



# European Construction Sector Observatory

Country profile **Poland**

September 2021



## In a nutshell

In 2020, Poland's GDP stood at PLN 2,091.3 billion (EUR 460.1 billion), representing a 2.7% decline compared to 2019 and a 34.3% growth over the 2010-2020 period.

The **number of enterprises** in the broad construction sector increased by 51.4%, from 341,953 in 2010 to 517,818 in 2020. This increase was driven by all the sub-sectors including the real estate activities (+99.8%), architectural and engineering activities (+64.7%), narrow construction (+43.0%) and manufacturing (+35.0%) sub-sectors over the 2010-2020 period.

Number of enterprises in the broad construction sector between 2010 and 2020

↑ 51.4%

Similarly, the **volume index of production** in the broad construction sector increased by 16.4% between 2015 and 2020, mainly driven by the construction of civil engineering (+28.1%) and construction of buildings (+8.8%).

Volume index of production in the broad construction sector between 2015 and 2020

↑ 16.4%

The **total turnover** of the broad construction sector reached EUR 144.4 billion in 2020, registering an increase of 58.3% compared to 2010 levels (EUR 96.7 billion). With regards to sub-sectors, the real estate activities exhibited the largest growth in terms of turnover, being 91.1%, followed by the manufacturing (+85.7%), architectural and engineering activities (+59.1%) and the narrow construction (+42.8%) sub-sectors over the 2010-2020 period.

With regards to employment, in 2020, there were 1,727,266 persons **employed** in the broad construction sector in Poland, an increase of 20.9% since 2010 (1,428,900 people). All the sub-sectors registered growth in terms of persons employed in the broad sector between 2010 and 2020, with the largest increase being in the real estate activities (+46.4%) sub sector. This was followed by the architectural and engineering activities (+36.9%), manufacturing (+27.3%) and narrow construction (+12.4%) sub-sectors, during the same period.

The Polish government introduced several initiatives to promote the residential **housing market**. In May 2021, the government announced that they are currently developing tailored mechanisms or instruments to meet the housing requirements of the Poles. These instruments include housing vouchers and the government guarantee scheme for mortgage repayments for purchasing or renting a flat – both for married couples and singles.

The Polish government is also developing a programme designed for persons with credit standing who do not have the savings to cover the capital required by banks.

The initial projections state that the guarantee will be awarded up to the amount of 40% of the total value of the flat in the case of a purchase without own contribution, both on the primary and secondary market.

Furthermore, in September 2020, the EIB provided EUR 20 million for financing the construction and renovation of 250 social and affordable housing units in Szczecin, Poland. The project forms part of the larger urban regeneration programme of the

historic part of the city and places a main focus on ensuring energy-efficiency<sup>1</sup>.

With regards to **non-residential and infrastructure construction, the National Road and Motorway Construction Programme 2014-2023 (*Program Budowy Dróg i Autostrad*)** envisages building 3,263 kilometres of roads. The initial budget of the Programme was PLN 107.1 billion, but it was increased to PLN 142.2 billion at the beginning of 3Q 2019<sup>2</sup>. Moreover, the Polish government, in June 2021, announced plans to invest PLN 200 billion (EUR 44.0 billion) in rail and road infrastructure under the country's Polish New Deal plan to stimulate recovery following the COVID-19 pandemic.

**Under its 2021-2026 Recovery and Resilience Plan (RRP), Poland has been allotted about EUR 36.0 billion in total, comprising EUR 23.9 billion in grants and EUR 12.1 billion in loans. Out of this, Poland has allocated around EUR 7.0 billion towards building related activities<sup>3</sup>.**

In particular, more than half of the building funding (around EUR 3.9 billion) has been allocated for building renovation related activities<sup>4</sup>. Also, Poland has allocated a substantial support towards improving the country's infrastructure, with a planned investment of around EUR 2.4 billion. This consists of the modernisation of railway lines including carrying out works under individual projects for around 478 kilometres of railway lines

by August 2026, including over 300 km on the TEN-T network (of which 200 km on the core network)<sup>5</sup>. Given its significant environmental impact and ability to revive the overall economic recovery process, adversely impacted by the COVID-19, the construction sector could significantly benefit from the investments of the country's RRP.

Currently, the Polish construction sector faces a few issues. First, the country is also facing a shortage of skilled labour workforce. This issue is further strengthened by the significant gap between demand of training from businesses and training supply in Poland. In this regard, the government introduced several measures to tackle this issue by changing the provision of education and introducing new forms of teaching and learning<sup>6</sup>. Second, the development of the Polish construction sector is also impeded by the rise of cases of late payment. As per the Atradius Payment Practices Barometer 2020 report, the COVID-19 pandemic-induced economic crisis led to an average 76% increase in late payments in the country. In addition, squeezing liquidity is the main reason for Polish businesses to withhold payment to their suppliers<sup>7</sup>.

**Overall, the Polish construction sector has a positive outlook in the medium and long term. The sector is primarily expected to be driven by public road and railway infrastructure investment projects undertaken by the largest public investors, further supported by EU-backed funding.**

# Table of Contents

<b>In a nutshell</b> .....	<b>2</b>
<b>1 Key figures</b> .....	<b>5</b>
Construction market.....	5
Productivity .....	6
Turnover and profitability .....	6
Employment .....	7
<b>2 Macroeconomic indicators</b> .....	<b>9</b>
Economic development.....	9
Demography and employment.....	9
Public finance .....	10
Entrepreneurship and access to finance .....	10
<b>3 Key economic drivers of the construction sector</b> .....	<b>12</b>
Business confidence .....	12
Domestic sales .....	12
Export of construction-related products and services .....	13
Access to finance in the construction sector.....	14
Access to housing .....	14
Infrastructure.....	16
<b>4 Key issues and barriers in the construction sector</b> .....	<b>17</b>
Company failure .....	17
Trade credit .....	17
Late payment.....	18
Time and cost of obtaining building permits and licenses .....	19
Skills shortage .....	20
Sector and sub-sector specific issues .....	21
<b>5 Innovation in the construction sector</b> .....	<b>22</b>
Innovation performance.....	22
Eco-innovation and digitalisation .....	23
<b>6 National and regional regulatory framework</b> .....	<b>25</b>
Policy schemes.....	25
Building regulations.....	27
Insurance and liability related regulations .....	28
<b>7 Current status and national strategies to meet Construction 2020 objectives</b> .....	<b>30</b>
TO 1 – Investment conditions and volumes .....	30
TO 2 – Skills.....	32
TO 3 – Resource efficiency / Sustainable construction .....	33
TO 4 – Single Market .....	35
TO 5 – International competitiveness .....	36
<b>8 Outlook</b> .....	<b>38</b>

## 1

## Key figures

## Construction market

The **number of enterprises** in the broad construction sector in Poland totalled 517,818 in 2020<sup>8</sup> (Figure 1), with the narrow construction sub-sector accounting for 64.4% of the total firms. Overall, the number of enterprises in the broad construction sector increased by 51.4% during the 2010-2020 period, led by 99.8% and 64.7% increases in the real estate activities and architectural and engineering activities sub-sectors, respectively. Likewise, the number of enterprises in narrow construction and manufacturing sub-sectors grew by 43.0% and 35.0% respectively, during the same reference period.

Number of enterprises  
in the broad  
construction sector  
between 2010 and 2020

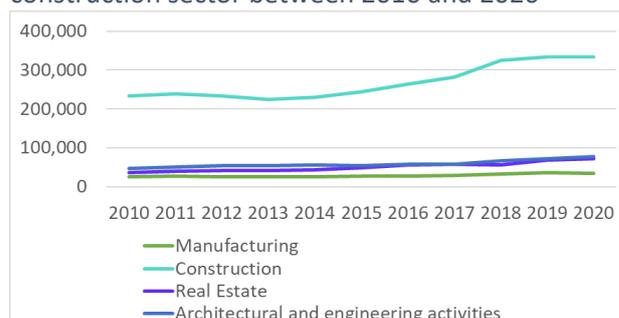
↑ 51.4%

Partly driven by private investment, the **volume index of production** in the broad construction sector recorded a growth of 16.4% over the 2015-2020 period, after recording a drop of 14.1% in 2016 over 2015 and 4.3% in 2020 over 2019, (Figure 2). The volume index of production in the construction of civil engineering registered the highest growth of 28.1% over the 2015-2020 period, driven by the inflow of EU funds<sup>9</sup>. Last, the volume index of production of construction of buildings grew by 8.8% during the 2015-2020 period, notably supported by growing investment in the non-residential segment.

Volume index of production  
in the construction of civil  
engineering between 2015  
and 2020

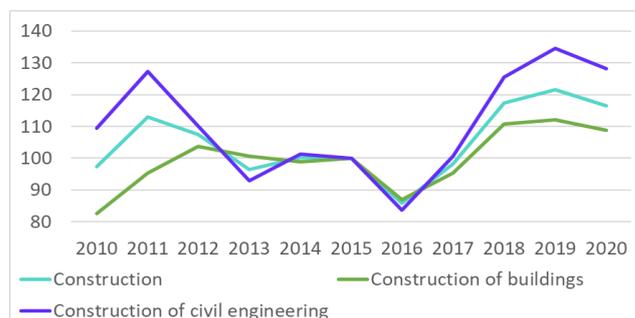
↑ 28.1%

Figure 1: Number of enterprises in the Polish broad construction sector between 2010 and 2020



Source: Eurostat, 2021.

Figure 2: Volume index of production in the Polish construction sector between 2010 and 2020 (2015=100)



Source: Eurostat, 2021.

The total **added value** of the broad construction sector<sup>10</sup> increased by 64.1% between 2010 and 2020, amounting to EUR 41.6 billion in 2020<sup>11</sup>. The narrow construction sub-sector contributed 44.2% of the total added value of the broad construction sector in 2020, followed by the real estate activities (30.5%, i.e. EUR 12.7 billion), manufacturing (18.9%, i.e. EUR 7.9 billion), and architectural and engineering activities (6.4%, i.e. EUR 2.7 billion) sub-sectors.

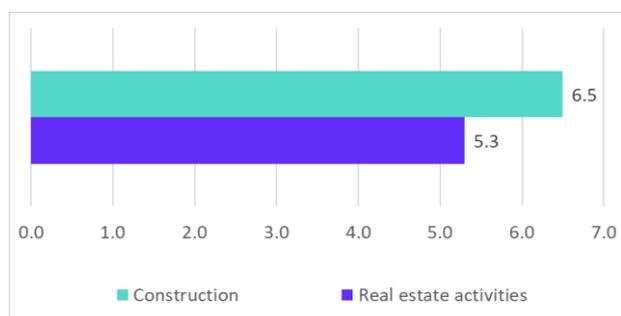
In 2020, the **share of gross value added** of the narrow construction sub-sector in the GDP reached 6.5%, below its 2010 level (7.4%) but above the EU-27 average of 5.1%. Similarly, for the real estate activities sub-sector, it stood at 5.3% of GDP in 2020 (against 4.7% in 2010), below the EU-27 average of 10.3% (Poland consists of 17 administrative

subdivisions (*Voivodeships*). The gross value added is not equally split over these subdivisions. *Warszawski stołeczny*, *Slaskie (Katowice)* and *Malopolskie (Krakow)* account for 38.1% of the gross value added of the narrow construction sub-sector, and 34.3% of the real estate activities sub-sector.

Figure 3).

Poland consists of 17 administrative subdivisions (*Voivodeships*). The gross value added is not equally split over these subdivisions. *Warszawski stołeczny*, *Slaskie (Katowice)* and *Malopolskie (Krakow)* account for 38.1% of the gross value added of the narrow construction sub-sector, and 34.3% of the real estate activities sub-sector.

Figure 3: Gross value added as a share of GDP in the Polish broad construction sector in 2020<sup>12</sup> (%)



Source: Eurostat, 2021.

## Productivity

**Apparent labour productivity<sup>13</sup> in the broad construction sector reached EUR 23,388 in 2018<sup>14</sup>, marking an increase of 31.7% during the 2010-2018 period. However, this is well below the EU-27 average of EUR 51,960.**

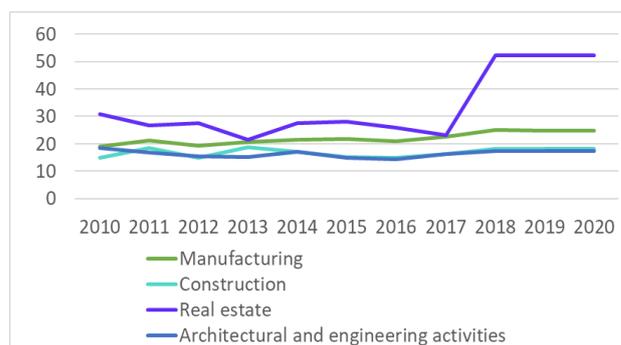
In particular, labour productivity within the real estate activities, manufacturing, and narrow construction sub-sectors displayed upward trends between 2010 and 2020. The largest increase in labour productivity in absolute terms was experienced in the real estate activities sub-sector, growing from EUR 30,900 in 2010 to EUR 52,156 in 2020, marking an increase of 68.8% during the period. It was followed by the manufacturing sub-sector which grew by 31.2% during the same period, from EUR 18,975 in 2010 to EUR 24,891 in 2020. The narrow construction sub-sector experienced an increase of 21.8%, from EUR 14,900 in 2010 to EUR 18,142 in 2020. Conversely, the architectural and engineering activities sub-sector experienced a

slight decline in absolute terms, from EUR 18,400 in 2010 to EUR 17,430 in 2020, marking a 5.3% decrease during the same reference period. However, it is worth noting that this sub-sector has experienced slight increase in apparent labour productivity since 2017.

Labour productivity in the narrow construction sub-sector between 2010 and 2020 **↑ 21.8%**

The construction sector will need to address the issue of workforce shortage to shift the current trend. More importantly, the limited development in terms of digitalisation, new technology, automation especially in the MSME segment represent additional barriers preventing the productivity (and competitiveness) of the sector to grow substantially.

