

State of Housing in the Nordic Countries

Navigating construction in a climate of rising costs, surging demand and high ambitions



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BL - Danmarks Almene Boliger – The Danish Federation of Non-Profit Housing Providers

Búseti – a co-operative building association in Iceland

Félagsbústaðir Hf – a limited company owned by Reykjavik Municipality, Iceland

HSB – a co-operative building association in Sweden

KOVA – The Finnish Affordable Housing Companies' Federation

NBBL – The Co-operative Housing Federation of Norway

Public Housing Sweden – Organization of municipal and private owned public housing companies in Sweden

Riksbyggen – a co-operative building association in Sweden

The report has been prepared by the secretariat of NBO - Housing Nordic
The individual country sections are written on the basis of member input

Title: State of Housing in the Nordic Countries:
Navigating Construction in a climate of rising costs, surging demand and high ambitions

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Frontpage: Telegrafberget, HSB. Photo Johner Bildbyrå

Release year: 2024

Layout: Zoe Sys Vogelius

Trykkeri: Dyro.dk

www.nbo.nu

Introduction

The Nordic countries, as well as the rest of Europe, are facing new times where several changes are pushing on the parameters of what constitutes “the good build”. First, the introduction of multiple bottom lines within which both existing and new buildings must perform, puts emphasis on more than just the economic sustainability of any existing building or new project.

This may be the environmental impact from building new or renovating, the social impact and functionality of the building, such as health functionalities and accessibility, the corporate social responsibility undertaken by the entrepreneur, the ethical sourcing of the raw materials, the way the building becomes an asset in the strategic urban planning of new neighborhoods, who it is built to house, how little energy it requires to function and so on.

And that is just to name a few, since many more considerations influence the decision to build, how much to build, where to build, who to hire for the project and who to house once the project is ready for residents. The Nordic countries have taken on increasingly complex functionalities and considerations when it comes to construction of affordable housing, but have they lost the competence to keep construction costs in check?

Some of these new considerations are taken on voluntarily while others are imposed by law. Collectively they demand efforts from both building owners and entrepreneurs bidding on assignments. Both parties are of course obliged to follow laws and regulations but are also invested in delivering results on aspects that are not necessarily regulated.

The underlying understanding seems to be that the affordable housing construction sector holds a responsibility in contributing actively to solving or mitigating nationwide societal concerns such as health, material consumption, climate change



Bonavista, Lisbon. Photo: Vibeke Borch Henning.

and biodiversity, ethical working conditions, offering construction apprenticeships and so on. Similarly, the contractors see it as their responsibility to find practical ways of implementing these concerns in the planning and construction of new buildings and residential areas.

Moreover, the Nordic region has good reason to focus on aspects such as energy performance in the building stock as the region has a vast need to heat buildings, if not year-round, then for sure during the autumn, winter and spring months. Well insulated buildings will take a smaller toll on the heating supply, which still partly consists of oil and gas beyond waste incineration and electricity.

The self-perception in the Nordics is that the countries are first movers in many arenas, not only the environmental one, but also on social parameters, in accessibility and in strategic urban planning. This can sometimes be used as an explanation as to why both new construction and renovations on existing buildings have become much more complex and expensive in the region.

However, a relevant question is whether this self-perception holds true. For example, Denmark, Finland, Norway and Sweden all had their Earth Overshoot Day before April 21st this year.¹ Additionally, many other European countries keep similar environmental and social considerations in mind when they build affordable. The question is if they are still able to do so in more streamlined processes, with lower levels of complexity and lower associated costs than countries in the Nordic region. The State of Housing Report for this year sets out to investigate if this is the case, and what the Nordic region can do to maintain a good and necessary focus on beyond-economic considerations while keeping rising costs, complexity and rigidity at bay. Enjoy the read.

¹Earth Overshoot Day – Geneva Environment Network

Current State and Historical Context

Recent years have seen the Nordic construction sector grappling with rising material costs, which are driven by factors such as global commodity price increases, geopolitical shifts affecting the supply side and increasing levels of sustainability reporting and environmental friendliness. Labor costs have similarly escalated, fueled by a shortage of skilled labor in the construction sector in the Nordic region.

To give an overview of the areas in which the Nordic countries face higher construction costs, we show the development in five crucial areas:

Costs: Labor costs and material costs in construction over time

Employment: Development of labor input to the construction sector

Activity: Development of production in construction and in number of building permits

Consolidation: Development in number of suppliers to the construction sector

Barriers: Changes in building codes, additional legislation affecting construction etc.

The first three areas are covered in this statistics-focused, cross-national chapter “Current state and historical context”.

The latter two areas relate to unique market characteristics and regulation at the National level in the Nordic countries, and therefore these are elaborated in the chapter “Nordic vs. EU Dynamics in real life”. Here, we get a firsthand record of the construction situation across the Nordics.

Costs

Costs of construction of residential buildings have risen over the last 30 years. The prices have risen at a relatively uniform pace across the European Union, the Euro area and the Nordic countries up until the Covid-19 pandemic in 2020, where all the economies took a steep climb upwards.

Whereas Finland and Denmark have seen price increases that are similar in size to that of the European Union and Euro area, both Sweden and Norway have seen prices rise at a steeper pace, being more than doubled since the mid-1990s.



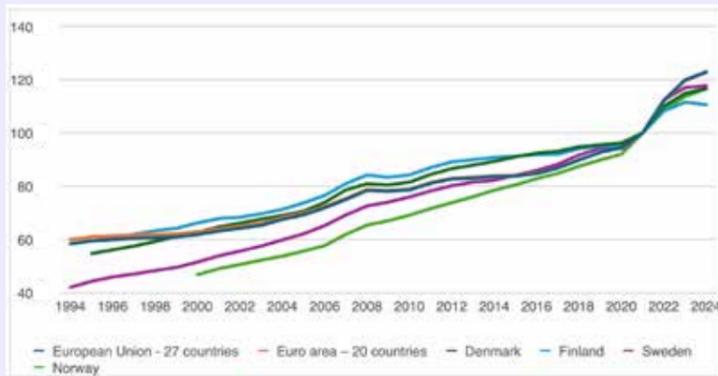
Reykjavik, Búseti. Photo Gunnar Ulfarsson

This may in part be due to the continuously rising wage costs that we find in figure 2.2, where Sweden and Norway have seen the largest increases in wages and salaries in the 30-year period. The two Nordic countries have also been able to maintain an increasing level of activity in the construction sector, both before and after the financial crisis 2008-2010, and with only a small and short-term impact on the level of activity resulting from the crisis. This explains why pressures on both wages and salaries and costs of construction in general have been higher in the two countries.

