7. The Belgian economy must create sustainable prosperity

7.1 Effective use of resources for wealth creation

Wealth and value creation in an economy depends on which resources are used and how efficiently. The main resources are labour, physical capital (machines, etc.), intangible capital (data, patents, etc.), energy and raw materials. The development of these resources determines the economy's growth potential.

By international standards, Belgium's position is primarily unfavourable in terms of the employment and energy factors. The employment rate, which represents the proportion of the working-age population effectively in work, is well below the average of the country's three neighbours and that of the three Nordic EU countries (Denmark, Finland and Sweden). Furthermore, the Belgian economy uses much more energy to generate the same quantity of value, due in part to its relative specialisation in energy-intensive industries. This higher energy intensity not only places a greater environmental burden on the planet but also exposes more vulnerability during periods of high energy prices since most energy is imported. In addition to energy, the economy imports other raw materials and inputs making it highly dependent on foreign suppliers and other countries. In the event of trade conflicts or geopolitical tensions, the Belgian production system is therefore at risk of coming under intense pressure.

In recent years, the ever-growing trend towards global interdependence has come to a standstill. For decades, the global economic system was characterised by deepening international trade relations combined with stronger value chains that were increasingly specialised throughout. As explained in chapter 1 (box 1), this dynamic ended as a result of, amongst other factors, tensions between the main protagonists on the world trade markets (the United States and China). The COVID-19 pandemic exacerbated this change due to lockdowns and travel and transport restrictions that disrupted global flows. The energy crisis caused by Russia's invasion of Ukraine also highlights that strong specialisation brings with it great vulnerability. In this context, developments such as insourcing, which brings certain activities – previously outsourced to other countries – back in-house, and nearshoring, intended to shift activities from far-away to nearby countries, have emerged. It goes without saying that such changes in value chains are not inconsequential for Belgium whose status as a small economy at the heart of the EU has led it to capitalise on integration into global flows, which have in the past been a major source of growth, jobs, capital formation and productivity.

Available resources are used very efficiently. For many decades, the Belgian economy has been highly productive. Consequently, Belgium manages to attain a high level of prosperity despite fairly limited use of resources. In 2020, the country was 25th in the United Nations' world rankings for GDP per capita.

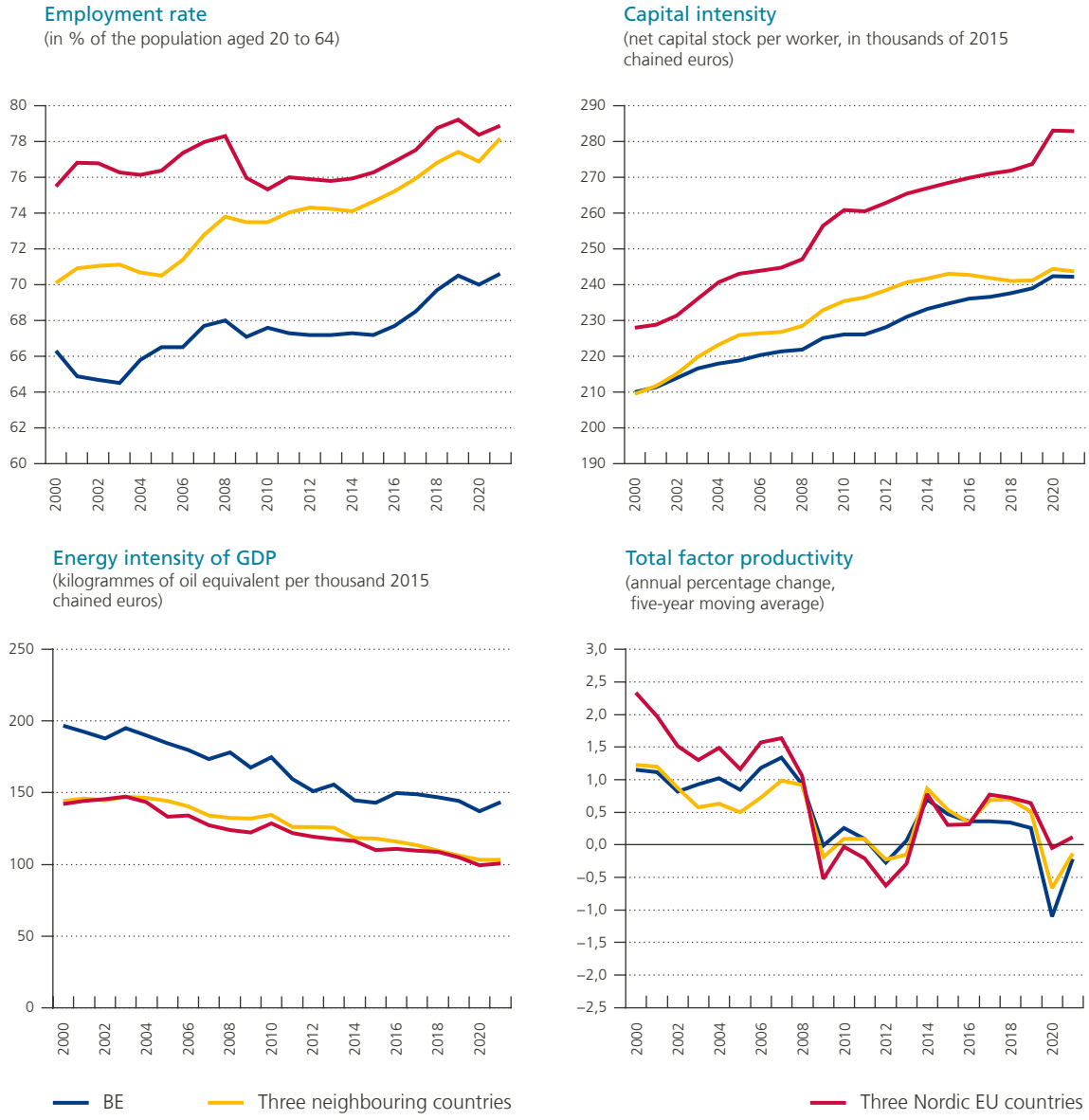
However, productivity change is on a downward trend. Productivity growth is getting weaker and weaker. While this trend is affecting all developed countries, it has been systematically more pronounced in Belgium than elsewhere in the EU in recent years.

Generally, lower resource utilisation and limited productivity growth make the basis for wealth creation in Belgium narrower than elsewhere in Europe. In order to maintain wealth creation at the same level as in the past, the various factors involved will need to catch up significantly. This will require more people in work, more widespread technological change, reduced energy dependence and a boost in productivity growth. In addition, the urgency of the

climate challenge requires a drastic reduction in fossil fuel consumption. Against this backdrop, the rest of this chapter focuses on labour and energy inputs. Box 6 refers briefly to several factors likely to influence the competitiveness and attractiveness of the Belgian economy.

Chart 7.1

The wealth creation basis is narrower in Belgium than elsewhere in Europe [1]



Sources: EC and Eurostat.

1 Unweighted averages of the three neighbouring countries and the three Nordic EU countries.

BOX 6

Attractiveness of the Belgian economy

Belgium's attractiveness is high and climbing, but there is still room for improvement in some areas. While the current situation of rising production costs is negatively impacting Belgium's competitiveness (see chapter 3), according to the International Institute for Management Development (IMD), its overall attractiveness has grown over the past four years. Belgium was ranked 21st out of the 63 countries assessed in 2022 (compared with 26th in 2018). This improvement was due to stronger economic performance. Businesses and government also stepped up their efficiency, albeit to a lesser extent, while the indicator on infrastructure quality remained steady. However, in the global ranking, Belgium is still below its neighbours (except France) and the Nordic EU countries. Improved attractiveness is a decisive factor in the investment decisions of Belgian and foreign firms and the economy's future wealth creation capacity.

Belgium's ranking based on competitiveness indicators compared with other countries

(top three countries per indicator and ranking of the three neighbouring countries and the three Nordic EU countries, 2022; 2018 ranking in brackets)

Global indicator		Economic performance		Government efficiency		Business efficiency		Infrastructure	
1 (6)	Denmark	1 (4)	Luxembourg	1 (2)	Switzerland	1 (3)	Denmark	1 (2)	Switzerland
2 (5)	Switzerland	2 (7)	Singapore	2 (1)	Hong-Kong	2 (4)	Sweden	2 (3)	Denmark
3 (3)	Singapore	3 (1)	United States	3 (4)	United Arab Emirates	3 (6)	The Netherlands	3 (5)	Sweden
4 (9)	Sweden	5 (12)	Germany	6 (6)	Denmark	5 (16)	Finland	4 (6)	Finland
6 (4)	The Netherlands	13 (26)	Denmark	9 (11)	Sweden	**19 (23)**	**Belgium**	5 (9)	The Netherlands
8 (16)	Finland	**14 (44)**	**Belgium**	10 (15)	Finland	21 (19)	Germany	9 (11)	Germany
15 (15)	Germany	17 (30)	France	12 (8)	The Netherlands	35 (31)	France	15 (12)	France
21 (26)	**Belgium**	19 (6)	The Netherlands	21 (19)	Germany			**20 (20)**	**Belgium**
28 (28)	France	21 (24)	Sweden	**33 (35)**	**Belgium**				
		44 (43)	Finland	40 (39)	France				

Source: IMD.

Note: The economic performance indicator takes account of the domestic economy, international trade, international investment, employment and prices. The government efficiency indicator encompasses public finances, tax policy, institutional framework, business legislation and the societal framework. Business efficiency is measured by productivity and efficiency, the labour market, finance, management practices and attitudes and values. The quality of infrastructure is based on an assessment of basic, technological and scientific infrastructure as well as health, environment and education.