Figure 4: Labour productivity in the broad construction sector in Poland between 2010 and 2020 (EUR k)



Source: Eurostat, 2021.

## Turnover and profitability

The **turnover** of the broad construction sector amounted to EUR 136.2 billion in 2018, 40.8% above the 2010 level (EUR 96.7 billion). It further increased to EUR 144.4 billion in 2020<sup>15</sup>, marking an acceleration of 49.3% during the period 2010-2020. This growth was mainly driven by the growth registered in the turnover by the real estate activities (+80.2%), manufacturing (+76.3%), architectural and engineering activities (+46.7%) and narrow construction (+34.7%) sub-sectors during the same reference period. The narrow construction sub-sector registered the largest share of turnover within the sector, accounting for 56.3%. This is followed by the manufacturing (19.9%), real estate activities (18.5%), and architectural and engineering activities (5.2%) sub-sectors.

Turnover in the broad construction sector between 2010 and 2020

↑ 49.3%

The **gross operating surplus** of the broad construction sector recorded an increase of 59.1% between 2010 and 2018<sup>16</sup>, reaching EUR 22.6 billion. The largest increases in gross operating surplus were registered for the real estate activities sub-sector (+116.4%), followed by the manufacturing (50.4%) and narrow construction (47.1%) sub-sectors, over the same period. In contrast, the gross operating surplus for the architectural and engineering activities sub-sector declined by 28.4% for the period 2010-2018.

Gross operating surplus in real estate activities sub-sector between 2010 and 2018

↑ 116.4%

The **gross operating rate** of the broad construction sector<sup>17</sup>, which gives an indication of the sector's profitability, increased from 14.7% in 2010 to 16.6% in 2018<sup>18</sup>, being slightly below the EU-27 average of 16.7%. In terms of sub-sectors, the real estate activities remained the most profitable sub-sector, with the gross operating rate of 38.5% in 2018, as compared to 24.8% in 2010. The gross operating rate for the architectural and engineering activities and manufacturing sub-sectors decreased to 14.0% (against 24.2% in 2010) and 13.6% (against 15.3% in 2010), respectively. Nevertheless, the narrow construction sub-sector experienced a slight increment in 2018, reaching 12.3%, as compared to 11.2% in 2010.

The **construction costs index**<sup>19</sup> has increased by 8.1% between 2015 and 2019, after declining between 2012 and 2016.

During 2019, the increase in construction material prices and expenses for wages and subcontractors adversely impacted the profitability of construction businesses as they had already signed project contracts with fixed prices beforehand. While the share of such unprofitable contracts decreased in 2019, price pressure remained high due to still rising labour costs (lack of qualified staff)<sup>20</sup>.

Figure 5: Construction cost index between 2010 and 2020 (2015=100)

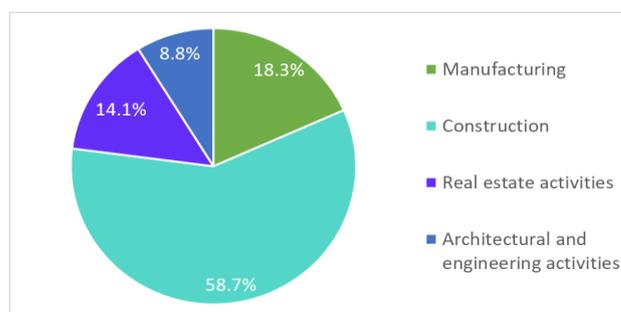


Source: Eurostat, 2021.

## Employment

In 2020<sup>21</sup>, there were 1,727,266 persons **employed** in the broad construction sector in Poland, an increase of 20.9% since 2010 (1,428,900 people). The narrow construction sub-sector employs 58.7% (i.e. 1,014,299 people) of the total workforce of the broad sector, followed by the manufacturing (18.3% of the total workforce – 316,831 persons), real estate activities (14.1% of the total workforce – 243,494 persons), and the architectural and engineering activities (8.8% of the total workforce – 152,640 persons) sub-sectors (Figure 6).

Figure 6: Percentage of people employed per construction sub-sectors in Poland in 2020



Source: Eurostat, 2021.

All the sub-sectors registered growth in terms of persons employed in the broad sector between 2010 and 2020, with the largest increase being in the real estate activities (+46.4%) sub-sector. This was followed by the architectural and engineering activities (+36.9%), manufacturing (+27.3%) and narrow construction (+12.4%) sub-sectors.

In addition, SMEs in the broad construction sector employed a large portion of workers with an 86.9% share in 2018<sup>22</sup>.

Regarding **employment by the specific professions**, the number of ‘technicians and associate professionals’ in the manufacturing and narrow construction sub-sectors grew by 75.6% and 64.3% respectively, between 2010 and 2020. Similarly, the number of ‘professionals’ increased in all the three sub-sectors, including 70.8% in the manufacturing, 40.8% and 9.6% in the narrow construction and real estate activities sub-sectors respectively during the same period. Conversely, employment by the ‘elementary occupations’ registered declines of 71.0%, 28.3% and 27.7% in the real estate activities, narrow construction and manufacturing sub-sectors respectively during the 2010-2020 period.

Number of professionals in the narrow construction sub-sector between 2010 and 2020

↑ 40.0%

In 2018<sup>23</sup>, the regions of *Malopolskie (Krakow)*, *Slaskie (Katowice)* and *Wielkopolskie* accounted for 30.9% of the total employment in the narrow construction sub-sector, and 27.1% in the real estate activities sub-sector. Other regions, such as *Dolnoslaskie*, *Pomorskie*, and *Lodzkie* accounted for 7.9%, 7.8%, and 5.6%, respectively, of the total employment in the narrow construction sub-sector in 2018. Similarly, these regions accounted for 7.6%, 7.1% and 7.2%, respectively, of the employment in the real estate activities sub-sector.

In March 2020, many workers in the construction sector migrated from Poland, mainly due to the announcement made by Polish government about borders’ closure to the COVID-19 pandemic. According to border service data reported by Business Insider, in the two months after the border

closure, a total of 235,188 Ukrainian citizens left Poland, while 86,714 entered. The net movement across Poland’s border with Ukraine amounted to a decline of 150,000 persons including workers<sup>24</sup>. The COVID-19 crisis thus had a major impact on the issue of labour shortage in Poland.

The number of **self-employed workers** in the narrow construction sub-sector increased from 278,600 in 2010 to 343,300 in 2020, registering a growth of 23.2% during the period. In the real estate sub-sector, self-employment reached 30,800 persons, an increase of 48.8% in 2020 as compared to 2010. Self-employed workers in the narrow construction sub-sector accounted for 11.9% of all the self-employed in the general economy in 2020, compared to 9.8% in 2010 and to 11.7% of the EU-27 average in 2020. At the same time, the real estate sub-sector represented 1.1% of all self-employed in the general economy, compared to 1.6% of EU-27 average in 2020.

Self-employed workers in the narrow construction sub-sector 2010 and 2020

↑ 23.2%

In parallel, **full-time employment** in the narrow construction sub-sector decreased by 11.5% between 2010 and 2020. In contrast, an increase of 18.7% was recorded in the real estate activities sub-sector during the same period.

Full-time employment in the narrow construction sub-sector between 2010 and 2020

↓ 11.5%

## 2

# Macroeconomic indicators

## Economic development

In 2020, Poland's GDP amounted to PLN 2,091.3 billion (EUR 460.1 billion), representing a 2.7% decline compared to 2019. The decline was mainly due to the COVID-19 pandemic crisis, heightened uncertainty, and the decrease in private consumption and investment<sup>25</sup>.

In 2020, the country's potential GDP stood at PLN 2,134.2 billion (EUR 469.5 billion), translating into a negative output gap of 2.0%. This exhibits that the Polish economy is underutilising its resources, as the actual output is less than the full capacity output.

Moreover, the **inflation rate**, which stood at 1.2% in 2018, increased to 2.1% and 3.7% in 2019 and 2020. The higher inflation is due to consequence of consumer-driven growth, with a steadily declining share of private investment in GDP<sup>26</sup>.

As per the National Bank of Poland's (*Narodowy Bank Polski - NBP*) projections (March 2021), the inflation is expected to decline to 2.5% in early 2021<sup>27</sup>.

The Polish currency, the Złoty, experienced a decline caused by the spread of COVID-19. In January 2020, the Polish stock market declined leading to the considerable weakening of the Złoty against foreign currencies<sup>28</sup>.

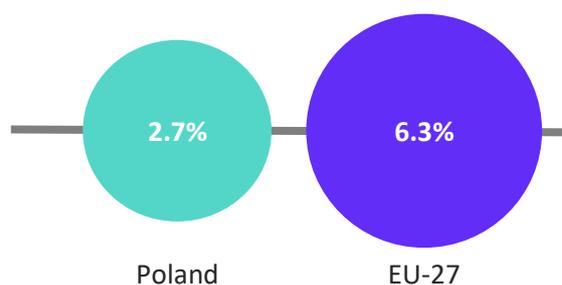
## Demography and employment



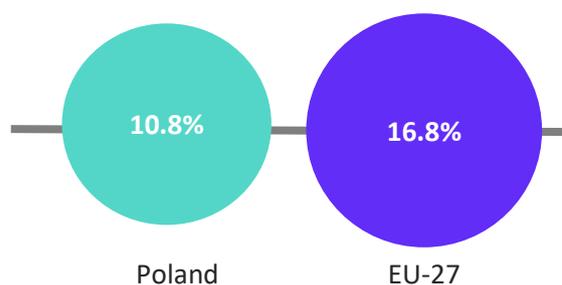
The overall unemployment rate in Poland stood at 2.7% in 2020, well below the EU-27 average of 6.3% and the 2010 level of 8.1%.

Similarly, **youth unemployment** in Poland has decreased from 23.7% in 2010 to 10.8% in 2020 and below the EU-27 average of 16.8%.

Unemployment rate in 2020



Youth unemployment rate in 2020



In terms of the **total population**, Poland's population amounted to 37.9 million people in 2020, a decrease of 14,674 people compared to 2019. It is expected to decline by 2.4% in 2030 and decrease by 10.1% in 2050, reaching to 34.1 million. In parallel, in 2019, the **working age population** (aged 15-64) accounted for 66.4% of the total population of Poland, higher than the EU-27 average of 64.3% in 2020. The share of working age population is expected to decline to 63.8% by 2030 and further decline to 57.7% by 2050. In parallel, the share of **elderly population** (65 years or over) of the total population stood at 18.2% in 2020, below the EU-27 average of 20.6%<sup>29</sup>, and is forecasted to reach 30.1% by 2050.

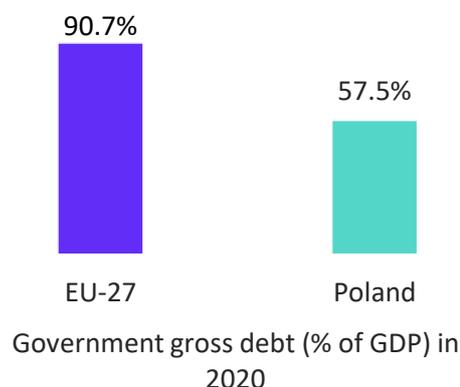
**It is expected that the working age population will continue declining in the next decade. Therefore, the successful integration of foreign workers (including their skills and competences) who already play an important role, will be needed for the future growth potential<sup>30</sup>.**

Poland is hence aging at a very high pace<sup>31</sup>, risking 'getting old before getting rich'. In other words, the aging population will likely be a key limitation for economic growth in Poland<sup>32</sup>. Nevertheless, there will be likely opportunities for the construction sector as the demand for elderly infrastructures (hospitals, care home, access infrastructure), will keep on gradually rising in the medium and long-term future prospects.

## Public finance

In 2020, general **government expenditure** accounted for 48.7% of GDP, more than the previous year (41.8%), being well below the EU-27 average of 53.4%. The **government deficit** accounted for 7.0% of the GDP, above the 3.0% threshold of the EU's Stability and Growth Pact (SGP) and EU-27 average of 6.9%. The same year, **general government gross debt** accounted for 57.5% of the country's GDP, representing an increase compared to 2019 (45.6%), and remaining below the EU-27 average of 90.7%. The increase in general government debt-to-GDP ratio was mainly driven by the significant borrowings to fund COVID-19 support measures. The government gross debt is estimated to increase further, reaching around 62.3% of GDP by 2021-2022<sup>33</sup>.

In April 2020, the Polish government announced its intention to increase its public debt to bolster its coronavirus-hit economy<sup>34</sup>.



## Entrepreneurship and access to finance



**According to the World Bank Doing Business 2020 report, with 82.9 score, Poland ranked 128<sup>th</sup> out of 190 countries in ease of starting a business in 2019<sup>35</sup>.**

As per the report, starting a business in Poland requires 5 procedures, taking 37 days and costing 9.3% of income per capita<sup>36</sup>.

Furthermore, Poland scores one of the lowest in terms of entrepreneurship intentions, as only 4.7% of Polish population plan to start a business in the next three years, according to Global Entrepreneurship Monitor report 2019<sup>37</sup>. In addition, 59.6% of population (between 18-64 age) consider starting a business as a desirable career choice<sup>38</sup>. Despite Poland's weak performance in entrepreneurship, some scale-ups have succeeded. In 2018, the share of high-growth enterprises in Poland was 12.5%, 9th best in the EU that year<sup>39</sup>.