The same story of increasing activity during the past 30 years, and leading to wage growth in the same period, can be told about Finland. However, Finland has not seen the same steepness in the total consumer prices in construction in the period as its two neighbors, Sweden and Norway. Actually, Finland has seen the smallest increase in consumer prices in construction in the last 30 years, compared to both the EU and Euro area and its Nordic companions, as seen in figure 1.1. This is also the case after the Covid-19 pandemic, where Finland has seen a smaller upwards price shock in construction than the EU, Euro area and the other Nordic countries. However, the price shock in construction from the Covid-19 pandemic is present in all of EU as well as for the Nordic countries.

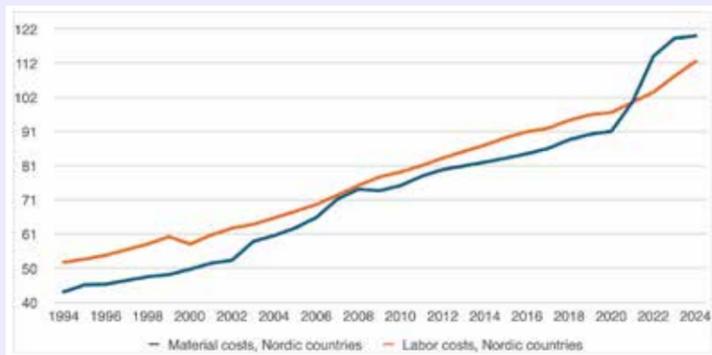
The post-pandemic development in consumer prices in construction are affected both by the war in Ukraine and the international inflationary pressure on both consumer goods and energy. Here the Nordic countries have been able to keep costs in the construction sector stable or at low increases.

Figure 1.1 Construction consumer prices in new residential buildings, Nordic countries vs. EU and Euro area (1995-2024)



Source: Eurostat, Construction consumer prices (data code: sts_copi_q).
 Note: This figure displays the consumer prices for new residential buildings in the construction sector on a yearly basis. These are also known as output prices. For 2024, a simple, unadjusted average has been calculated. It contains observations for the first 5 months of the year for Finland and Norway. For Denmark, Sweden, the EU and Euro area, the observations include the first quarter of 2024.

Figure 1.2 Labor vs. material costs in construction, Nordic countries (1994-2024)



Source: Statistics Denmark: BYG42, Statistics Sweden: Construction cost index (CCI) for new residential buildings, Statistics Norway: 08651, Statistics Finland: 118p, Statistics Iceland: Building cost index by input categories.
 Note: Costs for materials and labor respectively are calculated as simple means between the countries. For 2024, a simple, unadjusted average has been calculated for the first 5 months of the year for Finland and Norway, and the first 6 months for Iceland. Iceland's material costs consist of costs on both domestic and imported materials. Each weigh 50 percent of the countries' reported costs.

When taking a closer look to the drivers of the Nordic prices in construction, we see that labor costs have developed with less variability, and a slightly smaller increase, than material costs over the last 30-year period, as seen in figure 1.2. However, both inputs to the construction sector have seen substantial increases during the period, with prices on labor doubling and prices on materials increasing by 132 %.

Figure 1.2 shows that the upwards pressure on construction costs since the Covid-19 pandemic has especially come from the increasing costs in materials, that have experienced big shifts in the supply side as well as logistical challenges.

Employment

Employment in the EU, the Euro area, Denmark, and to some extent Finland, has not varied much over the last 30 years in terms of persons employed in construction. The EU and Euro area have seen a mild decrease in hours worked by employees after the financial crisis (2008-2010), which is closely related to the slight decrease in construction activity during the same period.

Figure 2.1 Hours worked in total, Nordic countries vs. EU-27/28 (2000-2024)

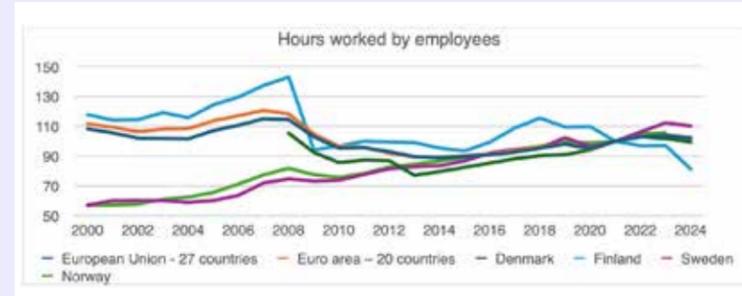


Figure 2.2 Wages and salaries, Nordic countries vs. EU-27/28 (2000-2024)



Figure 2.3 Workforce, Nordic countries vs. EU-27/28 (2000-2024)



Source: Statistics Denmark: BYG42, Statistics Sweden: Construction cost index (CCI) for new residential buildings, Statistics Norway: 08651, Statistics Finland: 118p, Statistics Iceland: Building cost index by input categories. Index 100=2021.
 Note: Costs for materials and labor respectively are calculated as simple means between the countries. For 2024, a simple, unadjusted average has been calculated for the first 5 months of the year for Finland and Norway, and the first 6 months for Iceland. Iceland's material costs consist of costs on both domestic and imported materials. Each weigh 50 percent of the countries' reported costs.

This is however not the case for two of the Nordic countries, Sweden and Norway, which have seen steady increases in both hours worked by employees in construction and persons in the sector during the past 30 years.

Activity

In general, the increase in activity levels in the Nordic region has consistently surpassed that of the European Union as a whole, and that of the Euro area, during the last 30 years. This is shown in figure 3.1, which shows the indexed production in construction for the Nordic countries versus the EU and Euro area.

The Nordic countries overall show a steep upwards curve in their production activity in the construction sector, whereas the EU and Euro area have seen a more stable level of activity in the form of production during the 30-year period. EU and Euro area have experienced a fall during the financial crisis of 2008-2010 that has stabilized the level of production at a lower level than before the crisis. Apart from a slightly higher level of production activity followed by the Covid-19 pandemic, which is partly due to the a priori political decisions to safeguard the European national and transnational economies by infusing funds into the construction sector,² the post crisis level of production in the construction sector in EU and Euro area has persisted in the 15-year period following the financial crisis.

² Recovery and Resilience Facility - European Commission (europa.eu)

The same cannot be said of the Nordic region. The Nordic region has overall experienced a continuous rise in production during the 30-year period, apart from a shock in the production activity in 2009 and partly in 2010, following the financial crisis. Sweden and Finland have also experienced a lower activity from 2022 until now, whereas Norway and Denmark have had a stable level of production activity during these recent years.