Skills acquisition needs to be more in line with what companies need. In terms of human capital, the share of highly educated people aged 25 to 34 in job-creating fields (science, technology, engineering and mathematics or STEM), which reached 21 % in 2021, is still too low to meet demand. According to IMD data, Belgium is ranked 57th out of 60 countries for this indicator. Yet there is a positive correlation between the proportion of highly educated workers employed in STEM fields by a company and its productivity.[1] Beyond higher education, ensuring the widespread acquisition of digital and technological skills will be a challenge going forward. In particular, skills in green technologies will become increasingly crucial to the success of the climate transition.

The quality of the education system is another important factor for consideration. In Belgium, spending on education amounted to 5.6 % of GDP in 2019, which is higher than the OECD average (4.9 %). The student-to-teacher ratio in secondary education is one of the lowest in OECD countries. These indicators probably explain why the country's PISA scores are higher than the OECD average. However, there are wide disparities between Communities, with the Wallonia-Brussels Federation averaging scores well below those of the Flemish Community. It is clear that student performance seems to be declining and that the school system is relatively unequal in Belgium. By way of illustration, the differences in maths results between the top 10 % and the bottom 10 % of students are some of the largest in the countries of comparison. It is also more common for students to repeat a year, especially those from less favourable socio-economic backgrounds. Beyond initial education, the lack of lifelong learning for workers and low mobility on the labour market are other major obstacles to competitiveness (see section 7.2).

One of Belgium's strengths is still its level of innovation. According to the EC's Innovation Scoreboard,[2] Belgium is among the leaders in this area, along with Sweden, Finland, Denmark and the Netherlands. Furthermore, Belgium's innovation performance continues to improve over time. It has one of the highest rates of expenditure on research and development in the EU at 3.4 % of GDP in 2020, a figure that has been increasing steadily for around fifteen years (it was 1.8 % in 2005). Despite this, there are some weaknesses and areas for improvement, not least the roll-out of climate technologies and exports of high-tech goods. Recent analysis[3] has shown that while innovation is highly developed in Belgium, its diffusion remains problematic. This is because a limited number of companies account for a high concentration of innovation efforts.

Spending on innovation, education and healthcare is one of Belgium's strong points, but the country still has significant room for improvement in terms of the quality of its basic infrastructure (transport, urban planning and energy). According to the IMD's infrastructure sub-indicator rankings, Belgium is 30th for water supply infrastructure, 35th for the efficiency of energy infrastructur and 43rd for air transport. Investment in telecommunications and cyber security is also too low (43rd and 35th, respectively).

1 Bijnens, G. and E. Dhyne (2021), "The return on human (STEM) capital in Belgium", NBB, *Working Paper 401*.
2 EC (2022), *European Innovation Scoreboard 2022*.
3 De Mulder, J. and E. Dhyne (2022), "With a little help from my friends: patents, technological diffusion and firm productivity", NBB, *Economic Review*.

Finally, entrepreneurship is still lagging behind in Belgium, although the situation is improving. According to Eurostat data for 2020 (the last available year), the business creation rate, 6.9 % of total active companies, is not only lower than the European average (8.9 %) but also below that of the comparison countries (except for Sweden). In contrast, the business failure rate is relatively low at 3.2 %, compared with 7.2 % on average in the EU. The lack of entrepreneurship incentives is partly due to current legislation and regulations. According to the World Bank's "Ease of doing business" indicator, updated in 2020, Belgium is 46th, far behind Denmark (4th), Sweden (10th), Finland (20th) and Germany (22nd). Although lower in the rankings, France (33rd) and the Netherlands (42nd) are nevertheless more conducive to entrepreneurship than Belgium.

7.2 Boosting the labour factor sustainably and significantly

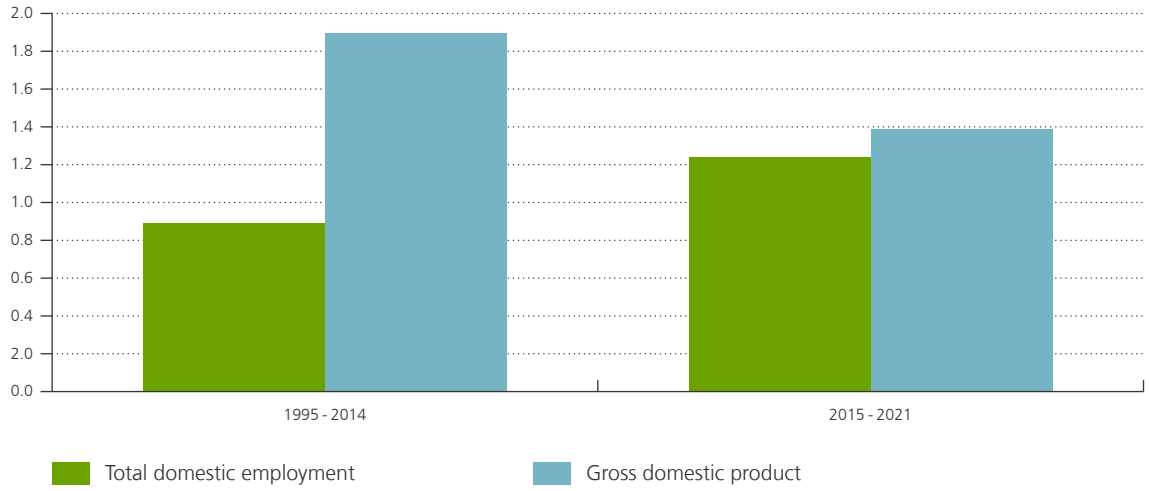
One of the determining factors in economic growth is the size of the workforce employed to produce goods and services. Belgium has significant room for improvement here. The workforce can be measured by either the number of workers or hours worked, and its growth requires that companies' labour demand match the labour supply of the population. Belgium faces both a low activity rate and a high job vacancy rate.

Job creation has been more dynamic since 2015 than in the previous 20 years, bringing unemployment down to a historically low level. Between 2015 and 2021, domestic employment grew by an average of 1.2 % year on year, which is a net increase of 412 000 jobs. By way of comparison, the average annual growth in domestic employment was 0.9 % between 1995 and 2014. This acceleration was the result of stronger job creation in construction and fewer job losses in industry. Employment growth in services was relatively stable between these two periods and continued to exceed the economy's average, but this was coupled with a fall in value added growth, especially in non-market services. The government has helped boost job creation in the private sector, in particular by encouraging low-skilled workers to enter the job market, such as under the service voucher scheme and in security services,

Chart 7.2

Employment grew strongly

(average annual growth rate, in %)



Source : NBB.

administrative support and call centres. The result is a more polarised labour market, in which the share of medium-skilled employment has fallen over time.[1]

The lack of skilled labour influences companies' long-term decisions

The labour shortage affects many sectors and many occupations with varying skill levels. The country's regional public employment services closely analyse bottleneck vacancies, i.e. those that are harder to fill and require a lengthier recruitment process. According to Actiris, Forem and the VDAB, there are various sources of tension, including the economic context, a lack of skills, insufficient numbers of applicants and difficult working conditions. Most bottleneck vacancies are relatively similar between the Regions, but the regional lists feature a wide range of sectors and required skills. They include jobs in construction (formworkers, roofers and carpenters), the hospitality and catering industry (chefs, butchers and waiters), metalworking (fitters and turners, tool makers and welders), medicine (general practitioners and medical imaging technologists) and even business services (accountants and IT developers).

Like the number of vacancies in general, the number of bottleneck vacancies has grown in recent years. In the third quarter of 2022, Belgium recorded 211 000 vacant jobs, more than double the figure of eight years earlier. Admittedly, the post-pandemic recovery boosted demand for labour, particularly in hospitality and retail trade, but many of the bottleneck vacancies on the regional lists were already there in 2019. The job vacancy rate (i.e. the ratio of the number of vacancies to the total number of filled and vacant positions) has risen sharply since 2020, reaching 5 % in the second half of 2022, meaning Belgium is above the European average (3 %). Recent data seem to indicate a reversal from mid-2022.

1 De Sloover, F. and Y. Saks (2018), "Is job polarisation accompanied by wage polarisation?", NBB, *Economic Review*.

Two-thirds of vacancies are in Flanders. In the third quarter of 2022, the job vacancy rate stood at 5.5 % in Flanders compared to 4.1 % in Brussels and 3.9 % in Wallonia. There are more vacancies in industry and market services in Flanders. In Wallonia and Brussels, vacancies are more concentrated in the public sector which partly reflects the composition of employment and implies less dynamism in economic boom years.