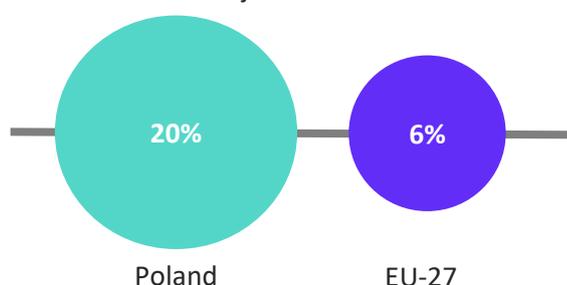
Moreover, due to the onset of COVID-19 Polish SMEs face the liquidity issues. In June 2020, 44.0% of Polish entrepreneurs noted decreases in liquidity.

**The Polish government introduced measures to address the liquidity issues faced by SMEs under the 'anti-crisis shield' package. In 2020, this support was estimated at 7.0% of GDP<sup>40</sup>.**

In December 2020, the European Commission approved the Polish programme titled "Financial Buckler for SMEs 2.0" (*Tarcza finansowa dla MŚP 2.0*). This programme is aimed at the companies that had to reduce or suspend their activities due to the pandemic. The scheme includes aid in the form of a grant for micro enterprises and in the form of a subsidy to uncovered fixed costs for small and medium-sized enterprises. The budget of the programme is PLN 13.0 billion (approximately EUR 2.9 billion), of which PLN 6.5 billion (EUR 1.4 billion) will be allocated to micro-enterprises and PLN 6.5 billion (EUR 1.4 billion) to small and medium-sized enterprises<sup>41</sup>.

According to the Survey on the access to finance of enterprises (SAFE Report) 2020<sup>42</sup>, access to finance is the most important concern for 7.9% of Polish SMEs, slightly below the EU-27 average of 10.0%. The survey further indicates that there was 20.2% of rejections reported from SMEs who applied for a loan (compared to a 6.3% EU-27 average). In addition to this, 4.1% of companies who successfully applied for bank loans received less than they applied for (EU-27: 6.0%).

Share of SMEs experiencing loan's application rejection in 2020



Furthermore, around 6.0% of Polish firms did not apply for loans in the past six months of 2020 due to fear of rejections, as compared to 4.0% of EU-27 average<sup>43</sup>.

At the same time, it is worth noting that lending to non-financial corporations has picked up in recent years. **Loans to non-financial corporations** increased over 2010-2020, growing from PLN 219.5 billion (EUR 48.3 billion) to PLN 367.0 billion (EUR 80.7 billion) (+67.2%).



Poland has taken several measures to improve the access to finance for SMEs. In 2019, it formulated a new strategy (**Capital Markets Development Strategy**), which aims to develop the Polish capital market. The objective of this strategy is to increase the attractiveness of the Polish capital market thereby improving access to finance for companies (especially SMEs). This strategy aims to overcome barriers in access to finance and to further develop a competitive infrastructure that allows for a more agile market development and innovation<sup>44</sup>.

**The Capital Markets Development Strategy (*Strategia Rozwoju Rynku Kapitałowego*) was adopted following a process of public consultation and covers the period 2019-2023<sup>45</sup>.**

Additionally, Poland introduced a new form of public limited liability company with a minimum capital of PLN 1.0 (circa EUR 0.2) in order to incentivise the creation of new businesses<sup>46</sup>.

## 3

## Key economic drivers of the construction sector

### Business confidence

Over the 2010-2019 period, business confidence in Poland improved significantly in particular for the consumers and construction confidence indicators. However, in 2020 there was a considerable decline in the business confidence indicators over the previous year, mainly due to the adverse impact of COVID-19 pandemic.

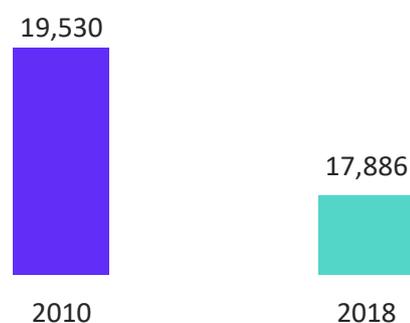
In 2020, the **consumer confidence** reached to -12.3, below the 2010 level of -8.3 and 4.2 recorded in the previous year. However, this is above the EU-27 average of -14.0. Similarly, the **industry confidence** indicator deteriorated in 2020, standing at -22.3, in comparison to -12.9 in 2010 and -8.8 in 2019. This is well below the EU-27 average of -14.4. In contrast, the **construction confidence** indicator improved in 2020, ending at -26.0, against the 2010 level (-30.4) and the EU-27 average of -9.3. Nonetheless, this is well below the 2019 level of -10.0.

In April 2020, Consumer Confidence Index (CCI) stood at -36.4 due to adverse effect of COVID-19. Nonetheless, it slightly improved to -30.1 in May 2020 and -19.4 in June 2020. However, it again declined to -29.2 in November 2020<sup>47</sup>.

In 2020, the **investment ratio** stood at 17.3% as compared to 18.8% in 2010, below than the previous year (18.6%). In contrast, **investment per worker** fell by 8.4% from EUR 19,530 in 2010 to EUR 17,886 in 2018<sup>48</sup>.

In terms of **investment per worker**, the real estate activities sub-sector exhibited the highest growth during 2010-2018<sup>49</sup> period, increasing by 65.0% from EUR 12,300 to EUR 20,300. It was followed by the narrow construction sub-sector which

registered growth of 38.9%, rising from EUR 3,600 to EUR 5,000 during the same period. In contrast, it decreased by 10.0% for the architectural and engineering activities sub-sector, declining from EUR 2,000 in 2010 to EUR 1,800 in 2018<sup>50</sup>.



Investment per worker in Poland in EUR

### Domestic sales

The ranking of the top five **most domestically sold** construction products in Poland has experienced some fluctuations in 2019<sup>51</sup> as compared to 2010. The value of the top five domestic sales has grown between 2010 and 2019, with “Tiles, flagstones, bricks and other similar articles” and “Ready-mixed concrete” increase by 57.9% and 32.1%, respectively. The highest increases in sales were realised with the product groups “Pallets, box pallets and other load boards of wood” (+427.6%), followed by “Bridges and bridge-sections of iron or steel” (+74.7%) and “Towers and lattice masts of iron or steel” (+67.9%) over the same reference period.

The top 5 most domestically sold construction products are presented in Table 1, including a comparison with the top sellers in the EU-27. These top five products represented 50.6% of total domestic construction product sales in 2019.

Table 1: Five most domestically sold construction products in Poland and in the EU-27 2019<sup>52</sup>

Poland				EU-27
	Product	Value (EUR m)	Share in construction product domestic sales (%)	Product
1	Ready-mixed concrete (group 236310)	1,296.0	11.8	Other structures and parts of structures, plates, rods, angles, shapes (group 251123)
2	Portland cement, aluminous cement, slag cement and similar hydraulic cements (group 235112)	1,262.0	11.5	Doors, windows, etc. (group 251210)
3	Tiles, flagstones, bricks and similar articles, of cement, concrete etc. (group 236111)	1,155.7	10.5	Ready-mixed concrete (group 236310)
4	Other structures and parts of structures, plates, rods, angles, shapes (group 251123)	960.5	8.7	Prefabricated buildings of metal (group 251110)
5	Particle board (group 162112)	900.3	8.2	Prefabricated structural components etc. (group 236112)

Source: PRODCOM, 2021.

## Export of construction-related products and services

Table 2 presents the **top five most exported construction products** both in Poland and in the EU in 2019. Poland is a major exporter of wooden products and windows. The ranking of the most

exported products has changed since 2010. "Assembled parquet panels", "Builders' joinery and carpentry" and "Doors, windows etc." were replaced by "Other structures and parts", "Fibreboard of wood" and "Wooden frames for paintings". The top five most exported products represent 52.4% of total export value.

Table 2: Five most exported construction products in Poland and EU-27 in 2019<sup>53</sup>

Poland				EU-27
	Product	Value (EUR m)	Share in construction product export sales (%)	Product
1	Other structures and parts of structures, plates, rods, etc. (group 251123)	894.7	14.3	Other structures and parts of structures, plates, rods, etc. (group 251123)
2	Windows and other (group 162311)	788.6	12.6	Doors, windows and their frames, etc. (group 251210)
3	Fibreboard of wood or other ligneous materials (group 162115)	562.8	9.0	Ready-mixed concrete (group 236310)
4	Wooden frames for paintings etc. (group 162914)	541.5	8.7	Prefabricated buildings of metal (group 251110)
5	Pallets, box pallets, etc. (group 162411)	480.5	7.7	Prefabricated structural components for building or civil engineering (group 236112)

Source: PRODCOM, 2021.

In terms of cross-border provision of construction services<sup>54</sup>, Poland exported for a total amount of EUR 1.5 billion worldwide in 2020<sup>55</sup>, an increase of 55.0% as compared to the 2010 value (EUR 998 million). Almost 84.0% (EUR 1.3 billion) of these exports were destined to the EU-27 countries.

At the same time, Poland imported EUR 419.8 million of construction services from the world, where almost 64.0% (EUR 270 million) came from the EU-27, stressing the importance of the EU single market. Therefore, Poland achieved a **trade surplus** of EUR 1.1 billion in 2020.

## Access to finance in the construction sector

The Polish companies finance themselves mostly through banks, trade credit and informal sources (e.g., family members, friends, moneylenders). As per the EIB Investment Survey for 2020 report, bank loans account for the highest share of external finance (30.0%) for the Polish firms, which is almost half the share of the EU average (59.0%). This is followed by other bank finance (25.0%) and grants (20.0%) remains well above the EU average (8.0% and 6.0% respectively). Also, 61.0% respondents believe that “availability of finance” is a long-term barrier for the Polish construction sector<sup>56</sup>.



The EIB Investment Survey for 2020 shows that 14.0% Polish firms are dissatisfied with collateral requirements<sup>57</sup>.

As per the report, 14.0% construction firms are dissatisfied with the collateral requirements asked of them. Also, 20.0% firms in the Polish construction sector are pessimistic about the availability of internal finance over the next 12 months. This pessimism stands at 31% in terms of availability of external finance in the sector. In addition, 65.0% firms in the construction sector consider ‘availability of finance’ as a ‘long term barrier to investment’<sup>58</sup>.

Furthermore, 26.0% construction firms are satisfied depending mainly on internal sources to finance investment, particularly compared to infrastructure firms (11.0%)<sup>59</sup>.

## Access to housing

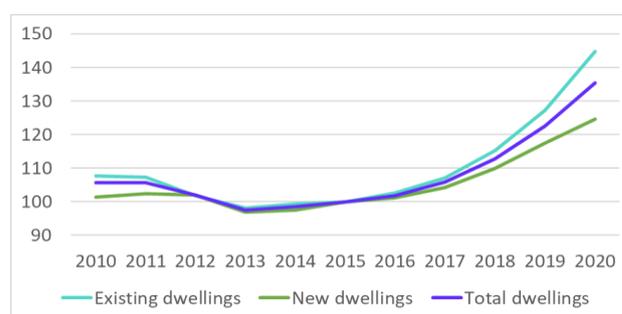
There were 14.7 million **households** in Poland in 2020, which represents an 11.0% increase compared to the 2010 level. In parallel, in 2019<sup>60</sup>, the country had a high **urbanisation rate**, with 35.0% of the population living in densely populated areas.

Number of households between 2010 and 2020

↑ 11.0%

Parallel to this trend, the **mean equivalised net income** increased by 56.8% between 2010 and 2019<sup>61</sup>, from EUR 5,116 to EUR 8,022, reflecting rising wages, which translates into higher purchasing power. These factors, together with the lowest mortgage interest rates since 2010 (Figure 8) are the driving force behind the growth of the housing market, as shown by the slow recovery of house prices since 2013 (Figure 7).

Figure 7: House price index in Poland between 2010 and 2020 (2015=100)



Source: Eurostat, 2021

The **house price index** for total dwellings in Poland increased by 35.3% during the 2015-2020 period. The increase in home prices was mainly driven by the housing demand and growing construction costs, which was due to a strong construction demand in the entire economy.

House price index between 2015 and 2020

↑ 35.3%

According to the Polish Central Bank (*Narodowy Bank Polski*, NBP), the average price of existing flats in Poland’s seven big cities (*Warsaw, Gdańsk, Gdynia, Kraków, Łódź, Poznań, and Wrocław*) increased by 5.6% in 2020 to an average of PLN 8,325 (EUR 1,819) per square metre (sq. m.)<sup>62</sup>.

According to NBP, in 2020, Warsaw had Poland’s most expensive housing, with an average transaction price for existing homes of PLN 10,072 (EUR 2,198) per sq. m. while Łódź had the cheapest houses among the seven big cities, with an average price of PLN 5,522 (EUR 1,205) per sq. m.<sup>63</sup>.

In fact, **interest rates on mortgages (for over 5 years of original maturity)** fell from 6.0% in 2010 to 2.9% in 2020.

**In March 2020, to strengthen the economy amidst the COVID-19 pandemic, the Central Bank of Poland cut its key rate by 50 basis points to a record low of 0.1%. The rediscount rate was cut to 1.05% from 1.75%<sup>64</sup>.**

Figure 8: Mortgage rates for loans for over 5 years original maturity (%) between 2010 and 2020



Source: ECB MFI Interest Rate Statistics, 2021.

Fostered by low interest rates and rising incomes, housing loans to households have been growing steadily over the past years. The total **outstanding residential loans** increased by 60.5%, from EUR 67.5 billion in 2010 to EUR 108.3 billion in 2019.

Total outstanding residential loans in Poland between 2010 and 2019 **↑ 60.5%**

**In January 2021, total outstanding housing loans in Poland grew by 6.1% to PLN 494.4 billion (EUR 107.8 billion) from the same period last year, according to the NBP<sup>65</sup>.**

In the context of ownership, the **building stock distribution** of residential dwellings between owners and tenants has steadily increased from 2010 to 2019<sup>66</sup>, from 81.3% of owners in 2010 up to 84.2% in 2019<sup>67</sup> (among which 12.2% have a mortgage or a loan). Similarly, the **population earning above 60% of median equivalised income** experienced a slight improvement in terms of dwelling owned – 85.1% in 2019<sup>68</sup>, from 82.7% in 2010. Likewise, the **population earning below 60% of median equivalised income** shows a sharp growth in ownership. It increased from 74.9% in 2010 to 79.3% in 2019<sup>69</sup>.