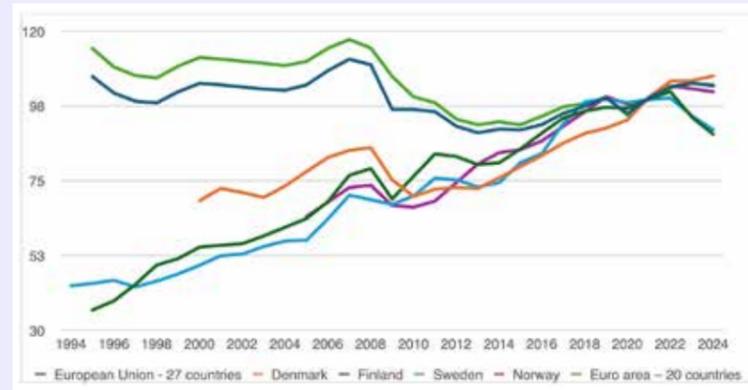
The latter fall in productivity for Sweden and Finland can in part be explained by supply side shortages and higher input prices on remaining materials and energy consumption due to the war in Ukraine, and in part by the rise in interest rates to tackle the accelerating economic activity and accompanying inflationary pressure seen during and after the Covid-19 pandemic.³

There is no doubt that rising levels of production in construction in the Nordic countries play a part in explaining the increasing costs of construction in the region. When increasing levels of output across a 10+ year period comes without having an influx of labor at the same time, which has been the case in Finland and to some extent Denmark,⁴ the increasing demand on labor must entail an upwards pressure on prices of labor input as well. This has proven to be the general case in EU and Euro area, as is shown in figure 2.2. In Norway and Sweden, on the other hand,

³ See chapter "Nordic vs. EU Dynamics in real life" for country-specific reports.
⁴ Iceland experienced major shifts in its workforce in construction during the 10 years following the financial crisis, which has meant an outflux followed by an influx in the country's labor force (see figure 2.1). During the 10 years following the crisis, the number of persons employed in construction has reverted to the pre-crisis level for both countries. This is also the case for Denmark, which did experience smaller-scale layoffs following the crisis, compared to Iceland.

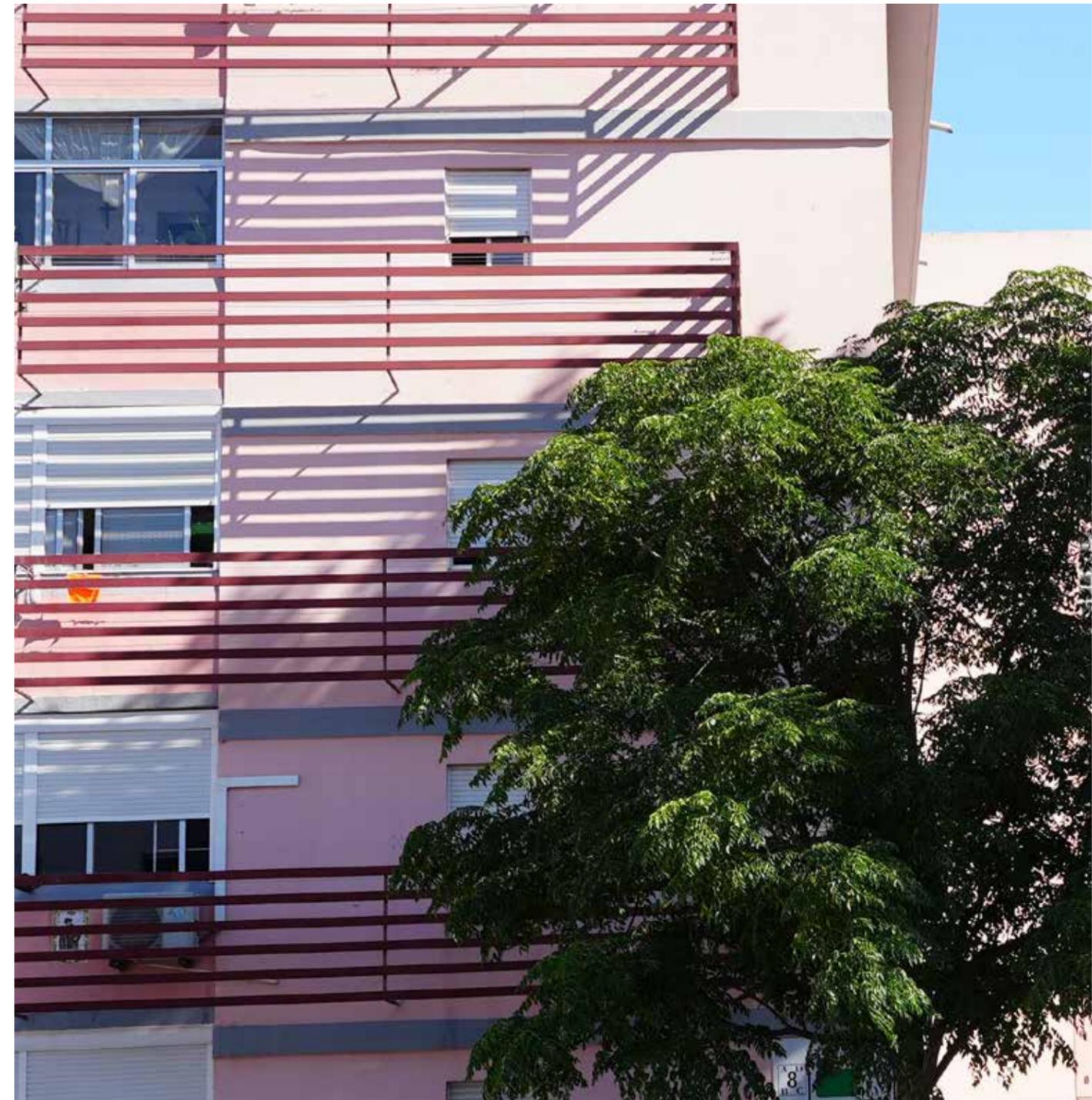
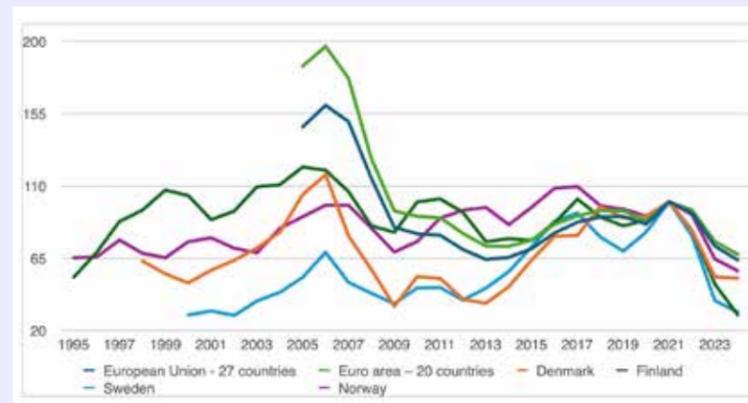
the increasing level of production has been followed both by an increase in total hours worked, the workforce, and the wage level in construction. This means that the rise in construction consumer prices seen in the two countries is not explained by stagnant levels of input (labor) meeting increasing demands on output (production). However, the prices have still increased, and even more so than in the rest of the EU, Finland and Denmark, see figure 1.1.

