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88th Euroconstruct Conference: European Construction Market Outlook Until 2022

Austrian Construction Market Development

Michael Klien, Michael Weingärtler

December 2019

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AUSTRIAN INSTITUTE OF ECONOMIC RESEARCH

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Abstract

In 2019, Austrian construction activity rose with growth rates above 2 percent. Nevertheless, 2019 marks already the first year of a more moderate development. WIFO forecasts expect only a slow increase of construction volumes over the entire period from 2020 to 2022. Importantly, housing will lose its momentum and grow by roughly 1 percent over the next years. However, even if growth will slow down significantly, the housing rate of around 6 building permits per 1,000 inhabitants will remain one of the highest in Europe. Civil engineering exhibits the most promising outlook, primarily because transport infrastructure plans suggest higher investments in the Austrian rail and road network.

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88th EUROCONSTRUCT Country Report

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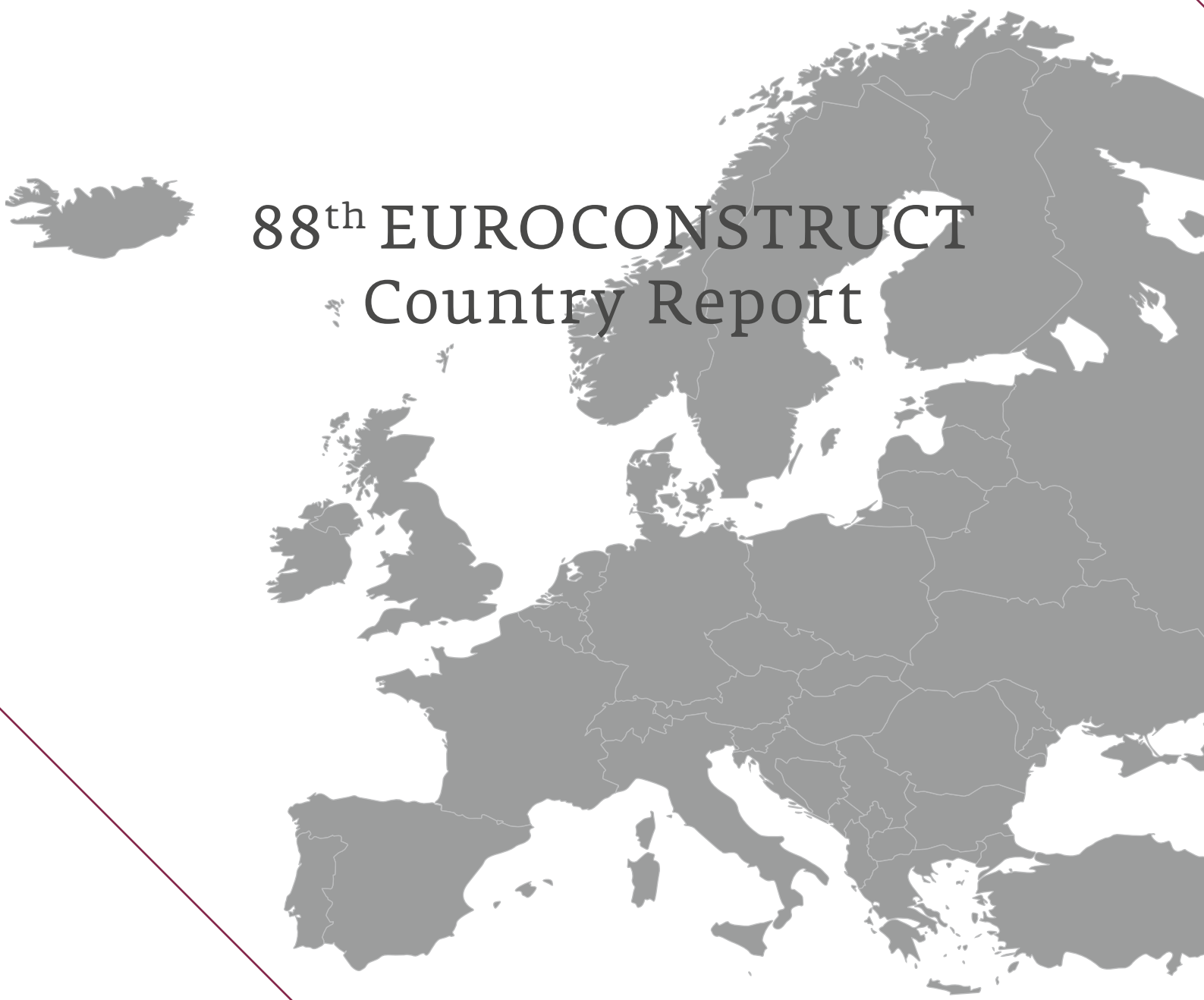
European Construction: Market Trends until 2022

88th EUROCONSTRUCT Conference ○ 28-29 November 2019, Warsaw, Poland

88th EUROCONSTRUCT Country Report



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European Construction: Market Trends until 2022

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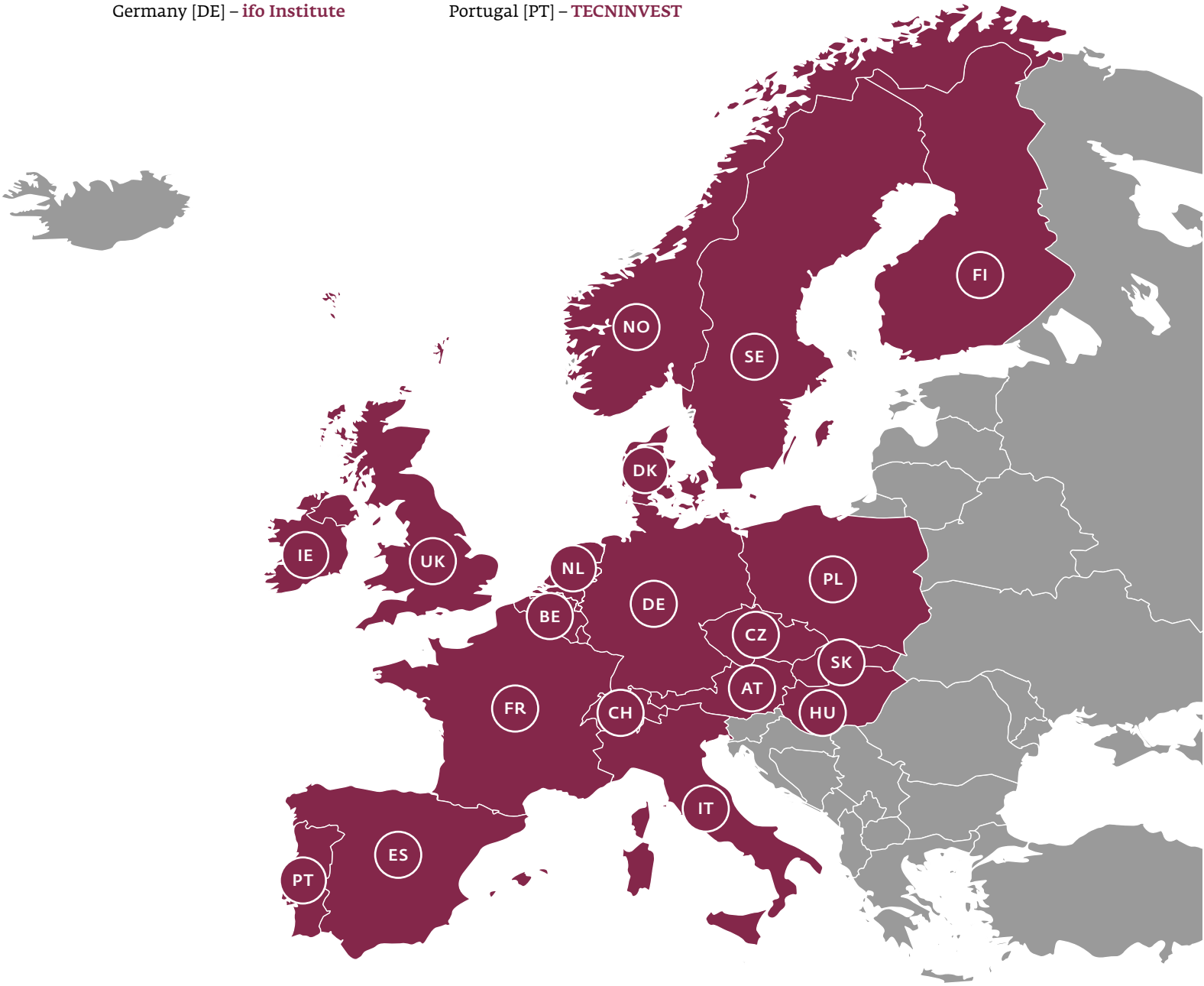

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Austria

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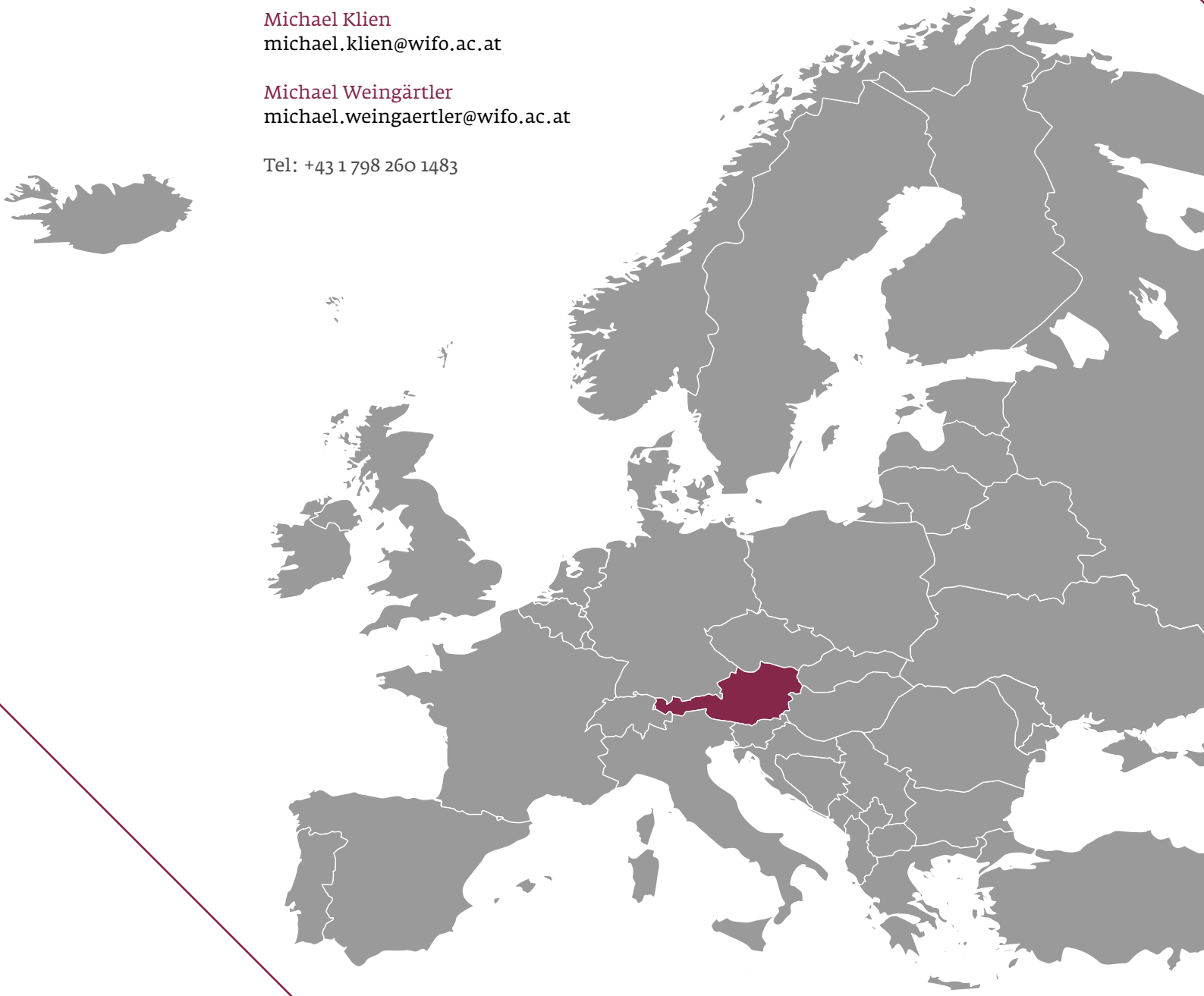


1. Summary and Conclusions

Austria's economy

After three years of expansion, Austria's economy nears the end of the latest cycle. In 2019, the economy will already grow by less than 2%, and the downward trend continues in 2020. However, the risk of a recession is small, and the forecasts rather indicate a stabilisation in the first half of 2020. In consecutive years, the economy will continue a growth path between 1% and 2%.