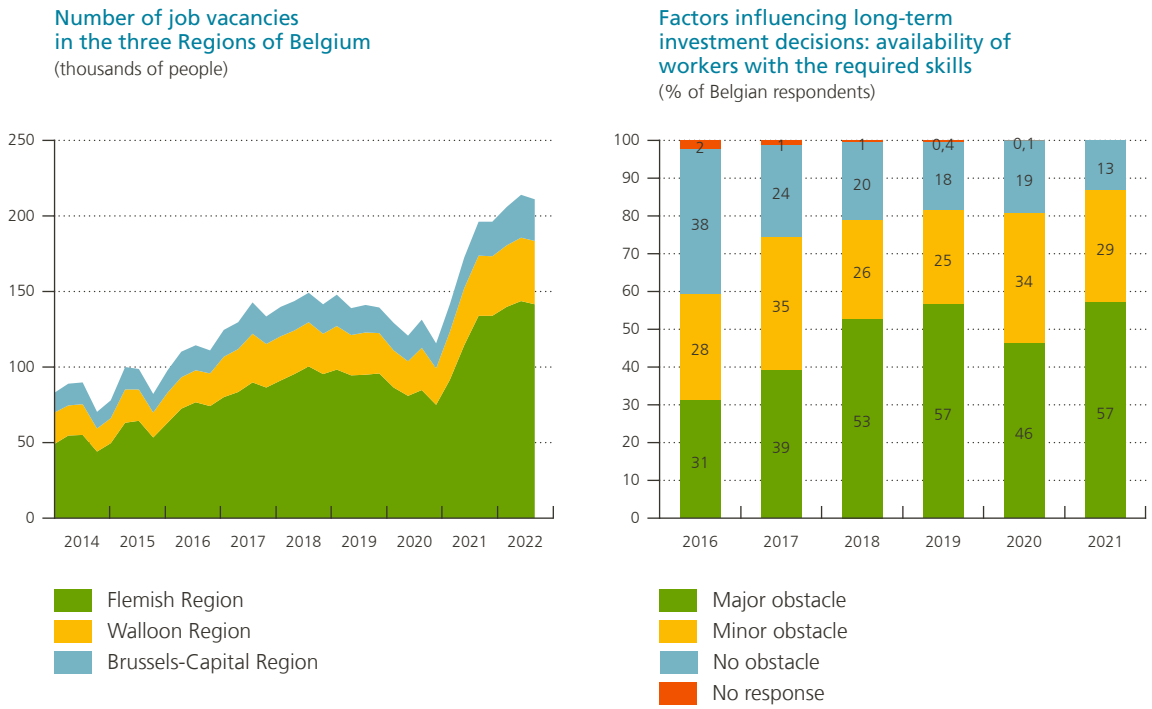
In addition to their short-term effect on growth, recruitment difficulties potentially have a long-term impact on the volume or direction of business investment. According to a European Investment Bank survey conducted in 2021, 57 % of Belgium's business leaders thought that a lack of staff with the required skills was a major obstacle to long-term investment and 29 % thought it was a minor obstacle. These percentages have increased significantly in the last five years. The Bank's quarterly survey on production capacity utilisation in the manufacturing industry reveals a similar trend in the number of business leaders citing insufficiently skilled labour as a barrier to production.

Tensions are caused in part by a mismatch between the required skills and the level of education or training

The quality of the education system is a factor contributing to the attractiveness of the Belgian economy. Belgium is historically renowned for the quality of its education system, although, in recent years, international surveys have reported a deterioration in results. In addition, the percentage of young people (aged 15-24) not in education, employment or training (NEET) is low compared to the European average and on a downward trend, falling from 17.7 % in 2000 to 7.4 % in 2021. As it is more difficult to get this segment of the population into work in the short term, reducing these numbers is a top priority, especially in Brussels and Wallonia

Chart 7.3

The high job vacancy rate impacts long-term prospects



Sources: EIB and Statbel.

which exceed the national average. Lockdowns and school closures during the pandemic might have hindered learning, especially for pupils and students from disadvantaged backgrounds, and could ultimately have a negative effect on human capital and success in higher education.

Growing enrolment in higher education is also positive, notably because it leads to a rise in the activity rate. In 2021, 45 % of the Belgian population aged 25 to 64 had some higher education, an increase of 5 percentage points in four years. The percentage of those aged 30 to 34, i.e. the youngest generation that has completed graduate studies, reached a record level of 49.9 % in 2021 (45.9 % in 2017). This percentage is 56.4 % for women and as high as 58.4 % in the Brussels-Capital Region. The level of education has a decisive impact on unemployment and inactivity rates. In 2021, 48 % of people aged 20 to 64 with a low level of education were inactive, compared with 28 % and 13 %, respectively, of those with a medium or high level of education. Higher education also has positive effects on worker productivity and entrepreneurial skills, while helping to boost demand for household services, thus creating low-skilled job opportunities.

The mismatch between applicants' skills and those required by employers explains most labour shortages. Choice of studies and training influence employability, with certain in-demand fields, such as science, technology, engineering and mathematics (STEM), attracting fewer students. Workers more advanced in their careers can improve their employability by upskilling or developing hard skills through lifelong learning, which can also help inactive people find jobs. As shown in the 2021 HCE report on lifelong learning, four in every ten Belgians will need to update their skills but recourse to lifelong learning is still not widespread enough. There are many initiatives designed to develop skills in STEM fields and new technologies. In some cases, these are financed at national, regional or community level such as certain training courses in digital skills with Technobel or Technofutur TIC in Wallonia, BeCode in Brussels and Syntra in Flanders.[1] Other, more transversal competencies (soft skills), such as interpersonal and communication skills and the ability to innovate or adapt, can also improve employability.

Raising the employment rate requires getting many more people into work

There can be many barriers between jobseekers and vacancies. In order to fill vacant positions, jobseekers are often considered prime candidates due to their short-term availability. However, since the unemployment rate is highest in Wallonia and Brussels but most vacancies are in Flanders, there may be short-term geographical or linguistic incompatibilities. Other aspects, such as skill mismatches or human capital depreciation amongst the long-term unemployed, can also make it harder to match job supply to demand. Moreover, for low-skilled workers, the loss of certain social benefits linked to unemployment or inactive status and additional expenses such as travel or childcare, in relation to the salary on offer, are likely to discourage them from accepting a job.

The labour reserve is relatively low in Belgium. The pool of available workers also includes part-time workers who would like to work more, people who are available to work but not actively seeking a job, and people looking for work who are not immediately available. These categories, together with jobseekers, accounted for labour market slack[2] of 544 000 people in the third quarter of 2022, which is 10.4 % of the extended labour force.

Wider activation is required to achieve the target employment rate of 80 % of the population aged 20 to 64 by 2030. This means an increase of 7.9 percentage points compared to the level in the third quarter of 2022. Currently, in order to achieve this, nearly 532 000 more people will need to be in work. Labour market activation must be more

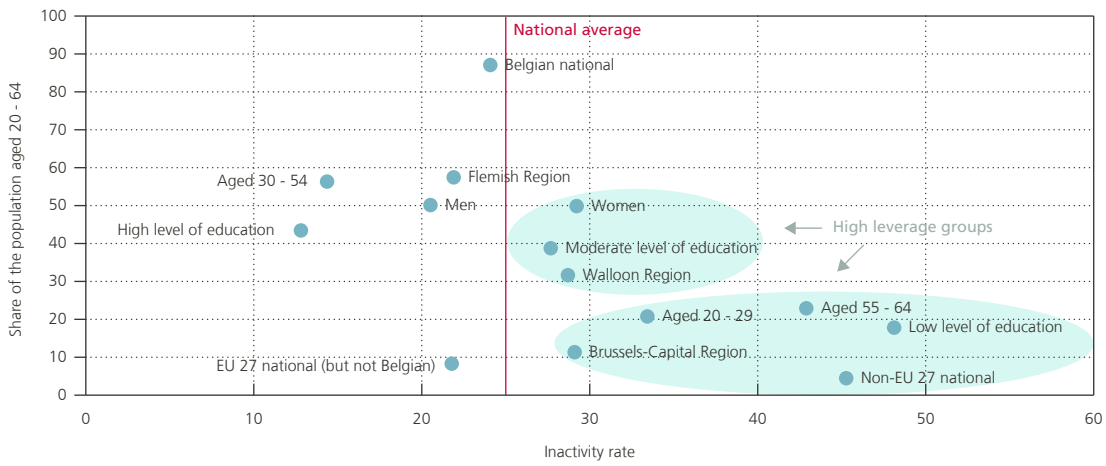
1 See https://economie.fgov.be/fr/themes/line/les-tic-en-belgique/competences-numeriques/formations-en-competences.

2 Labour market slack is unmet demand for paid labour within a given population. It is expressed as a percentage of under-utilised labour (the unemployed, part-time workers who would like to work more and could work more hours in the short term, people who are available to work but not actively looking for a job, and people looking for work who are not immediately available) in the extended labour force (working people, the unemployed and certain categories of inactive people).

Chart 7.4

Inactivity rate and share of the Belgian population aged 20 to 64

(in %, 2021)



Source: Statbel.

widespread to tackle the challenge of a structural labour shortage and improve the sustainability of public finances.

In order to achieve the overall objective, certain groups of people are more important levers due to their relative weight in the inactive population. The goal of 80 % employment relates to the population aged 20 to 64, but already at the outset there is substantial heterogeneity between groups of individuals within this population, in terms of both relative size and the inactivity rate. Depending on these two aspects, getting a particular sub-group into work may not result in an 80 % employment rate, although certain categories are more powerful levers than others. Firstly, the activation of groups whose inactivity rate is broadly higher than average is associated with greater potential for improvement despite low numbers in the population. These include non-European nationals, persons with a low level of education, persons aged 55 to 64 and persons living in Brussels. The situation is somewhat different for those aged 20 to 29, of which a significant proportion are in higher education meaning that although they are currently classed as inactive, they may become active when they finish their studies. Secondly, for groups with both a higher-than-average inactivity rate and a substantial weight in the working age population, even limited activation can have a significant effect on employment. These groups include women, moderately skilled people and residents of Wallonia.

Reducing the labour market participation gap between men and women is a key lever

The labour market participation gap between men and women is on a downward trend. This is the result of a rise in the female employment rate, which increased from 50 % in 1995 to 67 % in 2021, while that of men has remained stable at just below 75 %. Changing attitudes about roles in the household and society have contributed to this development. This trend can also be seen in education where the percentage of women with higher education now exceeds that of men. However, while women's labour force participation has increased and their access to employment improved, they still face obstacles on their career paths.