Figure 3.1 Production in construction, Nordic countries vs. EU and Euro area (1994-2024)



Source: Eurostat, Production in Construction (data code: sts_copr_a).
 Note: This figure displays the output and activity of the construction sector. It measures changes in the volume of output on a yearly basis. Construction includes building construction and civil engineering.

Figure 3.2 Building permits, m2 of useful floor area, residential buildings, Nordic Countries vs. EU and Euro area (1995-2024)



Bonavista, Lisbon. Photo Vibeke Borch Henning.

Publicly owned social housing in Lisbon, Portugal



Entrecampos, Lisbon. Photo Vibeke Borch Henning.

**Nordic vs. EU
Dynamics
in real life**

The disparity in construction costs between Lisbon and the Nordic region has been a subject of interest among industry stakeholders. While social housing in Lisbon is in high demand for low-income families, the number of dwellings has been stagnant up until a few years ago.

The capital has 550.000 inhabitants and currently 25.000 social or affordable dwellings, which are owned by the municipality of Lisbon. Currently less than 1.000 of these dwellings are listed as affordable housing, which means that the vast majority is assigned exclusively to those families with the lowest incomes in the city. For these dwellings, rent is not set based on costs on maintenance, but is solely based

on tenants' income, making the average monthly rent per dwelling around 80 EUR – a much smaller amount than the running costs of maintenance.

Lisbon's social housing started with the establishment of two neighborhoods in the 1940s and had another boom in the 1970s and again after 1993, where Portugal introduced legislation to eradicate slums and introduce social housing to the poorest families of the city. In recent years, the municipality has initiated construction of social housing again, greatly due to the financial stimulus from the EU Recovery and

Padre Cruz, Lisbon



Padre Cruz, Lisbon. Photo Vibeke Borch Henning.

Resilience Facility, put into effect after the Covid-19 pandemic and the economic challenges it caused.

In Portugal, each municipality decides the number of social housing dwellings to supply to its inhabitants, and since the dwellings give a running deficit on municipal accounts due to the income-based rent, mostly bigger cities with stronger economies can supply social housing.

However, there is a strong demand for the social housing units in Portugal as well as in the rest of the EU, and the ambitious plan is to build 7.000 new dwellings in Lisbon before the call on the Resilience Fund ends in 2026.

Even though there are widespread differences in the cost of construction per square meter, in general the Portuguese social housing carried out in the Lisbon area in recent years has had a much lower cost compared to similar projects carried out in the Nordic countries. The average cost of construction has been around 1.300 € per square meter⁵ on the projects built in the municipality of Lisbon since 2018, a price 2 to 3 times lower than the costs of construction in the Nordic region.

Labor Costs and Availability in Portugal's construction sector

One of the primary drivers of lower construction costs in Lisbon is the significantly lower

⁵ 2023 prices. Data from Gebalis and Municipality of Lisbon on social housing construction costs.

labor costs. In Portugal, the average wage in the construction sector is substantially lower than in Nordic countries.

The average wage in construction in Portugal is approximately €11 per hour (as of 2024),⁶ compared to Nordic countries where the minimum wage can be upwards of €40 per hour.⁷ This wage disparity is further amplified by the higher availability of skilled and semi-skilled labor in Lisbon, where unemployment rates are relatively higher,⁸ providing a steady supply of labor at competitive rates.

Furthermore, a higher percentage of the labor force in Portugal consist of non-EU labor, especially coming from the country's former colonies, and other countries with close cultural and historical ties to Portugal. A significant portion of the workforce originates from former Portuguese colonies in Africa such as Cape Verde, Guinea-Bissau and Angola, and Brazil in South America.⁹ These countries continuously provide labor due to both shared language and historical connections that entail relatively small barriers to migration and integration into Portuguese society.

Additionally, there is a substantial presence of workers from Eastern Europe, particularly Ukraine, in Portugal. The Ukrainian diaspora forms the second largest immigrant group in Portugal, only surpassed by Brazil, and many Ukrainian men find employment in the construction sector.¹⁰

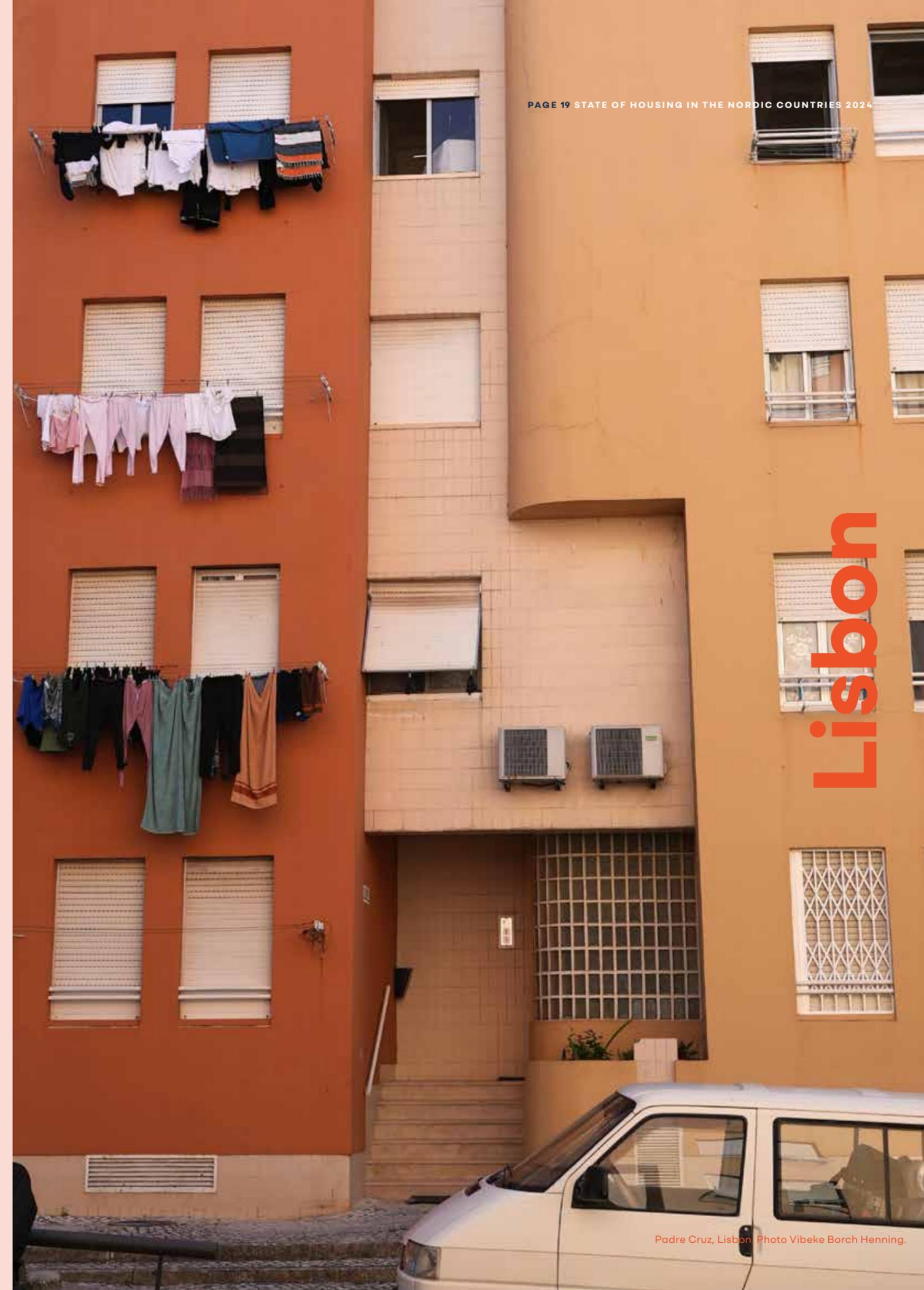
⁶ Construction / Building / Installation Average Salaries in Portugal 2024 - The Complete Guide (salaryexplorer.com)