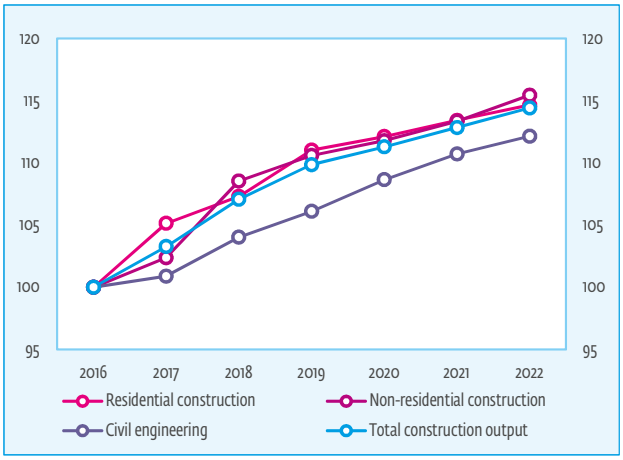
This development is somewhat in contrast to Austria's peers such as Germany, which is likely going to experience a recession in 2019. The drag on Austria's economy is also most pronounced on the export side – international trade is trending lower internationally – but this is somewhat bolstered by the strong domestic consumption. Part of which is driven by government measures such as the family bonus and other transfer policies.

Residential construction has been the growth driver of construction in Austria over the last few years. It continues to contribute to construction growth in 2019 with 3.5%. However, the fundamental indicate that from 2020 onwards residential construction will lose momentum. Firstly, population growth has been decelerating continuously over the last years. Secondly and related, building permits have peaked in 2017, but seen a strong reversal since. Although the total volume of residential construction is still high by all levels, there is little room for additional growth. For this reason the forecasts for 2020 and onwards show only moderate growth above 1%.

Non-residential construction expanded dynamically in 2018. The sector benefitted from the favourable economic framework driven by a sound export sector and strong private consumption. One of the main non-residential growth drivers was industrial construction which strongly expanded (2018: +9.3%). New office construction showed a vigorous increase (2018: +8,1%) also because of large scale city development areas. The latest data indicate that peak growth in non-residential construction was reached in 2018. Nevertheless, the segment will continue to grow in 2019 but at a much lower rate of 1.9%. As international trade and the economy in general weakens, private investment also grows only moderately, which curbs especially industrial construction. Additionally, new office construction will decline since several large-scale office projects were completed in 2018. Ongoing tough competition in a saturated market reduces the potential for investments in commercial construction. This will lead to a minor growth of 2.5% in total non-residential construction in 2019. No significant impetus from the overall economic situation or the public sector will mean a further decline in growth in non-residential construction to an average of about 1.5% in the years 2020 to 2022. Only health care exhibits brighter economic prospects, as the need for care facilities for the elderly remains high and will even increase.

Total Construction Output by Sector from 2016 to 2022

index 2016=100



Source: EUROCONSTRUCT (88th Conference)

Civil engineering recovered only recently, with the first upswing appearing in 2017, and well after the other construction segments had already started to improve. Increasing tax revenues and declining public deficit in the wake of the economic upswing stimulated transport investments in 2018. Therefore, total civil engineering continued to improve, reaching 3.1% in 2018. The expansion of the rail network in particular contributed to the good civil engineering result. Also 2019 is expected to deliver a further increase in civil engineering output. However, investments of the Austrian federal railway will be significantly lower than in the year before and it cannot be compensated by an expansion of road infrastructure investments (2019: +4.6%). Therefore, the forecast for civil engineering amounts to only 2.0% in 2019. The outlook for total civil engineering also remains positive with growth rates of about 2% annually on average in the next three years until 2022. This development will be mainly driven by investment into the transport (railway) network and additionally sustained by investment of the energy sector.

To summarize, Austrian **total construction** output will continue to grow. Especially 2019 will be another strong, albeit weaker, year for the construction industry with an expected growth by 2.6% in real terms compared to the previous year – mainly because of the ongoing good performance in housing.

Nevertheless, construction growth will slow significantly in the forecasting period towards 2022, with rates slightly below 1.5% annually. In contrast to previous years, civil engineering exhibits the most benign prospects whereas housing is forecasted to grow slower before.

2. Macro-economic Outlook

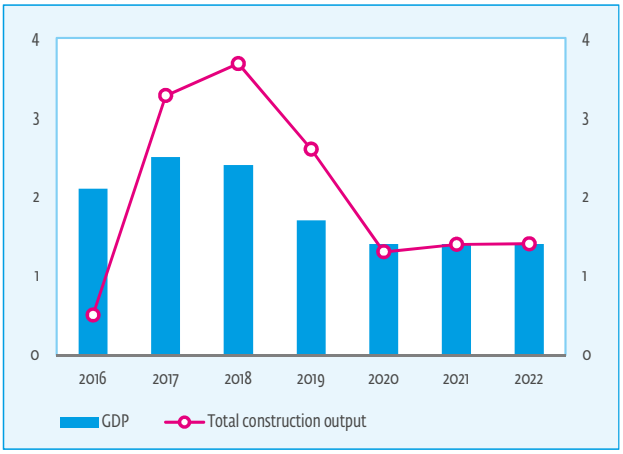
In the wake of the international economic slowdown, the Austrian economy also cooled down in spring 2019. Exports in particular lost considerable momentum, while private consumption continued to expand stably. The Austrian economy has so far remained relatively robust compared to Germany. However, the outlook for the second half of 2019 is also subdued. According to the WIFO business survey, the assessments of Austrian companies in the production of material goods were significantly clouded; some indicators already point to a decline in production in this area. By contrast, the mood in both the construction industry and the service sector remains predominantly positive. Private consumption is supporting macroeconomic demand due to the favourable development of employment and income. In addition, fiscal measures are providing impetus for the economy.

In line with the international environment, the bottom of the downward trend should be reached at the end of the year. In 2020, growth will stabilise somewhat, but remain moderate. Overall, GDP is forecasted to grow by 1.7% in 2019 and by 1.4% in 2020. In 2019, the unemployment rate is likely to fall to 7.4% in the first half of the year due to the robust employment trend. In 2020, however, it will rise again slightly to 7.5%. Consumer price inflation will remain subdued under these circumstances; it is predicted to be +1.6% in 2019 and +1.7% in 2020. The fiscal balance of Austria will improve to 0.6% of GDP in 2019 due to the favourable revenue development. In the coming year it should fall to 0.4% of GDP due to the recently adopted fiscal measures.

Foreign trade. Austrian exports are likely to expand at noticeably lower rates in the forecast period than in previous years. The slowdown in the international economy and the weakness of German industry are clearly reflected here. However, Austrian exports still developed comparatively robustly in the first half of 2019. However, export momentum is likely to flatten out further in the course of the year. In line with the international economy, exports should bottom out at the turn of the year and increase slightly again in 2020. However, the pace of expansion is likely to remain moderate in view of the worldwide reluctance to invest. After +5.9% in 2018, exports of goods and services will increase by only 2.3% in real terms in 2019 and 2020. The expansion of Austrian imports is slowing noticeably due to the weakening of exports and investments in equipment. After +4.6% in 2018, import growth in 2019 should only amount to +2.4%. In 2020 it is expected to rise to +2.5%. The growth contribution of exports and imports is thus likely to increase in both forecast years.

GDP and Total Construction Output from 2016 to 2022

year to year change in %



Source: EUROCONSTRUCT (88th Conference)

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Investment. Investment momentum also weakened noticeably in spring 2019. Their growth was as low at the end of 2016, the beginning of the latest upswing. In 2020, the economic slowdown will continue and affect virtually all investment segments, as companies are cautious with regard to their production capacities. In contrast, construction activity has hardly lost any momentum in 2019. However, some indicators point to a flattening of growth in the forecast period. For example, the number of building permits already fell significantly in 2018. In addition, according to the WIFO Business Survey, the expectations of companies have been trending downwards. Also, the sharp rise in prices has flattened out somewhat. This signals a slowdown in construction growth. All in all, gross fixed capital formation will increase by +2.9% in 2019, which is a result of the strong increase in the first half of the year. In 2020, the economic slowdown is likely to be reflected in significantly lower growth rates (+1.5%).

Consumer demand. Consumer spending by private households returned to robust growth in the first half of 2019, after losing some of its momentum in 2018. According to surveys conducted by the European Commission, consumer confidence has deteriorated markedly since the beginning of 2018, but stabilized recently. The introduction of the family bonus in 2019 is likely to have had just as much an impact here as the favorable development of employment and incomes. However, the number of new passenger car registrations remains well below the previous year's level. Accordingly, the consumption of durable goods is declining markedly. Private consumption is expected to grow by 1.5% in 2019. In 2020, the effect of the changes in emission standards on car purchases is likely to diminish, so that consumption of durable goods will also increase significantly again. In addition, the family bonus and the fiscal policy measures adopted in September 2019 (see Fiscal policy below) will significantly increase incomes in 2020. Private consumption is therefore likely to grow by 1.6%.

Labour market.
The gradual slowdown of the economy is having an impact on the job market. Employment growth slowed steadily in the first eight months of 2019. The decline in unemployment also slowed significantly in 2019. These developments are expected to continue in the forecast period. The number of actively employed persons will increase by 1.6%, which is noticeably less than in the previous year. In the coming year, the increase in employment will continue to fall to +1% due to the economic slowdown. Unemployment rates will remain virtually steady around +7,5% (national definition) over the next years.

Prices and monetary policy.
Inflation weakened markedly at the end of 2018 and is expected to remain moderate over the forecast period. Import prices of raw materials and goods are likely to rise only moderately in view of the slowing global economy. Unit labour costs in the economy as a whole will increase by a similar amount in 2019 as in the previous year, but are likely to slow again in 2020 as a result of moderate wage developments. According to the national definition, consumer prices will rise by 1.6% in 2019. Inflation should accelerate only slightly to +1.7% in 2020.

Many central banks have already changed their monetary policy course in view of the global slowdown in growth. The European Central Bank reacted in September by lowering its deposit rate to 0.5%. It also announced a reissue of long-term refinancing operations for banks and a new 20 billion Euro per month bond purchase programme from November onwards. Financing conditions are therefore likely to remain extremely favorable over the forecast period. In addition, fiscal policy in several countries is expected to provide expansionary impetus.