Women's labour market participation is still below that of men. The European Pillar of Social Rights Action Plan aims to reduce the gender gap in employment by half in the EU by 2030. In Belgium, this means that this gap needs to be narrowed to 4 percentage points by 2030, which would mean an additional 120 000 women in employment.

Certain gender gaps are structurally embedded in the supply and demand of labour. On the business side, certain sectors have long been characterised by over-representation of a particular gender. Construction, information and communication, and industry are male-dominated sectors, while healthcare and education are seen as female sectors. As far as workers are concerned, there are wider gender gaps in the employment rate of certain groups including non-European workers (34 percentage points), low-skilled workers (22 percentage points) and couples with children (18 percentage points).

Gender impacts professional specialisation. There is a plethora of underlying causes for the participation gap between men and women, which originates long before they enter the labour market, i.e. during childhood, primary and secondary education and university studies. For example, the scarcity of women with certain technical skills on the employment market is partially linked to their under-representation in certain fields of higher education, such as STEM subjects.

Entry to the labour market is influenced relatively little by gender, unlike career advancement. The law prohibits gender-based discrimination on the labour market. Based on available data and study results, [1] such discrimination in the recruitment process is in fact relatively rare in Belgium. Career and salary development nevertheless differ depending on gender. Women are more often limited to lower levels of management (a phenomenon known as the "sticky floor") and find it more difficult to reach higher positions (a phenomenon known as the "glass ceiling"). These differences originate from both labour supply, as the distribution of household tasks and childcare is still highly unequal, and demand, with some employers tending to promote employees who can work more flexible hours. The scale and deliberate nature of these phenomena are still difficult to assess given, amongst other factors, the influence of norms and stereotypes.

The arrival of children in a household changes career prospects as women are more often responsible for childcare. Given that the labour market participation gap between men and women widens with the birth of a child, measures such as improving access to childcare or a more equal sharing of parental leave between parents are important tools to encourage broader participation by women. According to OECD data, when a parent with two children accepts a full-time job and has to rely on childcare, they only benefit from 40 % of the extra income generated by the job due to additional taxes and the loss of social benefits. [2] In addition, women face a higher rate of in-work poverty, partly because 80 % of single-parent families are headed by women. Thus, measures to support lower-wage workers could boost the female employment rate.

Making work (financially) more attractive is important, especially for the lowest earners

Several factors affect the decision to work or not. In some cases, working conditions may deter (potential) applicants: heavy or hazardous work, weekend or night work, temporary work and low pay. Structural reforms making work more accessible or financially beneficial could help to attract certain groups of people into employment.

The decision to join the labour force is based on the net salary after the deduction of social security contributions and taxes. Reforms have been enacted to boost employment through a reduction in the tax wedge on labour (which includes personal income tax and employee and employer social security contributions), such as the tax shifts in 2016-2020 and 2022, the social security and tax employment bonus in 2011, and the exemption from social security contributions when hiring a first employee in 2015. Despite these efforts, the tax burden on labour remains high. In 2021, the ratio between net and gross income in Belgium was generally below the average of its three neighbours and that of the Nordic EU countries. However, the situation differs depending on the category of household and, logically, the tax pressure is less for the most vulnerable, such as

1 Baert, S., A.-S. De Pauw and N. Deschacht (2016), "Do employer preferences contribute to sticky floors?", *Industrial & Labor Relations Review*, 69(3), 714–736, and Capéau, B., L. Eeman, S. Groenez and M. Lamberts (2012), "Two concepts of Discrimination: Inequality of Opportunity versus Unequal Treatment of Equals", ULB, *ECARES Working Papers No. 2012-021*.

2 The calculations refer to a couple with two children aged two and three where the other parent works full time and receives 67 % of the median income.

low-income and single-parent households. For the most vulnerable, the ratio of net to gross income in Belgium is comparable to the average of its three neighbours and that of the Nordic EU countries. This ratio is significantly lower for other households, indicating a heavier tax burden.

Filling vacancies often requires upgrading the jobs on offer relative to other jobs or statuses, in terms of wages or image. Some sectors that are struggling to find workers with the right skills or qualifications may have to adopt measures to attract inactive people. Employers can choose to raise the pay or social benefits on offer and invest in the position to make the work less onerous or dangerous or more ergonomic. They can also appeal to a wider audience by improving the image of – and communication related to – jobs that are considered demanding but which technology has made less arduous.

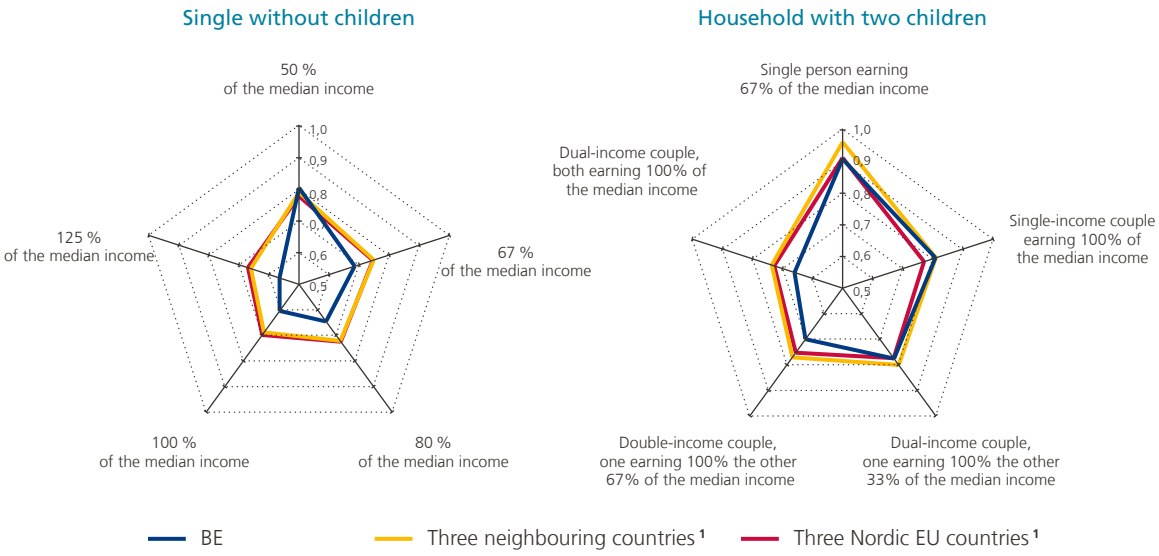
The decision as to whether or not to work also depends on the level of social benefits such as unemployment benefits and integration income. In addition to the *level* of social benefits, the *period* of eligibility also influences participation. Belgium is known for its relatively extensive social safety net and high spending on social protection. For example, a high level of unemployment benefits is paid for a lengthy period. After six months of unemployment, a single person who previously earned the equivalent of 67 % of the median income, still receives 84 % of their former salary (this figure is 59 % on average in OECD countries) and 58 % of this amount after five years (while this figure is 30 % on average in OECD countries). Based on these two statistics, Belgium is ranked second amongst OECD countries. The social safety net plays an important role but can also be an unemployment trap. Since 2012, reforms have made unemployment benefits more degressive, but the complexity of the system has limited the impact of these measures, transitions into employment have not risen significantly and savings in terms of social spending have been low. [1]

In addition to social benefits, other unemployment traps may encourage some people to remain inactive or unemployed. The loss of the social energy tariff and of top-ups on certain benefits, along with commuting and childcare costs, may be an obstacle to accepting a job or training course.

1 See NEO (2022), "Ten years of increased degression of unemployment benefits – Evaluating the impact of the transition into employment and on social spending over the 2010-2020 period".

Chart 7.5

Ratio of annual net to gross income for different categories of households



Source : Eurostat.
1 Unweighted averages.

Support measures implemented during the pandemic and following Russia's invasion of Ukraine limited the reallocation of jobs. During the COVID-19 crisis and the subsequent energy crisis, the government supported companies by means of a moratorium on bankruptcies and a furlough scheme. While these measures were lifelines for many firms, they did not encourage the reallocation of jobs towards more productive or profitable sectors or companies. As Belgian workers were already known for low mobility and companies for strong job retention, Belgium may simply have slowed the process of creative destruction on the labour market. Furthermore, high inflation coupled with automatic wage indexation has reduced potential growth in real wages nationally, limiting the possibility of differentiation between sectors or companies and, consequently, incentives for worker mobility.

7.3 Making the energy system carbon neutral

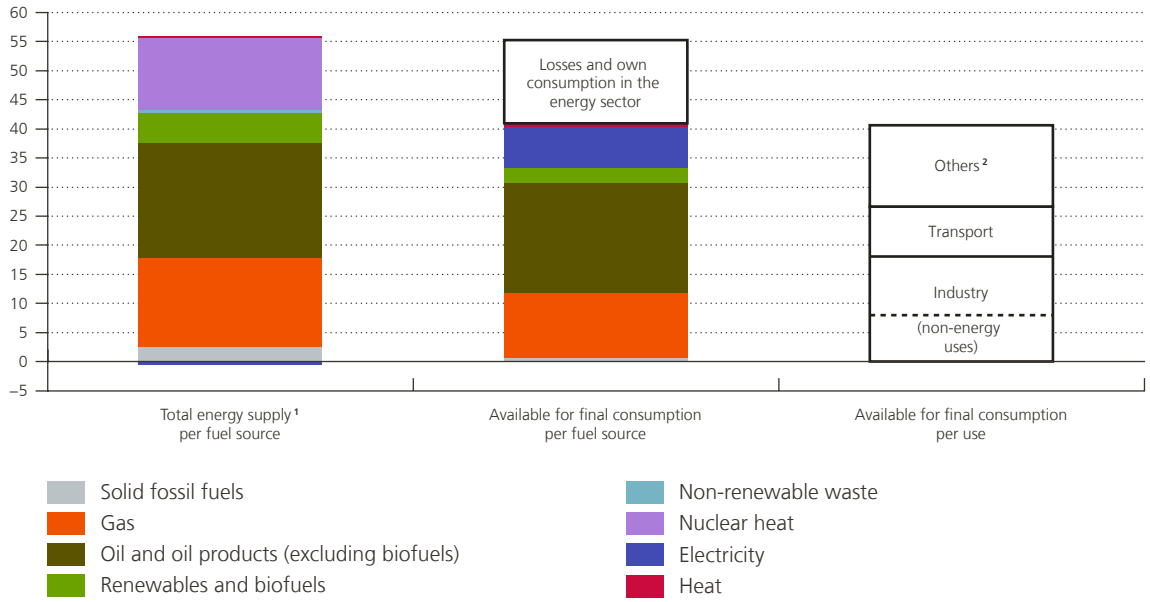
Energy inputs are essential to a country's wealth creation. The energy crisis has driven home Belgium's dependence on fossil fuels. Given the extremely high cost of fossil energy sources, the prospect of moving rapidly towards a low-carbon energy supply is highly attractive. Not only would such a transition reduce energy costs, but it would also enhance Belgium's energy security. Yet improving energy security at an affordable cost and staying on course to carbon neutrality will require a deep-seated change in the economy.

