

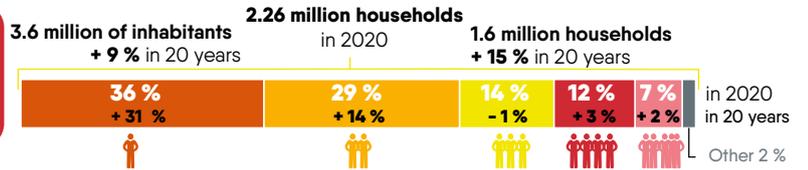
5 HOUSEHOLDS

Households are key players in economic life. By living in a house, moving around and consuming goods and services, households exert pressure on the environment: consumption of land, energy, water, raw materials, greenhouse gas emissions and air pollutants, wastewater discharges, waste generation, etc. The nature and intensity of these pressures vary according to the characteristics of the household (size, income, etc.) and its consumption habits. The negative effects of the consumption of Wallonia households affect not only Wallonia, but also other regions of the world. They are caused by the extraction of resources, production, processing and transport of products that are consumed in Wallonia but originate elsewhere, as well as by travel and tourism activities. Moreover, a dual dynamic can be observed in Wallonia: on the one hand, the number of households is increasing, with this increase being faster than the growth of the population, and on the other hand, the average size of households is decreasing. These evolutions exacerbate the pressures on the environment and the subsequent impacts. In this context, taking action on household behaviour will be key to mitigating these pressures and impacts.



The Walloon environment in 10 infographics

HOUSEHOLDS



HOUSEHOLD CONSUMPTION: GLOBAL APPROACH



Greenhouse gases
3rd largest emitting sector
16 % of emissions

Air pollutants

PM ₁₀	2 nd largest emitting sector	NO _x	6 % of emissions
	29 % of emissions		
PM _{2.5}	Largest emitting sector	NMVOC	9 % of emissions
	45 % of emissions		

DIRECT EMISSIONS FROM HOUSING (2019)

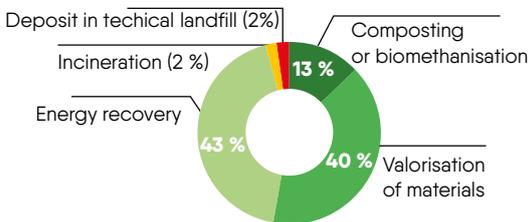
PESTICIDE USE (2019)

34 % of households use pesticides

WASTE

518 kg/capita in 2018
15 kg/capita.year of food waste (2017 - 2018)

Management methods (2017)



TRANSPORT

1.14 cars/household in 2020
1,812,730 cars registered in Wallonia in 2020



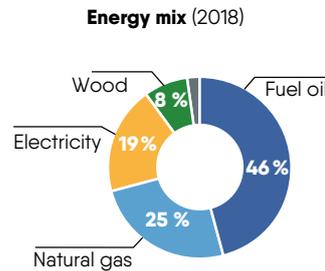
SOIL CONSUMPTION (2020)

690 m²/household + 6 % in 20 years

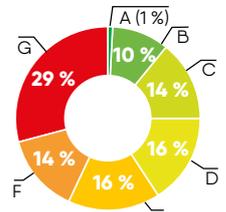
6.5 % of the territory used for housing + 22 % in 20 years

ENERGY CONSUMPTION

22 MWh/dwelling in 2018
of which 76 % for heating



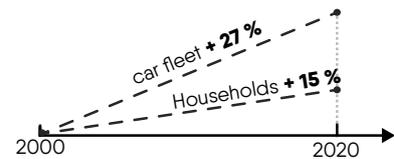
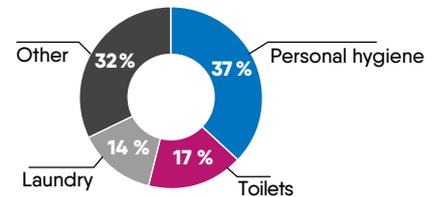
Energy performance of the existing Walloon building stock



WATER CONSUMPTION

65 m³/household in 2019
- 16 % in 15 years

Uses of tap water (2016)



86 % of commutes made by car in 2017

CONSUME DIFFERENTLY

CHALLENGES TO OVERCOME

CONSUME LESS

FOOD (2020)

Organic food represents 4.9 % of total food expenditure (1.7 % in 2010)