Public sector and fiscal policy. The government's financial position continues to develop favourably in 2019. High income from wage tax, value added tax, corporate income tax and social security contributions will significantly improve the budget situation. In addition, interest rates on bonds fell markedly in the first half of the year, dampening government interest payments. However, in addition to the measures taken in 2018 (family bonus, reduction of unemployment insurance contributions for low incomes, etc.) a number of measures were adopted in September 2019 that burden the budget in the coming years:

For example, low pensions will be increased and the social security contributions of the self-employed will be reduced. Moreover, several adaptations in the retirement schemes will lead to higher transfers. Nevertheless, net lending/net borrowing (according to the Maastricht definition) will amount to 0.6% of GDP in 2019. As most of the additional measures enter their phase in 2020, the budget surplus is likely to fall to 0.4% of GDP in the coming years.

Forecast uncertainties. The international environment harbours considerable downside risks for the forecast. The trade conflict between the US and China continues and could intensify further at any time. In addition, the conditions for the UK's withdrawal from the EU remain unclear. Recently, the attack on Saudi Arabia's crude oil production sites has rekindled the conflict between the USA and Iran. All these factors could weaken world trade and the international economy more severely than assumed in the forecast and consequently also burden the Austrian economy. On the other hand, there are hardly any upside risks. It is true that the favourable development of the labour market and income in 2019 could cause private consumption to grow more strongly than assumed in the forecast. However, private households will only increase their spending cautiously due to the economic slowdown.

Key Macroeconomic Indicators in Austria 2018 to 2022
annual percentage change, real terms

	2018	2019	2020	2021	2022
Gross domestic product	2.4	1.7	1.4	1.4	1.4
Private consumption	1.1	1.5	1.6	1.6	1.5
Public consumption	0.9	1.3	0.9	1.1	1.1
Investment (GFCF)	3.0	2.9	1.1	1.6	1.5
Inflation	2.0	1.6	1.7	1.8	1.8
Unemployment	4.9	4.6	4.6	4.6	4.6

Source: Statistics Austria. WIFO-forecasts (October 2019).

3. Housing Market

Austria's residential construction market is growing at a very high pace. After +5.1% in 2017 – the highest growth rate since the crisis – and slower growth around 2.1% in 2018, it has picked up strongly in the first two quarters of 2019 (Q1: 7.2%, Q2: 4.7%). The growth prospects of the residential construction market for 2019 are therefore very optimistic, and above the levels of 2018. However, in 2020, residential construction will decelerate more strongly, with growth forecasts of around 1.0%.

3.1 New residential construction

Interest rates and financing conditions.

As indicated in section 2, inflation in the Eurozone has lost momentum in 2019. In Austria, too, inflation rates did not continue to rise in 2018, but levelled off below 2.0%. For 2019, the latest WIFO inflation forecast predicts +1.6% and +1.7% in the next year. The mid-term forecasts for 2021 and 2022 indicate a stable onward movement of prices at a rate of 1.8%. Against this backdrop and a core inflation rate in the Euro area below the ECB target, the probability for monetary action is low.

This prospect of continued low inflation, coupled with low or stagnating growth, has also contributed to the response by the ECB taken in September 2019. The ECB lowered its deposit rate to 0.5%. It also announced a reissue of long-term refinancing operations for banks and a new 20 billion Euro per month bond purchase program from November 2019 onwards. Financing conditions are therefore likely to remain extremely favorable over the forecast period. The effects on mortgage finance remain to be seen, however, as rates were already very favorable before September 2019. The continued credit supply could accelerate house price dynamics, which have slightly lost pace in 2018 and 2019 (see below).

Building permits.

The stock of Austrian building permits for one- and two-family dwellings as well as multi-storey buildings increased to the number of 66,000 in 2017. Such a high level has last been registered in the late 1970's and points to a sizeable boom in residential construction. This historical high is likely to have contributed to the high growth in residential construction investment from 2017 onwards. The setback in building permits in 2018 was also considerable but compared to long-term averages, the level of 54,800 units still signifies a high level of activity.

The regional distribution of building permits is shown in the following table. The latest WIFO forecasts for building permits predict a stabilisation in 2019 before 2020 and 2021 exhibit further declines. In the medium-term building permits are expected to return below the 50,000 units threshold.

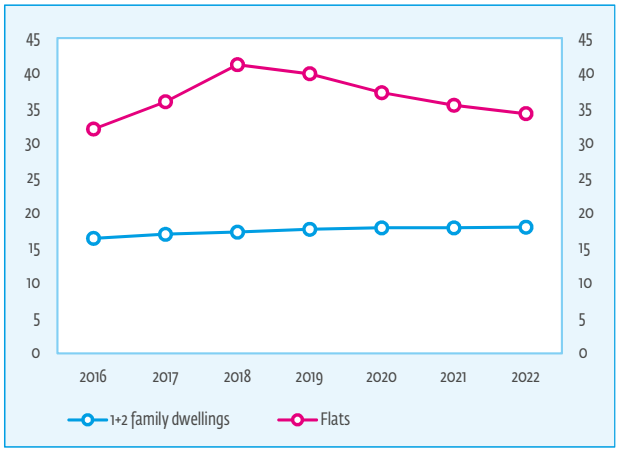
The decline in building permits largely follows, with a lag, the slowdown in population growth. After the record of 2015 – a large share of which was attributable to refugees ben sich unter 2,0% eingependelt. – population growth has decreased continuously. Moreover, population forecasts have been too high for several years now, and the most recent data suggests that net migration was below 40,000 in 2018.

Regional Building Permits in New Residential Buildings
number, '000

	2013	2014	2015	2016	2017	2018
Burgenland	1,629	1,982	1,991	1,651	1,785	1,696
Carinthia	2,416	2,662	2,877	2,779	2,490	2,442
Lower Austria	8,273	9,147	9,640	10,033	9,582	7,971
Upper Austria	7,244	9,182	7,496	9,289	8,543	8,659
Salzburg	3,764	3,002	3,108	3,179	2,998	2,668
Styria	7,317	7,796	7,342	9,298	9,501	8,547
Tyrol	4,089	4,386	5,339	4,946	4,809	5,109
Vorarlberg	2,287	2,683	2,739	2,996	3,430	2,830
Vienna	9,590	9,044	10,685	15,705	22,850	14,895
Austria	**46,609**	**49,884**	**51,217**	**59,876**	**65,988**	**54,817**

Source: Statistics Austria (October 2019).

Housing Completions from 2016 to 2022
in thousands



Source: EUROCONSTRUCT (88th Conference)

Preliminary data for the first two quarters of 2019 yield a value of -3.2%, indicating that the decline slowly continues. Based on this, the forecasts for 2019 and 2020 onward suggest that building permits will decrease over the next years: -2.7% in 2019, -3.5% in 2020, -1.8% in 2021, and -1.2% in 2022. Most of the decline is focused on multi-storey buildings, which is also the segment that experienced the strongest increases in recent years. By contrast, single and double family homes are expected to decline only modestly in 2019 and 2020 and stagnate or even increase in the years to follow.

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House prices and real estate.
Coupled with decreasing population dynamics and lower building permits, house prices have seen a slowdown in 2017. According to the Austrian National Bank (OeNB), house prices have, however, started to grow again at a faster pace in 2018. Given the fundamentals pointing towards lower demand, house prices should stabilize again in 2019. As can be seen in the table further on, in 2018 the momentum was largely due to regions apart from Vienna. This too, might indicate more of a catching-up effect than a continuation of the strong price growth in the years after 2010.

In terms of house prices, the number of transactions also stabilised in 2017, but rose again in 2018. Here, too, transaction growth was stronger outside Vienna.

Related to the latest increase in prices, there are considerations of a housing bubble and how to tackle it. Following EU regulations, in 2017 Austria extended its macroprudential supervision of the housing market. At its core it introduced new instruments to reduce systemic risks stemming from the financial development of the construction and housing market. In a report from February 2019, the supervisory committee (FMSG) repeated its position that they currently do not see any systemic risk in mortgage markets and housing finance.

Public sector and policies.
Despite of its announcement of various housing related policies, the federal government has been rather inactive regards housing. For instance, public consultations about a new codification of rental laws have not yet started. Moreover, initiatives to ease new construction and decrease construction costs have not led to any conclusions yet. There were also indications that the announced tax reform for 2020 and beyond would contain incentives for new housing, but nothing substantial has materialised yet.

At the subnational level, whose main responsibility is housing, more relevant policies have been adopted. Due to federal structure of Austria, however, the changes have occurred within single states. As a general trend, several states are trying to increase land supply by changing land use laws and spatial planning. For instance, new zoning for housing units has a limited time duration or new zoning specifies shares of housing units for social housing. The overall goal of these policies is to incentivise land owners to either build themselves or sell it.

Housing and housing construction subsidies are also mainly undertaken by sub-national governments. The table on public housing subsidies shows that over the expansion in recent years, governments have cut their construction subsidies. In

House Prices
year-on-year change,%

		2015	2016	2017	2018	H1 2019
Austria	Total	4.1	7.3	3.8	6.9	6.1
Vienna	Total	2.2	3.8	1.5	5.2	7.7
	1+2 Family Houses	2.6	-1.9	2.5	0.9	3.4
	Flats	2.2	4.2	1.4	5.5	7.9
	New flats	4.7	10.1	1.8	5.3	6.9
	Used flats	1.9	3.4	0.8	6.4	8.2
Austria excl. Vienna	Total	5.1	9.1	4.9	8.5	3.9
	1+2 Family Houses	6.8	7.5	1.9	8.6	3.2
	Flats	4.5	9.7	5.8	8.5	4.2
	New flats	0.4	7.9	2.1	8.1	2.0
	Used flats	4.9	9.8	5.9	9.7	6.0

Source: OeNB (2019), Prof. Wolfgang Feilmayr. Department for spatial planning. TU Vienna

Real estate transactions
number, volume in billion Euro

		2015	2016	2017	2018	H1 2019
Austria	number	112 124	121 436	121 171	129 144	61 171
Vienna	number	18 052	19 490	21 378	22 325	10 445
Austria	volume	23.5	26.9	28.1	31.9	16.4
Vienna	volume	7.2	8.2	8.8	9.9	4.6

Year over year percentage change

		2015	2016	2017	2018	H1 2019
Austria	number	+ 16.6	+ 8.3	-0.2	+6.6	-1.1
Vienna	number	+ 18.8	+ 8.0	+9.7	+4.4	-10.7
Austria	volume	+ 20.4	+14.2	+4.7	+13.2	-4.9
Vienna	volume	+ 19.7	+ 14.6	+6.6	+13.4	-7.2

Source: RE/MAX-Immospiegel / IMMOunited GmbH, 2019. – Based on the official land register which covers new and existing buildings. Transactions cover all types of buildings (residential / non-residential) and land.

Public housing subsidies
volume, million Euro

	2012	2013	2014	2015	2016	2017	2018
Burgenland	96	70	94	79	63	59	53
Carinthia	149	123	135	124	131	129	124
Lower Austria	490	470	622	472	434	409	394
Upper Austria	229	310	339	284	275	276	268
Salzburg	215	272	262	188	168	140	126
Styria	430	304	301	308	279	223	219
Tyrol	265	255	268	270	277	277	246
Vorarlberg	221	168	146	147	141	148	155
Vienna	149	123	135	124	131	494	453
Austria	2,562	2,672	2,939	2,528	2,378	2,265	2,038

Source: Austrian Ministry of Finance (2019).

