4 MINING AND MANUFACTURING INDUSTRY

Wallonia was one of the first regions in the world to industrialise at the end of the 19th century. For a long time, the sector was portrayed as the flagship of heavy industry (steel-making, glass-making, etc.), but today it is highly diversified, both in terms of the size of the companies and their activities: family-owned sawmills, small and medium-sized companies active in the aeronautics industry, large companies in the chemical or agri-food sector, etc. As vectors of employment and creators of wealth, industry is a source of environmental pressure, the nature and intensity of which vary according to the type of activity. These pressures can occur both on the "input" side (consumption of energy, water, materials, soil, etc.) and on the "output" side (emissions into the air, discharges into water, generation of waste, etc.). In addition, the hazardous nature of certain components used requires maximum control of the risk of accident (fire, accidental spillage, explosion, etc.). For these different reasons, the industrial sector has been the object of specific attention from the authorities for many years. European, Belgian and Walloon legislators have imposed a range of measures that have prompted companies to adapt.

The Walloon environment in 10 infographics

MINING AND MANUFACTURING **INDUSTRY**

SOCIO-ECONOMIC DATA

(2019)

10 % of Walloon employment
15 % of Walloon GDP
5,384 sites

Sectors (% of Industrial GDP)

- Pharma and chemistry **37 %**
- Agri-food **13 %**
- Metal **12 %**
- Mineral product manufacturing **11 %**
- Other **27 %**

ENERGY

(2018)

40 TWh
32 % of Walloon final consumption
-42 % compared to 2000

Sources of energy

- Natural gas **34 %**
- Oil products **4 %**
- Coal **11 %**
- Alternative energies (of which renewables) **25 %**
- Electricity **25 %**

Cogeneration
61 plants

AIR

(2019)

Industry's share of Walloon emissions

- Particulate matter (PM_{10}) **35 %**
- Greenhouse gases **30 %**
- Trace metallic elements **43 %**
- Acidifying substances **20 %**
- Ozone precursors **23 %**

Evolution compared to 2000

- Particulate matter (PM_{10}) **- 76 %**
- Greenhouse gases **- 56 %**
- Trace metallic elements **- 87 %**
- Acidifying substances **- 72 %**
- Ozone precursors **- 63 %**

Impacts
- Contribution to climate change
- Air quality

WATER

Consumption
(2018)
198 million of m³
11 % of withdrawals in Wallonia
- 49 % in 10 years

Origins (2018)

- Surface water **46 %**
- Groundwater **29 %**
- Rainwater **17 %**
- Drinking water **7 %**
- Other **1 %**

Effluents
(Evolutions 2007 – 2017)

- **Decrease** Trace metallic elements **- 47 %**, Organic materials **- 32 %**
- **Increase** Phosphorus **+ 28 %**
- **Fluctuating** Suspended matter, Nitrogen

Impacts
on surface water bodies (**8/352** downgraded in 2016) and groundwater

SOIL

Approximately **16,000** hectares used
< 1 % of the Walloon territory

Impacts
- Soil consumption
- Local and diffuse pollution

THREAT OF ACCIDENTS

WASTE

(2018)

Generation
6 million tons
(about **one third** of the Walloon deposit)
- 11 % compared to 2000

Management methods

- Valorisation of materials **51 %**
- Energy recovery **39 %**
- Dumping (landfill) **8 %**
- Storage **2 %**

Wood waste **32 %**
Vegetable waste **30 %**
Residues from thermal operations **9 %**
Other **29 %**

TOOLS

Regulatory tools
- Environmental permit
- Directives ("Seveso", "IED", etc.)

Economic tools
- Taxes, including "industrial wastewater" tax
- Investment grant, subsidies

Adaptations
- Investments
- Change in practices

Awareness-raising and voluntary actions
- Sectoral agreements
- ISO 14 001, EMAS
- *Life in quarries, Nature Network*
- Environment cells...