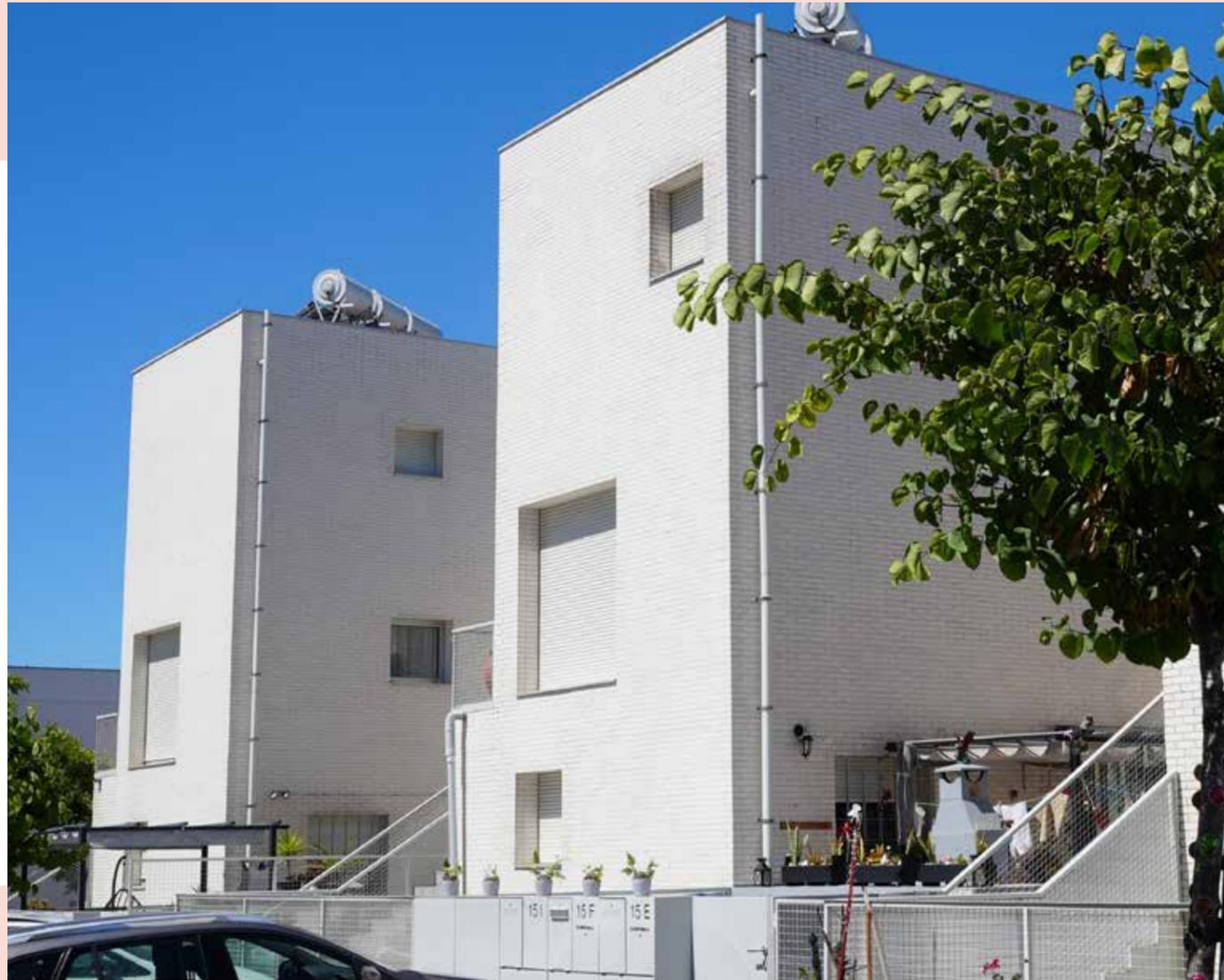
⁷ Pay level and collective agreement terms for carpenters and joiners (workplacedenmark.dk)

⁸ Employment rate | OECD

⁹ Shortage occupations in Portugal in 2024 (wagecentre.com)

¹⁰ Shortage occupations in Portugal in 2024 (wagecentre.com)





Bonavista, Lisbon. Photo Vibeke Borch Henning.

The social and affordable housing in and around Lisbon offers well-maintained, functional, and aesthetic homes and surroundings for tenants. Each apartment is fully renovated between leases, ensuring that tenants always receive a home on par with private rental alternatives.

The influx of non-EU labor is also influenced by the need to address labor shortages in Portugal's construction sector, where local labor supply is insufficient to meet demand.¹¹ This shortage is exacerbated by the relatively lower wages in the construction industry compared to some other EU countries, making it less attractive to local workers but more appealing to migrants seeking better economic opportunities.¹² These findings highlight the role of both historical ties, economic demand, and low barriers to entry in shaping the composition of non-EU labor force in Portugal's construction industry. Here, Portugal seems to have a clear advantage compared to the Nordic countries.