2018, preliminary data indicates a further decline compared to 2017, with overall spending of 2,2 billion Euro. What is more, draft budgetary plans indicate no reversal of the decline in housing subsidies in 2019. The figures must be interpreted with caution, however, as the further decrease in interest rate also affects the required spending.

3.2. Residential renovation

Similar compared to new housing, residential renovation peaked in 2017 with a growth of 3.5%. In 2018, residential renovation also lost pace and exhibits a real growth rate of 1.5%. The strong pick-up of the residential market in 2019 also affects the renovation sector (forecast: 2.7%), but again with a much more stable evolution than new construction. In general, the emerging pattern underlines the past trend of a robust but rather slow-moving market segment. While it is more robust with respect to the business cycle, residential renovation is still hampered by regulatory limitations and little attention from the government. However, recent developments in environmental strategies – for instance the national energy and climate plan – but also the prospect of the green party entering the next government might lead to a shift of public funds and subsidies from new construction to renovation. For instance, surrounding the discussion of the national and international energy and climate targets, the previous federal government has presented plans to increase renovation activities. Apart from public subsidies for renovation, changing rental regulations is being considered. Landlords who renovate their housing units are then exempted from rental regulations and may charge market rate rents. Nevertheless, due to the breakup of the coalition government in Mai and the early election in September 2019, the adoption of new measures is lagging. Although changes in subsidy designs and regulations are therefore highly likely in the near future, it should be noted that the current forecast does not include these potential future changes.

As of now, we expect a slowdown in residential renovation with growth of 1.2% in 2020, and only minor increases in the following years: 1.3% in 2021 and 1.5% in 2022. The differential trend compared to new residential construction is driven by the fact that high and increasing land prices continue to make residential renovation more interesting.

There are public subsidy schemes available for residential renovation both on the national and the sub-national level, but the sub-national level is mainly responsible for housing subsidies. On this level, renovation subsidies account for roughly one third of housing subsidies (excluding means tested benefits to renters). Despite public debates on how to reach energy and climate targets in the housing sector, the share of renovation subsidies has rather been stagnating or decreasing in recent years. The latest data from the sub-national level suggests that in 2017 the subsidies decreased from 552 to 501 million Euro in 2016. In 2018 a further downward trend towards 493 million Euro could be observed.

A similarly negative trend can be noted on the national level, where the main subsidy scheme, the 'Sanierungsscheck', has been gradually reduced over time. From 80 million in 2015 to 43 million in 2018. For 2019 a similar budget has been allocated. Part of these funds are also earmarked for renovation activities outside housing, e.g. for private companies.

Although the link to subsidies is not clear, renovation rates in Austria remain stable but below the national targets. In the case of comprehensive residential renovation, the rehabilitation rate is estimated around or even below 1%. However, this does not include more partial renovation activities such as replacement of windows or heating boilers. Including such activities, the rate is estimated at around 2%.

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4. Non-residential Market

Market performance until 2018. Austria's overall upturn in the construction industry started in 2015, based on strong activity in the housing sector. Economic performance increased in 2016 for the first time significantly (+2.1%) but non-residential construction growth still lagged due to low capacity utilization and missing business confidence. The latest revision by Statistics Austria, which is incorporated in the present report, showed that the recovery of non-residential construction started smoother in 2016 and 2017 with growth rates by 1.0% and by 2.4%. Even though the general trend went as described in the past reports. As Austria's economy, driven by strong (foreign) demand, accelerated significantly from 2017 onwards, it also stimulated the non-residential sector – above all industrial construction which expanded dynamically in 2018: +9.3%. New office construction showed also a strong growth path (2018: +8,1%). This sector benefitted additionally from large city development areas such as Vienna's new main railway station. Stable or increasing investments in education and health additionally supported the sound development of non-residential construction in the years 2017 and 2018.

Recent market performance and outlook to 2022. The current available data and information indicate that peak growth in non-residential construction was reached in 2018. In 2019 a further, but minor expansion by 1.9% is expected. On the one hand, this is slightly better than forecasted in the last report

(87th forecast: 1.6%) but on the other hand it marks a clear slowdown, which has various reasons. Firstly, private investment is forecasted to grow at a slower pace, as the general economic indicators continue to worsen. Industrial construction is one of the sectors which will be affected most, as the outlook for international trade is rather bleak in the next years. Growth in the office construction segment will not only be weaker in the next years because of the slowdown in the economic cycle, but also as large-scale office projects were finished by the end of 2018. This leads to a significant drop in square meters completed, especially in the capital Vienna –Austria's by far most important office market. Ongoing tough competition in a saturated market reduces the potential for investments in commercial facilities. Also, no major impulses are expected from the public area, especially in 2020. The only segment with higher continuous growth will be health care. But even in this sector construction will be driven by private companies which will more than compensate low public involvement. In 2020 non-residential construction is forecasted to grow by a rate of around 1% and a slightly better outlook is anticipated in 2021 and 2022 with rates of about 1.5% on average, resulting from an improved industrial sector and stronger impulses from areas like health and care.

New non-residential construction by subsectors.

Education.

Construction output in new educational buildings increased in the recent past with growth rates of about 1.5% on average in real terms in the years 2016 and 2017. Investment in 2018 expanded by 2.7% and therefore slightly stronger than reported in the past 87th Euroconstruct report. Latest data and information show that the impact of reduced construction engagement of BIG (the federal real estate company), was partially balanced by increased investment from municipal and state governments. Especially on municipal level construction output more than doubled in the past 10 years.

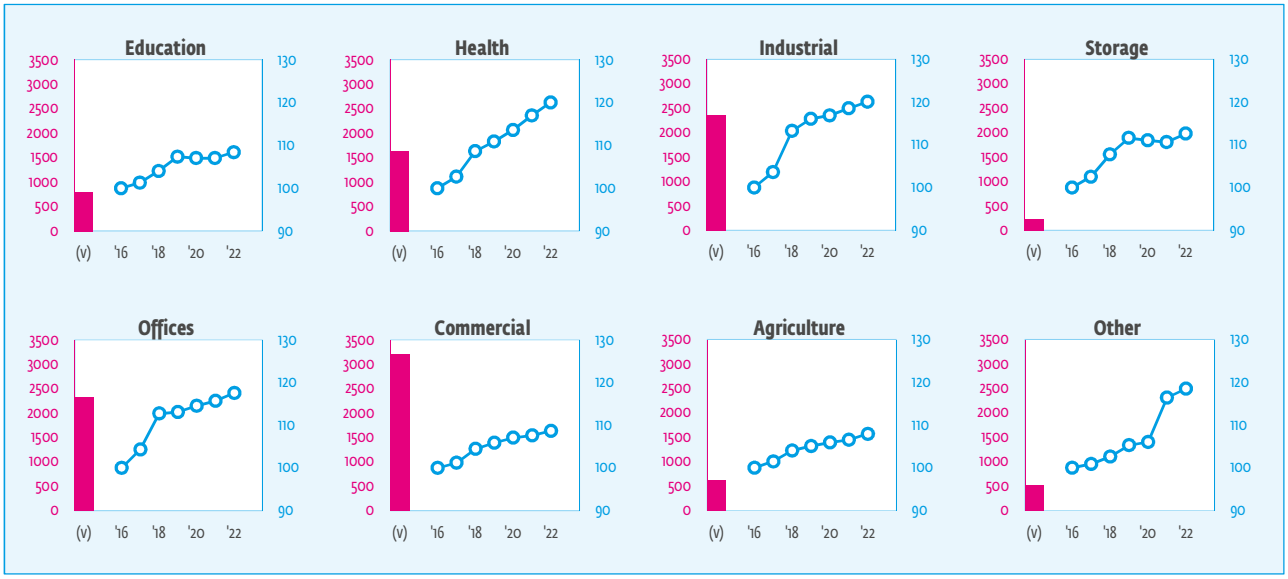
Forecasts indicate an even brighter picture for new construction in educational buildings in 2019, with a projected growth of 3.2% compared to the year before. This reflects especially the increasing need for kinder garden facilities.

Forecasts for the coming years are, however, currently subject to greater uncertainty. Firstly, the weaker economy is poised to deliver less tax revenue. Secondly, as negotiations between the political parties will not be finished in 2019, the budget for 2020 and thus investment in education is very uncertain.

Nevertheless, it is expected that the 2019 volume can be maintained at least on average in the upcoming years. At the same time, a further increase is unlikely due to the currently high educational construction levels. Ongoing demand stems from the expansion of kindergarten and day-care facilities. The expansion of all-day school forms was an explicit goal of the past government as an important element of a demand-oriented development of the school system and a decisive prerequisite for improving the compatibility of family and career. In April 2019 the government set up further regulation to increase the attractiveness of the existing law in this area and a new budget with a volume of 250 million Euro was fixed. Nevertheless, it must be considered that the impact of the latter on construction will not be as strong as the total volume suggests since the law does not target new construction of school facilities in the first line.

New non-residential: breakdown by subsectors

(v) = volume 2018, million €, left scale; (line graph) = index at constant prices, 2016=100, right scale



Source: EUROCONSTRUCT (88th Conference)

Info box education

About 800 million Euro were invested in new educational buildings in Austria in 2018. This amount is made up of expenditures on three different institutional levels with the municipal level being the largest contributor. Major investments in the educational building sector are also undertaken by BIG, the federal real estate company, which is a key-player in the development and construction of federal schools and universities. Thirdly investments are made by the States ('Bundesländer'). Investment increased in the past years, returning to previous levels around 2010, but their impact is minor with a share of less than 5% on the total educational investments.

On the other hand, construction of educational buildings on municipal level increased steadily from 2011 onwards, according to the municipal budgetary reports. They reached record levels in 2018 leaving only little room for further significant expansion.

Health construction. In 2018, according to estimates of Statistics Austria, expenditure in the Austrian health care system amounted to around 42.7 billion Euro. Nearly 7% (about 2.9 billion Euro) of Austria's health expenditures was spent on buildings and medical equipment. Construction relevant health investments amounted to around 1.6 billion Euro in 2018.

The forecasts and framework conditions remain positive in the upcoming years. The further development of care facilities for the elderly will continue to be a driving factor. The current forecast revision shows that the population growth of those over 75 years of age is higher compared to the data from last year. In 2029 the population older than 75 years will be around 144.000 persons higher than in 2020. This reflects an increase by 10,000 persons compared to the previous projection from Statistics Austria. By the year 2030 over 1 million inhabitants will be older than 75 years in Austria and the development speeds up in the following decade. Absolute growth of elderly over 74 years will double in the following century (2030 to 2039). Consequently, further investments in health care must be taken to meet the upcoming requirements.

The private sector plays a more and more important role in this area. Private investments increased by one third within the past five years. This goes in line with the long-term trend: the share of private investments on the total amount invested in the health sector increased from 25% (1990) to around 49% in 2017. This trend was interrupted temporarily in 2018 when private engagement declined by 2.3 percentage points, reaching a share of 46% on total health investments. Nevertheless, the outlook will remain positive facing the strong need for health care. In 2019 growth in construction investment will be lower compared to previous years due to the completion of major hospital projects. As reported in the past, the existing dense hospital network is a dampening factor. Additionally, the Austrian health policy targets to increase efficiency also in hospitals. Locations of hospitals and the merging of hospitals into so-called focal centres are continuously evaluated. This explains the declining public involvement.

The outlook for the year 2020 to 2022 with growth rates slightly under 3% annually in real terms implies the strong need in the area of (geriatric) care.