CHALLENGES TO OVERCOME

- Carbon neutrality objective
- Circular economy
- Technological innovations
- Reduction of consumption impact (packaging, repairability, etc.)

WALLOON INDUSTRY, A DIVERSIFIED SECTOR

In 2019, the Walloon mining and manufacturing industry accounted for 10% of employment and 15% of gross domestic product (GDP) in Wallonia. Beyond these two indicators, the industry indirectly contributes to job creation and wealth in other sectors, including the tertiary sector, by outsourcing part of its activities (accounting, legal, etc.) and by supplying the distribution chain (logistics, commercial activities, etc.). The Walloon industry sector had 5,384 sites in 2019, the vast majority of which had 50 or fewer employees. For Belgium as a whole, this is the case for 91% of companies. The density of industrial activities is higher along the Haine-Sambre-Meuse corridor, close to residential areas (the conurbations of Tournai, Mons, Charleroi and Liège).

In 2019, the leading industrial sector in terms of wealth creation was the pharmaceutical and chemical industry (37% of the GDP of the entire industry sector) followed by the food industry (13%). The major heavy industry companies (steel, cement, glass, etc.) have long structured the Walloon economic and social landscape. The sectors of activity in which they operate remain very much present in Wallonia, since the metal sector (steel-making, metal shaping, etc.) accounted for 12% of industrial GDP in 2019, and the mineral product manufacturing sector (concrete, cement, glass, lime, etc.) for 11%. The transport equipment manufacturing (6%) and wood and paper processing (4%) sectors are also well established in Wallonia. These 6 sectors accounted for about 85% of Walloon industrial GDP. The remaining 15% included other manufacturing sectors (machinery, electrical equipment, textiles, etc.) as well as mining and quarrying: 1.3% of industrial GDP). It should be noted that the construction, energy, water and waste management sectors, which are not part of the mining and manufacturing industries, are not covered here.

ENVIRONMENTAL PRESSURES RELATED TO INDUSTRY

Energy consumption declining, alternative energies rising

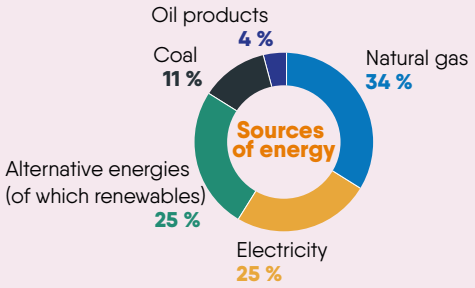
With 40 TWh of energy consumed, industry accounted for about a third of final energy consumption[1] in Wallonia in 2018. Historically energy-intensive, the industry sector saw its final energy consumption drop sharply in the 2000s (-42% between 2000 and 2018). At the same time, industry was creating more and more value: while it took an average of 6.6 kWh of energy to produce 1 euro of added value in 2000, it took only 3.0 kWh in 2018. The gradual reduction in activity and then the closure of sites in the steel sector largely explains the fall in consumption. However, efforts have been made by the entire industry, both to respond to public impetus, in particular with the system of sectoral agreements (discussed below), and also to reduce production costs for companies, since lowering energy consumption is also a matter of economic competitiveness.

In 2018, the main sources of energy used for energy purposes by industry were natural gas (34%) and electricity (25%), while as recently as 2000, coal (including lignite and derived gases) was the leading energy source used, with 35% of consumption. Following the closure of blast furnaces, this energy source accounted for only 11% of consumption in 2018, a share that remains significant given the greater environmental pressures associated with the use of this fuel, particularly in terms of greenhouse gas emissions per unit of energy consumed. Another notable development is the increasing use of alternative energy sources (heat from cogeneration, energy from renewable sources, waste incineration), which accounted for 25% of industry's final energy consumption in 2018, up from 11% in 2000.