INCREASINGLY NUMEROUS AND INCREASINGLY SMALL HOUSEHOLDS

As of 01/01/2020, Wallonia had 1,591,591 households, 15 % more than in 2000. By way of comparison, population growth was only 9 % over the same period. The increase in the number of households is therefore not only linked to population growth, but also to the reduction in the average size of households, which has fallen from 2.38 inhabitants per household in 2000 to 2.26 inhabitants per household in 2020, thus continuing a previous trend that can also be observed elsewhere in Europe. Single persons represented just over one-third of households in 2020 (36 %). They were followed by two-person households, which accounted for 29 % of total households. These two categories have increased significantly over the past 20 years: +31 % and +14 % respectively. Various factors explain this dynamic: on the one hand, changes in lifestyles (fewer children per family, marrying later, more fragile relationships leading to a rise in single

parent families, different generations no longer cohabiting, etc.) and, on the other hand, longer life expectancy, with more one- and two-person senior households. According to the demographic outlook of the Federal Planning Bureau and Statbel, this trend is expected to continue until at least 2070. Wallonia is expected to have just over 1.8 million households in 2070 (+14 % compared to 2020), 43 % of which will be single-person households. The increase in the number of households has environmental consequences, particularly in terms of consumption of natural resources, air emissions and waste production, and this is particularly the case if it goes hand in hand with a reduction in the average size of households, since a smaller number of people per household is accompanied by a greater average consumption per person of energy and consumer goods (less economies of scale).

HOUSEHOLD CONSUMPTION: A GLOBAL APPROACH

Through the purchase of goods and services, household consumption is the source of multiple environmental pressures. Due to the globalisation of trade, only part of these pressures are exerted on the territory where the consumption itself takes place. Indeed, an increasing proportion of household consumption is met by potentially polluting production activities that take place abroad (extraction of raw materials, production, processing and transport of products). Most of the "conventional" environmental indicators, in particular those relating to resources, energy or air emissions, do not take these pressures into account as they are based on the principle of territoriality: only what is extracted, consumed or emitted on the territory of Wallonia is recorded. While this methodology offers several advantages (including ease and comparability), it conceals some of the pressures related to household consumption, especially in a context of deindustrialisation in

Wallonia, the increasing complexity of production chains and a general increase in consumption levels.

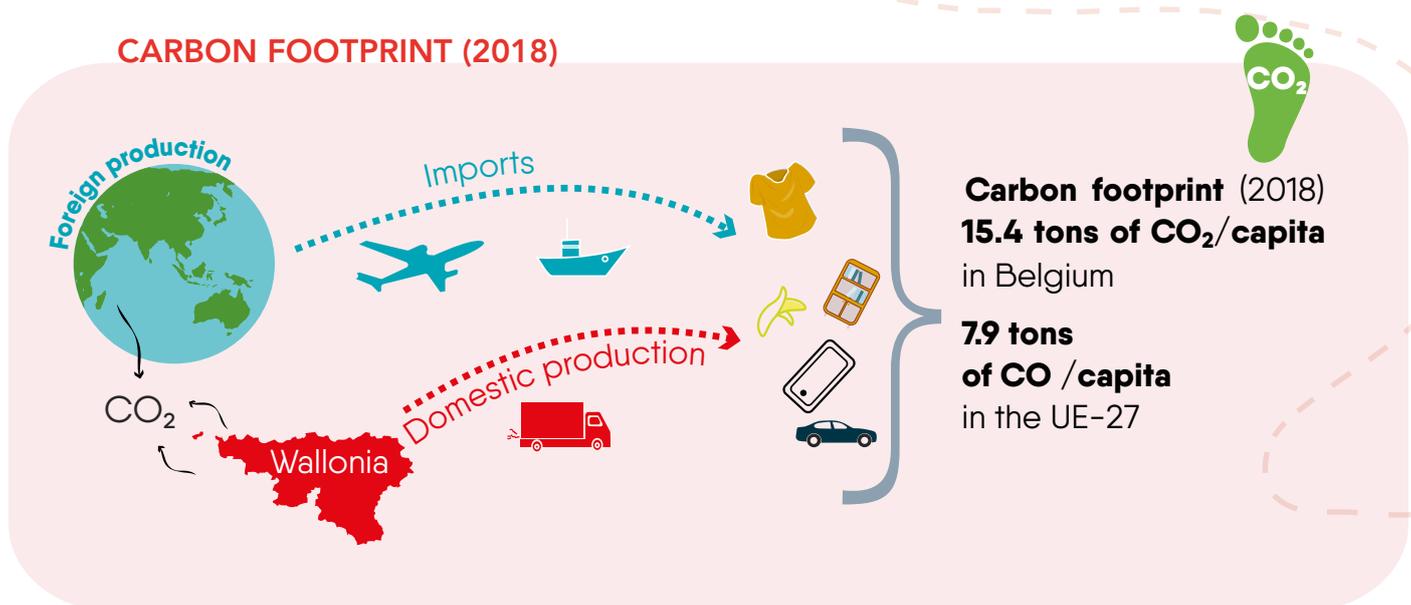
In order to address these limitations, indicators of overall assessment of pressures, or the "environmental footprint", have been developed by several institutions and organisations in recent years. These include the "carbon footprint", which focuses on the pressure on the climate from the consumption of the population of a given region. The carbon footprint thus represents the quantity of greenhouse gases emitted to meet the final domestic demand of a territory. It is measured by taking into account, on the one hand, direct greenhouse gas emissions related to housing (e.g., the burning of oil or gas to heat the home) and household transport (e.g., the burning of fuel in the vehicle), and, on the other hand, indirect emissions related to the "consumption basket", i.e., the emissions related to the production - wherever it takes place - of goods and services consu-

med by these households. Greenhouse gas emissions from domestic production are therefore accounted for, but also the "hidden" emissions from consumption, i.e. those associated with the production and international transport of goods and services that are imported and consumed in this territory.