Industrial construction performed very strongly in 2018 with growth rates of about 9.3%. Historic high levels of business and consumer confidence along with a strong macro-economic development led to a jump in industrial construction. This can be derived from the most recent national accounts data (October 2019) which also showed that in 2018 exports and especially private expenditure developed better than projected in the first data released early 2019.

Companies in the capital good industry remain optimistic, in both their assessment of the current situation but also their future expectation. The macroeconomic outlook shows a sound business climate also in 2019. The estimates for the current year were therefore slightly revised upwards with an expected growth by 2.5% in real terms compared to the previous year. But this should not obscure the fact that confidence and growth is on a downward trend. Industrial construction output will slow down further in 2020 (+0.7%) after an outstanding catch-up process in the years before. The development in 2021 is a bit more optimistic with private consumption being robust and the main driver for industrial growth. Private consumption is expected to remain strong also because of public measures, like the family bonus introduced on 1 January 2019 which will lead to increased purchasing power in the upcoming years. Also reduced unemployment insurance contributions for lower incomes are supporting private consumption. A growth rate in industrial construction above 1% in 2021 and 2022 is therefore expected.

Storage buildings. The construction of storage buildings is maintained by the ongoing trend of online shopping. Austrian distance trade expenditures are borne by e-commerce and reached an absolute record value of 8.1 billion Euro according to the 2019 survey of the Austrian Trade Association ('Österreichischer Handelsverband'). More than 90% of the distance trade is already done online which reflects a volume of 7.5 billion Euro (+4% against the previous year). The expansion of online trade also requires additional logistic and warehouse capacities.

CBRE reports that the construction of storage facilities will be intensify especially in area of Vienna in 2019. The biggest projects are the Industrial Campus Vienna East developed by the Germany Logistics Holding and the freight centre of the German packet logistic company DHL in Fischamend, close to the Vienna Airport. In other major logistics areas – such as the environs of Graz and Linz – the level of investment will be maintained or significantly increased in 2019, as in the case of the latter. Storage building construction is expected to grow by around 3.6% in 2019. The project pipeline indicates that construction volumes will be reduced by 0.5% annually in the year 2020 and 2021 respectively with an expected recovery in 2022. The outlook remains also positive in the mid-term since the share of ecommerce is with 10% still low compared to Germany (13%) and especially in comparison to the United States or Denmark (20%) which would require further investments in the logistic and storage sector.

Office construction. Total construction output in the office segment amounted to 2.3 billion Euro in 2018. Particularly 2018 was characterized by a dynamic development. Construction of new office buildings increased by 4.3% in 2017 and by 8.1% in 2018 according to the latest calculations which reflect the better macro-economic and labour market situation. Additionally, singular effects from sites in Vienna, the most important office market with a stock of 11.2 million square meters (CBRE, 2019), contributed to the strong performance. Office space completed increased by 267,000 square meters in 2018 and therefore reached its highest level for several years. Mainly two major construction sites were responsible for this trend. These were The Icon Vienna and the Austria Campus. Real estate companies (CBRE, EHL) assessed that the new surface put on the market also led to a minor increase in vacancy to slightly over 5%, which is in European comparison still low. The new and qualitative higher office stock also led to rising rents with prime rents up to 25 Euro and average office rents to 14.5 Euro per square meter.

At present, a strong demand for large office spaces in city centres can be observed which additionally boosts rents. Office developers therefore put their focus in city locations more towards general refurbishment/renovation which also has a negative impact on the new built segment. New office construction output is therefore expected to stagnate in 2019 and only minor growth of slightly over 1% is likely in the forecasting period towards 2023.

Commercial construction. In 2018 growth in new commercial construction was one of the weakest segments of non-residential construction. Nevertheless, it still grew by +3.2% and was slightly stronger than expected because of the overall better business environment. The estimates for 2019 and the following years are positive, but growth will be much lower.

In general, Austrian commercial construction is influenced by two controversial trends. On the one hand side private consumption will stabilise commercial construction. WIFO's economic forecasts show that private consumption will stay strong with growth rates of 1.5% or slightly above in 2019 to 2022. Favourable financing conditions, fiscal stimuli and a robust consumer demand will be the main supporter of the Austrian economy and so also of commercial construction. But on the other hand, strong competition in city centre locations as well as legal restrictions in combination with a saturation in the shopping centres segment holds on and dampens the outlook.

Info box commercial construction

In general, commercial market can be split into grocery, health and beauty, apparel & footwear as well as home. The health and beauty sector in Austria, which has the highest sales area per inhabitant (CBRE, 2019) in Europe, as well as the grocery sector will stabilise in the upcoming years in terms of floor space and sales. A minor decline can be expected in the segment of apparel and home & garden equipment. Especially the apparel sector faces strong competition from e-commerce which, under the assumption of a continuation of this trend, will lead to lower surface needs in the long-term.

On the positive side, tourism is a source of impetus. In 2018 around 44.8 million tourists arrived in Austria. This is an increase by 44% in 10 years, leading to 23% more overnight stays (2018: 150 million). Total spending of national and international tourist was over 40 billion Euro in 2018 which also supports the commercial construction sector.

In this area, expansions and mainly renovation works are more important factors than new construction. Additionally, Austria has the highest sales space per capita. The Retail Barometer 2018 for Austria ('Handelsverband') shows that with 1.67 square meters (m2) per inhabitant, domestic retailers rank first in this statistic ahead of Belgium (1.64 m2) and the Netherlands (1.61 m2). For many retailers in Austria, the strong focus on branches poses the threat of declining market shares and lower returns, especially since online traders like Amazon expand their market shares rapidly. As a result, new projects are located almost exclusively in top locations. This leads to a continuous increase in high-quality shopping facilities but also the criteria for a top location are getting stricter and stricter.

Overall data background information.

One main source for assessing Austria's economic development is the monthly short-term statistics in industry and construction. Since 1996 this data-set is available EU wide in a compiled and harmonised form. It is also used for the first-time calculation of the National Accounts, because of their short time lag of only around four months. After one year this dataset is revised and any classification

errors are corrected. Another year later the so-called Structural Business Statistics are available which provide a more complete picture with indicators on the company's structure, activities, employment, investment activities and performance. This explains simplified parts of the various revisions of the National Accounts done by Statistics Austria. And it should help to better understand the revisions made in the present report in the various construction sectors, such as non-residential, in the years 2017 and 2018.

5. Civil Engineering Market

Market performance until 2018.

Austrian civil engineering recovered rather late compared to the other main construction sectors – exhibiting a first growth in volume in 2017. The latest revision of the national accounts showed that the increase in real terms by 0.9% at that time was much lower than originally forecasted which can be largely explained by a weaker performance of the transport sector. The low growth did not result for the most part from project cancellations but rather from delays of traffic projects that were made up for in 2018, leading to a strong increase of total civil engineering by 3.1%. Increasing tax revenues and declining public deficit in the wake of the economic upswing stimulated transport investments in 2018, especially into the rail network.

Recent market performance and outlook to 2022.

Investments in civil engineering are estimated to increase by 2.0% in 2019 which will be below the 2018 performance. One major reason for this lower growth is transport infrastructure. Particularly investments of the Austrian federal railway will be significantly lower than in the year before. This dampening effect is so strong that it cannot be compensated by an expansion of road infrastructure (4.6%). Therefore, given the weaker growth in the transport sector (+2.9%) in 2019 total civil engineering will perform weaker than in the year before.

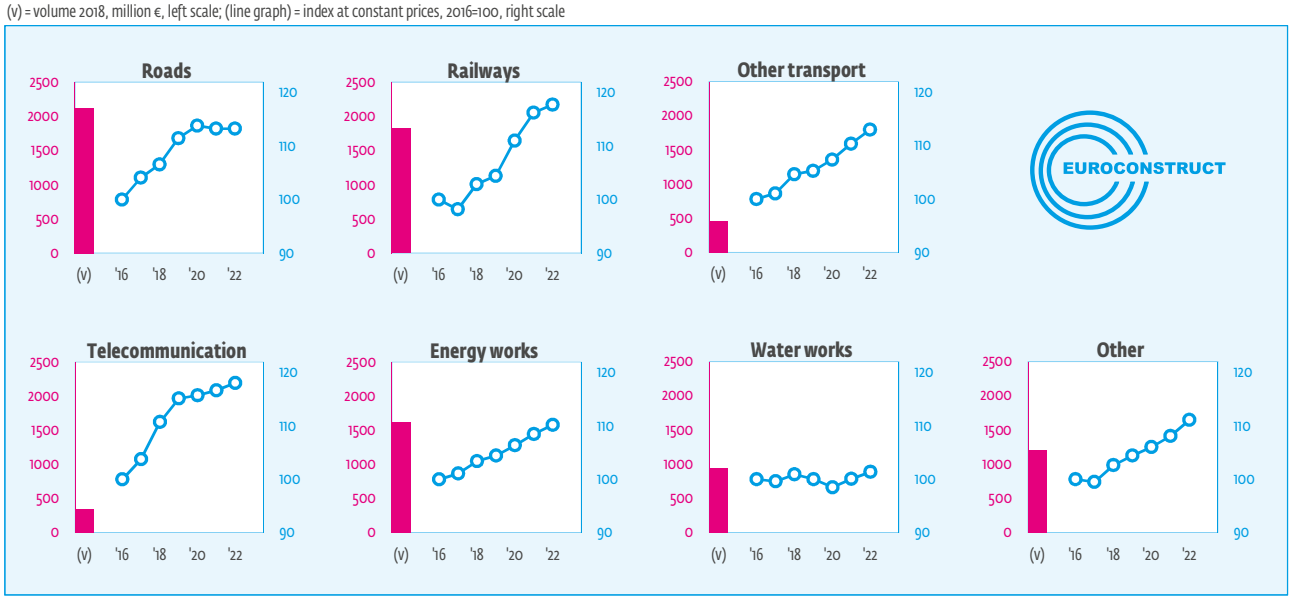
It must be stated that the forecasts on civil engineering, and especially those in transport, which take the largest part (55%), are subject to higher uncertainty than usually. The present outlook is largely based on the twin budget for 2018 and 2019, enacted in spring 2018. These plans are still in place as no new "Transport Framework Plan" has been presented for the upcoming period 2019 to 2024. An update is expected by December 2019 which is too late to be considered in this report.

Therefore, since no new information is available, the outlook for civil engineering remains positive with growth rates of about 2% annually on average in the next three years until 2022. The increase will be mainly driven by investment into the transport (railway) network and sustained by the energy sector.

In general, the quality of Austria's infrastructure is at a good state underpinned by the twelfth rank in the Global Competitiveness Report (WEF, 2018). Austria is leading worldwide in the areas of electrification (#1), reliability of water supply (#10) and quality of roads (#10). On the other side, lacks in infrastructure were identified in the areas of the efficiency of air transport (#45), (sea/river) port services (#85) and airport connectivity (#37). As mentioned in the last report several legal initiatives were undertaken by the federal government to improve Austria's infrastructure and its business

Total civil engineering: breakdown by subsectors

(v) = volume 2018, million €, left scale; (line graph) = index at constant prices, 2016=100, right scale



Source: EUROCONSTRUCT (88th Conference)

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location in general. A special location development law ('Standortentwicklungsgesetz') came into force on 1st of December 2018. It is expected that this law will shorten the environmental assessments for new construction projects to achieve large infrastructure projects within shorter time. But this law caused also a lot of criticism, since the new regulation will restrict the rights of non-governmental organisations.