In parallel with the residential construction, the number of **building permits index** for dwellings increased by 49.1% between 2015 and 2020. In case of one dwelling buildings, and two and more dwelling buildings, it recorded increases of 51.0% and 47.8%, respectively, over the same period.

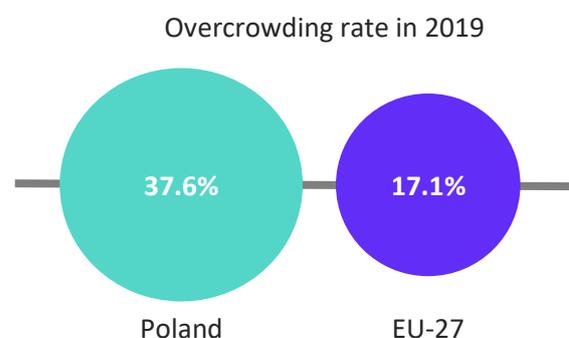
Building permits index for dwellings between 2015 and 2020 **↑ 49.1%**

Nevertheless, both demand and supply have fallen last year due to the COVID-19 pandemic. In 2020, the total number of new flats sold in Poland's six major cities declined by 19% to 53,000 units as compared to the previous year, in contrast to a slight growth of 0.8% in 2019. New supply also fell by 24% from 2019<sup>70</sup>.

Furthermore, **actuals rentals for housing** in Poland showed a modest growth of 19.7% during 2015-2020 period. The movement of people from other cities to the capital, particularly students or young people looking for work, also pushes the demand for renting. The big downside is that round trip transaction costs are high in Poland<sup>71</sup>.

In addition, housing quality remains below the EU-27 average. The **overcrowding rate**<sup>72</sup> in Poland stood at 37.6% in 2019, well above the EU-27 average of 17.1%<sup>73</sup>. These relatively high numbers are partly explained by the high proportion (58.9% in 2019) of 18-34 years old Polish, who live with their parents, and the fact that flats have been traditionally small<sup>74</sup>.

Similarly, the **severe housing deprivation rate**<sup>75</sup> stood at 7.9% in 2019, below the EU-27 average of 4.0%<sup>76</sup>. On the contrary, the **housing cost overburden rate**<sup>77</sup> was at 6.0% in 2019, lower than the EU-27 average of 9.6%<sup>78</sup>.



## Infrastructure



According to the 2019 Global Competitiveness Report<sup>79</sup>, Poland ranked 25<sup>th</sup> out of 141 in terms of its overall infrastructure quality<sup>80</sup>.

As per the report, Poland ranked 13<sup>th</sup> for its railroad density, 23<sup>rd</sup> for liner shipping connectivity, 32<sup>nd</sup> for road connectivity and 38<sup>th</sup> for airport connectivity<sup>81</sup>.

In Poland, there is still a need to unlock the potential of the railway sector and increase its share of transport. The share of railways in passenger transport is at par the level of the EU average (7.9% in Poland compared to 8.0% in the EU in 2018), while in freight transport it is 8.0 pp. higher than the EU average and reached 26.8% in 2018<sup>82</sup>. This may be explained by the role of the broad gauge that runs from the Poland-Ukraine border to the Western part of the country, close to Katowice, and which transports freights coming from China to Europe<sup>83</sup>.

Poland is the biggest beneficiary of the EU funding. The commitment of EU Member States to shift 30.0% of road freight to more environment-friendly modes of transport may considerably support the development of railway infrastructure up to 2030<sup>84</sup>.

The **National Road and Motorway Construction Programme 2014-2023** (*Program Budowy Dróg i Autostrad*) is an important driver for infrastructure investments in Poland and it envisages building 3,263 kilometres of roads. The original budget of the Programme amounted to PLN 107.1 billion (EUR 23.6 billion, but it was increased to PLN 142.2 billion (EUR 31.3 billion) at the beginning of the third quarter of 2019<sup>85</sup>.

**In July 2021, the Polish prime minister announced to invest around PLN 200 billion (EUR 44.4 billion) in road and rail infrastructure, as part of the Polish New Deal plan<sup>86</sup>.**

The government also signed a contract for construction of the Warsaw – Solidarity Transport Hub (CPK) – Łódź high-speed line. The funding will be utilised for station renovation including the reconstruction of the track, new platforms, upgrades to the traffic control system and improved interchanges with public transport<sup>87</sup>.

## 4

# Key issues and barriers in the construction sector

## Company failure

**Company births** in the narrow construction sub-sector increased by 25.4%, from 48,605 in 2010 to 60,975, whereas the **company deaths** increased by 18.3%, from 38,531 in 2010 to 45,614 in 2018<sup>88</sup>.

Similarly, the real estate activities sub-sector experienced an increase of 58.9% in company birth (from 4,085 in 2010 to 6,494 in 2018) and 89.9% increment in company deaths (from 2,642 in 2010 to 5,019 in 2018<sup>89</sup>). Similarly, company deaths in the architectural and engineering activities sub-sector increased by 69.1% (from 2,908 in 2010 to 4,918 in 2018<sup>90</sup>). Also, company birth in the same sub-sector increased by 18.3% (from 5,551 in 2010 to 6,570 in 2018).

Company births in the real estate activities sub-sector over 2010-2018

↑ 58.9%

Company deaths in the real estate activities sub-sector over 2010-2018

↑ 89.9%

The construction sector has long been indicated as the one with most bankruptcy related risks, burdened with payment bottlenecks, problems with profitability and a drop in sales revenues<sup>91</sup>.

**In the first half of 2020, the construction sector reported 51 bankruptcies and restructurings, which represents a 16% decrease compared to the first half of 2019<sup>92</sup>.**

Payment backlogs is one of the main caused for the bankruptcy of construction companies<sup>93</sup>. Moreover, the Credit Reference Agency (*Biuro Informacji*

*Kredytowej*) estimates that the arrears in payments in the construction sector stood at PLN 5.2 billion (EUR 1.1 billion) in the 2<sup>nd</sup> quarter of 2020 against PLN 4.5 billion (around EUR 1.0 billion) by the end of 2019<sup>94</sup>.

To address the bankruptcy issue, a bankruptcy framework was introduced in January 2016, providing debtors with additional modalities to restructure company and limit their obligations towards creditors, allowing an easier cessation and creation of firms<sup>95</sup>.

## Trade credit

**According to the Survey on the Access to Finance of Enterprises (SAFE) 2020, trade credit constitutes a relevant source of financing for 40.3% of Polish SMEs, above the EU-27 average of 27.7% in 2020<sup>96</sup>.**

Furthermore, 47.3% of the SMEs applied this financing approach in the last six months, well above the EU-27 average of 31.4% in 2020. Nonetheless, only 2.4% of SMEs did not apply for it for the fear of rejection. Additionally, among the respondents who applied and negotiated for trade credit financing, around 75.8% of the applicants received everything they applied for. This is also above the EU-27 average of 67.3% for the same<sup>97</sup>. Moreover, there is no indication of increased needs to use trade credit with over 71.7% of respondents SMEs reporting their credit requirement remaining unchanged over the last 6 months. This is higher than the EU-27 average of 65.7%.

In parallel, 7.2% of respondents consider that trade credit availability improved in 2020 (compared to the EU-27 average of 13.5%). Around 8.5% of SMEs expect that the availability of trade credit will

improve in the near future, below the EU-27 average of 12.3%<sup>98</sup>.

According to Payment Practices Barometer Poland 2020, there was an increase in the use of trade credit in B2B transactions in Poland. This is mainly due to sales strategy employed by businesses in an increasingly competitive market<sup>99</sup>.

As per the report, Polish businesses seek to encourage sales on the domestic market by increasing the amount of trade credit offered to B2B customers<sup>100</sup>.

## Late payment

According to the CRIBIS D&B Payment Study 2020, 4.5% of respondent companies in Poland reported late payments (for more than 90 days), an increase of 1.8 pps over the December 2019 level (2.7%). In June 2020, 76.5% of respondent companies made their payment by due date, a decrease of 2.2 percentage points over the 78.7% in December 2019<sup>101</sup>.

Late payment is a key issue in the Polish construction sector. With many companies having limited financial liquidity, late payment is one of the main causes of bankruptcy.



According to Atradius report “Market Monitor Construction Poland 2020”, it takes on average 75 days for the payments in the Polish construction sector<sup>102</sup>.

As per the Atradius Payment Practices Barometer 2020 report, the COVID-19 pandemic-induced economic crisis led to an average 76.0% increase in late payments in Poland. Moreover, around 71.0% of the businesses surveyed in Poland follow unpaid bills with reminder notes. Squeezing liquidity is the main reason for Polish businesses to withhold payment to their suppliers<sup>103</sup>.

The Coface’s survey 2021 reveals that 86.4% of corporates surveyed continue to face payment delays. Only 2.4% of the companies surveyed reports receiving payments on time<sup>104</sup>.

According to the Poland Corporate Payment Survey 2021, Polish companies experience average payment delays of 48 days, almost 9 days less as compared to the 2019 survey. In 2020, the construction and transports companies reported the longest payment delays, nearly 79 days and 78 days respectively<sup>105</sup>.

Moreover, the arrears in construction in 2020 worsened from quarter to quarter for invoices unpaid over 60 days due to payment gridlocks, as per the BIK Credit Information Bureau estimates<sup>106</sup>. However, there has been a general improvement in this area, because of the percentage of enterprises that do not pay and simply take loans at the expense of their creditors dropping from 25.0% to 11.0%.

Poland has taken several measures to combat the payment delays. In January 2020, the late payments regulation entered into force, which consist of legally binding deadlines for payments, which will help address arrears and support firms’ financial liquidity<sup>107</sup>. The new regulation prohibits “excessive delays” in payments. Excessive delays are understood to be a situation where the total sum of overdue payments, as well as payments settled with a delay, exceeds PLN 2.0 million (approx. EUR 450,000) in total for three (3) consecutive months (PLN 5.0 million (approx. EUR 1,150,000) in 2020/21)<sup>108</sup>.

Previously, in 2013, Poland implemented the **Late Payment Directive** (2011/7/EU) via the Law on Payment Deadlines in Commercial Transactions. Regarding the payment to Subcontractors for roads contracts implemented by GDDKiA, PZPB estimates that only 10% of the payments made to construction companies are based on the legislation. This is due to smaller companies being unwilling to take action against their larger counterparts (effectively using late payment as a costless source of credit) for fear of losing contracts.

## Time and cost of obtaining building permits and licenses

Poland ranked 39<sup>th</sup> (out of 190) in “Dealing with Construction Permits”, one place higher than a year before (40<sup>th</sup>), according to the 2020 World Bank’s Doing Business Report<sup>109</sup>.

In 2019, completing the formalities to build a warehouse<sup>110</sup> took on average 137 days, below the OECD average of 152.3, and involved 12 administrative procedures, an improvement since the 16 procedures needed in 2015 (Table 3). Poland streamlined the process for obtaining a building permit, thus reducing the number of procedures and the overall time for obtaining a building permit. In addition, the cost of completing the formalities to build a warehouse represents 0.3% of the value of the warehouse, well below the OECD high-income average of 1.5%<sup>111</sup>.

In 2020, construction permits were granted and registrations with a construction project were issued for 276,100 dwellings, 2.7% more than in 2019, 98.0% of which will be realised in new residential buildings. The number of new non-residential buildings for which construction permits were granted in Poland in 2020 amounted to 30,000, a decrease of 9.1% in comparison with 2019. The number of dwellings for which construction permits were granted or registrations with a construction project were issued was constantly going up in the analysed five-year period, resulting in an increase in this variable by over 30.0% between 2016 and 2020<sup>112</sup>.

Furthermore, the amendments to the Construction Law (*Prawo Budowlane*) in 2015 abolished the requirement for a building permit to build a house<sup>113</sup>, reducing red tape. Moreover, SME owners (except retail objects) no longer need an occupancy permit of retail space, thus facilitating the running of the business.

Construction (particularly infrastructural projects) requires a number of administrative permits. All projects require:

- planning basis in the form of a local master plan or individual decision, setting the conditions of development;
- building permit, except for certain categories of objects, such as the majority

of single-family residential houses, which only require a formal notification to the construction authority.

Depending on local conditions, additional permits may be required, such as water law permit, permit of the monument protection office, permit for cutting down trees. In the case of public infrastructural developments (highways, railway, airports, etc.) simplified procedures are available for public developers, where the planning basis, expropriation and division of properties as well as the building permit are included in a joint decision.

Table 3: Construction procedures timing and costs in Poland in 2020

Procedure	Time to complete	Associated costs
Receive an approval from the Project Documentation Coordination Unit (ZUDP) about the lack of conflicts among utility connections	30 days	No charge
Obtain current geodesic map	21 days	PLN 2,000 / EUR 440
Request and obtain consent from licensed sanitary expert	7 days	PLN 750 / EUR 165
Request and obtain consent from licensed fire safety expert	3 days	PLN 1,000 / EUR 220
Request and obtain building permit	65 days	PLN 588 / EUR 129.4
Conclude agreement with utility provider: water and sewage	5 days	PLN 250 / EUR 55
Notify municipal authority about the beginning of construction and register the building diary	1 day	no charge
Receive inspection from Local Water Company and obtain water and sewage connections	1 day	no charge
Receive inspection from the National Sanitary Inspectorate and obtain approval	14 days	no charge
Receive inspection from the State Fire Service and obtain approval	14 days	PLN 50 / EUR 11
Obtain geodetic post-executive inventory	3 days	PLN 2,000 / EUR 440
Request and receive occupancy permit	21 days	PLN 135 / EUR 29.7

Source: Doing Business overview for Poland, World Bank, 2020.