As Belgium has hardly any fossil resources, its energy supply is heavily dependent on imported fossil fuels. Oil, gas and coal account for nearly 70 % of the energy supply. The share of renewable energy sources (RES) has nevertheless increased, rising from 5 % of the total energy supply in 2010 to 9 % in 2021. Energy demand is characterised by specialisation in more energy-intensive industrial activities, including for non-energy purposes (as a raw material, particularly in petrochemicals). In 2021, volumes

Chart 7.6

An energy supply dominated by gas and oil

(in million tonne of oil equivalent, 2021)



Source : Eurostat.

1 Including exported secondary energy (net exported electricity volumes).

2 Mainly includes energy quantities intended for heating and cooling buildings.

destined for non-energy uses accounted for 18 % of final energy consumption in Belgium, compared to 12 % in Germany and 9 % in France. Only the Netherlands, which also has a large petrochemicals industry, recorded a higher share of final consumption for non-energy uses, of around 22 %.

The manufacturing industry is more energy-intensive in Belgium than in its three neighbours. This can be explained in part by the positioning of Belgian industry in more energy-intensive segments of value chains. Belgian industry specialises in upstream sectors of activity, in which fossil fuel use is often more intensive in the initial phases of the production process. This high dependence on fossil fuels should encourage manufacturers to innovate and invest in the development of low-carbon energy sources. The cost of fossil fuels is in fact likely to rise, due to either supply constraints or high carbon pricing.

Sharp rises in gas and electricity prices put energy-intensive industries under pressure, causing them to change their consumption patterns. The 2022 energy crisis – which was primarily a gas supply crisis – caused significantly volatile and high gas prices, which in turn impacted electricity prices. Some companies reacted by streamlining their production processes to reduce their energy requirements or by substituting their energy inputs with alternative fuels where their facilities so allowed. These changes were deemed necessary in order to protect business and competitiveness. But if the current market conditions were to persist, certain production capacities in Belgium and elsewhere in Europe could be wiped out. In particular, this raises concerns of supply problems down the value chain for certain raw materials whose production could be relocated. There are also fears of spillover effects on the EU's ability to strengthen its production capacity for materials, components and equipment used in renewable energy industries. High electricity prices have already led to the closure of foundries whose production is essential to these industries. Industrial competitiveness and the risk of carbon leakage remain major concerns, particularly due to the high cost of energy. Should the high price levels continue, an accelerated transition to a low-carbon energy system could form part of the solution.

The guarantee of a continuous and reliable energy supply is needed to maintain economic prosperity

The consequences of Russia's invasion of Ukraine brought to the fore the multiple macroeconomic impacts caused by a disruption in the energy supply. They called attention to the geopolitical aspect of this energy dependence and required short-term adjustments in terms of both energy supply and demand.

The short-term energy supply of the Belgian market has never been threatened. Belgium enjoys a diversified supply thanks to good interconnections

Table 7.1

There are more energy-intensive manufacturing activities in Belgium

(kilogrammes of oil equivalent per thousand euros of value added,[1] in %)

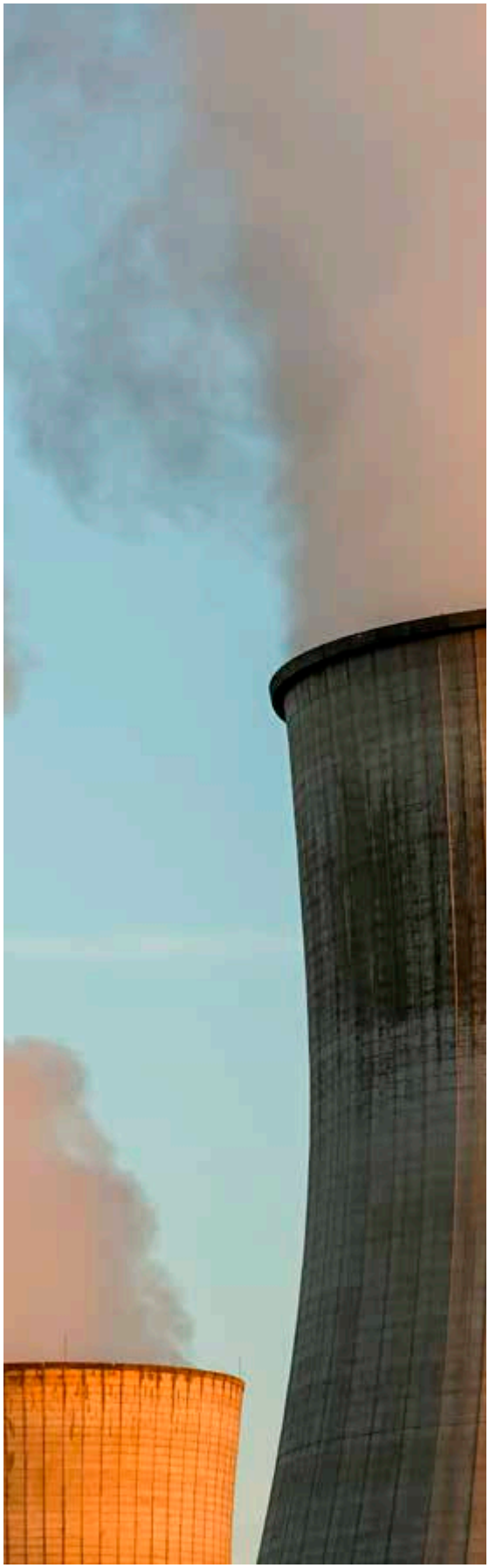
	Belgium		Germany		France		The Netherlands	
	2000	2021	2000	2021	2000	2021	2000	2021
Manufacturing	241	195	103	83	150	112	219	141
Manufacturing (including non-energy uses)	384	334	154	122	229	169	391	282
p.m. Share of the most energy-intensive sectors[2] in the value added of manufacturing at current prices[3]	*28*	*24*	*16*	*14*	*14*	*14*	*17*	*16*

Source : Eurostat.

1 In chained euros, reference year = 2015.

2 Chemicals and petrochemicals, metalworking and other non-metal mineral products.

3 Latest available year : 2020.



with the gas supply networks of neighbouring countries and the regasification terminal in Zeebrugge. Prior to the crisis, dependence on Russian gas was already limited to 8 % of domestic consumption (compared to 41 % at EU level). This infrastructure ensures the transit of gas to neighbouring countries (in 2022, 74 % of imports were re-exported, mainly to Germany). The oil refining plants at the Antwerp-Bruges port allow conversion from crude qualities other than Russian oil, with limited inconvenience to the country's oil supply. The availability of power plants was strengthened by deferring maintenance works until after the winter of 2022-2023. Finally, multiple interconnections with neighbouring networks made it possible to maintain or even reverse electricity flows that are usually imported, particularly to France, where some nuclear power plants had been shut down.

The medium-term supply requires more attention. The crisis has made the ongoing changes to the energy system more complex and their implementation more urgent. It is necessary to have power generation infrastructure that is adapted to the requirements of and compatible with carbon neutrality, while the future evolution of the country's production capacity will depend in part on the availability of a portion of its existing nuclear fleet in the coming years. This will entail compensating for the decommissioning of around 5.9 GW of nuclear capacity (50 % of gross electricity production in 2021) in a context marked by the voluntary development of plants powered by RES (the capacity of which has quadrupled over the last decade), without ruling out imports.