Regulatory Environment and Permitting

The regulatory environment in Lisbon is more streamlined and less stringent compared to the Nordic countries. The process for obtaining building permits in Portugal is generally faster and involves fewer bureaucratic hurdles,¹³ and the country has less stringent labor laws and less favorable labor rights than in the Nordic countries. This does create a level of efficiency which reduces the pre-construction time significantly, leading to cost savings. In contrast, Nordic countries are known for their rigorous regulatory standards, particularly regarding environmental and sustainability requirements,¹⁴ which, while beneficial for long-term sustainability, add to the initial construction costs.

Material Costs, tariffs and fees and Sourcing

Construction material costs in Lisbon and in more southern parts of Europe are lower due to several factors. The proximity to major manufacturing hubs in Southern Europe reduces transportation costs, and Portugal benefits from lower tariffs on residential construction of affordable homes, with a newly imposed reduced value added tax for these types of construction of 6 %¹⁵ (23 % is the non-reduced tax rate in Portugal).

Conversely, local materials in the Nordic region are often more expensive due to the higher production costs, including labor costs, and extensive environmental regulations.

Climatic Conditions and Construction Techniques

The milder climate of Lisbon allows for more cost-effective construction techniques and materials. The Mediterranean climate, characterized by mild, wet winters and hot, dry summers, reduces the need for the extensive insulation and weatherproofing required in the Nordic countries.

Nordic construction must account for severe winters, which require robust insulation, extensive heating systems, and durable materials that can withstand harsh conditions, which may contribute to higher costs.

Economic and Market Conditions

The real estate market dynamics in Lisbon also play a role in reducing construction costs. Lisbon has a higher availability of developable land at lower prices compared to the densely populated urban centers in the Nordic region.¹⁶ The market competition in Portugal is less intense, leading to lower land acquisition costs. Moreover, the cost of financing construction projects is currently relatively lower financial incentives provided by the government to boost the housing sector.

¹¹ Labour migration: what's in it for countries of destination and origin? - European Commission (europa.eu)

¹² Salary in Portugal in 2024 (wagecentre.com)

¹³ International Construction Costs 2024 | Arcadis

¹⁴ Roadmap: Harmonising Nordic Building Regulations concerning Climate Emissions (norden.org)

¹⁵ The tax authority ("AT") released a circular with instructions on the application of the reduced VAT (cuatrecasas.com)

¹⁶ Interviews on construction in Lisbon, Gebalis, July 2024.

Insights on residential construction from Sweden

In Sweden, construction prices on residential housing have gone up in the past two and a half decades. For rental apartment buildings, the price has increased by 144 percent since 2000 and for resident-owned apartment buildings, the increase has been even bigger at 193 percent.

Construction Price Index measures changes in cost for production factors in housing construction, that is, materials of various types, equipment, salaries, transport, etc. The index does not take account of the market situation, but is based on measurements of goods and salaries.

Construction prices for resident-owned apartments and rental apartments have generally followed each other over the past two decades. However, during years of financial crises and an economic downturn, the price difference between rental and tenant-owned is reduced. At the same time, the price difference has increased in a stronger market.

In 2021, construction prices decreased for both rental apartments and tenant-owned apartments due to the Covid-19 pandemic.



Telegrafberget, Stockholm, HSB. Photo Johner Bildbyrå.

2022 was a very eventful year with a major impact on construction costs for residential buildings projects. In February 2022, the war in Ukraine began, and the prices of building materials increased. The production price for residential building projects in Sweden reached new highs, and construction costs for residential buildings increased by 14 percent between May 2021 and May 2022. This is the highest growth rate in production prices seen since 1980, a time also characterized by high inflationary pressure, energy crises and high interest rates.¹⁷ The soaring electricity prices and inflation of 2022 resulted in high interest rates and the construction and real estate sector have reported sharply increased costs in ongoing construction projects.

Production in the construction market in Sweden fell again in 2023. The drop in demand was driven particularly by a marked increase in interest rate levels and high construction costs. High interest rate levels are expected to keep the number of initiated building projects below the average for the past 5–10 years. The Swedish National Board of Housing, Building and

Planning assesses that the current rate of residential building projects will not be sufficient to meet the coming increase in the population in Sweden.

Since the 1990s, housing prices in Sweden have increased rapidly, outpacing those in neighboring countries. This rise is partly due to increased land prices, especially in metropolitan areas. At the end of the day, pricing for residential building projects in Sweden has gone up driven by both external factors and internal changes within the construction industry.¹⁸

Cost of materials

Construction costs in Sweden have also risen significantly, more so than in other Nordic countries. The price of building materials, such as reinforcing steel (rebar) and cables, has increased at a much higher rate than the corresponding commodity prices. The cost of building materials has increased by 25 percent, and individual materials such as reinforcing steel (rebar) have increased by over 100 percent and wood by 46 percent. Tender prices have increased by up to 50 percent, which is on top of already record high construction prices.

The cost of rebar and cables has risen much faster than the prices of the raw materials they are made from. Wood products are produced in large quantities in Sweden, but a significant proportion is exported, which affects national pricing. Steel products intended for use in construction are mainly manufactured abroad, and imported, which is why the pricing of these materials is largely based on global demand and supply. During the pandemic, these materials have shown a sharp price fluctuation. Where the earlier developments in prices were driven by both material and labor costs, the most recent sharp increases have mainly been on the material side. Certain materials became scarce during the pandemic and even after the outbreak of the war.

¹⁷ Construction cost index, Official Statistics of Sweden.

¹⁸ Insights from Sweden based on interviews with HSB and Sveriges Allmännyttas, august 2024.

The Swedish housing market has also been influenced by various economic factors, including falling real interest rates, permissive mortgage lending, and socio-economic inequalities, enabling a strong demand on housing, which in turn has driven up prices.

The increasing costs of building materials are largely due to an overall effect of industry-wide problems. According to The Swedish Competition Authority, the lack of competition in the building materials industry, as well as the construction industry, leads to higher prices. In addition, factors such as low productivity, low target group variety and a volatile construction rate contribute to market inefficiencies.

All in all, this contributes to a market situation where the conditions for reducing cost increases for residential buildings projects are limited. The cost of building materials has

increased faster than the general price development in Sweden. When the cost development for building materials is set against inflation over time, Sweden stands out in relation to other countries. The cost development for building materials appears to be due to national market conditions rather than external factors.

The war in Ukraine

The war in Ukraine has had an impact in reducing the material supply side. For example, parquet flooring that was manufactured in Ukraine with Russian timber is not accessible any longer. Since Ukraine is a major producer



Brf Eldaren, Växjö. Photo Alexander Hall.

of certain raw materials and building materials, such as steel and wood, the war has disrupted production and supply chains for these materials, leading to shortages and higher prices.