## Skills shortage

In 2020, number of **job vacancies** in the narrow construction sub-sector stood at 10,768, marking a decline of 2.1% over the 2010 level of 11,000. In contrast, the number of job vacancies in the real estate activities sub-sectors grew by 40.9%, from 757 in 2010 to 1,067 in 2020.

Job vacancies in real estate activities sub-sector between 2010 and 2020

 **40.9%**

According to the Business and Consumer Surveys of the European Commission, almost half of the firms in the Polish industry and construction sectors reported labour shortages as a factor limiting production in 2019, among the highest shares in the EU<sup>114</sup>.

As per the Occupational Barometer 2020 report (*"Barometr zawodów"*), the most in-demand professions of the construction sector are concrete placers, concrete finishers and related workers, pavers, construction joiners and carpenters, roofers and sheet metal workers in building trades, construction installation assemblers, bricklayers and plasterers, earthmoving plant operators and mechanics, finishing work technologists in building trades and construction workers<sup>115</sup>.



In recent years, immigration to Poland had already been at levels unprecedented in the country's history, and among the highest in the EU<sup>116</sup>.

The number of immigrant workers registered as employed in Poland grew rapidly last year, despite the pandemic. The increased employment of foreigners in industries where workers are needed that are not available on local markets, such as in construction and production, is a response to the labour market shrinking due to demographic reasons and an ageing population.

As a result, construction sector companies are incentivised to hire foreign construction workers (as indicated in the positive migration rate in 2018). However, administrative procedures – e.g. obtaining work permits undermine such a process<sup>117</sup>, representing a major barrier for hiring migrant workers and hence posing a threat to the

growth of the sector. In 2019<sup>118</sup>, **net migration** in Poland reached 20,081 as compared to 5,027 in 2010, representing a significant growth of 299.4% during the period.

Net migration between 2010 and 2019

 **299.4%**

In addition, in order to curb the migration of skilled labours, Poland introduced a new law in the country in July 2019. The law aims at scrapping income tax for nearly 2 million young workers and came into effect in August 2019. Polish people under the age of 26 earning less than PLN 85,528 (EUR 19,671.4) a year were exempted from the country's 18.0% income tax starting August 01, 2019<sup>119</sup>.

Poland has quality university education in engineering, which is gathering traction among students. The number of **tertiary students** in engineering, manufacturing and construction has grown to 62,346 in 2019 from 55,655 in 2010, representing an increase of 12.0% during the period. In parallel, life-long learning is still undeveloped, with **adult participation in education and training** standing only at 2.2% in narrow construction sub-sector in 2020 and 7.3% in real estate activities sub-sector in 2019.

In terms of digital skills, Poland still scores below the EU-28<sup>120</sup> average. Nearly half of the adult population (aged 16-74) does not have the basic digital skills. Polish firms show low investments with regards to up-skilling the workforce.

In order to address these issues, the Ministry of Digital Affairs is working on the **Digital Competence Development Programme 2030**, with sets of actions and targets for further enhancing and developing digital skills<sup>121</sup>.

During March-April 2020, Poland introduced several measures to prevent and combat COVID 19 in the areas of education. It has changed the provision of education and introduced new forms of teaching and learning<sup>122</sup>.

In March 2020, the Minister for National Education issued regulations which addressed VET. Teachers have been advised to modify VET curricula to teach parts which could not be implemented through distance learning in subsequent years<sup>123</sup>.

The regulation of the Minister for National Education of 10 April 2020 has implemented the apprenticeships in VET schools until the end of the 2019/20 school year or during holidays, or during classes in the next school year<sup>124</sup>.

## Sector and sub-sector specific issues

### Material efficiency and waste management

The construction and demolition waste (CDW) constitute one of the most important waste streams in the entire EU region. CDW mainly consists of several materials, including concrete, bricks, gypsum, wood, glass, metals, plastic, solvents, asbestos and excavated soil, many of which can be recycled.

Poland reported a total amount of 3,999,635 tonnes of construction and demolition waste<sup>125</sup> (CDW) in 2018<sup>126</sup> as compared to 2,764,206 tonnes in 2010, representing an increase of 44.7% during the period<sup>127</sup>. Nonetheless, statistics on CDW waste may not be completely reliable due to the difficulty in tracking and reporting data to the authorities. Notably, the amount of C&D waste is growing due to increasing number of new construction works, especially in the residential sector<sup>128</sup>.

The Act on Waste stipulates that National Waste Management Plans have to be developed at national and regional level to meet the objectives of environmental policy. With respect to C&D waste, the current National Waste Management Plan 2014 analyses C&D waste management system, forecasts changes, as well as sets objectives for waste management and prevention<sup>129</sup>. Currently all C&D waste is managed individually by Municipalities and City Councils.

### Climate and energy

**Emissions** of greenhouse gases (carbon monoxide and dioxide, methane, and nitrous oxides) from narrow construction and real estate activities sub-sectors in Poland amounted to a total of 986,198 and 847,924 tonnes in 2019<sup>130</sup>, respectively. Emissions in the narrow construction and real

estate activities sub-sector have declined by 21.7% and 10.3% respectively, during the period 2010-2019.



The Polish government, in June 2018, announced a plan to allocate PLN 103.0 billion (over EUR 22.7 billion) to finance thermo-modernisation. The programme, called “**Clean Air**”, will end in 2029. The programme will target individual homeowners. The majority (around two-thirds) of the funds will be disbursed as grants and the rest - as loans. According to the plan, the government will renovate four million homes and buildings over the next 10 years with better insulation and more efficient heating systems<sup>131</sup>.

The objective of the “Clean Air” programme is to improve air quality and to reduce greenhouse gas emissions by replacing sources of heat and improving energy efficiency of single-family residential buildings<sup>132</sup>.

Further to combat air pollution, the Polish government launched the ‘**Stop Smog**’ Programme in October 2018. The programme provides a mechanism to fund the replacement of out-of-date and high-emission sources of heating and the thermal upgrading of single-family residential buildings occupied by the energy-poor (low-carbon projects). The programme, with a budget of PLN 1.2 billion, will be implemented during 2019-2024 period<sup>133</sup>.

Polish Energy Policy (PEP) 2040 which was introduced in September 8, 2020 was officially adopted by the Ministry of Climate and Environment in February 2021. It amends PEP 2030 and mandates a progressive phase-out of hard coal and lignite, investments in nuclear and renewable energy sources<sup>134,135</sup>.

## 5

# Innovation in the construction sector

## Innovation performance

According to the 2021 European Innovation Scoreboard, Poland is an Emerging Innovator<sup>136</sup>.

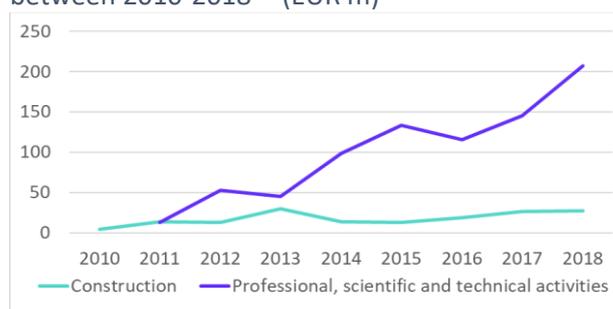
As per the report, Poland's strengths are in digitalisation, intellectual assets and use of information technologies. The top three indicators include Design applications, Population with tertiary education, and Environment-related technologies. It has an above average share of Non-innovators without disposition to innovate and is showing below average scores on the Climate change related indicators<sup>137</sup>.

Business expenditure on R&D has increased significantly in the past few years, even though it remains below the EU-27 average. In 2018<sup>138</sup>, the **Business Enterprise R&D Expenditure (BERD)** in the Professional, scientific and technical activities sub-sector amounted to EUR 207.1 million, followed by the narrow construction sub-sector (EUR 27.3 million) and the real estate activities sub-sector (EUR 2.5 million). Over the 2012<sup>139</sup>-2018<sup>140</sup> period<sup>141</sup>, BERD increased by 295.5% in the professional, scientific and technical activities sub-sector, followed by the narrow construction sub-sector (+109.5%). In contrast, BERD declined by 79.6% in the real estate activities sub-sector (Figure 9) during the same period.

BERD in the narrow construction sub-sector between 2012 and 2018

↑ 109.5%

Figure 9: Business enterprise R&D expenditure (BERD) per construction sub-sector in Poland between 2010-2018<sup>142</sup> (EUR m)<sup>143</sup>



Source: Eurostat, 2021.

Furthermore, the total number of **R&D employees** (full-time equivalents – FTE<sup>144</sup>) has been increasing across the sub-sectors. R&D employees in the professional, scientific and technical activities sub-sector experienced the highest increase (+4790.6%) among all the sub-sectors, growing from 85 in 2010 to 4,157 in 2018<sup>145</sup>. It was followed by the narrow construction sub-sector (+409.5%) which grew from 116 in 2010 to 591 in 2017<sup>146</sup>. In the real estate activities sub-sector, the number of FTEs stood at 63 in 2018, as compared to 14 in 2012<sup>147</sup> (+350.0%).

These trends are reflected (to a lesser extent) in the increase in the patenting activity and in the share of high-tech exports in recent years. In 2020, the number of **construction-related patent applications** increased to 27 as compared to 15 in 2010, representing an increase of 80.0% during the period.

Number of construction-related patent applications between 2010 and 2020

↑ 80.0%

Poland has taken several measures to support innovative SMEs. In 2019, it introduced the **'Innovation Box'** which allows for a preferential 5% tax rate of the income generated by commercialisation of intellectual property rights. Poland also offers tax relief for industrial automation, which affect mainly the smallest enterprises (*Ulga na robotyzację*). In addition, the Polish Agency for Enterprise Development as an SME Development Centre (*Centrum Rozwoju MŚP*) offers several programmes to provide financial and advisory support for innovative enterprises at different stages of development (part of "Start in Poland")<sup>148</sup>.

The **Polish Construction Technology Platform** (PPTB), founded in 2004, brings together 56 construction stakeholders, such as manufacturers, contractors, builders, architects with the goal to exchange technical and scientific information<sup>149</sup>.

The main objectives of PPTB are to support activities aimed to strengthen the role of R&D in construction sector by increasing the quantity and quality of research, as well as effective implementation of its results<sup>150</sup>.

According to the 2020 EU Industrial R&D Investment Scoreboard, Poland ranks third in terms of green inventions related to waste, due to the efforts of several universities and research organisations<sup>151</sup>. Additionally, the development of venture capital markets will remain imperative to drive the growth of innovative firms in Poland. Measures taken to develop the economy's innovative capacity would lead to further progress towards SDG 9 (Sustainable Development Goal 9: industry, innovation and infrastructure)<sup>152</sup>.

## Eco-innovation and digitalisation



According to the 2021 Eco Innovation Scoreboard (Eco-IS), Poland scored 63, in comparison to the average score of European Union of 121<sup>153</sup>.

As per the report, Poland is among the lowest performing EU Member States in the 2021 Index and categorised as **'Catching-up with eco-innovation'**. Poland scored 30 and 61 when it comes to the Eco-innovation inputs and Eco-innovation activities indicators respectively, which

is well below the EU-27 average scores of 113 and 100 respectively<sup>154</sup>.

In the European Commission Digital Economy and Society Index (DESI) 2020, Poland is ranked 23<sup>rd</sup> out of EU-27 countries. With a 45.0 score, Poland stands below the EU-27 average score of 52.6<sup>155</sup>.

As per the report, a total of 13.0% of Polish SMEs sell their products and services online as compared to the EU-27 average of 18.0% (an increase of 4.0% compared to 2018), and 5.0% of them sell to clients in other EU countries<sup>156</sup>. Moreover, it ranks relatively low in integration of digital technology (25<sup>th</sup>) and use of internet services (23<sup>rd</sup>), which remain the most challenging areas. In particular, 15.0% of people in Poland are not yet online and nearly half of them still lack basic digital skills<sup>157</sup>.

Awareness of the importance of digitalisation among Polish entrepreneurs is on the rise. In fact, one in three Polish SMEs declare digitalisation to be a high or very high priority for them. Moreover, the ongoing COVID-19 pandemic has underlined the need for digitalisation and compelled SMEs to use social media more<sup>158</sup>.

In order to boost innovation in the construction sector and bring about the scaling-up of innovations from the company level to the market, several initiatives have been launched. For example, a partnership between scientists, businesses and institutions supporting innovative solutions matching the concept of sustainable construction has been established under the **Building Research Institute**. The partnership creates modern projects based on eco-innovation and are implemented by Polish business<sup>159</sup>.

In July 2020, the Ministry of Economic Development, Labour and Technology announced initiatives for digitising the construction process<sup>160</sup>.

The initiatives include introduction of a digital construction logbook, investors' account on the e-budownictwo portal and enabling complete electronic submission of a request for a construction permit, by attaching all required documents and signing them using the trusted profile<sup>161</sup>.

In terms of **BIM adoption**, Poland is still at an early stage. In 2019, Kantar Polska, on behalf of Autodesk, organised a BIM awareness survey among 287 Polish architectural and construction companies. Around 43.0% of survey participants responded that they had used BIM in their projects, and 76.0% confirmed that they encountered BIM methodology in their work<sup>162</sup>.

In 2014, Polish Laws regulating the use of BIM in public procurement were first introduced, as a result of the adoption of Directives 2014/24/EU and

2014/25/EU on public procurement of the European Parliament and of the Council, of 26 February 2014<sup>163</sup>.

**In 2020, the Ministry of Development, Labour and Technology in Poland published a roadmap of BIM implementation for public procurement in Poland. However, as per the projections, the use of BIM will only become mandatory in Poland for capital construction projects with a state budget no earlier than 2030<sup>164</sup>.**

## 6

# National and regional regulatory framework

## Policy schemes

In Poland, the Ministry of Infrastructure and Construction implements the **National Housing Programme** and shapes the legal framework for the planning and spatial planning system<sup>165</sup>. The residential construction sector in Poland is influenced by policy measures or schemes focused on reversing the demographic decline by supporting families and comply with the EU environmental legislation.