In the context of the Global carbon project, the footprints (CO₂ only) of more than 200 countries have been calculated since 1990. In 2018, Belgium's CO₂ footprint amounted to 15.4 tons of CO₂ per capita. Belgium was therefore in the top three European countries in terms of its CO₂ footprint, while the European average was 7.9 tons of CO₂ per capita (EU-27). If the goal is to achieve carbon neutrality¹, greenhouse gas emissions must decrease significantly. The efforts to be made will therefore be far-reaching. By way of illustration, using a car that emits 135 grams of CO₂ equivalent per km and

driving 15,000 km generates 2 tons of CO₂.

To date, no detailed analysis of Wallonia's carbon footprint and/or CO₂ footprint has been carried out. However, the Walloon platform for the IPCC has provided a first qualitative overview of what the composition of the Walloon carbon footprint could be, with a breakdown of emissions by major consumption item. These estimates confirm the importance of certain consumption items already identified as high emitters in Wallonia (transport, housing). They also highlight other items that do not appear to a significant extent in "conventional" greenhouse gas inventories, either because they are not defined, or because the inclusion of emissions outside Wallonia makes them larger. These include food and entertainment, clothing, household appliances and communications.



¹ 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.

HOUSEHOLD DWELLINGS: THE MAIN CAUSE OF ARTIFICIALISATION OF THE TERRITORY IN WALLONIA

The construction of houses, apartment buildings, shopping malls, infrastructure and other amenities results in the artificialisation of the territory: the areas dedicated to agriculture, forestry and natural areas are gradually and almost irreversibly decreasing. This artificialisation has many direct and indirect environmental consequences: loss of natural resources, soil sealing, modification of the natural water cycle, fragmentation of natural habitats, etc. The consequences of artificialisation on the environment are all the more important as housing, infrastructures, industries, shops and public services are highly dispersed, and in most cases this dispersion prompts more demand for transport and thus air pollution.

In 2020, the area used by Walloon households for housing (including extensions: garages, courtyards, gardens, etc.) amounted to 6.5 % of the territory, or 1,098 km². Since 2000, this area has increased by 22 %, which is more than the increase in the Walloon population over the same period and more than the increase in the number of households. Each Walloon household therefore consumed on average more land area in 2020 for housing (690 m² per household) than it did in 2000 (649 m²/household). Various factors explain this trend: attractive land prices, plentiful availability in the building zones, particularly in those furthest from the urban centres, household demand for detached homes and large plots, generous land management by municipalities, and the increase in empty dwellings, which leads to a shift in housing demand to non-artificialised land. Residential expansion is the primary cause of the artificialisation phenomenon in Wallonia, accounting for 71% of the total land that was artificialised between 2000 and 2020. It should be noted, however, that since the early 2000s, the rate of land consumption for residential purposes has tended to decrease overall (13.7 km² per year between 1995 and 2000 versus 7.7 km² per year between 2015 and 2020). This reflects the adoption of relatively more land-efficient approaches to building housing - a trend that is confirmed by the figures for new housing construction, as apartments

have accounted for approximately 50 % of new housing permits issued for several years now.

In the medium to long term, population and household growth is expected to continue, meaning that the demand for housing will continue to grow. The policies implemented in terms of land use planning and housing will therefore be decisive in relation to the environmental impacts of this growth. The Regional Development Plan (SDT), adopted in 2019 by the Walloon government, but whose date of entry into force has yet to be defined, attempts to provide a solution to these challenges. It envisages freezing the artificialisation of land in the medium term by reducing the consumption of non-artificialised land to 6 km² per year by 2030 and aiming for 0 km² per year by 2050. However, the measures to achieve this goal have yet to be decided on. As regards housing, the SDT envisages supplying 350,000 new homes by 2050, of which 175,000 will be built by 2030. An increasing proportion of these new homes will have to be built on land that has already been artificialised, with a view to achieving a minimum of 50% of homes built on land that has already been artificialised by 2030 and 100 % by 2050.



A WALLOON HOUSING STOCK WITH LOW ENERGY PERFORMANCE

In 2018, a Walloon household consumed an average of 22 MWh of energy in its home, 12 % more than a Flemish household. The average consumption of Walloon housing decreased overall between 1990 and 2010, and has since appeared to stabilise.