Soaring energy prices and concerns over shortages justified extending the operating life of the two newest nuclear power plants. In March 2022, the federal government agreed to take all necessary measures to extend the life of Tihange 3 and Doel 4 by ten years, until 2036, without displacing renewable electricity generation from the market (with any excess nuclear power being used for hydrogen production). An agreement on the arrangements to restart these reactors on 1 November 2026 was concluded in January 2023 with the private operator Engie. However, based on information on the availability of Belgian and French nuclear power plants and given the possible difficulties in energy supply facing Germany, adjustments to the operation of other facilities cannot be ruled out. Electricity supply over the winter of 2025-2026 deserves attention and preparation as

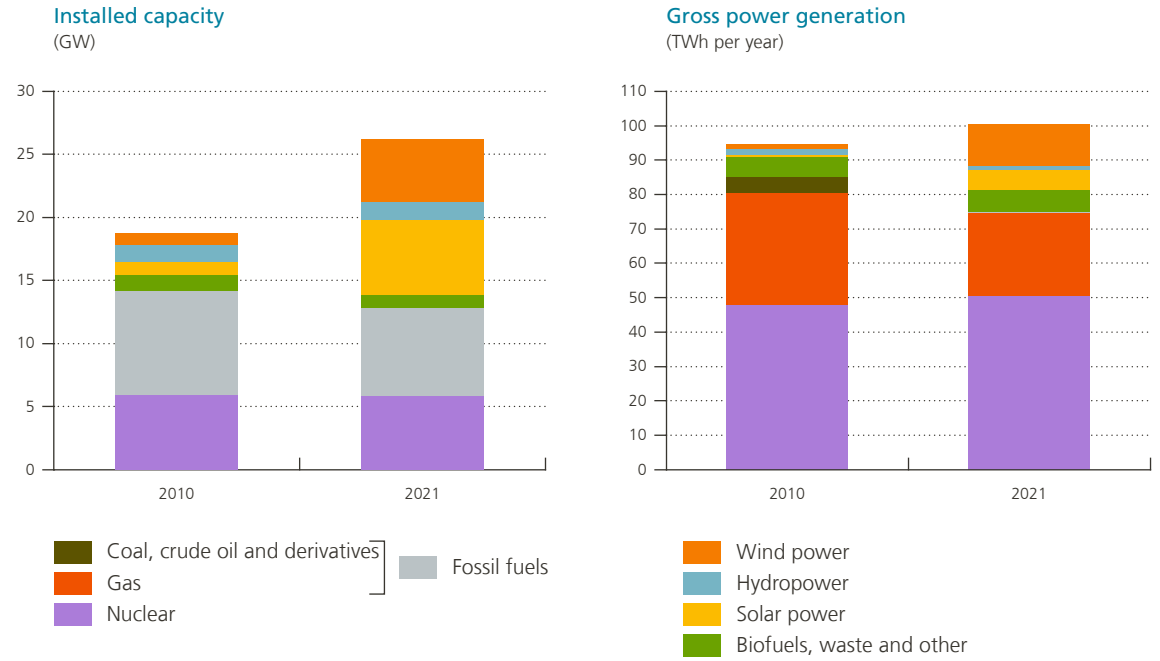
Belgium will then see its nuclear power plants shut down, as provided for by law, before the two reactors are restarted in 2026. In this regard, the government is not overlooking the capacity remuneration mechanism adopted in 2020 to compensate for the decommissioning of other nuclear plants between 2022 and 2025. This system provides for the payment of remuneration for the maintenance of production capacity as well as for the energy produced to suppliers selected on the basis of two tenders, held four years and one year before the year of actual supply. At the first auction for 2025-2026 supply, held in 2021, capacity of around 4 450 MW was selected. No bid was selected in 2022 for 2026-2027 supply, but many participants agreed to stay in the market and take part in the 2025 auction for supply the following year.

Making the energy system compatible with climate change

The energy crisis and geopolitical tensions triggered a European-wide mobilisation of policies and financial resources for the purpose of reducing dependence on Russian fossil fuels well before 2030 and using this momentum to accelerate the transition to a low-carbon energy mix. Reducing dependence on fossil fuels through the wider use of low-carbon energy sources and greater energy efficiency will cut greenhouse gas emissions and help improve security of supply and the resilience of the energy system and the economy as a whole. The renewable energy objective to be achieved in less than a decade is ambitious and will have to encourage the use of RES in sectors other than electricity generation as well. By way of comparison, in 2021, gross renewable electricity production stood at some 24 % of total production in Belgium, which corresponds to 5.5 % of gross final energy consumption. When including RES used for heating, cooling and transport, 13 % of gross final energy consumption comes from renewables. The current policy on renewables stipulates a target of 32 % of gross final energy consumption in the EU (17.5 % for Belgium) by 2030, which was raised to 40 % in the revised "Fit for 55" legislative package. The REPowerEU plan put forward by the EC in May 2022 aims to speed up the introduction of RES by 2030 (with the RES

Chart 7.7

A greater shift towards carbon neutrality in the electricity mix is still required



Sources: Eurostat and FPS Economy.

target raised from 40 % to 45 % at EU level) and accelerate energy savings and efficiency (with the targeted reduction in consumption at EU level raised from 9 % to 13 % by 2030 compared to 2020). The plan also aims to achieve the rapid diversification of gas, oil and coal supplies through joint purchases and partnerships with reliable suppliers, including for renewable hydrogen.

The electricity system must adapt to this transition. The electrification of applications combined with low-carbon electricity production is the preferred option for the decarbonisation of economic activity. The electricity supply must be scaled to satisfy the expected rise in consumption related to the growing use of electric vehicles and heat pumps as well as to replace fossil fuels in industry. The electrification of production processes (electric boilers and heat pumps, electric arc furnaces) and the implementation of technologies that can reduce the emissions of inputs upstream (use of green hydrogen and its derivatives, carbon capture) are essential if industry is to become carbon neutral by 2050. According to the latest analyses by the transmission system operator Elia, these structural developments will result in a 50 % increase in industrial electricity consumption in Belgium by 2030 and in a doubling of this consumption by 2050. The most substantial rises are expected in the steel, petrochemicals, paper and pulp, food and drink, data storage and digitalisation industries.

Low-carbon electricity production at an affordable price should make it possible to maintain a carbon-neutral industrial base. Reducing fossil fuel consumption is beneficial as high gas prices and their knock-on effects on electricity prices erode corporate margins and cost competitiveness. Developing new production capacities from RES could help to remedy this. Electricity production using RES, for which marginal production costs are almost nil, results in lower wholesale electricity prices, an effect that rises along with the share of RES in the electricity mix.[1] The rising cost of fossil fuels has moreover improved the profitability of these sources of power generation. Based on 2021 costs, wind and solar power generation costs between €40 and €60 per MWh,[2] compared to €110 to €130 per MWh for a combined cycle gas turbine power plant and €170 to €230 per MWh for a coal-fired power plant (these figures do not however take into account all costs related to the intermittent nature of RES production methods). Since the electricity generation costs for fossil fuel-based production facilities correlate strongly with fuel prices, these discrepancies are even more pronounced due to higher gas and coal prices in 2022. Aside from reduced costs through the integration of technological improvements and economies of scale, the relative profitably of the renewable energy sector is influenced by the EU Emissions Trading System (EU ETS) to which electricity producers and other sectors with high greenhouse gas emissions are subject. The resulting indirect carbon price changes the relative production costs of the various sectors by taking their environmental impact into account and adjusting their profitability accordingly. The gradual and expected increase in the carbon price should encourage investors to focus their investment choices on less carbon-intensive sectors, with economically justified sequencing in the deployment of the most competitive technologies.

Financial incentives are needed to support the development of innovative technologies, especially for high emitting activities. In order to boost innovation linked to the transition, EU assistance through the Innovation Fund, financed by growing revenue from the auction of EU ETS emission rights, has been increased. Three successive calls for projects, with a total value of nearly €5 billion, were organised in 2022. These mainly relate to large late-stage innovative technology projects with significant potential to reduce greenhouse gas emissions. Advanced technologies are crucial to reducing the carbon footprint of hard-to-abate energy-intensive industries. Such technologies include carbon capture, storage and usage (particularly for processes where carbon emissions are unavoidable) and even the production, distribution and use of green hydrogen. Green hydrogen is an option for storing energy from RES and its possible transmission over long distances. Due to its versatility, hydrogen – including its derivatives such as methanol and ammonia – can be used as an RES in sectors with processes that are difficult to electrify (such as high-temperature

1 Cevik, S. and K. Ninomiya (2022), "Chasing the Sun and Catching the Wind: Energy Transition and Electricity Prices in Europe", IMF, *Working Paper 220*.

2 Interquartile range of the levelised cost of energy.

industrial processes) and as a carbon-free input in certain industrial processes (for example, in the steel, cement and chemical industries) or as a fuel for maritime or aviation transport. However, there is some uncertainty as to its large-scale deployment, particularly in terms of production technologies (and costs), the availability of storage and transmission infrastructure and even the effective use of these molecules in different sectors. There is also the challenge of ensuring sufficient RES upstream of the processes. The strategy of the Belgian authorities in this area is to set up an infrastructure for the import and transit of green hydrogen (and its derivatives) from various sources. They also aim to make Belgium a centre of expertise and innovation in this field. In this regard, the authorities are supporting the development of a hydrogen value chain in the framework of the Recovery and Resilience Plan. They are involved in financing seven projects related to research, transmission infrastructure and the industrial use of hydrogen valued at nearly €500 million. The idea is to transform these innovation efforts into rapidly available, large-scale applications, leading to new markets and sources of growth.

In the short and long term, controlling energy demand must be encouraged. As a matter of good management, the aim is to minimise energy losses by optimising production processes and limiting unnecessary consumption, particularly in the current context. The authorities have repeatedly reminded the public of this, as have professional federations in their communication to companies on the Energy Saving Charter. More broadly speaking, measures designed to meet tougher energy efficiency goals are entirely compatible with objectives to reduce greenhouse gas emissions and boost the share of RES in final consumption. They also improve security of supply by reducing the need for imported (fossil) energy sources. In practice, commitments to improve companies' energy efficiency take the form of results undertakings in the voluntary industry-level agreements concluded between the competent regional authorities and industry federations representing the most energy-intensive firms. The energy efficiency of buildings must be improved, too. While new products (insulation materials) and more efficient equipment (heat pumps, batteries, home automation systems) can easily be incorporated into new buildings, this task can be more complicated in a densely populated area (due to noise and visual impact, the footprint on the available surface areas). Furthermore, incorporating such products and equipment into existing buildings often requires substantial renovation and must therefore be accompanied by appropriate financial incentives. In addition to the availability of products, it is necessary to have a sufficient supply of labour with the right skills, it being noted that workforce qualifications are evolving along with the new technologies needed for the transition.