5.1 Civil engineering by sectors

Road construction. Investments into the road network are currently at a high level. Strong growth in 2017 (+4.1%) and a sound development in 2018 (+2.4%) led to a total investment volume in road infrastructure of about 2.1 billion Euro by the end of 2018.

Around 50% of total road investments are used for the extension and renovation of the highway network. The rest is split into investments on the municipal (35%) and on the federal level (25%). In the years 2011 to 2017, investments on municipal level and of ASFINAG increased significantly, by 50% and 70% respectively. As a result, the strong expansion of construction volumes, both in terms of renovation and expansion of the road network, has led to volumes that were last reached before the crisis.

The high level of investment activity in the highway network can be explained by the sound financing situation of ASFINAG. Its main source of income are revenues from tolls which increased by 6% in 2018 and amounted to 2.16 billion Euro. Traffic volume is also expected to grow further in the upcoming years between 2.5% and 3% according to estimations from ASFINAG. Asfinag projects to invest about 1.2 billion Euro in the extension and renewal of the high-level road network in 2019. The largest volume of about 700 million Euro is earmarked for new road projects, second tunnel tubes and in general extensions for more capacities. One of the major projects is the so called "Region-Ring (Regionenring)". It combines a total of six motorways and expressways with a length of around 195 kilometres. The "Region-Ring" forms one of the most important road connections in Vienna and Lower Austria. It also ensures the connection to the eastern neighbouring countries.

Asfinag's most important (volume > 100 million Euro) current and upcoming projects years are:
2019:

- A4 Fischamend to Bruck West – length: 16 km, total costs: 138 million Euro, planned opening: 2022
- A 26 Knoten Linz Hummelhof (A7) to Anschlussstelle Donau Nord – length: 4.7km, total costs: 668 million Euro, planned opening: 2031
- S 1 Schwechat to Süßenbrunn – length: 19 km, total costs: 1.9 billion Euro, planned opening: 2025

2020:

- S 34 St. Pölten/Hafing to St. Pölten/West (A1) and Wilhelmsburg – length: 9 km, total costs: 196 million Euro, planned opening: 2024

2021:

- S1 Spange Seestadt Aspern – length: 4.6km, total costs: 223 million Euro, planned opening: 2023
- S 4 Knoten Mattersburg to Knoten Wiener Neustadt – length: 14km, total costs 143 million Euro, planned opening: 2024)
- S 8 Knoten S 1/ S 8: Gänserndorf/Obersiebenbrunnlength – length: 14.4km, total costs: 310 million Euro, planned opening: 2023
- S 10 Freistadt Nord to Rainbach Nord – length: 7.2km, total costs: 208 million Euro, planned opening: 2024

A stronger growth in road infrastructure by 4.6% in 2019 can be deduced from the available investment plans. The positive development with slightly minor growth by over 2% is expected to hold on in 2020. However, investment plans indicate a decline or stagnation in the road segment in the years 2021 and 2022 respectively.

Railway construction.
In 2017 and 2018 rail infrastructure investments also had to be revised. Nevertheless, the fundamental trend of a weaker performance in 2017 followed by a significant increase remains unchanged. Projects postponed in 2017, lead on the one hand side to a decline by 1.8% in 2017 and on the other hand to a slightly stronger growth by 4.8% in 2018 leading to a volume of 1.8 billion Euro by the end of the year.

Austria's general framework plan budgeted a volume of about 13.9 billion Euro in the area of railway infrastructure over the years 2018 to 2023.

Since there are currently no indications of a reorientation in the field of railway infrastructure the outlook remains unchanged, indicating a minor growth by 1.5% in real terms in 2019 compared to the previous year. Larger investments were scheduled in the upcoming two years 2020 and 2021 where investments are expected to expand by 6.3% and 4.7% and by 1.3% in 2022.

Regardless of the actuality of the public railway framework plan, the largest rail projects remain the same in the upcoming period to 2022 which are:

The 'Brenner Basis Tunnel' is currently the largest Austrian railway project with a volume of close to 5 billion Euro (without financing costs). For the period 2018-2020, investments of about 952 million Euro are budgeted. The project is still in the start-up phase – less than 17% of the total volume was spent at the beginning of 2018. Annual investments are

expected to increase in course of the construction progress from 211 million Euro in 2018 to 470 million Euro in 2020 and to over 500 million Euro in the years afterwards. The route is planned to be finished in 2025.

Southern route ('Südbahnstrecke'). The main project is the 'Semmering Basis Tunnel', connecting Gloggnitz and Mürzzuschlag, with a volume of about 3.3 billion Euro. For the period 2018-2020, around 871 million Euro are budgeted. The largest investments will be spent in 2020 (312 million Euro) and not in 2018 as previously planned. Around one quarter of the project is finished, and completion is expected in 2026.

The 'Koralmbahn', the connection Graz-Klagenfurt, has a project volume of around 5 billion Euro. In the period 2018-2020 construction works will amount to 960 million Euro which are nearly evenly distributed over this three-years period. The opening of the route will be delayed towards 2026.

Telecommunication.

Investment in Austrian telecommunication were highly subsidised in the recent past which led to strong growth rates in 2017 (+3.8%) and 2018 (+6.7%). Main investments were led into the expansion of high-speed broadband internet but also into the build up of the 5G mobile network.

In general, the Austrian telecommunications sector (for end costumers) can be split in four main areas: mobile communication, broadband internet, fixed line communication and leased lines (connections).[1] Total turnover in 2018 amounted to around 4.2 billion Euro.

The area with the largest turnover share is mobile communication (63%). In this sector the strong competition led only to a minor increase by 1.3% in 2018 and by 1.9% in the first two quarters of 2019. Broadband internet connections follow second (25% share on total telecom turnover), generating a growth by 5.5% in 2018 (2019 Q1-Q2: 1.9%). In the area of fixed line communication (share 9%) the declining trend in turnover (2018: -6,8%) continues, whereas leased telecom lines grew by 84% in 2018 and by 5% in the first two quarters in 2019 compared to the previous year. But this segment only takes a share of 2% of total end customer turnover.

In addition to market performance and turnover, also frequency auctions are of high importance for the telecommunication sector. They can improve competitiveness, but high auction costs, as seen in the past (2013: 3G auction), can also have a negative impact since they reduce the investment possibilities. In 2019, payments by providers increased strongly compared to previous years due to the 5G auctions in the frequency bandwidth from 3.4 to 3.8 GHZ. Telecom providers paid 187.6 million Euro, which is, however, significantly less than the 2.0 billion Euro paid for 3G frequencies in 2013. The current volume also corresponds roughly to the European average paid. In 2020 further frequency bands (700, 1500 and 2100 MHz) will be auctioned with an expected public revenue of 350 million Euro. No negative effect on construction investments is expected from this auction round, due to the moderate costs.

Telecommunication investments will be further supported by the government through subsidies because of the economic importance of ICT. The latest budgetary plan (March 2018) contains public broadband support with a volume of 135 million Euro in 2018 and 145 million Euro in 2019. This represents an increase of over 7% compared to the previous year.

The outlook in the telecom sector remains positive with an expected growth by 4.0% in 2019 since the need for faster/denser broadband and mobile communication network holds on. In the years towards 2022 the investment volume is expected to be kept high but with minor growth by around 1% annually in real terms since no major additional impulses are expected for the construction industry.

Energy.

In 2018 around 1.6bn Euro were invested in energy production and transmission. Growth in the energy sector was slightly revised upwards to 2.3% compared to the previous year despite the environment of low energy prices. This marginally higher growth rate was the result of the general upward revision of the National Accounts which also affected the energy sector. The outlook for the upcoming period to 2022 continues to be solid. Investments are needed to reach the national and international climate targets (like the EU 2030 climate and energy framework) which will be one of the strongest drivers. Therefore, the current focus of Austria's energy producing sector is put on investments in renewables.

Key targets towards 2030 are (1) an at least 40% cuts in greenhouse gas emissions (from 1990 levels – Paris agreement), (2) an at least 32% share of renewable energy and (3) an at least 32.5% improvement in energy efficiency. The framework was adopted by the European Council in October 2014. The targets for renewables (previously 27%) and energy efficiency (previously 27%) were revised upwards in 2018.

In general, the situation in Austria is favourable regarding renewables, as confirmed by the latest publication on the Energy Transition Index (ETI)

1 The main source of income stems from services for end costumers (89%) whereas only 11% are generated with services between the telecommunication providers. Data is from the Austrian Communications Authority from October 2019.

of the World Economic Forum (March 2019). Austria ranks #6 world-wide in 2019 with the 'Transition Readiness' and 'System Performance'. Austria belongs therefore to the global leaders in energy change after Denmark, Finland, Norway, Switzerland and Sweden. Austria's electricity generation already comes largely from renewable sources, which have a share of around 72%. This high rate on renewables mainly stems from hydropower (56%), the dominating source of energy production in Austria and to a smaller extent from wind, photovoltaic or geothermic sources (16%) (Statistics Austria, 2017).

On the other hand, the development of CO2 emissions is less positive. Austria failed its national climate goals in 2017, and the Wegener Center in Graz assumes that the goals cannot be met in 2018 either. Their forecasts for 2019 and 2020 are also pessimistic because the remaining 'voucher' from the past years will be consumed by then.

Taking this into consideration, it seems that Austria's Energy and Climate strategy target to reduce greenhouse gas emissions by 36% in 2030 (compared to 2005 levels) is very ambitions. To achieve this goal investments in the energy sector will have to be intensified. It is planned that the electrical power production comes entirely from renewable sources from 2030 onwards. This would create the need for 27 billion kWh clean energy additionally (Energy Austria) and also extensive investments in the expansion of power production. The field of water energy requires an expansion of 6-7TWh, wind energy and photovoltaic of 10-11TWh, each according to Energy Austria. Estimations of the Technical University Vienna show an investment need of 30 billion Euro to achieve this target. A strong momentum towards massive investments in renewable energy cannot be observed currently.

Nevertheless, it is expected that investments in the energy market will increase in the next years, also because of an improved financing situation due to slowly rising energy prices. Growth rates in the upcoming years are likely to be around 2.0% annually in real terms until 2022. There is room for stronger growth in the next years, mainly depending on the earnings performance of the energy production companies but also to a large extent on the public targets, which are currently under negotiation.

Water works.

The least performing construction sector in civil engineering, with a volume of about 950 million Euro in 2018, is water works. New investments are hardly made because of the high degree of connection (91% public fresh water and 95% to the sewage system). In 2018, the minor growth of 1.3% in water works results solely from investments into the fresh water system which increased significantly. But the ongoing downturn of the much larger waste water sector let this growth nearly disappear.

Public subsidies are supporting the sector. The latest came from the Federal Ministry for Sustainability and Tourism. Around 80 mill. Euro each year are additionally earmarked for urban water management amounting to until 2021. The focus of funding activity, which in the last decades targeted new infrastructure, will shift in the next years clearly in the direction of value preservation and reorganization.

Investments are mainly needed to guarantee the proper operability of water supply and wastewater disposal since numerous pipelines and the sewer infrastructure matures. Calculations from IHS and Kommunalkredit Public Consulting (2018) showed that the investment need towards 2030 will rebound over the next years. One of the main assumptions behind this is that pipelines have a lifespan of around 50 years. This means that the infrastructure built between the mid-70s and 80s must be renovated within the next 10 years. In the 1970s more than 15.000km waste water lines were built – nearly twice as much as in the 10-year period before which explains the higher need for water works which is likely to be affective by the end of the forecasting horizon.