'National Housing Programme' scheme, introduced in 2016 by the Polish government after replacing the Apartment for Young People (*Mieszkanie dla Młodych, MdM*; ended in January 2018), set positive goals for the fight against homelessness<sup>166</sup>.

The program's objectives are to construct affordable housing units for rent and give renters a purchase option. It is also aimed at redirecting public funds toward social groups with significantly lower incomes, and away from middle-income groups that were previously supported by other housing programs. The construction of new apartment buildings under the programme commenced in 2018. The rent for the apartments is projected to be around PLN 10.0 (EUR 2.2) to PLN 20.0 (EUR 4.4) per square metre<sup>167</sup>.

**PROSUMENT** is a grant programme co-financing loans for the purchase and installation of small devices producing energy from renewable energy sources offered by the National Fund of Environmental Protection and Water Management. The programme benefits from a budget of PLN 800.0 million (EUR 186.0 million) for the period from 2014-2022<sup>168</sup>. The **Apartment Plus** (*Mieszkanie Plus*) programme, a project launched

in 2016 under the National Housing Program, tenants get an opportunity to acquire ownership of low-cost apartments after a certain number of years if they meet specific conditions. The programme includes an option for beneficiaries to pay back building costs over a period of 25 years and hence turn their homes into private property eventually<sup>169</sup>. It allows tenants to lease the new housing at PLN 10-20 (EUR 2-4) per square meter and at PLN 12-24 (EUR 3-5) per square meter for the rent-to-own options. While families with children and low-income groups will be given priority, the programme will be open to all citizens<sup>170</sup>.

The *Mieszkanie Plus* programme has been divided into two pillars - the market part and the social part.

- The **market pillar** of the of the programme is implemented by PFR Nieruchomości, a subsidiary of the Polish Fund for the Housing Sector for Development, whose job is to support the economic development of the country and improve the quality of life of Poles.
- While, the **social pillar** of the programme is a segment of housing construction that meets the housing needs of people with average and lowest income.



By the end of 2020, the number of apartments built and under construction, under both pillars of the entire *Mieszkanie Plus* program, stood at 26,182<sup>171</sup>.

In addition, investments under the market pillar of the program, have been planned for a total of 7,418 apartments<sup>172</sup>.

The **Emergency Housing Programme** offers support to very low-income people. The programme

provides co-financing in the range from 30-50% to local authorities for the construction, purchase or refurbishment of rental housing. NGOs are eligible for the funding, too, if they provide night shelters to homeless people<sup>173</sup>.

In the Polish legal system, in accordance with the Social Welfare Act of 2004, “**Sheltered housing**” (*Mieszkanie chronione*) is a form of social assistance that prepares, under the supervision of specialists, to lead an independent life of individuals. This type of housing has a very wide group of recipients who are in a difficult life situation, including old, sick, with disabilities, in particular with mental disorders, minors, refugees and foreigners, who obtained subsidiary protection in Poland<sup>174</sup>. The amount fixed for a stay in a sheltered apartment stands at PLN 1,300 (EUR 286.0) per month per person, in a protected training flat PLN 1,500 (EUR 330). If there is a family in the apartment, the fee cannot go above PLN 3000 (EUR 660)<sup>175</sup>.

In addition, a support programme “**For Life**” (“*Za życiem*”) came into force in July 2017. It provides disabled people, their families and women during difficult pregnancy with help to integrate in the society. The programme ensures the improvement of the quality of life, accessibility of healthcare services and availability of housing for families bringing up disabled children<sup>176</sup>.

The **Fund of Apartments to Rent** (“*Fundusz Mieszkan na Wynajem*”) is run by the BGK and aims to create an alternative to mortgage, making affordable and good quality lodging accessible to a wide group of people. The Fund operates on a commercial basis<sup>177</sup>.

**In May 2021, the Polish government announced that they are currently developing tailored mechanisms or instruments to meet the housing requirements of the Poles. These instruments include housing vouchers and the government guarantee scheme for mortgage repayments for purchasing or renting a flat – both for married couples and singles<sup>178</sup>.**

The **housing voucher** will be granted in an amount calculated on the basis of the number of the members in each household, with main focus on the number of children and persons with disabilities<sup>179</sup>. These vouchers will be provided in two variants, including:

- The **social housing voucher** will be focused on people who do not own their own home and whose income limits their ability to obtain credit. The voucher will be recognised by a Social Housing Initiative (participation in Social Housing Associations/Social Housing Initiatives) or a housing cooperative (housing contribution in Housing Cooperative) from which the flat is going to be purchased/rented.
- A **family housing voucher** will be given to a household with at least three children or persons with disabilities. This voucher can be used to participate in a Social Housing Association/Social Housing Initiative, a housing down payment in Housing Cooperative as well as for the purchase of an apartment/single-family house or the construction of a single-family house<sup>180</sup>.

In case the family had not owned a flat or single-family house prior to the granting of the voucher, or if the area of the house or flat did not exceed 65 meter square (m<sup>2</sup>), the amount of the family housing voucher for a family with three children will be PLN 100,000 (EUR 22,000). This amount is going to be further increased by PLN 15,000 (EUR 3,300) for each additional child<sup>181</sup>.

In addition, the family housing voucher will also be applicable if family members previously owned a flat larger than 65 m<sup>2</sup>. The total value of a voucher for a family with three children in such will be amount to PLN 55,000 (EUR 12,100), with additional PLN 15,000 (EUR 3,300) for each subsequent child<sup>182</sup>.



**In the context of social housing voucher, single person households would be granted a PLN 5,000 (EUR 1,100) grant, a married couple without children – PLN 10,000 (EUR 2,200), and a married couple with one child – PLN 25,000 (EUR 5,500)<sup>183</sup>.**

The Polish government is also developing a programme designed for persons with credit standing who do not have the savings to cover the contribution required by banks. The initial projections state that the guarantee will be awarded up to the amount of 40.0% of the total value of the flat in the case of a purchase without

own contribution, both on the primary and secondary market<sup>184</sup>.

Moreover, Poland also receive supports from the European Commission, European Investment Bank (EIB) and European Fund for Strategic Investments (EFSI) for the construction and renovation of affordable housing units.



In September 2020, the EIB provided EUR 20.0 million for financing the construction and renovation of 250 social and affordable housing units in Szczecin, Poland. The project forms part of the larger urban regeneration programme of the historic part of the city and places a main focus on ensuring energy-efficiency<sup>185</sup>.

As part of the **Recovery and Resilience Plan (RRP) 2021-2026**, Poland has allocated around EUR 7.0 billion towards the building related activities. More than half of it (around EUR 3.9 billion, 10.7% of total RRP funding) has been dedicated for building renovation related activities. This includes allocating around EUR 3.2 billion towards the single- and multi-family residential buildings for energy efficiency improvements and heat replacements and EUR 1.2 billion for green multi-dwelling residential buildings. Additionally, around EUR 300.0 million would be invested for energy efficiency improvements in large enterprises, including building and process modernisation and renewable energy installations. The country's target is to replace inefficient heating in 860,000 single family buildings<sup>186</sup>.

## Building regulations

In Poland, the construction process is governed or regulated by the following legal acts:

- the **Building Law** (*Prawo budowlane*) was amended in mid-2015 simplifying administrative obligations related to all stages of construction, including building permits, notification of construction works and changes in construction projects. From January 2017, the Building Law is amended to improve the legal situation for entrepreneurs and administrative

procedures related to contraction works and permits<sup>187</sup>;

- the law on planning and area development, so called **Spatial Development Law** (*Planowanie i zagospodarowanie przestrzenne*);
- the **Environmental Impact Law** (*Udostępnianie informacji o środowisku i jego ochronie, udziale społeczeństwa w ochronie środowiska oraz o ocenach oddziaływania na środowisko*);
- the **Water Law** (*Prawo wodne*); and
- a **New building regulations** for provisions of the Urban and Construction Code. The new regulations came into force in stages in January 2018. The first stage relates to regulating issues concerning ordinary citizens, simplifications and investment facilitations, where more than 140 acts are subject to change from January onwards. Among the main objectives, the Code is to restore and ensure effective space management, the so-called spatial order, public space available to all citizens, and stimulate public participation in spatial planning<sup>188</sup>.

In the context of the Building Law, construction work in Poland can only be commenced after receiving a decision including the building permit. A certain number of less important construction works (such as construction and repair of telecommunication networks, electric power networks, water supply, sewage) do not require a building permit, although, the competent authorities must be notified of them<sup>189</sup>.



In September 2020, an important amendment to the Polish Building Act came into force. These amendments were introduced in the context of prescription periods, legalisation proceedings, introduction of Technical Design and others<sup>190</sup>.

The amendment introduces prescription periods for the invalidation of building permits (five years from the date of their issue or announcement) and occupancy permits (five years from the date when the decision became final and non-appealable)<sup>191</sup>.

Another amendment is that legalisation proceedings will now be subject to specific time limits: the investor will have 30 days to issue legalisation proceedings and 60 days to deliver necessary documentation. In the context of fire and sanitary regulations, the amendments will bring in more stringent conditions for departures from technical regulations upon authorisation of a competent minister<sup>192</sup>.

As per the amendment, a construction design will now comprise the following elements:

- site development plan;
- architectural and construction design; and
- technical design (specifying construction solutions and calculations, as well as energy characteristics).

The amendments also reduce the number of documents required for building permit. It also extends the list of construction projects for which the construction permit is not required, thus removing barriers for potential investors<sup>193</sup>.

Construction of infrastructural projects is governed by other acts relevant to a given investment (motorway, railway or harbour). PZPB believes that the Polish legal environment governing infrastructural projects is too fragmented. A solution may be a single body of law in lieu of the existing separate “branch” laws, which could create room for integrated administrative decisions.

With a purpose of simplifying building process regarding constructions developed for counteracting COVID-19, the Polish government exempted the following building laws:

- Act of 7 July 1994 - Building Law;
- Act of 27 March 2003 on Spatial Planning and Development;
- Act of 23 July 2003 on Protection and Care of Monuments as it refers to planning acts<sup>194</sup>.

In November 2019, the Act of 16 October 2019 became effective, bringing amendments to the Environment Protection Law and Certain Other Acts<sup>195</sup>. The amendments introduced changes, effective from 1 January 2020, by adding a legal provision under which it is mandatory to include a designer’s statement with a building permit. The objective of the amendment is to introduce the obligation to confirm (already at the stage of

designing a building) whether such building may be connected to the existing heat network and, if such possibility exists, to design it in a manner taking into account such connection.

## Insurance and liability related regulations

According to the General Conditions for Building Contracts (YSE 1998), the responsibility of the building contractor is based on “fitness for purpose” principle. This means that the building must be constructed according to the construction contract and to the rules of the relevant technical knowledge. Therefore, the contractors are responsible for ensuring the appropriate quality of the materials, and liable for poor work execution and any building defects<sup>196</sup>.

Liability of the residential property developer towards the final client is defined under a **developer’s agreement** with the client and is not specifically covered by the Civil Code. Certain measures protecting residential developers’ clients are imposed by the “**Developer’s Act**”, including among others obligatory escrow account for clients’ payments, as well as wide scope of information obligations.

In Poland, architects, site managers and the investor’s supervision representative are required to be members of professional bodies to have professional liability coverage. People who carry out independent technical functions bear professional liability (Building Law Art 95). In terms of insurance requirements, designers and site managers must possess liability insurance. Contractors must carry two types of insurance products (civil liability and insurance of material damage/loss). Under the Civil Code, there are liability arrangements in place in relation to latent defects (with a 5-year duration). Nevertheless, there are no mandatory insurance requirements in this regard<sup>197</sup>.

From June 2017, new rules of joint liability of the investor and the contractor towards subcontractors for the performed construction works came into effect, eliminating payment bottlenecks (Act of 7 April 2017 on amending certain acts to facilitate the recovery of claims)<sup>198</sup>.

**In Poland, professional indemnity insurance is mandatory for all construction contractors, and has a statutory minimum guarantee limit of EUR 50,000<sup>199</sup>.**

Also, there are various voluntary construction insurance policies, such as Contractor's All Risk (CAR) policies and Third-Party Liability insurance.

Industry players shared concerns on the public procurement practice applied by GDDKiA, based on the lowest price as the main criterion to select tenderers. This, together with the tight deadlines to prepare the tender, resulted in low quality project documentation. Additionally, the liberalisation of the procurement process led to many unexperienced companies entering the construction market, proposing low prices without considering implementation risks. In these circumstances, other tender participants had to reduce their price as well, affecting risks mitigation measures.

Moreover, the construction sector, notably road infrastructure, is suffering from inadequate contract risk distribution between the contractor and GDDKiA. Thus, the contractor is responsible for most of the project risks which are often not considered in the budget to maintain low prices. These issues have led to structural difficulties for Polish construction companies, high competition

from other countries (e.g., China) and high amount of legal disputes and litigation cases over contract payments, which take years to be resolved.

Therefore, the sector would expect to see the public side assuming investors risks, in accordance with the FIDIC Standard Form Contracts, as this is only partially done for roadwork contracts. Moreover, there are suggestions of setting up quasi-judiciary organs resolving construction disputes in order not to burden the already heavily burdened judicial system<sup>200</sup>.

In some cases, insurance of large investment projects is tied to a specific contractor or developer. Thus, in the event of a dispute and/or contractor change, the insurance is no longer applicable to the construction project. In some cases of insurance by the contractor, the developer may be also named as the entity insured. These situations show the importance of investors taking the actual insurance on the project. Insurers can also act as **guarantors**, giving warranties to robust construction companies. Presenting such a warranty to an investor enables a contractor to be fully paid prior to finishing the contract. The usual practice in the case of investment projects is that part of the payment is withheld until the end of the project, so that the investor can deduct any fees for repair and errors from it.