The energy mix of Walloon housing is still largely dependent on fossil fuels, with the two most used energy types being fuel oil (46 % in 2018) and natural gas (25 %). The share of petroleum products is particularly high in Wallonia compared to the surrounding territories, where natural gas is more common. This is due to the more scattered nature of housing, which limits the extension of the gas distribution network. Electricity comes in third place (19 %). It should be noted that the impact of electricity consumption on the climate and the environment depends on the energy sources used to generate it: nuclear power plants generate radioactive waste, gas-fired power plants are sources of air pollutants, etc. Driven upwards by the emergence of new technologies in the 1990s and 2000s, electricity consumption reached its peak in 2010. Since then, it has stabilised, in particular thanks to new regulations on the electrical consumption of appliances. Wood is the fourth most used energy source by households (8%). In order to improve combustion efficiency and limit emissions of air pollutants, in particular particles, the use of wood is the subject of awareness campaigns. Wood is also the leading source of renewable energy consumed in Walloon homes (71 %), ahead of photovoltaic solar (19 %) and ambient heat (exploited via heat pumps) (5 %). Energy consumption from renewable sources more than tripled between 2000 and 2018, when it accounted for 12 % of total housing consumption. This share is expected to increase in the coming years, thereby contributing to the objective of a carbon neutral Wallonia by 2050. In particular, decarbonising the energy mix for buildings will require the increasing use of heat pumps, solar thermal energy and biomass (wood, pellets, etc.)².



Most of the energy consumed in housing is used for heating (76 % in 2018) and domestic hot water production (11 %). The characteristics of the housing stock (type, size and energy performance of dwellings) are therefore an important explanatory factor. Overall, the energy performance of the existing Walloon housing stock is low (data relating to the housing stock before May 2010): only 1% of housing appeared to have an EPB A label or higher (the most efficient housing), while 10 % of housing appeared to have a B label, 14 % a C label, 16 % a D label, 16 % an E label, 14 % an F label, and 29 % of housing appeared to have the G label, i.e. the least efficient label. This is explained by the age of the Walloon housing stock (nearly 25 % of dwellings were built before 1921, 80 % before 1991) and by a low rate of renovation (around 1 % per year).

² The combustion of biomass is also a source of CO₂ emissions, although these are not taken into account for achieving greenhouse gas reduction targets. International methodologies (Kyoto, Paris Agreements, etc.) consider that, over the whole cycle, the storage of CO₂ during the renewal of biomass offsets the CO₂ emitted when it is burned.

As for new housing, energy performance is improving as the requirements have become more stringent over the past ten years: in 2020, 38 % of new housing had an A, A+ or A++ label, compared to 16 % in 2012. This trend is expected to accelerate, given that since 01/01/2021 the A label has become mandatory for all new constructions. At present, the main challenge is the energy renovation of existing buildings. At the end of 2020, the Walloon government adopted the Walloon long-term strategy for the energy renovation of buildings. With this document, Wallonia aims to improve the energy performance of the region's entire housing stock by 2050, so as to move towards the A decarbonised label (label A, with energy consumption ensured by renewable energy sources only), with priority given to the comprehensive renovation of the least efficient dwellings. Various measures

are envisaged, with the aim of significantly increasing the rate of energy renovation of housing. Among the key measures are an obligation to improve the energy performance of existing buildings at key moments in their life (purchase/sale, change of tenant, etc.), setting up a one-stop shop to provide comprehensive support to households in their renovation project, developing a "renovation roadmap" that accompanies the housing audit and summarises the renovation steps to be followed to achieve the A label, implementing a "building passport" that will gather all the information available for a building, including energy, and which will accompany the building throughout its life, and mechanisms to promote access to loans for renovation to as many individuals as possible.

HOUSEHOLD DWELLINGS: A SIGNIFICANT SOURCE OF GREENHOUSE GASES AND PARTICULATE MATTER

The energy consumed by households in their homes generates greenhouse gas emissions, which are responsible for climate change, but also air pollutants such as particulate matter, which can affect human health.

As regards greenhouse gases, the residential sector was the 3rd largest emitting sector in 2019, with 16 % of Walloon emissions, after industry and road transport. Greenhouse gas emissions from the residential sector decreased by 11 % between 2000 and 2019. This can be explained by several factors, such as the increase in wood consumption (logs, pellets, etc.), which is not accounted for as a source of greenhouse gases², the significant improvement in boiler performance, which has made it possible to generate more heat per unit of energy consumed, and the improved insulation of buildings. The general trend of milder winters has also reduced heating requirements.