[1] Excluding energy consumption for "non-energy" use, i.e. excluding energy consumption as raw materials in processes: petroleum products used to produce bitumen, natural gas needed to manufacture nitrogen fertilizers, etc. In 2018, this consumption amounted to 4 TWh.

The cogeneration plants are particularly suited for industrial processes since they make it possible to generate electricity by combustion or motive force (to drive machines, pumps, etc) while recovering the heat released during this combustion (to trigger chemical reactions, dry products, etc.). Walloon industry had 61 cogeneration plants in 2018, which accounted for 85% of electricity generation and 95% of the heat production from cogeneration in Wallonia.

Energy consumption (2018)
40 TWh in 2018



The positive trends in energy consumption and the use of alternative energy sources need to continue in order for Wallonia to meet its energy objectives, including carbon neutrality[2] by 2050. To achieve this, the Air Climate Energy Plan for 2030, which is currently being drafted, will promote, among other things, renewable heat (solar thermal, heat pumps, biomass) and the more frequent use of electricity, whose positive impact on the climate and the environment nevertheless depends on the energy sources used for generating it. Moreover, a third generation of sectoral agreements is planned from 2023. The sectoral agreements, which have been in place since the early 2000s, are partnerships between the Walloon government and various industrial sectors. Each party benefits: t he c ompanies, w hich j oin t he agreements voluntarily, have financial a nd a dministrative advantages, while the public authorities obtain, through this system, a commitment on their part to achieve objectives in terms of energy efficiency and reduction of CO_2 emissions. In 2019, the sectoral agreements covered more than 231 companies repre-senting approximately 95% of the energy consumption of Walloon industry.

Significant but declining air emissions

Like other human activities, industrial activities generate greenhouse gas emissions, which are responsible for climate change, and emissions of air pollutants, which can directly or indirectly impact air quality and ultimately the environment and human health. Emissions from industry come from combustion (boilers, furnaces, engines, etc.) as well as from certain production processes (fertiliser manufacture, firing of limestone in cement works, production of lime, production of ammonia and nitric acid, etc.). In 2019, industry was responsible for 30% of Walloon greenhouse gas emissions (CO_2, CH_4, N_2O), 43% of trace metal emissions (zinc, lead, chromium, etc.), 35% of particulate matter emissions (PM_{10}), 23% of ozone precursor emissions (NO_X, volatile organic compounds), and 20% of acidifying substance emissions (NO_X, SO_X). Although the share of industry in total Walloon emissions remained signifi-cant in 2019, it should be noted that all these emissions have decreased substantially since 2000, from - 56% for greenhouse gas emissions to - 87% for trace metal emissions. As a result, industry has played an important role in the overall reduction of air emissions in Wallonia, sometimes compensating for the less impressive results recorded in other fields of activity (greenhouse gas emissions in transport in particular). Various factors explain this favourable evolution:

- changes in the structure of the Walloon industrial fabric have led to a decrease in activities in energy-intensive sectors (including the steel industry). This dynamic was accelerated by the crisis of 2008, which precipitated the scaling back of production and/or the closure of certain plants, in particular the blast furnaces at Ougrée and Marcinelle. However, it should be noted that offshoring, even if it improves the Walloon environmental balance sheet, shifts the pressures on the environment in other countries and may even worsen them overall (lower environmental standards abroad, increased emissions due to longer transport times, etc.);
- Investments made by industries have improved their energy efficiency and/or reduced emissions of air pollutants: use of less emitting fuels, reduction of emissions at source (flue gas cleaning, catalytic

[2] Carbon neutrality implies a radical reduction in anthropogenic greenhouse gas emissions and the offsetting of residual emissions by absorptions, in particular by developing storage solutions.

treatment, etc.);

- Stricter standards for the fuels used have been laid down: desulphurisation of heavy fuel oil and diesel, bringing products with low volatile organic compound content to market, etc