Infrastructure appropriate to the energy supply is necessary to maintain a reliable electricity system. The expected electrification of uses and the increased use of intermittent RES will require adapting various aspects of network infrastructure. Belgium plans to improve transmission capacity and roll out new connections to the high-voltage grid so as to respond to future needs of industrial sectors. The deployment of offshore wind turbines necessitates the installation of dedicated infrastructure at sea (such as the Princess Elisabeth energy island and its connections to other offshore wind farms) and improvement of the land transmission network (the Ventilus and Boucle du Hainaut projects) to transport production in Belgium and elsewhere in Europe. The technical specifications of this infrastructure should be compatible with the intermittent nature of RES and their decentralised production and be capable of preserving the stability of the grid (need for flexible resources and smart grids and meters to optimise management). The transition and resulting electrification of applications will also affect distribution network operators. The electricity transmission network in particular requires substantial investment. The federal regulator has estimated the investments involved in Elia's 2024-2034 development plan at €6.6 billion. The use of this monopolistic by nature infrastructure is subject to regulatory supervision. The tariff conditions should cover costs as well as ensure fair remuneration for the capital invested in the infrastructure while containing expenditure and prices. Such projects are still contingent upon the approval of permits by various national, regional and local authorities, based on procedures that would benefit from being adjusted so that their application can be better coordinated. This is also reflected in the REPowerEU plan and other EU proposals to simplify administrative procedures and specify maximum timeframes for granting permits with the aim of accelerating the roll-out of RES and the associated infrastructure.

Digitalisation and critical materials contribute to the creation of an energy system that is suitable for the transition to carbon neutrality. Digitalisation and the transition to a low-carbon energy system go hand in hand: the development and implementation of digital technologies make the operation of increasingly decentralised energy systems more efficient. The connectivity of the energy system is stronger in terms of equipment and the connection of equipment (Internet of Things), communication technologies, and data processing and interoperability (big data, artificial intelligence). Accurate, real-time data are used to develop innovative energy services that also benefit consumers by enabling them to actively manage their energy consumption. However, these advances must be accompanied by a clear framework governing the sharing and using of collected data and by extreme vigilance in terms of cybersecurity, in view of the central role played by energy infrastructure in all economic activities. In addition, green technologies require more minerals, metals and advanced materials than most fossil technologies, which could lead to new dependencies. Supply chain disruptions and/or high input prices are likely to slow the transition. This is potentially already the case in the lithium-ion batteries industry, where the continued fall in prices observed over a decade (with a fivefold fall in cost since 2013) came to a halt in 2022 owing to the higher cost of the metals used in their manufacture. To avoid replacing energy dependence on one country or region with dependence on imported critical materials, it is important to promote better resource efficiency and the development of recycling chains for these materials, as well as innovation in the use of alternative materials and in the design of sustainable products and equipment.

Reducing the carbon intensity of economic activity extends beyond the energy sector to a much wider and diversified range of fields. In addition to energy-related measures and policies, industrial, tax, mobility, innovation and training policies are needed, as is the development of new business models (renewable energy communities, the commercialisation of hydrogen) and means of economic operation (circular economy). The resulting arrangements are liable to fall under the powers of different federated entities with different approaches to handling projects, which could be detrimental to the energy transition. It is the responsibility of the Belgian authorities to ensure that resources are not scattered by ensuring effective cooperation and implementation and a stable regulatory framework to optimally control the cost of the transition.

The economy must be committed to climate neutrality

In Belgium, the pace of decarbonisation is currently too slow. While greenhouse gas emissions relative to gross value added have fallen over the past decade, not enough progress has been made towards the European objective of achieving climate neutrality by 2050. However, this is the case not only in Belgium; similar trends have been observed in neighbouring countries, including the Netherlands, France and Germany. According to a recent Bank analysis,[1] the reallocation of economic activity has as yet untapped potential to cut emissions, which could also boost productivity. According to this study, even without technological innovation, reallocating production from inefficient companies in terms of carbon emissions to efficient entities could lead to a reduction in emissions of around 40 %. Although this potential for mitigation is available in the short term, technological innovation remains crucial in the transition to climate neutrality.

Belgium is part of the EU ETS system which sets the price of greenhouse gas emissions for the electricity, manufacturing and domestic air travel sectors, although it only covers around a third of the country's emissions.[2] The Fit for 55 package, presented by the EC in July 2021, aims to extend carbon pricing to emissions from the domestic transport and building sectors. Such an extension would be a useful step in developing relative prices and encouraging the replacement of high-emission activities and technologies with low-carbon solutions. Similarly, the gradual phase-out of inefficient fossil fuel subsidies, including the provision of company cars, would be economically effective.

The energy crisis is a political opportunity to make carbon-intensive activities less financially attractive. Russia's invasion of Ukraine in February 2022 significantly affected the supply of natural gas, which further drove up the price.

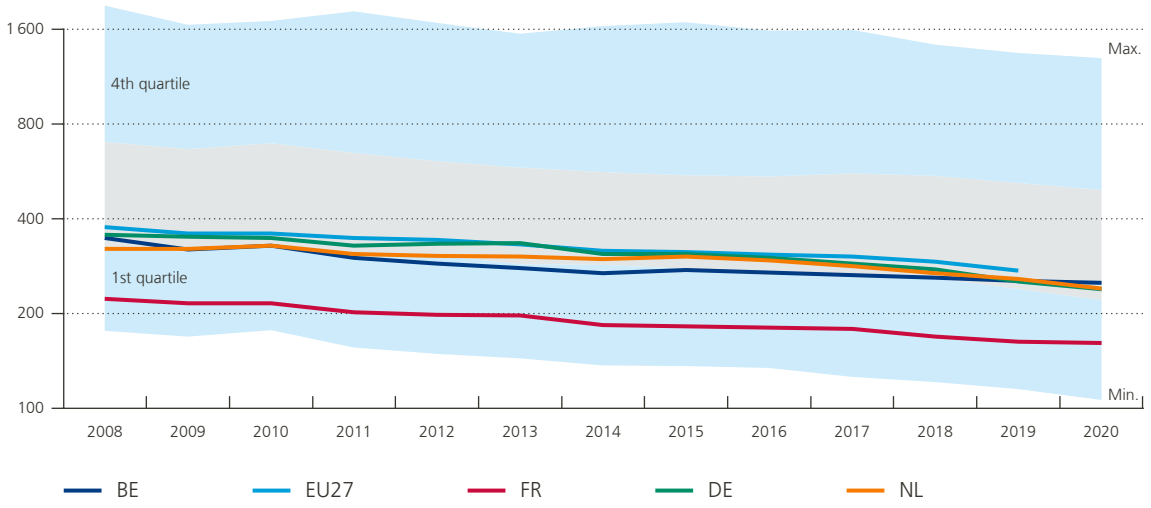
1 See Bijnens, G. and C. Swartenbroekx (2022), "Carbon emissions and the untapped potential of reallocation", NBB, *Economic Review*.

2 See https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer.

Chart 7.8

Belgium's greenhouse gas emissions are falling but slowly

(greenhouse gas emissions relative to gross value added for all NACE activities, logarithmic scale, in grammes of CO_2 equivalent per 2010 chained euro)



Source: Eurostat.

As previously explained, this led to rising energy prices in Belgium. High energy costs should be distinguished from a high carbon price as they do not change relative prices based on greenhouse gas emissions. Buoyant energy prices also lead to transfers to other countries. However, when governments guide carbon pricing, they can make redistributions, offsets and other corrections for the distortions created by taxation. That being said, high energy prices can encourage positive action on the climate front. For example, investments in residential renovation projects designed to improve energy efficiency and in heat pumps are significantly more profitable than just a few years ago. Likewise, investments in RES have grown, although this is also true for fossil fuel exploration projects.

As the spike in energy prices is widely considered to be temporary, it is important to think about how to make the most of future price falls in Belgium. One solution could be the gradual introduction of a minimum carbon price, low enough to reduce energy prices but high enough to support complete decarbonisation. The exact scale of such a minimum carbon price will of course depend on political considerations, viewed in the literature as a major stumbling block to reducing emissions.[1] Similarly, a number of variants in the design of such a scheme will need to be taken into account. For example, in 2013, the United Kingdom established a carbon price floor in the electricity sector with the aim of boosting low-carbon electricity generation. This example shows that a price floor can take the form of either a minimum carbon price in a specific sector or a fixed supplement on top of the carbon price in the EU ETS. In late December 2022, the carbon price set in the EU ETS stood at around €85/tonne of CO_2 equivalent, one of the highest recorded since the system was introduced. All things considered, though, this will probably not be enough to make the Belgian economy completely climate neutral.

Looking to the foreseeable future, raising the carbon price gradually and carefully is essential to manage the phase-out of fossil fuels. This would help to avoid the widespread decommissioning of carbon-intensive assets and periods of unforeseen soaring energy prices, such as those witnessed during the 2022 crisis, by guaranteeing sufficient low-carbon electricity generation (using RES, for example) before fossil fuel power plants are shut down.

1 See Klenert, D., L. Mattauch, E. Combet, O. Edenhofer, C. Hepburn, R. Rafaty and N. Stern (2018), "Making Carbon Pricing Work for Citizens", *Nature Climate Change,* 8(8).

BOX 7

Sustainable development indicators

The Act of 14 March 2014 instructed the Federal Planning Bureau (FPB) to come up with a set of indicators measuring quality of life, human development, social progress and economic sustainability. To this end, a report on Sustainable Development Indicators is published annually by the FPB. This legislation also requires the Bank to publish a summary of these indicators in its annual report. The data forming the basis for the FPB's report are available at www.indicators.be.