## 7

# Current status and national strategies to meet Construction 2020 objectives

## TO 1 – Investment conditions and volumes



The total investment by the narrow construction sub-sector reached EUR 3.2 billion in 2019<sup>201</sup>, as compared to EUR 2.8 billion in 2010.

Overall, total investment by the broad construction sector<sup>202</sup> grew, driven by increases in the narrow construction (+12.0%) and the real estate activities (+3.5%, ending at EUR 12.8 billion) sub-sectors between 2010 and 2019<sup>203</sup>.

In terms of investment in intellectual property products by the narrow construction sub-sector, it increased by 85.8% over 2010-2019<sup>204</sup> period, reaching EUR 56.3 million. Investment by the real estate activities in this category also increased significantly (+120.0% over the same period), reaching EUR 15.4 million.

Investment by the narrow construction sub-sector between 2010 and 2019

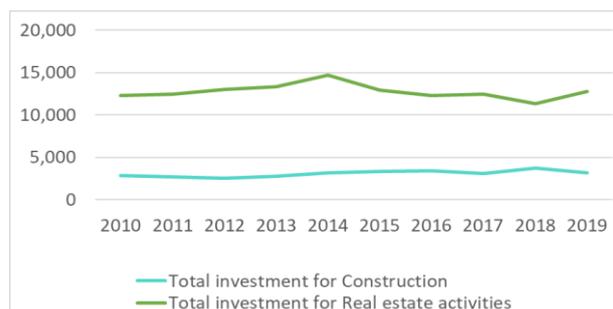
↑ 12.0%

In contrast, investment in machinery and equipment by the real estate activities sub-sector decreased by 44.7% between 2010 and 2019<sup>205</sup>, reaching EUR 136.6 million. Conversely, investment by the narrow construction sub-sector in this category increased to EUR 1.1 billion in 2019<sup>206</sup>, recording an increase 6.0% in the same period.

Investment in machinery and equipment by the real estate activities sub-sector between 2010 and 2019

↓ 44.7%

Figure 10: Investment by the Polish broad construction industry between 2010 and 2019 (EUR m)



Source: Eurostat, 2021.

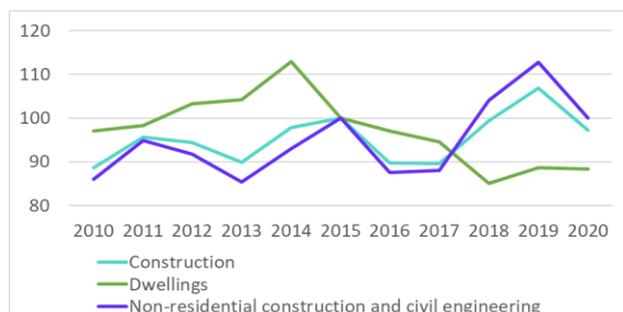
The investment index in the broad construction sector<sup>207</sup> has experienced a decline of 2.9% over 2015-2020 period (Figure 11).

This was mainly due to 11.7% fall registered in investment in dwellings by the whole economy between 2015 and 2020. Similarly, investment in non-residential construction and civil engineering in 2020 did not show any growth and remained at the same level of 2015. In real terms, investment in the broad construction sector totalled EUR 45.3 billion in 2018<sup>208</sup>, out of which EUR 9.5 billion was invested in dwellings by the whole economy and EUR 35.8 billion in non-residential and civil engineering<sup>209</sup>.

Investment index in dwellings by the whole economy between 2015 and 2020

↓ 11.7%

Figure 11: Investment index in the Polish construction sector between 2010 and 2020 (2015=100)



Source: Eurostat, 2021.

Investment in infrastructure fluctuated considerably from 2010 to 2019. The share of total **inland infrastructure**<sup>210</sup> investment in the GDP peaked at 2.4% in 2011 but dropped to 0.6% in 2019<sup>211</sup>. Similarly, investment in road and rail infrastructure went down by 62.9% and 5.1% reaching EUR 2.4 billion and EUR 654.8 million respectively, during the 2010-2019<sup>212</sup> period. Conversely, investment in sea infrastructure significantly grew by 803.8% during the same period, reaching EUR 244.3 million. Similarly, investment in inland waterways and air infrastructure increased by 126.3% and 13.8%, ending at EUR 56.1 million and EUR 150.1 million respectively over the 2010-2019<sup>213</sup> period.

Investment in sea infrastructure between 2010 and 2019

↑ 803.8%

Further, investment in **rail maintenance** registered a significant growth of 330.6%, increasing from EUR 212.8 million in 2010 to EUR 916.1 million in 2019<sup>214</sup>. Similarly, it grew by 25.9% in case of Inland waterways maintenance in the same period. In contrast, investment in road, sea and air infrastructure maintenance declined by 81.8%, 41.3%, and 39.6% during the same reference period, reaching EUR 481.0 million, EUR 5.6 million, and EUR 3.0 million respectively in 2019<sup>215</sup>.

Investment in rail maintenance between 2010 and 2019

↑ 330.6%

Currently, the 'National Railway Programme' is at its halfway. The Programme includes 220 projects valued at EUR 13.9 billion (PLN 60.0 billion) which includes the modernisation of 9,000 kilometres of tracks by 2023<sup>216</sup>. By 2020, projects worth USD 2.6 billion (EUR 2.2 billion) had already been completed, and projects worth USD 10.0 billion (EUR 8.5 billion) already started<sup>217</sup>.

The inflow of **EU structural funds** continues to be an important driver of infrastructural development, particularly considering that Poland is the one of largest beneficiaries of European Structural and Investment Funds (ESIF).



By December 2020, total financing under the European Fund for Strategic Investments (EFSI) in Poland stood at EUR 4.2 billion. It is projected to trigger EUR 21.0 billion in additional investments<sup>218</sup>.

In particular, 68 infrastructure and innovation projects were approved by the European Investment Bank (EIB) with EFSI backing. The total financing for these projects stood at EUR 4.0 billion and is projected to trigger EUR 16.0 billion in investments<sup>219</sup>.

In June 2021, the Polish Prime Minister, Mateusz Morawiecki, announced plans to invest PLN 200 billion (EUR 44.0 billion) in rail and road infrastructure under the country's Polish New Deal plan in order to stimulate recovery following the COVID-19 pandemic<sup>220</sup>.

As part of the plan, the architecture of railway connections throughout Poland will be completely rebuilt. The **Polish New Deal plan**, is focused on reviving the national economy after the COVID-19 pandemic, envisages major investment in public infrastructure along with overhauls of the tax and healthcare systems. It is a main project of the Law and Justice (PiS) led government<sup>221</sup>.

The **National Road and Motorway Construction Programme 2014-2023 (Program Budowy Dróg i Autostrad)**, approved in September 2015, is the main driver for infrastructure investments in Poland and it envisages building 3,263 kilometres of roads.

The initial budget of the Programme was PLN 107.1 billion (EUR 23.6 billion), but it was increased to PLN 142.2 billion (EUR 31.3 billion) at the beginning of the third quarter of 2019<sup>222</sup>.

**As part of the programme, in January 2020, Poland's road authority (General Directorate for National Roads and Motorways, GDDKiA) put out tenders for 21 new road sections totalling 257.5 km, worth around PLN 8.8 billion (EUR 1.9 billion)<sup>223</sup>.**

Last, **renovation spending** by households increased. In 2010, households were investing annually EUR 10.8 billion in maintenance and repair of dwellings. This increased to EUR 12.9 billion in 2019<sup>224</sup>, representing a 19.7% increase over 2010.

**Under the Recovery and Resilience Plan, Poland has allocated a substantial support towards improving the country's infrastructure, with a planned investment of around EUR 2.4 billion<sup>225</sup>.**

This consists of the modernisation of railway lines including carrying out works under individual projects for around 478 kilometres of railway lines of national and regional importance by August 2026, including over 300 km on the TEN-T network (of which 200 km on the core network). The country would invest additional funds to increase the capacity of railway, which in turn will lead to an improvement in the quality of freight transport<sup>226</sup>.

## TO 2 – Skills

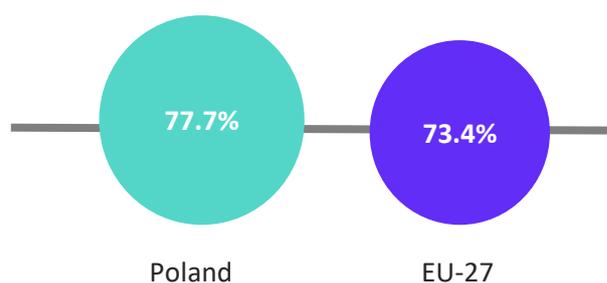
**In 2020, the employment rate of VET graduates in Poland slightly decreased from 78.5% in 2019 to 77.7%, (above the EU-27 average of 73.4%)<sup>227</sup>.**

The Polish government is taking several steps with respect to the modernisation of VET. In February 2019, a new regulation was adopted explaining the core curricula for all occupations in a new classification, including additional vocational skills for selected occupations. In 2019, the Ministry of National Education published the first forecast of demand for employees in vocational occupations<sup>228</sup>.

**'Career Festival' is part of a project to modernise vocational education in the Małopolska region, organised under the Regional Operational Programme between 2016-2023, supported by ESF<sup>229</sup>.**

The aim of the festival is to promote vocational education, vocational counselling, and professional orientation. It also addresses pupils in the last grades of primary schools to help them make educational and professional career choices<sup>230</sup>.

Employment rate of VET graduates in 2020



In 2020, on average, 52.0% of all upper secondary students enrolled in VET programmes in Poland, higher than the OECD average of 42.0%<sup>231</sup>.

Since September 2017, the education system in Poland has been going through substantial restructuring. It is expected to be finalised in the 2022-2023 school year<sup>232</sup>. The major factors of the reform include:

- restructuring the current six- year primary education into eight years, divided into two four-year programmes (basic and lower secondary level);
- phasing out the lower secondary school (*gimnazjum*) and extending the general upper secondary school (four instead of three years); and
- extending the technical upper secondary school (five instead of four); and introducing a two-level 'sectoral vocational school.

In Poland, the provision of VET is provided at upper secondary and post-secondary levels that are mainly school-based. Upper secondary programmes include general and vocational education. Furthermore, the Polish government has taken a number of initiatives which have been introduced to reduce the skills mismatch between employers and vocational training institutions, the

absence of flexible learning and guidance and counselling<sup>233</sup>.

**Adult participation in learning** remains low in Poland. In 2020, adult participation (18 to 64 age group) in education and training in the narrow construction sub-sector stood at 2.2%, well below the EU-28 average of 7.4%.

For real estate activities sub-sector, the participation in education and training was 7.3% in 2019, well below the EU-28 average of 13.8%.

Adult learning improvements face several challenges, including a lack of coherent adult learning policy; clear leadership at national level; and the close involvement of stakeholders. Nevertheless, the PZPB (*Polski Związek Pracodawców Budownictwa*) is active in supporting a number of EU co-funded projects aimed at enhancing the skill level of the sector, covering safety at work, green and energy efficiency skills, digital construction, as well as facilitating apprenticeships in SMEs<sup>234</sup>.

**Erbud group, one of the largest construction groups in Poland, offers STERBUD construction internships programmes for recent graduates who wish to pursue their career in a large construction company<sup>235</sup>.**

The Ministry of Education introduced a project called “**Chance – new opportunities for adults,**” financed by the European Social Fund. The objective is to support adults with a low level of skills, knowledge and competencies who are not eligible for support under the Youth Guarantee. The project, with a budget of approximately PLN 30.0 million (EUR 7.2 million), is implemented by the Foundation for the Development of the Education System in cooperation with the Educational Research Institute<sup>236</sup>. The first phase of the project has recently been completed. The project will be implemented until the end of 2021<sup>237</sup>.

**In the Recovery and Resilience Plan, Poland announced support for the development of modern vocational education, higher education and learning for a lifetime with a planned investment of EUR 400.0 million<sup>238</sup>.**

This includes creating a network of 120 **Industry Skills Centers (BCUs)**, establishing a joint vocational counselling and counselling institution and improving qualifications or acquisition of new skills.

These centers will operate at vocational schools or vocational training centers. Their objectives would be to promote learning in real working conditions, analysing the demand for professions and skills in a given industry, improving qualifications and retraining adults, and conducting forms of lifelong learning, among others<sup>239</sup>.

Additionally, Poland would invest around EUR 2.1 billion towards the digital transformation. This includes development of e-services and their consolidation, creating conditions for the development of breakthrough applications digital technologies in the public sector. Moreover, it would also develop the digital environment of preschool education and general education<sup>240</sup>.

### TO 3 – Resource efficiency / Sustainable construction

In Poland, the main national strategy documents on energy efficiency are the **Energy Policy of Poland until 2030 (EPP 2030)** and the 2017 **Fourth National Energy Efficiency Action Plan (NEEAP)**. These policies are supported by legal acts, like the Law on support to thermal upgrade and refurbishment<sup>241</sup>.

**In Poland, the residential and building sector accounts for more than 40.0% of the final energy consumption in the EU. Energy consumption, and the subsequent carbon dioxide emissions, grow as this sector expands. Around 75.0% of the energy consumed in Poland is in the housing sector<sup>242</sup>.**

Many Polish legal acts relevant to resource efficiency and sustainable construction are EU-driven, such as the **Bill amending the Energy Efficiency Law (*Ustawa efektywności energetycznej*)**, which implements the **Energy Efficiency Directive (2012/27/EU)** and the Law on Energy Performance of Buildings, which transposes the **Energy Performance of Buildings Directive (EPBD, directive 2010/31/UE)**.