Additionally, the war has affected energy markets, particularly the prices of energy such as gas and oil. High energy costs have impacted the construction industry both through increased operating costs and by affecting material prices, and restrictions on Russian energy exports have driven up energy prices, leading to sharp increases in many types of materials.

Disruptions in global transport chains and logistical problems, partly caused by the conflict, have also increased shipping costs and delivery times for building materials, which in turn have affected construction prices.



Uppsala. Photo Uppsalahem.

Since the 1960s, at least eight Swedish government reports and other state agency reports have identified a lack of competition as a problem for housing supply and affordability.

Easy access to financing

The Swedish housing market has also been influenced by various economic factors, including falling real interest rates, permissive mortgage lending, and socio-economic inequalities, enabling a strong demand on housing, which in turn has driven up prices.

Since the 1960s, at least eight Swedish government reports and other state agency reports have identified a lack of competition as a problem for housing supply and affordability. The Swedish banking crisis in 1991 and the phasing out of supply-side interest rate subsidies, which had benefited Swedish construction for decades, further accentuated the trend. In the wake of the crisis, housing production plummeted.

The record high increase in pricing and the unsettled situation in the world, especially the effects of the war in Ukraine, creates concern for future developments. Construction is at risk of becoming too expensive, to the point where construction calculations will not add up causing a complete stop for residential buildings projects in Sweden.

Regulation and building codes

Strict building codes and regulations can add to the complexity and cost of construction and have done so in Sweden.

These standards in construction, while ensuring quality and safety, can also increase the time and expenses involved in building. Legislation reforms for planning and building in the

last 20 years have mainly been focused on reducing construction costs and time-consuming processes. Because of this, many exceptions from technical and formal requirements have been implemented.

However, legislative reforms have at the same time been aimed at stricter environmental and sustainability requirements. A regulatory reform of The Swedish Building Codes enters into force in July 2025. This reform's aim is also focused on increasing sustainability, energy efficiency and safety in the Swedish construction market.¹⁹ The Swedish National Board of Housing is aiming for the new regulatory reform to make the building codes more adaptable to new methods and materials and to promote innovation.

Supply side dynamics

In Sweden, suppliers to the contractors remain concentrated to a few large suppliers.

The cement market in Sweden is dominated by one company, Cementa AB, which is a subsidiary of the German Heidelberg Cement Group, and which holds an 85–90 percent market share. Similarly, the market for factory produced concrete is dominated by three large companies, with the Peab subsidiary, Swerock, having a two thirds market share in the arena. Markets for other strategic construction materials such as plasterboard and mineral wool are similarly concentrated.

Four companies, Peab, NCC, JM and Skanska, have historically been the largest house-building contractors, and are still holding this position today. These are often labelled the Big Four, although Norwegian-owned Veidekke has recently replaced JM in the top four.

The Big Four accounted for over 12 percent of net profits generated within the entire construction sector in 2018, but that figure had been as high as 26 percent in 2016. A mere 0.1 percent of construction enterprises (categorized as 'large enterprises') contributed 21.4 percent of gross value added, making this one of the most concentrated sectors in Europe.

¹⁹ Projekt att se över Boverkets byggregler - Boverket

The Big Four have largely maintained their dominance in contracting and development, especially in public housing developments. Inflation and the subsequent recession in the construction industry have led to fewer suppliers and subcontractors for affordable housing construction projects in Sweden.

In Sweden, the experience is that in smaller towns where the larger contractors are not active, it is challenging to have smaller contractors prioritize residential construction. There are long lead times for contractors from the time they submit a price for a residential project (BRF)²⁰ until production starts. They often choose to prioritize ROT²¹ projects or commercial properties instead.

Labor supply

Increases in wages and changes in the labor market have affected labor costs. Increase in demand for skilled labor and regulations have contributed to higher wages and thus high-

²⁰ Budget Reference Field; externally funded or granted projects.
²¹ Renovate, operate, transfer.

her construction costs. On the other hand, the reduced labor force is not yet a problem for carrying out construction projects as very few homes are currently being started, but a lower labor supply will likely create a big problem in the future.

Cost of land

The rising cost of land is a significant reason for the rising production prices in construction. The price of land has increased driving up construction costs for new residential buildings, rental apartments as well as resident-owned.

From 2000 to 2021 the price of land increased by 370 percent and the price of construction by 150 percent for resident-owned apartments. The price of land for rental apartments increased by 317 percent. This means that the land price in relation to construction price, has also increased continuously. The proportion of land price in relation to construction price for resident-owned apartments has increased from 15 percent to 24 percent during the

period, with the highest level in 2011 (27 percent).

The price of land for rental apartments increased by 317 percent during the same period. The proportion of land price in relation to construction price has also increased continuously for rental apartments between 2000 and 2021. The price of land is the part of the production price that has increased the most.

The increasing land prices can be explained by the good economic market for housing, together with a large deficit of housing, especially in the big cities, which has pushed up the price of homes on the secondary market. The high price of land can be seen as a direct consequence of increased housing prices on the secondary market.

In addition, the high price of land is also a consequence of the fact that there is a shortage in the supply of buildable land. Time-consuming processes for planning and building permits also have an impact. It takes a long time to

go from an identified need for more housing to the decision to start building and then going through the process of planning and receiving building permits – and this time frame has become longer over the years. The price of land increases in line with the long processing times.

Geographical differences

Construction prices differ between different areas in Sweden. It is more expensive for public housing to build in big cities than in smaller towns and rural areas. Strong markets are driving the cost development for multi-dwelling building construction.

In the big cities, public housing construction prices have risen by 58 percent since 2014. In larger cities, the increase is 34 percent – and in rural and smaller cities only 12 percent. One reason for the price difference is the earlier financial aid for investment in residential building projects provided by the government to contractors building rental apartments with a fixed rent. Most construction projects receiving this investment aid are situated outside big cities. As such, the investment aid has made residential building projects possible even in a weak market. The investment aid for residential building projects was introduced by the

government in 2016. In 2021 the government decided to cease the investment aid.

The consequences of weak competition on housing supply and affordability are widely asserted in Sweden and throughout the OECD. A report from Sweden's central bank identified weak competition as a major problem, claiming that '...large construction companies [...] make use of their oligopoly position and charge higher prices, which holds back construction. There is widespread agreement among both domestic agencies and intergovernmental organizations alike that weak competition, alongside other supply-side maladies such as restrictive land-use, burdensome planning procedures and rent regulations are detrimental to the functioning of the Swedish housing market.

Technological Advances

Advances in construction technology and the use of new building methods have affected both costs and efficiency. In some cases, these advances have helped reduce costs, while in other cases, they have led to initially higher investments.

