. That is why our activities are aimed at lovers of good culture and entertainment, young athletes, active nature lovers, and disadvantaged fellow citizens.

Social Part

- General partner of the East Bohemian Theatre in Pardubicee
- Partner of the Pardubice City Festivities (Velká pardubická and Zlatá přilba)
- Partner of Pardubice youth basketball
- Partner of the Svítání school in Pardubice for children with mental and combined disabilities
- Partner of the Handico sheltered workshop
- Education in the field of chemistry
    - Young Chemist" competition
    - Chemistry club at Rybitví Primary School and Kindergarten
    - Awards for diploma theses submitted by students of the Faculty of Chemical Technology at the University of Pardubice
    - Industrial chemistry courses for employees

We support the development of surrounding communities by helping them build new sports and children's playgrounds, cultivate parks, equip municipal offices and maternity centres and organise cultural and sporting events.

With all these steps, Synthesia strives to live up to its reputation as a socially responsible company that gives the region much more than just jobs..

Prevention and Detection of Corruption and Bribery

In performing our daily activities, we comply not only with applicable laws and regulations, but also with the rules of ethics, morals and fair business practices. As a means of preventing unlawful conduct, we have introduced a **Compliance Programme**, which includes a **Code of Ethics**. We also support whistleblowers in accordance with Act No. 171/2023 Sb. on the protection of whistleblowers, based on Directive (EU) 2019/1937. We undertake to discreetly review all reports of possible illegal conduct from employees and other persons who work directly or indirectly for the company through a competent person, the **Compliance Officer**, who then prepares and submits an annual report to the Board of Directors and the Supervisory Board.

Corporate Culture

Our company does not tolerate direct or indirect discrimination on the basis of gender, pregnancy and motherhood, sexual orientation, racial or ethnic origin, nationality, citizenship, social origin, health status, age, religion or belief, property, marital and family status, political or other beliefs, membership in political parties and movements, trade unions, and employers´ organisations. We do not allow incitement, instigation or coercion leading to discrimination and harassment.

Compliance training is mandatory for all company employees.

Our goal

No unsolved cases of corruption.

In 2024, there were no confirmed cases of corruption or bribery involving the company's management or employees. During the same period, there were no confirmed cases involving contracts with business partners that had to be terminated or not renewed due to violations of regulations related to corruption or bribery. In 2024, our company did not make any political contributions or donations to political parties, political movements and their coalitions, or politicians at any level of politics.

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