Besides greenhouse gases, the residential sector is characterised by a significant contribution to Walloon emissions of particulate matter (PM₁₀ and PM_{2.5}, the former including PM_{2.5}). Depending on their diameter,

these particles are likely to penetrate more or less deeply into the respiratory system and trigger harmful effects on health. As such, PM_{2.5} is the most problematic category, given its ability to reach the pulmonary alveoli. In 2019, the residential sector was the 2nd largest emitter of PM₁₀ (29 % of Walloon emissions) and the largest emitter of PM_{2.5} (45 %). Despite the increasing use of heating wood by households, emissions of particulate matter from the sector decreased between 2000 and 2019 (-40 % for PM₁₀ and -41 % for PM_{2.5}) thanks to the use of more efficient heating appliances that meet stricter emission standards, an increased use of wood boilers that emit less particulate matter than wood stoves, and an increasing use of pellets, which emit less particulate matter when burned than logs.

It should be added that energy consumption in housing generates other types of air pollutants, such as non-methane volatile organic compounds (NMVOCs) (9 % of Walloon emissions in 2019) and nitrogen oxides (NO_x) (6 % of Walloon emissions).

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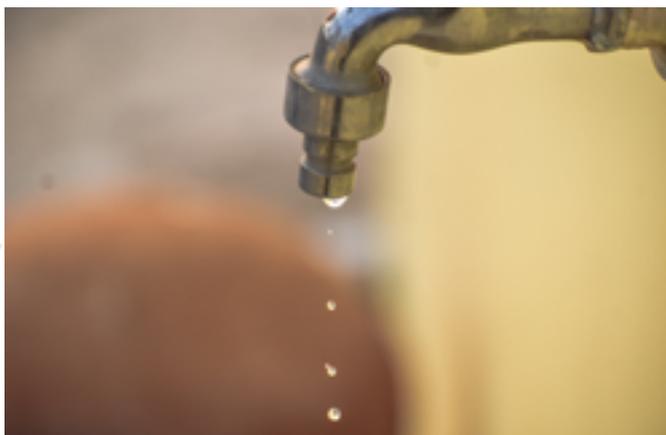
The European Union has set a binding target of carbon neutrality by 2050. At the same time, the Walloon government has incorporated this ambition in its 2019-2024 Regional Policy Declaration: carbon neutrality is targeted by 2050 at the latest, with an intermediate step in 2030 of reducing greenhouse gas emissions by 55 % compared to 1990. As regards air pollutants and their impact on air quality, Wallonia aims to move towards the World Health Organization (WHO) gui-

deline values, which requires further reductions in air pollutant emissions, including PM_{2.5}. Wallonia's climate and air quality policies are mainly implemented through the Air Climate and Energy Plan (PACE), which includes all the measures that should enable Wallonia to reduce its greenhouse gas and air pollutant emissions. The measures of the PACE are aimed at the various sectors of activity (industry, residential, tertiary, transport, etc.), with each sector having to contribute according to its specific characteristics to achieving the Walloon objectives. Households are therefore directly concerned by the measures, whether in the context of their dwellings or, as explained below, in the context of their travel. In the context of PACE 2030, which is currently being drafted, the measures envisaged for households and their dwellings are based on the above-mentioned long-term Walloon strategy for the energy renovation of buildings. Furthermore, some measures should be specifically aimed at reducing PM_{2.5} emissions, such as the distribution of good practice guides for wood heating or awarding bonuses to replace old log fires.

HOUSEHOLD WATER CONSUMPTION REMAINS STABLE

Over the period 2014-2018, water withdrawals for public drinking water distribution represented 22 % of total water withdrawals made in Wallonia (i.e. 390 million m³). However, a large part of the tap water produced in Wallonia was not intended for Walloon households, but was exported directly to the Flemish and Brussels Regions (around 150 million m³). The average consumption of households (including some professional activities such as shops, HORECA, etc.) amounted to 65 m³ in 2019, a decrease of 16 % compared to 2004 (77 m³). This evolution is mainly attributable to the fact that the public has been informed and made aware of saving water, and the widespread uptake of more water saving appliances: washing machines, economic showers or dual flush toilets. Overall water consumption in the sector, however, has not fallen much due to the increase in the number of households. Different factors influence the level of consumption. These

include household size (the larger the household, the lower the consumption per person), income (the higher the standard of living, the higher the rate of equipment and the higher the water consumption) and the presence of a rainwater tank, which reduces the amount of water withdrawn from the network. As regards the uses made by households of tap water, according to a study carried out in Flanders^(a), the three largest consumption items are personal hygiene (shower, bath, washbasin), toilets and laundry (washing machine and hand washing), which account for 37 %, 17 % and 14 % of consumption respectively.