In addition to the legal framework, energy efficiency in buildings is supported by a significant number of instruments and measures. The following ones are some of the main schemes implemented to achieve better energy efficiency. For instance, the **Thermomodernisation and Refurbishment Fund (*Fundusz Termomodernizacji i Remontów*)** managed by the BGK, provides financial aid for investors engaged in thermic modernisation and renovation

initiatives as well as provides financial indemnifications for residential building owners.

**Thermomodernisation and Refurbishment Fund offers three types of assistance, namely the thermic modernisation incentive, the renovation incentive, and the indemnification incentive<sup>243</sup>.**

The amount of the funding awarded under the programme is equivalent to 20.0% of the loan used for the realisation of the thermic modernisation initiative from personal funds. Furthermore, in 2020 significant amendments to the programme were introduced, including the release of **2.0 version** of the program. The amendments consisted of the simplifying the rules of granting subsidies, shortening the time of processing applications from 90 to 30 days, simplifying the grant application, introduction of the online application submission option, and integrated with the "My Electricity" program<sup>244</sup>.

Previously, the Polish government allocated PLN 103 billion (EUR 22.7 billion) in June 2018 to finance thermic modernisation.

**The Clean Air programme was initiated in September 2018 and will end in 2029. It targets individual homeowners. The two thirds of funds will be provided as grants and the rest as loans<sup>245</sup>.**

Under the programme, beneficiaries would receive subsidies based on their household income, up to PLN 20,000 (EUR 4,400) in the basic version and up to PLN 32,000 (EUR 7,100) for people in more difficult financial situation<sup>246</sup>.

In May 2020, the Polish government launched an updated version of the Clean Air Programme, simplifying the procedures for financing the modernisation of obsolete heating systems and the better insulation of homes. According to the European Environment Agency, the programme is focused on improving air quality in Poland which is expected to be one of the worst in Europe causing the premature death of as many as 44,000 people each year<sup>247</sup>.

Under the **Recovery and Resilience Plan**, Poland has planned to increase the effectiveness of the implementation of the Clean Air Program on a national scale. This would consist of increasing the number of submitted applications for co-financing,

which would directly translate into the number of contracts signed with beneficiaries, as well as for the actual replacement of obsolete heat sources, and implementation of thermomodernisation projects in single-family residential buildings<sup>248</sup>.

**"Energy efficient construction industry - Reduction of energy consumption in the construction industry"** programme, with a budget of PLN 1.1 billion (EUR 0.2 billion), is scheduled to be implemented between 2016 and 2022. The fund can also be granted for the thermal upgrade of museums, historic monuments, sacral buildings, hospitals, long-term care facilities, residential care facilities, hospices, students' houses, centres for culture, religious worship, teaching, care, pedagogy and research.

Other schemes include programmes managed by the National Fund for Environmental Protection and Water Management (NFOŚiGW) and the Regional Funds for Environmental Protection and Water Management (WFOŚiGW) such as Air protection, and RYS<sup>249</sup>.

**The objective of Air protection programme is to reduce CO2 emissions in public, residential and industrial buildings. It is an ongoing programme which is administered by the regional environmental funds WFOŚiGW<sup>250</sup>.**

It supports investments contributing to reduction of CO2 emission. It offers different forms of support depending on the region, including grants, subsidies or soft loans. The approximate annual budget of all Regional Funds together amounts to EUR 148.0 million<sup>251</sup>.

The **RYS ("Lynx")** programme run by the National Fund for Environmental Protection and Water Management (NFOŚiGW) provides grants and loans for energy evaluation of buildings as well for renovation works, covering thermo-renovation of single-family housing. The grant can cover up to 40.0% of renovation costs. The programme has a budget of EUR 95.2 million for 2015-2020. The programme will end by 2023<sup>252</sup>.

The Operational Programme **Infrastructure and Environment Poland 2014-2020, OPI&E** (Supporting energy efficiency, intelligent energy management and the use of renewable energy sources in public infrastructure, including public buildings and housing) provides grants and soft

loans for energy efficient refurbishment of multiple family housing, including use of renewables. The programme will be implemented throughout the 2014-2023 period. Funding under the programme requires the preparation of energy audits, thus ensuring to verify energy savings. In terms of budget, the programme allocates EUR 165.9 million to public buildings and EUR 225.6 million to residential buildings (contributions from the EU Cohesion Fund)<sup>253</sup>.

**The Regional Operational Programmes 2014-2020 (ROP), started in 2015, provides investment support for projects engaged into deep comprehensive energy modernisation of multi-apartment residential and public buildings<sup>254</sup>.**

The programme provides support for investment projects engaged into deep energy modernisation of multi-apartment residential and public buildings. Administered by the WFOŚiGW, the programme will end in 2022. The allocated budget for the programme is EUR 986 million for public building renovation and EUR 481 million for residential building renovation<sup>255</sup>.

**The National Fund of Environmental Protection and Water Management** (*Narodowy Fundusz Ochrony Środowiska i Gospodarki Wodnej*), established in 1989, offers financial aid for environment-friendly investments. These include co-financing to bank loans for energetically efficient housing, a programme endowed with EUR 75 million. The amount of subsidies or the financial aid mainly depends on the building's energy standard<sup>256</sup>.

By June 2019, there were 772 certified buildings in Poland. Out of 772 buildings, 591 were certified with BREEAM and 166 were LEED. Over the past twelve months, the number of certificates grew by more than 154 new buildings. The pace of growth reflects that BREEAM is getting more popular, with 70.0% of the total green building bidding for these certificates<sup>257</sup>.

## TO 4 – Single Market

**According to the EU Single Market Scoreboard 2020<sup>258</sup>, Poland's performance was average with respect to a few metrics including public procurement.**

Poland's performance regarding the transposition of EU directives such as transportation deficit (0.8%; EU-28 average<sup>259</sup> 0.6%), average delay (13.9 months; EU-28 average 11.5 months), and conformity deficit (1.8%; EU-28 average 1.2%) worsened in 2019 as compared to the previous year. Also, the number of infringement procedures is above the EU-28 average<sup>260</sup>, which is partly explained by the limited use of the EU Pilot tool. Currently, Poland has the 5<sup>th</sup> highest number of Single Market-related cases. In terms of Internal Market Information System, Poland performed well. Its performance was below the EU-28 average<sup>261</sup> in 3 out of 5 indicators<sup>262</sup>.

**In the context of Technical Regulations Information System, Poland received 62 notifications from all the sectors in 2019, including 9 from the construction sector<sup>263</sup>.**

Furthermore, its performance in public procurement was average in 2019. The public procurement of large construction works in Poland has often been based on the lowest price criterion. Since 2012, when the tendering procedures were liberalised, many small companies have been entering the construction market (particularly road infrastructure) by securing tenders at the lowest prices. The Polish government has also announced that a new act on public procurement is needed to make the procedures simpler, nevertheless it has not published any drafts yet in this regard<sup>264</sup>.

EU Members States are a major destination for Polish exports,. Nevertheless, the development of SMEs in Poland on the single market is still behind as compared to the other EU countries. The government has taken several measures over the years to improve the condition in this regard<sup>265</sup>.

The **Polish Agency for Enterprise Development** (*Polska Agencja Rozwoju Przedsiębiorczości*, PARP), established in 2000, provides support to entrepreneurs in the implementation of competitive and innovative projects. Its objective is to develop the sector of small and medium-sized enterprises in Poland. PARP uses the funds from the State budget and European Funds to support entrepreneurs<sup>266</sup>.

The Polish Investment & Trade Agency promotes sectoral export and economic marketing programmes. It also provides support to develop Foreign Trade Offices. These programmes support

the export to EU countries, as well as non-EU countries<sup>267</sup>.

**The Polish Government has adopted the general rules pertaining to the Law on electronic invoicing in public procurement as a transposition of Directive 2014/55/EU on electronic invoicing in public procurement<sup>268</sup>.**

From November 2018, all public administrations started accepting (structured) electronic invoices. The objective is to reduce both the amount of paper used as well as the costs associated with the process<sup>269</sup>.

With regards to the implementation of **Eurocodes**, all Eurocodes are published as National Standards and translated in Polish, with the exception of the EN 1998 series. While, the use of Eurocodes is non-compulsory they are practically the sole basis for structural design in Poland. Other National Standards are used in parallel to most Eurocodes Parts. Exceptions to this are the series EN 1991-1-2, EN 1991-1-7, EN 1992-1-2, EN 1993-1-2, EN 1993-4-3, EN 1993-5, EN 1994-1-2, EN 1995-1-2, EN 1996-1-2, EN 1996-3, EN 1998, and EN 1999-1-2, which mostly deal with fire design. Not least, the Public Procurement Law enforces the implementation of Eurocodes in procurement and over 80% and national annexes were published to all Eurocodes Parts (except the EN 1998 series)<sup>270</sup>.

## TO 5 – International competitiveness



**According to the World Bank Doing Business 2020 report, Poland ranked 1<sup>st</sup> out of 190 countries in ease of trading across borders in 2019<sup>271</sup>.**

As per the report, in Poland it only takes one hour for documentary compliance. In terms of costs, businesses do not need to spend anything (cost: 0) for documentary compliance and border compliance respectively<sup>272</sup>.

In terms of **internationalisation** of Polish construction companies, a significant improvement can be seen during the 2010-2019<sup>273</sup> period. In 2019<sup>274</sup>, exports value of all construction-related products in Poland stood at EUR 6.1 billion in 2019, as compared to EUR 3.6 billion on 2010. This represents an increase of 68.7% during the period. Also, share of exports value of all construction-related products stood at 41.7% of total value of production in 2019<sup>275</sup>, as compared to 31.1% in 2010.

Export value of all construction-related products between 2010 and 2019  **68.7%**

The overall economic growth in Poland has largely been dependent on the international development of Polish SMEs. The Polish government has introduced several programmes to facilitate such an expansion, providing both financial and advisory support.

There is an ongoing **Scale-up** programme implemented under “**Start in Poland**” by the Ministry of Development supports start-ups. This programme is funded by the Polish Development fund, which provides a number of initiatives to stimulate and increase the incubation, acceleration and development of start-ups<sup>276</sup>.

In the context of **inward FATS**<sup>277</sup> (Foreign affiliates statistics), the value added at factor cost in the narrow construction sub-sector increased by 14.5% between 2010 and 2018<sup>278</sup>. In contrast, turnover in the sub-sector declined by 8.0% in the same period. Whereas, in terms of number of persons employed, it grew by 13.7% during the period 2010-2018<sup>279</sup>.

Similarly, turnover in the manufacturing sub-sector, in terms of **outward FATS**<sup>280</sup> grew by 52.7% between 2010 and 2018<sup>281</sup>. While the number of people employed in the same sub-sector grew by 22.1% during the same period.

To further deepening cooperation among construction companies and exploiting opportunities deriving from internationalisation, Polish construction companies launched the Polish Cluster of Construction Exporters in 2015<sup>282</sup>.

In terms of specific initiatives taken to foster internationalisation of Polish construction companies, the **Polish Agency for Enterprise Development (PARP)** organises the **“Go to Brand promotion”** programme dedicated among others to companies active in construction and finishing of buildings<sup>283</sup>.

Moreover, measures taken to facilitate innovation and technical development in Polish firms are also expected to improve the competitiveness of Polish SMEs on international markets<sup>284</sup>.

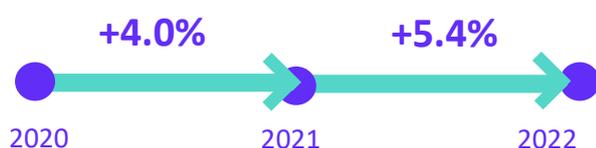
## 8

## Outlook

After decelerating by 2.7% in 2020, the Polish economy is expected to rise by 4.0% in 2021, mainly driven by private consumption and investments<sup>285</sup>.

The Polish **GDP** is forecasted to increase by 4.0% in 2021 and by 5.4% in 2022, totalling PLN 2.3 trillion (EUR 504.6 billion).

Expected GDP growth between 2020-2022



In parallel, the outlook for the Polish broad construction sector is moderate. The **volume index of production** of the broad construction sector, construction of buildings and construction of civil engineering are projected to increase by 5.2%, 15.6% and 4.8% over the 2020-2022 period, respectively. It is expected that the growth in the sector will primarily be picked up in 2021.

Similarly, the **turnover of the broad construction sector** is also projected to increase by 6.0% in 2021 as compared to 2020, reaching EUR 153.1 billion. At the same time, the **total value added** of the broad construction sector is expected to reach EUR 44.2 billion in 2021, representing an increase of 6.1% over 2020.

Likewise, the **number of persons employed** in the broad construction sector is projected to rise by 6.2% in 2021 over 2020, reaching 1,835,141 persons in 2021.

Number of employees in the broad constructions sector between 2020 and 2021

↑ 6.2%

The Polish government has taken several initiatives to promote the **residential / housing market**. In May 2021, the government announced that they are currently developing tailored mechanisms or instruments to meet the housing requirements of the Poles. These instruments include housing vouchers and the government guarantee scheme for mortgage repayments for purchasing or renting a flat – both for married couples and singles.

The Polish **civil engineering and infrastructure sector** is forecasted to have a positive outlook because of the rising investments in infrastructure, particularly rail and roads; housing and R&D in the coming years. In June 2021, the Polish government announced its plans to invest PLN 200 billion (EUR 44.0 billion) in rail and road infrastructure under the country's Polish New Deal plan to stimulate recovery following the COVID-19 pandemic. Poland has allocated more than half of its building funding under the RRP for building renovation related activities. The country's target is to replace inefficient heating in 860,000 single family buildings. Poland has allocated around EUR 2.4 billion towards improving the country's infrastructure including the modernisation of railway lines<sup>286</sup>.

Overall, the Polish construction sector has a positive outlook in the medium and long term. The public road and railway infrastructure investment projects undertaken by large public investors (and often backed by EU funding) are expected to be the primary growth drivers.

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## Country Fact Sheet Poland

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