Therefore, the short-term outlook in water works is still rather dim. A further decline by 0.9% in 2019 and by 1.5% is expected. From 2021 onwards, investment will start to increase with a moderate growth at the beginning of the renovation cycle. Towards mid' 2020 further rising dynamics are expected which scope mainly depend on the financial strength of the municipalities.

APPENDIX – DEFINITIONS

Data from the national accounts represents an integral part of the reported construction forecasts. Not only the forecasts are updated in each report, but also the previously published data from the national accounts are revised regularly. The revisions affected almost without exception all economic areas according to official publications by the national statistics agency Statistics Austria. The revision calendar is as follows: The first data for year t are available in year autumn t+1, e.g. the first official data from the national accounts on growth or the construction industry for 2018 is available in autumn 2019. The main data sources for these figures are WIFO's economic forecasts as well as the monthly business surveys and other auxiliary data. In year t+2, information from structural business statistics is incorporated and the data revised if necessary. In year t+3, the compilation of input-output tables through the supply-use tables can lead to an additional revision of the official data.

Table 1

- **Population:** Statistics Austria, main scenario, on January 1st.
- **Households:** Statistics Austria, on January 1st.
- **Unemployed:** Austrian Public Employment Service (AMS), WIFO forecasts.
- **Unemployment rate:** Labour Force Survey, EUROSTAT, WIFO forecasts.
- Economic forecasts are based on the October 2019 WIFO forecasts (2019 to 2020) and on the autumn 2019 WIFO mid-term forecasts (2021 to 2022). All national account data (historic and forecasts) are based on ESA 2010 system.

Table 2

- **Construction output** includes own production (do-it-yourself), black economy and exports. Non-intensive private repair and maintenance measures were estimated by WIFO. The forecasts of growth rates reflect the WIFO March 2019 forecasts based on ESA 2010 (correspondently also Tables 4a and 4b).
- Data for cement consumption are based on the information of the cement industry.

Table 3

- Permits, starts and completions refer to new dwellings in new residential buildings.
- Permitted dwellings until 2018 stem from official data (October 2019) from Statistics Austria.
- **1+2 family houses**: Buildings with one or two dwellings (in previous reports buildings with one dwelling only).
- Flats: Buildings with three and more dwellings (in previous reports they referred to buildings with two and more dwellings).
- Building starts: No official statistics are available for Austria. The provided number is based on estimates considering a delay and drop out between permits and housing starts.
- Building completions: The results reported in this publication differ from official statistics from Statistics Austria. The reason for this deviation lies in the incomplete and delayed reporting to and from municipalities, which severely affects data quality. Data included in this report are based on housing permits and historical rates of completions.
- **Housing stock:** Annual average. The housing stock is a forward projection of the register-based census 2011. Significant methodological changes in the 2011 census resulted in a higher housing stock.
- **Second homes. Vacancies:** WIFO forecasts based on Statistics Austria.
- **Home ownership rate:** WIFO forecasts based on Statistics Austria; share of dwellings owned by the occupier/relatives of the occupier.

Table 4a

- **Offices**: They include also other buildings for administration.
- **Miscellaneous:** e.g. buildings for sports and leisure time.

Table 4b

- **Other transport** includes mostly airport infrastructure as well as public transport (mainly underground transportation).
- **Energy works** includes construction of distribution lines for electricity as well as integral parts (e.g. related buildings such as power plants).
- **Water works** includes the construction of distribution lines for transportation of fluids (e.g. water utility lines. sewage) and related buildings (pumping stations), water well drilling and also the construction of river works, dams, etc.

Table 5

- Information is based on the October 2019 WIFO forecasts (2019 to 2020) and the autumn 2019 WIFO mid-term forecasts (2021 to 2022). Data stems from the national accounts based on ESA 2010 system.
- Volumes of each GDP component are at market prices. VAT included.
- The sum of the individual GDP components is not exactly equivalent to total GDP because of the so-called statistical difference. It represents a residual component which can be attributed to current account imbalances due to international trade and capital flows.

Country/Pays/Land: Austria — Table 1

MAIN DEMOGRAPHIC AND ECONOMIC INDICATORS
PRINCIPAUX INDICATEURS DÉMOGRAPHIQUES ET ÉCONOMIQUES
WICHTIGE DEMOGRAPHISCHE UND ÖKONOMISCHE INDIKATOREN

				Est.	Forecast		Outlook
	2016	2017	2018	2019	2020	2021	2022
Population ('0000s) **Population** **Bevölkerung**	8 701	8 773	8 822	8 866	8 909	8 951	8 993
Households ('0000s) **Ménages** **Haushalte**	3 826	3 869	3 902	3 932	3 959	3 985	4 011
Unemployed ('0000s) **Chômeurs** **Arbeitslose**	357	340	312	302	309	315	318
Unemployment rate (%) **Taux de chômage** **Arbeitslosenquote**	6.0	5.5	4.9	4.6	4.6	4.6	4.6
Change of GDP **Variation du PIB** **Veränderung des BIP** **(% change in real terms)**	2.1	2.5	2.4	1.7	1.4	1.4	1.4
Consumer prices (% change) **Prix à la consommation** **Verbraucherpreise**	0.9	2.1	2.0	1.6	1.7	1.8	1.8
Construction prices (% change) [1] **Prix de la construction** **Baupreise**	1.3	2.1	2.8	3.3	3.0	2.7	2.4
Short term interest rate [2] **Taux d' intérêt à court terme** **Kurzfristiger Zinssatz**	-0.3	-0.3	-0.3	-0.4	-0.5	-0.5	0.3
Long term interest rate [3] **Taux d' intérêt à long terme** **Langfristiger Zinssatz**	0.4	0.6	0.7	0.0	-0.2	0.2	0.9

1) Refers to new construction only.
2) 3-month interbank rate (or equivalent).
3) 10-year government bonds (or equivalent).

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Country/Pays/Land: Austria — Table 2

CONSTRUCTION BY TYPE
PAR TYPE D'OUVRAGE
BAUPRODUKTION NACH BAUARTEN

		Volume mill. euro[1]	% change in real terms (volume)						
						Est.	Forecast		Outlook
		2018	2016	2017	2018	2019	2020	2021	2022
Residential construction **Logement** **Wohnungsbau**	New	12 831	2.5	5.9	2.3	3.8	0.9	1.1	0.9
	Renovation	5 709	1.8	3.5	1.5	2.7	1.2	1.3	1.5
	Total	**18 540**	**2.3**	**5.1**	**2.1**	**3.5**	**1.0**	**1.2**	**1.1**
Non-residential construction **Bâtiments non résidentiels** **übriger Hochbau**	New	11 733	0.9	2.5	5.6	1.7	1.1	1.5	1.5
	Renovation	3 838	1.1	2.0	7.3	2.5	1.0	1.1	2.9
	Total	**15 571**	**1.0**	**2.4**	**6.0**	**1.9**	**1.1**	**1.4**	**1.8**
Building **Bâtiment** **Hochbau**	New	24 564	1.7	4.3	3.9	2.8	1.0	1.3	1.2
	Renovation	9 547	1.5	2.9	3.8	2.6	1.1	1.2	2.1
	Total	**34 110**	**1.7**	**3.9**	**3.8**	**2.7**	**1.0**	**1.3**	**1.4**
Civil engineering **Génie civil** **Tiefbau**	New	6 823	-3.6	1.1	3.3	2.3	2.5	1.7	0.9
	Renovation	1 706	-4.6	0.1	2.3	0.8	2.0	2.7	2.9
	Total	**8 529**	**-3.8**	**0.9**	**3.1**	**2.0**	**2.4**	**1.9**	**1.3**
TOTAL CONSTRUCTION OUTPUT		**42 639**	**0.5**	**3.3**	**3.7**	**2.6**	**1.3**	**1.4**	**1.4**

	2018				Est.	Forecasts		Outlook
	Volume mill. tons	2016	2017	2018	2019	2020	2021	2022
Domestic cement consumption **Consommation intérieure de ciment** **Inländischer Zementverbrauch**	5.20	3.7	2.1	7.4	2.1	1.3	0.6	1.0

Renovation covers repair and maintenance, refurbishment and reconstruction.

1) At 2018 prices, excluding taxes.

Country/Pays/Land: Austria — Table 3

RESIDENTIAL CONSTRUCTION
CONSTRUCTION DE LOGEMENTS
WOHNUNGSBAU

		Thousands dwellings						
					Est.	Forecast		Outlook
		2016	2017	2018	2019	2020	2021	2022
Building permits **Logements autorisés** **Baugenehmigungen**	1+2 family dwellings Individuels 1+2-Familienhäuser	17.8	17.9	18.4	18.1	18.0	18.1	18.2
	Flats Collectifs Mehrfamilienhäuser	42.1	48.1	36.4	35.3	33.5	32.4	31.8
	Total	**59.9**	**66.0**	**54.8**	**53.4**	**51.5**	**50.6**	**50.0**
Housing starts **Logements commencés** **Baubeginne**	1+2 family dwellings Individuels 1+2-Familienhäuser	16.2	16.9	17.2	17.4	17.2	17.2	17.3
	Flats Collectifs Mehrfamilienhäuser	36.6	42.8	40.1	34.0	32.7	31.3	30.5
	Total	**52.8**	**59.7**	**57.4**	**51.4**	**49.8**	**48.5**	**47.8**
Housing completions **Logements terminés** **Baufertigstellungen**	1+2 family dwellings Individuels 1+2-Familienhäuser	16.4	17.0	17.3	17.7	17.9	17.9	18.0
	Flats Collectifs Mehrfamilienhäuser	32.0	35.9	41.2	39.9	37.2	35.4	34.2
	Total	**48.5**	**52.9**	**58.5**	**57.6**	**55.0**	**53.3**	**52.1**
Housing stock **Logements existants** **Wohnungsbestand**	**Total**	**4 653**	**4 704**	**4 761**	**4 817**	**4 870**	**4 922**	**4 972**
	thereof second homes dont résid. secondaires davon Zweitwohnungen	267	270	273	276	279	282	285
	thereof vacancies dont inoccupés davon leerstehend	233	235	238	241	244	246	249
	share of family dwellings (%) part des maisons individuelles Anteil 1+2-Familienhäuser	47.1	46.8	46.5	46.2	46.0	45.8	45.6
Home ownership rate [1] **Taux de propriétaires occupants** **Wohneigentumsquote**		54.2	53.6	53.1	52.9	52.6	52.4	52.2

1) Cf. Appendix to the individual country report.

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Country/Pays/Land: Austria — Table 4a

NEW NON-RESIDENTIAL CONSTRUCTION (PUBLIC AND PRIVATE)
CONSTRUCTION NEUVE NON RÉSIDENTIELLE (PUBLIQUE ET PRIVÉE)
NEUER NICHTWOHNHOCHBAU (ÖFFENTLICH UND PRIVAT)

	Volume mill. euro[1)]	m2 x 1000	% change in real terms (volume)						
						Est.	Forecast		Outlook
	2018	2018	2016	2017	2018	2019	2020	2021	2022
Buildings for education **Bâtiments de l'éducation et de la recherche** **Gebäude des Bildungswesens**	798		1.8	1.3	2.7	3.2	-0.3	0.0	1.3
Buildings for health **Bâtiments de santé** **Gebäude des Gesundheitswesens**	1 637		1.4	2.7	5.8	2.1	2.4	3.0	2.6
Industrial buildings **Bâtiments industriels** **Industriegebäude**	2 364		1.3	3.6	9.3	2.5	0.7	1.4	1.3
Storage buildings **Bâtiments de stockage** **Lagergebäude**	232		1.1	2.5	5.1	3.6	-0.5	-0.4	1.8
Office buildings **Bureaux** **Bürogebäude**	2 340		-0.5	4.3	8.1	0.3	1.3	1.0	1.6
Commercial buildings **Commerces** **Geschäftsgebäude**	3 217		1.5	1.2	3.2	1.4	1.1	0.5	1.0
Agricultural buildings **Bâtiments agricoles** **Landwirtschaftsgebäude**	630		-0.9	1.5	2.5	1.0	0.8	0.6	1.3
Miscellaneous **Autres** **Sonstiges**	517		0.7	0.9	1.7	2.6	0.7	9.8	1.8
TOTAL	**11 733**		**0.9**	**2.5**	**5.6**	**1.7**	**1.1**	**1.5**	**1.5**

1) At 2018 prices, excluding taxes.