Wastewater from household activities contains faecal microorganisms and various contaminants (organic matter, nitrogen, phosphorus, drug residues, pesticides, etc.). This water must therefore be treated before being discharged into waterways. In Wallonia, there are two wastewater treatment systems: a collective system, which involves the collection of wastewater from households and other sectors of activity (tertiary and certain industries) via a sewerage network and the treatment of this water in public treatment plants, and an autonomous system, reserved for sparsely populated areas, which requires the installation of individual treatment systems. In 2019, 87 % of the Walloon population was in a collective sanitation zone, without necessarily being connected to a

wastewater treatment system. As such, the proportion of the population located in a collective sanitation zone actually benefiting from wastewater treatment was around 85 %. In terms of pollutant loads, wastewater from households accounted for 66 % of all pollutant loads subject to collective treatment, with the balance coming from other sectors of activity. The autonomous sanitation zone concerned 13 % of the Walloon population. Within this zone, 19 % of the population had a declared individual wastewater treatment system, and 81% either did not have a treatment system or did not declare it.

The lack of sanitation facilities has impacts on the quality of surface water. In 2015, of the 352 Walloon surface water bodies, 134 were affected by a lack of collective sanitation facilities and 32 by a lack of autonomous sanitation facilities. Although in most cases, several factors (e.g., agricultural pesticide inputs via run-off) are at work simultaneously and are co-responsible for the environmental objectives not being achieved, the lack of sanitation facilities was the only factor responsible for 15 out of 134 water bodies in collective sanitation and for 1 out of 32 water bodies in autonomous sanitation. Continuing Wallonia's efforts in the area of sanitation is therefore necessary.

34 % OF HOUSEHOLDS USE PESTICIDES

In the domestic sphere, households use many products that may be harmful to their health and/or the environment. This is the case for paints, lacquers, varnishes, glues, cleaning products, biocides (disinfectants, wood protection products, anti-rodent products, insect repellents, anti-parasite collars, etc.), pesticides, etc.

As regards pesticides, although most of the quantities sold can be attributed to professional users (farmers, parks and gardens contractors, railway network managers), households also consume them. For example, in 2017, of the 6,398 tons of pesticide active substances sold in Belgium, 4 % (i.e., 269 tons) was intended for households and 96 % for professional users^(b). Besides the fact that they can harm the health of users and

the environment, it should be noted that non-professional use of pesticides is often inappropriate (lack of information on alternatives, incorrect application, etc.). According to a survey of Walloon households^(c), in 2019, 3 % of households used pesticides for garden maintenance (either alone or combined with alternative methods). Alternative methods were preferred by 25 % of households. Households are generally aware of the risks involved in handling pesticides and, as such, use protective measures: 69 % of users wear gloves, 25 % wear boots, 18% wear goggles and 21% wear a mask. However, very few households actually use adequate and therefore effective protective equipment: only 17 % of households wear conforming gloves and 5 % a conforming mask. Furthermore, the general public

does not use the waste management channels for pesticides as much as they should, since only 59 % of households deposit their empty packaging and/or leftover products at the container park. Raising awareness is therefore necessary, as well as measures to control the use of pesticides by households. Indeed, these are the components of the Walloon Pesticide Reduction

Program 2018 - 2022, which aims to achieve pesticide use which is compatible with sustainable development. Note that for some pesticides, such as glyphosate for example (65 tons sold to Belgian households in 2017^(b)), the measures taken go as far as banning the sale and use by households.

MORE THAN HALF A TON OF WASTE PER CAPITA, A MORE OR LESS UNCHANGING FIGURE

Walloon generated an average of 518 kg of waste per capita in 2018, a level below the European average. This quantity has been stable for the last ten years. Some evolutions have nevertheless been observed, including a decrease in the quantities of raw household waste (unsorted "general" waste) in favour of waste flows sorted through selective door-to-door collections (organic waste, PMD, etc.), voluntary drop-off points (glass, etc.) or container parks (wood, electrical and electronic equipment waste, etc.). This is a positive evolution given that separating waste streams more effectively allows for better management and therefore better recovery. In 2017, more than half of household waste was sent for recycling to material recovery centres (e.g., inert waste, waste paper and cardboard, used as a replacement for other materials or substances) or to organic recovery centres (composting or biomethanisation). The remainder was recovered as energy (43 %) or disposed of by incineration without energy recovery (2 %) or by landfill (2 %).