Since a part of industrial emissions are derived from combustion, measures to improve energy efficiency or to use alternative energy sources have a direct impact on the level of emissions from the sector. The system of sectoral agreements, mentioned above, is intended to achieve this double objective of better energy efficiency a nd l ower e missions. F urthermore, m any industries are subject to the European carbon market (which brings together the industries and plants that emit the most CO_2), which entered its fourth phase in 2021. This system guarantees a reduction in the cumulative emissions of the companies concerned by setting an overall emissions cap at the European level that gradually decreases over time. Emission allowances are allocated to companies, which can trade them for a fee based on their ability to reduce their emissions, but without changing the overall cap. Other legislative tools exist, some of which are more specific to air quality. For example, the environmental permit (discussed below) incorporates air pollutant emission standards that must be met.

Land: a primarily historical impact

The proportion of Walloon territory taken up by industrial sites is less than 1% (about 16,000 hectares). Almost half of these are located in the provinces of Hainaut and Liège. The extractive industry (e.g. quarries) alone takes up more than 5,000 hectares in Wallonia. Like any building or infrastructure construction, the development of new industrial sites contributes to the artificialisation of the Walloon territory, but not to the same extent as the expansion of residential land. The regeneration of industrial wastelands, once again promoted by the Government in the Walloon Recovery Plan, is nonetheless a solution that makes it possible to host new activities while avoiding additional land take.

In addition to land take, the activities carried out by industries can degrade the soil, with environmental and health impacts, but also economic ones, since the presence of pollution makes it difficult to reuse land for other activities. At the beginning of 2021, the surface area of sites where at least one industrial activity potentially polluting soil and groundwater was (or had been) carried out was estimated at 6,157 hectares[3]. The issues related to soil pollution are currently taken into account by companies through the application of the "Soil" decree and the environmental permit. In order to control the state of the soil, the Public Service of Wallonia (SPW) identifies the plots of land on which activities likely to lead to soil and/or groundwater pollution have taken place or are taking place. These may be historical activities (e.g., coking plants, coal mines, dumps) or non-historical activities (e.g., storage and use of hydrocarbons, solvents, waste, chemical industry, food processing industry). These plots are subject to specific monitoring to control the presence or absence of soil pollution at different times in the life of the company, with the obligation, if necessary, to carry out remediation to restore the soil, pursuant to the 'polluter-pays' principle. This mechanism implies preventive investments on the part of companies: sealing the soil, setting up retention zones, placing gutters to catch accidental overflows, etc. This soil protection policy, which has been gradually refined since the end of the 1990s, explains why new cases of soil pollution are rare. In most cases, polluted soils are a legacy of past practices that were not sufficiently regulated by legislation. In these situations, applying the polluter-pays principle is often impractical, as not only is it difficult to unambiguously ascertain the polluter, but the polluter may have since ceased its activity. Managing these sites then depends on public financing.

In addition to this local pollution, industry also impacts soil quality through its emissions into the air, in particular those of so-called "sedimentable" dust, which is deposited on the soil a few hundred meters from where it was emitted. This dust contains metallic trace elements (zinc, lead, chromium, etc.) which can accumulate in the soil where it lands. This diffuse pollution, which is monitored by a specific measurement network, has been decreasing since the early 2000s. Nevertheless, the soil has retained

[3] Although the majority of activities of an industrial nature take place in the industry sector, some are reported by establishments in other sectors (service activities, technical workshops in schools, etc.). This is therefore the high end of the estimate.

traces of historical emissions, which partly explains the sometimes high concentrations of pollutants found on sites that have not hosted industrial activities in the past.

Increasingly controlled water discharges

Industries located in Wallonia used approximately 198 million m³ of water in 2018. This consumption represented 11% of the total volumes withdrawn in Wallonia[4]. The volumes used by industry fell significantly between 2008 and 2018 (-49%), a decrease in consumption that was observed in all sectors, especially in the metal sector (-84%). Water is used by the industrial sector for many purposes: it can be used directly as a raw material (for producing drinks, manufacturing certain chemical products, etc.), as a solubilising or dispersing agent, as a means of cooling, condensing and producing steam or for cleaning purposes. These uses (which dictate the necessary water quality), as well as ease of access or cost, influence industry's choice of water supply sources. The water used by the industry sector comes mainly from surface water (46%: rivers, canals, etc.) and groundwater (29%). This is followed by rainwater (17%) and tap water (7%).