Evaluation of individual indicators and progress made towards meeting the stated objectives

Further to its mission to assess federal policy with a view to sustainable development, the FPB publishes an annual report on the progress made, as measured by a set of indicators, towards meeting the Sustainable Development Goals (SDG) defined by the United Nations. This assessment is based on 51 indicators, three per SDG.

Progress is evaluated in various ways:

- if an objective is quantified and accompanied by a (target) deadline: the assessment considers whether, if current trends continue, the target based on the various programmes or international commitments to which Belgium is a party can be achieved within the set timeframe;
- if a qualitative target is defined in terms of a desired trend: the assessment determines whether the indicator's historical trend (since 2000) is moving in the right direction to achieve the objective.

Based on the data available at the end of October 2022, the assessment did not reveal a clear trend. Of the 51 indicators, the assessment for 31 was unfavourable or undetermined, meaning additional efforts need to be made to achieve the SDG. With regard to the environment, 11 indicators (out of a total of 16) showed favourable development. On the contrary, the assessment of 17 indicators (out of 23) measuring the social component of sustainable development tended to be unfavourable or undetermined. With regard to economic and governance components, no clear trends could be identified. An assessment was also made for each SDG, identifying those for which the three underlying indicators are moving in the same direction. SDGs 2 (zero hunger) and 6 (clean water and sanitation) received the highest ratings. With an unfavourable rating for their three indicators, the situation is concerning for SDGs 4 (quality education), 5 (gender equality) and 17 (partnerships for the goals).

International comparison

A comparison of the situation in Belgium with that in other EU countries, as well as with the average for the EU and the three neighbouring countries, is also provided for a set of indicators. Based on the 63 indicators available to rank Member States according to their performance, Belgium features in the group of the best performing countries for 24 indicators. However, for 16 indicators, it is ranked amongst the lowest achievers. For the remaining 23 indicators, the country is in the intermediate group. The majority of favourable comparisons relate to the social and economic components, while most unfavourable comparisons relate to the environmental component. Even for indicators on which

▶

Belgium scored better than other countries, its current position does not necessarily mean it will achieve the SDG in question by 2030.

Breakdown by selected categories of the population

"Leave no one behind" is a guiding principle of the UN's 2030 Agenda. Assessing the position of different categories of the population in terms of the SDGs is therefore fully justified. 38 indicators propose a breakdown by gender and help to qualify the analysis from three perspectives: (a) whether a particular category is disadvantaged, (b) whether their respective positions are moving in the direction of the SDGs and (c) how gender disparities are evolving. Three major trends emerged from the assessment. For 19 indicators, the comparison between men and women revealed undetermined or unfavourable results, depending on the perspective. That being said, for 15 other indicators, the assessment of trends and/or the evolution of disparities was quite favourable. The final four indicators are not moving in the direction of the SDGs and gaps are still significant, even widening. Unsurprisingly, breakdowns by income level (20 indicators) and education level (11 indicators) reveal a more favourable situation for those with higher incomes or levels of education. Moreover, differences appear to be increasing. Except for health, inability to work and the employment or unemployment rate, no general trend emerged when making distinctions based on age. Finally, breakdowns according to the three Regions are also available, but were not analysed.

Composite well-being indicators

The FPB has developed composite well-being indicators for two of the three aspects of sustainable development: the well-being of the current generation in Belgium ("Here and Now") and the well-being of future generations ("Later"). It also proposes a preliminary approach to measure the third aspect relating to the impact of Belgian society on the well-being of people living in other countries ("Elsewhere").

Here and Now: a continuing decline in current well-being

From 2005 to 2019, the "Here and Now" composite indicator for well-being recorded a substantial downward trend. This was due to a steep deterioration in the population's general state of health, which cancelled out improvements seen at the socio-economic level. The analysis by population category found that the decline in well-being was statistically significant for men, the 16-24 and 50-64 age groups and the middle class (third income quintile). The indicator rose significantly over the period only for those aged 65 and over.

As a result of disruptions and delays in collecting survey data, the indicator has not yet been updated, but clarification on the recent trend in well-being in Belgium is provided. The impact of the COVID-19 crisis on well-being was assessed using *ad hoc* surveys conducted between March 2020 and October 2022, based on a subjective well-being indicator (level of satisfaction in life) and two indicators measuring change in mental health (depression and anxiety disorders).

In terms of satisfaction in life, the results indicate a deterioration compared with the pre-pandemic situation. Rising in early 2022, the indicator subsequently fell, in a context marked by high

inflation and substantial uncertainty. Between 2018 and 2020-2022, the well-being of Belgians dropped by 9.5 % on average with a more pronounced decline for men than women, although women's well-being is generally lower than men's. While the decrease in well-being affected all age categories, it was particularly marked for young adults.

The mental health of Belgians also declined after 2020. Depression and anxiety disorders appear much more prevalent, having reached significantly higher levels than those observed before 2020. As was the case for satisfaction in life, after improving in the first half of 2022, both indicators fell in October 2022. Between 2018 and 2020-2022, these types of disorders increased on average in the population by 83 % and 71 %, respectively, with more pronounced rises for men than for women, although the number of women affected remains higher than that of men. Wider exposure to mental health disorders affects all age categories and is increasing at younger ages, although the well-being of the youngest groups was already falling.

Later: the deterioration of environmental capital is undermining the well-being of future generations

The sustainable development of a society implies that satisfaction of the current generation's needs is not at the expense of the well-being of future generations. As it is impossible to predict the composition of future well-being, the FPB uses an approach based on the stock of different kinds of capital (the "Later" aspect). This approach involves measuring changes in the stock of resources necessary to create well-being for future generations and is based on the principle that a society develops sustainably when it ensures that future generations can enjoy a capital stock at least equivalent to the current level. In the conceptual framework used in the FPB report, development is sustainable if it at least preserves all types of capital stock.

In the absence of recent data, only two types of "stock" were updated without changing the results presented in the previous report. The "economic capital" indicator was on a significantly upward trend starting in 1995 and peaked in 2021. On the contrary, the four components (air, water,

land and biodiversity) of the "environmental capital" indicator contributed to its further fall. With biological diversity declining substantially over time, if specific measures are not taken, the environmental capital available to future generations will be significantly worse. "Human capital" and "social capital" were on an upward trend between 2005 and 2018. However, given the pandemic's major impact on the daily life of Belgians, it is highly likely that these two indicators will change direction in the future.

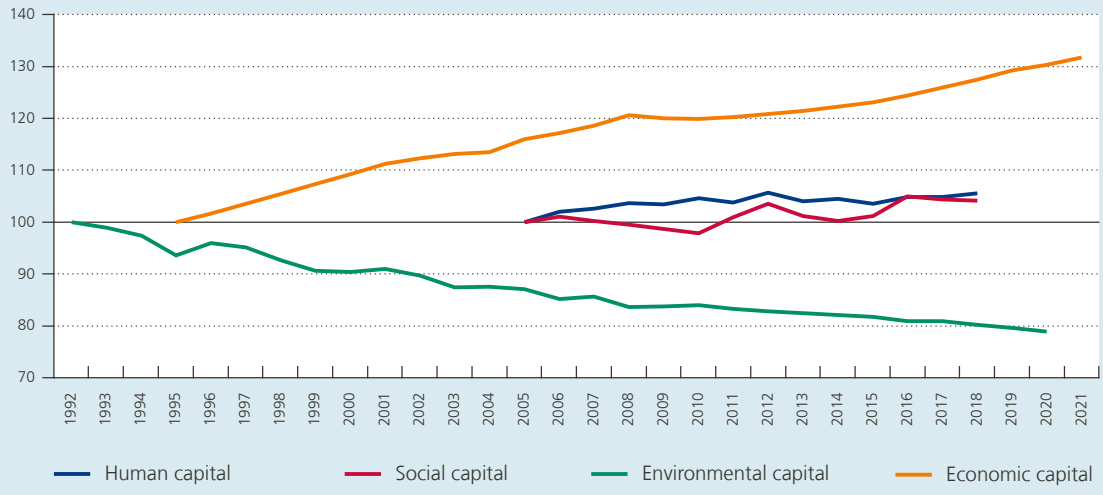
Based on these composite indicators and taking into account the worsening of the environmental capital indicator, the FPB report indicates that Belgium's current developmental path is not sustainable in the long run.

Elsewhere: Belgium's footprint on well-being elsewhere in the world

An initial assessment of the impact of lifestyle in Belgium on the well-being of people living in other parts of the world is proposed based on two footprint indicators. The "footprint" approach takes into account both direct and indirect effects, i.e. those generated by the entire production process upstream of consumption, including beyond national borders. These concern greenhouse gas emissions (carbon footprint) and the extraction of raw materials (material footprint) to satisfy Belgian final demand. In terms of its carbon footprint, the country is a net importer of CO_2 emissions: emissions related to the consumption of goods and services in Belgium are higher than emissions from Belgian production of goods and services. The same observation applies to the material footprint. Converted into emissions per capita, the carbon footprint and production emissions in Belgium are greater than the EU median. Conversely, Belgium's material footprint and domestic extraction of materials are lower than the EU average. These findings reflect the fact that Belgium is a small open economy that relies heavily on the rest of the world for its supply of energy and raw materials.

Composite indicators – "Later" aspect

(100 = baseline year)[1]



Source: FPB.

1 Indicators were standardised at 100 for the baseline year coinciding with the first year for which all components of the composite indicator were available. Capital types were not collated into a single indicator as they are not interchangeable.