The Walloon Waste-Resource Plan, adopted by the Walloon Government in 2018, includes various measures aimed at households. These relate both to prevention (limiting the quantity of waste generated and/or its potential impact on the environment and human health) and waste management. As such, we can highlight the general uptake of selective collection of organic waste, the promotion of reuse and recycling and the fight against food waste. Food waste was estimated at more than 15 kg per capita per year in the last surveys conducted (2017 - 2018)





PASSENGER CARS REMAIN THE PRIMARY MEANS OF TRANSPORT FOR HOUSEHOLDS

The car is the preferred mode of transport for Walloon households. According to a survey by the FPS Mobility and Transport^(d), in 2017, 73 % of Walloon journeys were made by car, 4 % by train, 6 % by bus/tram/metro, 2 % by bike, and 13 % on foot. Mobility patterns differed between the country's regions, with Walloons using their cars more than the Flemish (59 % of journeys in Flanders), at the expense of cycling (18 % of journeys in Flanders). A similar observation could be made with regard to commuting, which is particularly important as it structures the journey chain. The car (alone or in carpooling) was the main mode of transport used to travel to work, especially in Wallonia (86 % of trips were made by car, compared to 70 % in Flanders). The train accounted for 4 % of journeys, the bus/tram/metro for 4%, cycling for 1.6 % and walking for 2.8%^(e).

If we look at the number of cars registered in Wallonia, in 2020 there were just over 1.8 million, which represents a growth of 27 % in two decades. The growth in the number of cars was also higher than both the growth in population and the growth in the number of households over the same period, which is reflected in an increase in the household car ownership rate over time, from an average of 1.03 cars per Walloon household in 2000 to 1.14 cars per household in 2020.

In terms of engine type, in 2020, diesel cars accounted for 50 % of the fleet (up from 37 % in 2000), while petrol cars accounted for 47 % (up from 61 % in 2000). The growth of the fleet with diesel engines, which had occurred since the 1990s, stopped in 2014, this growth switching to petrol cars. This evolution was prompted in particular by the reform of excise duties, introduced partly for environmental reasons. In effect, although diesel engines generally emit less CO₂ per km than petrol engines, they emit more particulate matter and NO_x. This explains why the standards relating to the age of diesel vehicles allowed in some major cities are stricter than for petrol vehicles. Hybrid cars, meanwhile, constituted a negligible share of the car fleet (1.6 % in 2020, or 29,566 cars), but growing rapidly (+35 % since

2019). A similar observation could be made for electric cars (0.2 % in 2020, or 3,707 cars, +55 % since 2019). It should be noted that although electric cars do not emit CO₂ when driven, their environmental impact is not zero: building them requires the consumption of materials, including rare metals, and this creates air emissions, while the electricity needed to run them could be generated from non-renewable sources, with CO₂ emissions.

In terms of energy consumption, in 2018, a Walloon household consumed an average of 8 MWh for travel, an amount that has remained relatively stable in recent years and comes on top of households' energy consumption for housing (on average 22 MWh per household). The same applies for greenhouse gas and air pollutant emissions linked to household transport, which come on top of housing-related emissions. It should be noted that there is currently no data on the specific share of households in Walloon emissions of greenhouse gases and air pollutants related to transport. If we take into account the entire road transport sector (including trucks), it was however the 2nd largest emitter of greenhouse gases in Wallonia in 2019 (24 % of Walloon emissions), up 33 % compared to 1990.

In view of these evolutions, major changes in household transport habits will be necessary, especially given that, with unchanged policy, the forecasts envisage a distribution of modes of transport similar to the current one, i.e. the predominance of the car for passenger travel. To address these challenges, various priorities have been set out in the FAST Vision 2030 (adopted in 2017) and the Regional Mobility Strategy which makes it operational. Part of the emphasis is on the modal shift, with a significant reduction in the share of cars in favour of walking, cycling, bus and train, and on reducing transport demand. In addition, in its Regional Policy Declaration 2019 - 2024, the Walloon Government has set new climate targets for 2030 (see above). To achieve these, the FAST Vision 2030 and the Regional Mobility Strategy will need to be strengthened. The Walloon government has put forward various avenues. These include massive investments in public transport (exten-

sion of the network, expansion of timetables, free public transport for certain population groups, development of roads to give priority to buses, etc.), the implementation of a strategy to develop the use of bikes as a means of daily travel, with in particular an extension of regional bike routes (2,274 km of cycling facilities on the

regional network in 2021, which comes on top of just over 1,440 km of RAVeL routes (autonomous network of slow lanes)), and a more rational territorial development policy that makes it possible to reduce the need for mobility (e.g., choice for locating public facilities and housing in or near existing residential areas).

HOUSEHOLDS PURCHASE MORE AND MORE ORGANIC PRODUCTS

The food practices of households put pressure on the environment. These pressures come largely from agricultural production (livestock and crops), but not only these. The various stages of the food chain downstream - processing, preservation, transport, packaging, distribution and preparation of food - also generate environmental pressures (air emissions, wastewater discharges, waste generation, etc.). At the consumer level, there are various possibilities for reducing these pressures. These include buying organic products, changing eating habits to eat seasonal food, reducing consumption of packaged drinks (e.g. bottled water) and overpackaged products, reducing meat consumption, sourcing from local markets³, reducing food waste, etc.