The composition of industrial wastewater depends on the activities of the companies. In addition to the organic matter and various contaminants that can also be found in domestic wastewater, it may contain substances specific to the sector's activities (metallic trace elements and other toxic substances). The wastewater may also be discharged at temperatures higher than that of the receiving environment if it is used for cooling purposes. Industrial wastewater is monitored via the environmental permit, which requires companies to provide information on their discharge points, flow rates and the underlying activities. Discharges of certain pollutants (including nitrogen, phosphorus, organic matter, trace metals and suspended solids) are also monitored through the tax on industrial wastewater, which covers more than 1,200 companies in Wallonia. Most of the pollutant loads (at least 70%) are discharged into surface water (rivers, canals, etc.), after possible treatment on-site at the company (industrial wastewater treatment plant) in order to comply with the standards laid down in the environmental permit. Industrial wastewater can also be discharged into the public sewer system and is then treated by collective wastewater treatment plants. In this case, the sanitation costs are settled through a contract between the sanitation agency and the company, which is then exempt from the tax.

Industrial wastewater pollutant loads evolved to varying degrees between 2007 and 2017. While discharges of trace metals (zinc, chromium, etc.) and organic matter decreased by 47% and 32% respectively between 2007 and 2017, phosphorus discharges have increased in recent years to reach a level 28% higher in 2017 than in 2007. Discharges of suspended solids and nitrogen show less clear-cut trends, with discharges fluctuating around the 2007 level, sometimes rising (early 2010s, 2017), and sometimes falling (between 2013 and 2016 in particular). The favourable evolutions are essentially the consequence of increasingly strict standards that have prompted manufacturers to make investments (closed-circuit water treatment, installation of treatment plants, etc.) or to modify their processes.

The impact of industrial pollution on water bodies depends on the context in which it occurs: additional pressures from other actors, vulnerability of the water body, etc. For surface water bodies, one way of approaching the impact of pressures is to measure the number of downgraded water bodies, i.e. those whose status has been assessed as insufficiently good from the perspective of the legislation in force. Industry was identified as the main cause of the downgrading of 8 surface water bodies (out of 352) in 2016, but its pollutant discharges contributed, along with those of other sectors (agriculture, households), to the downgrading of many other surface water bodies, mainly located in the north of the Sambre-et-Meuse corridor and in particular in the Scheldt district.

As regards groundwater bodies, the liability of industry is more difficult to determine, as the pollution is diffuse and largely historical. In effect, as direct discharges into groundwater are prohibited, any pollution found is generally the result of accidents, leaks in installations

[4] The electricity generation sector, which is not part of the mining and manufacturing industry sector, consumes the most water in Wallonia (1,213 million m³ in 2018) in order to cool thermal power plants, with a very large proportion of the water withdrawn being returned to waterways.

or previous activities. The estimates made for the drafting of the third River Basin Management Plans (RBMP/PGDH) conclude that 2 groundwater bodies (out of 34) have been downgraded for parameters that indicate pollution that could be of industrial, historical or collective origin[5].

Threat of accidents: preventive measures and active surveillance

Some industrial activities are likely to cause or increase the risk of a major accident with potentially harmful consequences for the environment and/or human health. These plants, which are subject to rigourous monitoring, are covered by specific legislation at the European level, namely the so-called "Seveso" directives[6] , which place specific emphasis on prevention measures, the dissemination of information to the public and management in the event of an accident (emergency plan in particular). Wallonia has just over 100 "Seveso" sites, mainly scattered along the Haine-Sambre-Meuse corridor.