Country/Pays/Land: Austria — Table 4b

TOTAL CIVIL ENGINEERING
ENSEMBLE DU GÉNIE CIVIL
TIEFBAU INSGESAMT

		Volume mill. euro[1]	% change in real terms (volume)						
						Est.	Forecast		Outlook
		2018	2016	2017	2018	2019	2020	2021	2022
Transport infrastructure **Infrastructures de transport** **Verkehrsinfrastruktur**	Roads Réseau routier Straßen	2 123	-6.5	4.1	2.4	4.6	2.1	-0.5	0.0
	Railways Voies ferrées Bahnanlagen	1 817	-2.8	-1.8	4.8	1.5	6.3	4.7	1.3
	Other transport Autres réseaux Übrige Verkehrsinfrastruktur	461	-3.9	1.1	3.6	0.6	2.0	2.8	2.4
	Total	**4 401**	**-4.7**	**1.3**	**3.5**	**2.9**	**3.8**	**2.0**	**0.8**
Telecommunications **Télécommunications** **Telekommunikation**		349	4.5	3.8	6.7	4.0	0.5	0.8	1.2
Energy works **Réseaux d'énergie** **Energieversorgung**		1 620	-1.6	1.1	2.3	1.0	1.8	2.0	1.6
Water works **Réseaux d'eau** **Wasserversorgung**		947	-5.1	-0.4	1.3	-0.9	-1.5	1.6	1.3
Other **Autres** **Sonstiges**		1 213	-4.4	-0.5	3.2	1.8	1.5	1.9	2.8
TOTAL		**8 529**	**-3.8**	**0.9**	**3.1**	**2.0**	**2.4**	**1.9**	**1.3**

1) At 2018 prices, excluding taxes.

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Country/Pays/Land: Austria — Table 5

GROSS DOMESTIC PRODUCT
PRODUIT INTÉRIEUR BRUT
BRUTTOINLANDSPRODUKT

	Volume bill. euro[1]	% change in real terms (volume)						
					Est.	Forecast		Outlook
	2018	2016	2017	2018	2019	2020	2021	2022
Private consumption[2] **Consommation privée** **Privater Verbrauch**	199.7	1.6	1.4	1.1	1.5	1.6	1.6	1.5
Public consumption **Consommation publique** **Staatsverbrauch**	74.5	1.8	1.1	0.9	1.3	0.9	1.1	1.1
Gross fixed capital formation **Formation brute de capital fixe** **Bruttoanlageinvestitionen**								
Total	92.4	4.1	4.0	3.9	2.9	1.5	1.6	1.5
of which construction	42.0	0.5	3.3	3.7	2.6	1.3	1.4	1.4
Stocks (contribution as % of GDP)[3] **Variations de stocks** **Vorratsveränderungen**	4.5	1.1	1.2	1.2	1.1	1.2	1.2	1.2
Exports **Exportations** **Exporte**	215.1	3.1	5.0	5.9	2.3	2.3	2.3	2.4
Imports **Importations** **Importe**	200.7	3.7	5.0	4.6	2.4	2.5	2.6	2.6
GDP **PIB** **BIP**	**385.7**	**2.1**	**2.5**	**2.4**	**1.7**	**1.4**	**1.4**	**1.4**

Standard National Accounts, gross figures.

1) At 2018 prices.

2) Including final consumption expenditure of NPISH's, ISBLM inclus, einschließlich POoE.

3) Including net aquisitions of valuables, net aquisitions d'objets de valeur inclus, inkl. Nettozugang an Wertsachen.

Notes

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GENERAL DEFINITIONS

The following notes describe which are the most common definitions of the concepts of the Euroconstruct report among the different countries. These definitions do not apply literally to each of the 19 countries, so readers are encouraged to check the specific methodological notes of each country in order to identify the possible deviations from these standards that may apply to that particular market.

Macroeconomic

- **Population and households:** as of January 1st.
- **Unemployed:** figures based on labour force surveys that also include jobseekers that do not register at the employment offices.
- **Unemployment rate:** as percent of total labour force.
- **Construction prices:** annual change rate of sales prices, not construction costs.

Construction Output

Production is calculated according to branch definition, including not just works done by construction firms, but also works done by all firms that execute construction work regardless of the industry group they belong to. It also includes:

- Services provided by public bodies in the case that fees are involved.
- The builders' own effort, like do-it-yourself works.
- Works done by unregistered firms (black economy) should be included.

VAT or any other sales tax are not included.

Production value of a **building** project, residential and non-residential, includes:

- Project development.
- Planning and engineering works, architects.
- Plot work up.
- Construction work on the building including all intermediate products (building materials, transport cost, energy, use of machinery and equipment etc.)
- Installations work (electrical, plumbing, glazing, paintings and wallpaper, lifts etc.)
- Public fees (for building permits etc.)
- Financial costs, like interest and fees on construction loans (external funding)
- Fees to estate agents
- Transaction costs, if any
- Advertisement costs, if any

Production of **civil engineering** in general follows the same rules, so the value of investments (and maintenance) in civil engineering includes all intermediate products and not only the civil engineering part.

Residential

This category includes:

- Permanent residences
- Second homes or holiday homes owned by households.
- Building objects considered as auxiliary of the main residential object, such as garages, outhouses or other annexes.

The **1+2 family dwellings** category includes:

- Detached or semi-detached houses that contain one or two dwellings (for example, a main dwelling plus one bed-sit, basement flat etc.)
- Farmhouses that contain one or two dwellings.

The **flats** category is for residential buildings that contain three or more dwellings, including the following cases:

- Row houses, linked houses and terraced houses.
- Multi-dwelling buildings of more than one storey, free-standing or linked.
- Residences and service residences for the elderly and other social groups, when the health care aspect is not dominant (otherwise they are categorised as nursing homes and accounted as non-residential)
- Student homes.
- Other residential buildings for communities.
- Dwellings in non-residential buildings.

A **second home** is defined as any dwelling of the residential categories (1+2 families or flats), that is only in use temporarily as a holiday or leisure residence. Second homes also include cottages, huts, shacks, chalets, etc.

When second homes are a market product that is different from permanent homes (design, size...) and that market is big enough to be noticeable, and statistics allow them to be distinguished from permanent homes, they may be excluded from the figures for permits, starts or completed dwellings. However, they still are included in stock figures. Investments in second homes are also included in residential construction.

A residential building is considered **completed** when either a temporary permission to use the building is given by the competent authority, or when a certificate for completion is issued by the competent authority. This certificate should be given when final documentation about the building and a declaration from the builder that the building is completed is available.

Non-residential

This category includes every other building that is not considered residential. The following cases are also treated as non-residential:

- Buildings for temporary residential use that have a commercial purpose, for instance hotels, hostels, motels and holiday homes for rent by businesses/public bodies.
- Homes for the elderly with manned facilities and nursing services.

Non-residential surface is measured as utility floor space, which is the floor area measured within the outer walls.

The category of **buildings for education** includes the facilities (also playgrounds) for:
- Pre-school, kindergartens.
- Primary and secondary education.
- Higher education, including laboratories and research facilities.

The category of **buildings for health** includes:
- Hospitals.
- Clinics, doctor's offices, medical centres, emergency clinics.
- Health and social services centres, health stations.
- Nursing homes.
- Residence and home with nursing and medical care.
- Buildings for rehabilitation, sanatoriums
- Other long-stay hospitals and primary health buildings.

The category of **industrial buildings** includes:
- Factory buildings.
- Workshops.
- Treatment plants, pumping stations, transformer stations that can be considered buildings.

The category of **storage buildings** includes:
- Warehouses.
- Cold storage warehouses.
- Silo buildings and other specialised storage.

The category of **office buildings** includes:
- Buildings for bureaucratic purposes, town halls.
- Banks.
- Post offices.
- Buildings for the media.

The category of **commercial buildings** includes:
- Shopping centres, department stores.
- Detached shops.
- Service stations.
- Other wholesale and retail trade buildings.
- Hotels, hostels, motels, pensions.
- Holiday camps, tourist chalets, apartment lodging buildings, camping huts, holiday bungalows.
- Restaurant buildings and derivatives: food kiosks, cafés, canteens, etc.
- Parking garages.
- Fair and congress buildings.
- Buildings related to transport infrastructures such as railway stations and underground stations, airport terminals, air traffic control towers, telecommunication buildings, etc.

The category of **agricultural buildings** includes:
- Buildings for animals, granaries, fruit and vegetable storage, agricultural silos, buildings for hay/grain drying
- Greenhouses.
- Works buildings used for fishery and hunting, including fish farms, fishery boat-houses and sheds.

The category of **miscellaneous buildings** includes:
- Non-residential space in residential buildings.
- Buildings for entertainment: cinemas, theatres, concert halls, opera houses, discotheques.
- Museums and art galleries.
- Libraries.
- Zoological and botanical gardens.
- Sports halls, ice arenas, indoor swimming pools, fitness centres and Buildings for other sports.
- Community centres, local meeting halls not for bureaucratic uses.
- Buildings for religious use: churches, chapels, houses of worship, parish houses, crematoriums, cemetery chapels, chapels of repose, convents, monasteries.
- Monuments.
- Prison buildings.
- Police stations.
- Fire stations, ambulance stations.
- Building for emergency preparedness: air-raid shelters, bunkers.
- Lighthouse buildings, pilot stations, radar facilities.
- Public toilets.

Renovation with change of use

Sometimes building renovation is related to a change of end use: from residential to non-residential buildings and vice versa. When a non-residential building is transformed to a residential building, the value of this production is included in residential renovation. And vice versa.

Civil Engineering

The category of **transport infrastructure** includes:
- Construction of roads and streets, including bridges and tunnels.
- Railways include also tramways and undergrounds, also with bridges and tunnels.
- "Other" collects airports and airfields, harbours, ports, breakwaters and moles, canals, etc.

The category of **energy** includes infrastructures for:
- Generating energy: power plants and power stations that can not be considered buildings, dams

for hydroelectric power production, wind farms, wave farms.
- Delivering energy: power transmission lines, gas supply lines.

The category of **water works** includes infrastructures for water supply, sewer and waste water transport and treatment; either for drinking water, irrigation, industrial water or river flow maintenance.

The category of **other civil engineering** includes infrastructures for agriculture, forestry and fishery, civil engineering facilities for the industry **that can not be considered buildings**, outdoor sports and leisure facilities (for example, amusement parks).

Gross Domestic Product

To be comparable to the rest of the figures in Table 5, gross fixed capital formation in construction is measured at market prices, in contrast to the measure used in Tables 2, 4a and 4b that considers output at production prices, that is, without sales taxes (or sales subsidies).

Notes

Notes

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