As regards organic farming in particular, this is a method of food production subjected by relatively strict rules, laid down in European legislation. Organic products are therefore produced using production methods that respect the environment and animal welfare, and they meet the demand of a growing number of consumers who want to buy healthy, high-quality food (good taste, no pesticide residues, etc.). However, it must be stressed that an organic label is not necessarily synonymous with sustainability.

Indeed, importing organic products from other European or even non-European countries may cancel out some of the environmental gains due to the harmful effects of transporting them in from far away.

The market for organic products in Wallonia has been growing rapidly over the last decade. According to consumer surveys by GfK, in 2020, Walloon households' spending on organic food products represented 4.9 % of their total food expenditure, compared to only 1.7 % in 2010. However, the market shares of the different organic product categories varied greatly from one product to another. Overall, they were all on the rise. In 2020, 23 % of egg sales were organic eggs, fresh fruit had a 12 % market share, fresh vegetables had a 12 % market share, and organic dairy and meat had a 6 % and 2 % market share respectively. In terms of purchasing behaviour, it should be noted that organic food products were mostly purchased by a limited number of "major consumers", since 80 % of the expenditures were made by the 20 % of households consuming the most organic food. An analysis of the consumer profile reveals that the organic market is driven by small households (1 to 2 persons), households in which the person responsible for buying groceries is over 50 years old and households in the higher socio-economic categories. Price differences, more or less pronounced depending on the products, persist between organic and equivalent conventional products. For products such as eggs, milk, and potatoes, the price gaps have shrunk since 2010, while the oppo-

³ In terms of environmental impact, the diversity of local short circuits means that it is impossible to claim that they systematically present a better environmental balance than long circuits, particularly in terms of energy consumption and greenhouse gas emissions. Indeed, production methods and practices are much more decisive in terms of the environmental balance than distribution modes, especially for fruit and vegetables (seasonal produce). Moreover, more proximity does not necessarily mean fewer greenhouse gas emissions if the means of transport used are inappropriate, if logistics are insufficiently optimised or if consumer behaviour is inadequate^(f).

site has happened for meats and hard and semi-hard cheeses. These price differences are a barrier for many households.

The Strategic Plan for the development of organic agriculture by 2020 set the objective of a 6 % market share for organic food in the food expenditure of Walloon households for a list of 13 product categories (meat,

eggs, fresh vegetables, etc.). This target has already been achieved (6.2 % in 2020). The market share for all products combined was 4.9 %. New, more ambitious objectives are laid down in the Plan for the development of organic production in Wallonia by 2030 (adopted in 2021): a market share of organic food of 14.9 % for the total and 18.7 % for 13 product categories.



FUTURE CHALLENGES FOR HOUSEHOLDS: CONSUME LESS AND CONSUME DIFFERENTLY

The household sector is characterised by mixed environmental performance. Although there are signs of improvement (e.g., energy efficiency of new housing and consumption of organic food), in many areas improvements are slow to take hold (e.g., land take and responsible use of pesticides) or are non-existent (e.g., amount of household waste generated), or are even getting worse (e.g., increasing use of environmentally harmful means of transport).

From an overall perspective, current consumption patterns are not sustainable. There is still a long way to go to get households into a sustainable consumption dynamic. This will inevitably involve drastic changes in daily life and in the consumption habits of households. Nevertheless, certain contradictions act as strong impediments to the hoped-for changes^(g). Among these, three stand out:

- households are encouraged to consume ever more to support economic growth. In this context, debates and action programmes focus on changing consumption choices ("consume differently") rather than reducing consumption ("consume less");
- at the European level, although there are initiatives in this area (e.g. circular economy), there is no real policy on sustainable consumption⁴;
- the instruments currently favoured by the public authorities to influence household behaviour are essentially those related to consumer information and awareness-raising. This is likely because these are easier to implement than other types of instruments such as regulatory or economic instruments. However, it would appear that the impact of this type of instrument is limited. Indeed, the conventional model of a rational consumer who, properly informed, can change their habits, is not very effective, and this is because consumption choices are the result of a complex dynamic that involves many factors (social, psychological, economic, structural, situational, etc.).

There are therefore no shortages of challenges. To influence household behaviour and develop sustainable consumption, governments will likely need to combine multiple types of instruments (regulatory, economic and cultural), so that the message conveyed to households regarding the meaning and extent of the changes needed is consistent. Nevertheless, consumption can only be truly sustainable if all the steps that precede it are sustainable. In addition to households, a whole range of actors (production, processing, transport sectors, etc.) will therefore also have to make significant efforts.

⁴ In 2020, the European Economic and Social Committee (a body composed of representatives of employers, workers and other actors from European civil society, acting in an advisory capacity to the European institutions) published an opinion on their own initiative in which it explicitly called on the European Union to develop a truly comprehensive strategy for sustainable consumption^(h).

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Main data sources

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