A largely valorised waste deposit

According to data compiled in the context of the Walloon Waste-Resources Plan[7], industrial waste represents about one third of the total Walloon waste deposit, which would place the sector behind the construction sector (about 40%) in terms of the deposit generated. In 2018, the industrial sector generated 6 million tons of waste. Directly linked to production and therefore economic activity, the waste deposit saw a significant decrease in 2009 (economic crisis) and has since shown an upward trend, while remaining below the levels reached in the early 2000s (overall drop of 11% between 2000 and 2018).

In 2018, the top two industrial waste flows by tonnage were organic: wood waste (32%: sawdust, shavings, wood chips) and vegetable waste (30%: potato and vegetable peelings and scraps, compressed pulp or rootlets). These two flows also grew significantly between 2008 and 2018, owing to the increase in production volumes in the industries that generated them (woodworking and paper sector and agri-food sector). Another notable waste flow was that of residues from thermal processes (residues formed during the melting or formation of metal at high temperatures, fly ash, foundry sand, etc.). For a long time the main industrial waste flow in Wallonia, it represented only 9% in 2018 fol-

[5] Households and services related to the population in the broad sense (wastewater collection and treatment, transport, urbanisation, green spaces, etc.).

[6] Directives named after the "Seveso disaster", an accident that occurred in 1976 in a chemical plant near the city of Seveso, in northern Italy, resulting in emissions of air pollutants, including "Seveso dioxin".

[7] Data from various studies and surveys covering the years 2012 and 2013. Excluding excavated soil

lowing the loss of production volume in heavy industry in general and steel-making in particular. These three waste flows, while accounting for over 70% of the waste tonnage generated in 2018, are not necessarily the most frequently encountered within companies. While wood waste is generated by all industrial sectors, it is not the same for thermal process residues or vegetable waste, which are more specific types of waste. Other waste flows are frequently encountered without representing such large tonnages on the scale of industry: chemical waste, paper and cardboard, plastics, metals, used oils, etc.

The industrial waste generated is sent to management channels that are sometimes highly specialised. However, as regards the environmental impacts, not all management methods are equal. The use of waste as a material ("material recovery", including recycling and reuse) is preferable to waste incineration with energy recovery ("energy recovery"), which is preferable to disposal (primarily landfill). Material recovery concerned 51% of the Walloon industrial waste managed in 2018[8] : vegetable waste recovered as cattle feed, residues from thermal processes used by cement manufacturers or in civil engineering, etc. Energy recovery concerned 39% of the industrial waste deposit managed in 2018, primarily wood waste. The rest of the deposit was disposed of (8%), mainly in landfills (non-hazardous residues from chemical production and ashes), or temporarily stored (2%).

It should be noted that a portion of industrial waste (approximately 6% of waste generated in 2018) is considered hazardous. The very nature of this waste means that it is proportionally less valorised. It requires often more expensive treatment methods being put in place as well as precautions in the handling and processing of these materials.

Improvements in the generation and management of industrial waste have and will continue to be driven by new constraints, including the ban on landfilling certain waste flows, and new opportunities, including "by-product" and "end-of-waste" status. These statuses, which came into force in Wallonia in 2019, make it possible, under certain conditions, to regard substances or objects resulting from a production process as by-products and not as waste, and to determine when recovered waste can no longer be considered as such. For several years, efficient waste management has become an economic issue for companies and, more globally, is seen as a lever for creating value for Wallonia, in particular by applying the rationale of the circular economy, promoted in the context of the Walloon Waste-Resource Plan, the Deployment Strategy of the Circular Economy in Wallonia and the Walloon Recovery Plan.

[8] The data on waste management are based on declarations from a non-representative sample of Walloon industry ("Integrated Environment Survey"). It should be noted that part of the industrial waste deposit is managed outside Wallonia, mainly in Flanders (about 19% according to the same survey) and neighbouring countries (about 8%).

TOOLS TO REGULATE, INFLUENCE AND ENCOURAGE

Various management tools set guidelines and accompany industries in environmental matters in Wallonia. They can be differentiated according to their nature: regulatory (standards, authorisations, etc.), economic (taxes, subsidies, etc.) and awareness-raising.

The environmental permit is the central regulatory tool for the environmental management of industrial activities in Wallonia. It covers most environmental and health pressures: air and wastewater emissions, noise, odours, waste, etc. The environmental permit authorises the operation of facilities that may have environmental or health impacts, and stipulates the conditions they must meet. These conditions are adapted to the company's activities and its context, which makes it possible to minimise local impacts and help achieve specific environmental quality objectives: water bodies, ambient air, etc. The environmental permit incorporates the provisions of various European directives, including the "Seveso" directives on the prevention of major accidents, which have already been mentioned, and the "IED" (Industrial Emissions Directive). This directive aims to minimise and prevent the potential impact on the environment of the most potentially polluting industrial activities. It aims at an integrated management, i.e. concurrently taking into account different environmental pressures (air, water, soil pollution, waste generation, etc.), rather than a piecemeal approach that may lead to pollution transfers from one environmental compartment to another. The IED also provides for taking into account the performance of the best available techniques within each sector in order to set emission limit values.

In addition to regulatory tools, economic tools can be used to influence the behaviour of companies. In Belgium, fiscal powers are shared between the different levels of government. Wallonia is responsible for taxes on resource use and pollution (e.g. water withdrawals, industrial wastewater discharge, non-household waste generation). Various types of aid (premiums, subsidies, tax exemptions) are also intended to promote environmental protection or sustainable energy use.

Finally, awareness-raising tools and voluntary action schemes make it possible to lay down a framework for industries that wish to go further in taking the environment into account in their activities. Many projects, varying in terms of constraints, objectives and expected investments, coexist in Wallonia, including:

- the sectoral agreements, mentioned above;
- ISO 14001 certification or EMAS registration, which are international environmental management systems that aim to continuously improve environmental performance;
- collaborative projects, such as Life in quarries for the extractive sector or the Nature Network (Natagora), which aim to improve the way industries take biodiversity into account

In addition to these projects, Wallonia supports awareness-raising and support actions for environmental approaches implemented by various organisations whose target audience goes beyond the industry sector: environmental units of the Walloon Business Union and the Walloon Construction Confederation, Union of the Middle Classes, etc.

A LONG WAY TO GO TO ACHIEVE FULLY SUSTAINABLE INDUSTRY

For the past twenty years, most environmental pressures from industry have been decreasing in Wallonia, while at the same time the creation of wealth in the sector has increased overall. This decoupling is the result of investments, technological progress and changes in behaviour, encouraged by increasingly strict standards but also by awareness-raising actions. It is also the consequence of changes in the Walloon industrial fabric, with the closure of industries or restructuring in resource-intensive sectors that generate air emissions.

Despite the favourable evolutions, there are still many challenges to achieve a sustainable Walloon industry, compatible with the objective of carbon neutrality by 2050 and in line with the rationale of the circular economy, where economic growth is decoupled from the use of resources. The industry sector will continue to play a key role in this transition, both by continuing to mitigate its direct pressures (emissions, discharges, etc.), but also as a driver of innovation. Placed upstream of consumption, it will have to mitigate the environmental impacts (life cycle analysis, eco-design, reduction of packaging, repairability of products, etc.), while responding to new economic and social challenges: digitisation, new consumption patterns, increased demand for transparency, etc.

Main data sources

BFP, IBSA, IWEPS, SVR (HERMREG model) ; BNB ; SPW - AwAC ; SPW Énergie - DEBD ; SPW Environnement - DEE ; SPW Environnement - DSD ; SPW, UCLouvain, ULB, ISSeP (projet WALOUS) ; Statbel (SPF Économie - DG Statistique)

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