Residential construction in Norway

Housing construction in Norway is at its lowest level since the crisis in the 1990s. High construction costs, increased interest rates and uncertainty in the market have resulted in very low sales figures. The vast majority of homes in Norway are owner-occupied homes, and when housebuilders do not sell homes, they do not get financing and consequently cannot start construction. The housing demand in Norway is approx. 30.000 homes per year. Now less than half of that is built.

Fig. 4.1 Twelve month rolling sale and commencement of residential construction 2000-2024



Source: Boligprodusentene

There is no aggregate information on construction costs in Norway but based on information from some housing associations and other developers we estimate costs per square meter throughout the country to be from approx. NOK 45.000 – 55.000 and in the capital NOK 55.000 – 65.000. These levels equal 3.800 – 4.700 € at the national level, and up towards 4.700 – 5.500 € per square meter in the capital region of Norway.

There are many factors that have driven up construction costs, although it is difficult to estimate exactly how much each one means:

- Increasingly strict requirements for climate, environment, nature, adaptation to the disabled, light, outdoor areas, etc. All the good requirements lead to increased needs for investigations by engineers and other professional personnel, in addition to the fact that each individual requirement is also a cost driver by increased living space, materials and technical equipment.
- Increased time spent by the authorities when planning and approving housing projects, which increases risk and capital costs.
- Plot prices in central areas for residential construction, and difficult plot conditions.
- It is more difficult to build on the limited areas that are now set aside for housing. Infrastructure costs will also be higher.

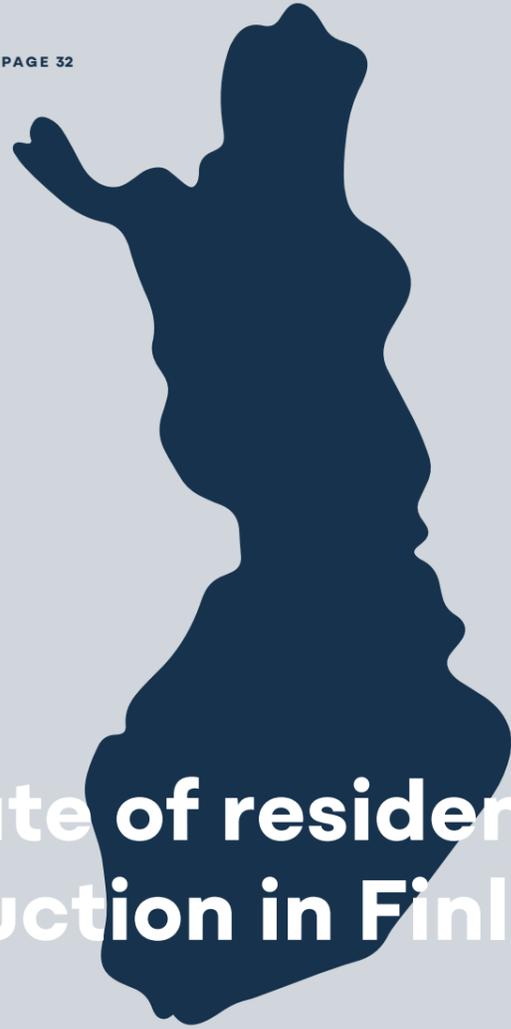
- The Norwegian krone is low. This leads to extra high prices for imported goods.
- Productivity growth in the construction industry has also been very weak over the past 20 years. In the last 20 years, i.e. since 2003, labor productivity in the building and construction industry has fallen by 8 percent, while it has increased by 32 percent in other market-oriented businesses in mainland Norway, according to figures from the Norwegian national accounts.

Total construction costs generally follow the price of new homes, but there is a large growing gap between total construction costs and costs of input factors. From 1997 until today, total construction costs have increased approximately five-fold, while costs related to input factors have only doubled.²²

²² Are Oust DN 22. May 2024



NBBL. Photo Nadia Frantsen.



The state of residential construction in Finland

Finland’s affordable housing companies run a little over 500.000 apartments in around 290 municipalities. In the capital, the companies have a total of approx.70.000 apartments.²³

The cost of building new affordable homes vary according to region, but the overall costs of building in Finland are around 3.500 euro/sqm. Even though prices have fallen in the last year, the cost of construction is still at high point in Finland, see table 4.1.

Table 4.1 Costs of construction affordable homes in Finland

Region	Building costs	Annual change (prev. 12 months)	Acquisition value (own plot)	Annual change prev. 12 months)	Acquisition value (rented plot)	Annual change (prev. 12 months)
Capital region	3764	-9,7 %	4827	-9,7 %	4243	-12,0 %
The rest of the country	3287	-1,6 %	3757	-5,6 %	3455	-3,5 %
Country total	3537	-8,7 %	4149	-13,7 %	3920	-9,5 %

Source: ARA statistics, August 2024

²³ Insights from Finland based on interviews with Finnish Affordable Housing Companies' Federation - KOVA, august 2024.

Cost developments

Based on statistics maintained by Statistics Finland, it can be stated that the Building Cost Index for apartment buildings has risen from 100 (year 1990) to 185 points by 2023. At the same time, the overall index has risen from 100 to 191 points. During the review period, the building costs of residential apartment buildings have on average corresponded quite closely to the total index that considers the entire building industry.

The increase in costs has been steady in Finland, with a few exceptions. The recession of the early 1990s can be seen as the cost level remaining almost unchanged for several years. Similarly, before the financial crisis at the beginning of 2009, the cost level rose faster than usual. After the fi-

nancial crisis, building costs in Finland began to differ strongly regionally. Before the crisis, this development had not really been observed on a large scale.

In addition, the effects of the Covid-19 crisis and the war in Ukraine that started in 2022 can be seen in the statistics as events causing significant increases in costs.

A clear decrease in building costs has been noticeable at least after the 2009 crisis



Rantakylanraitti, Tampere. Photo Jari Härkönen.

and in the early stages of the Covid-19 crisis. During the financial crisis, especially the prices of building materials fell, and although labor costs did not significantly fall, it clearly affected the building costs. However, price levels started to rise very soon after the crisis, practically from 2010 onwards. The Finnish government strongly supported the construction industry during the financial crisis, which probably prevented a larger drop in prices and allowed prices to quickly return to growth.

When more statistical information becomes available, it is likely that the Building Cost Index for Finland will have clearly decreased during 2024 as well.

Material and labor costs

Both material and labor costs have had a fairly steady rise throughout the review period. However, from the end of the 1990s until 2007, it can be observed that the price of the labor input has grown significantly faster than the material input.

In general, Finland's economic development has been strong from the end of the 1990s until 2008, and this has also affected salary solutions, and labor costs have risen faster than other costs in the building industry along with the growth of the rest of the economy. However, since the financial crisis, labor and material cost indices have followed roughly the same path. During this period, economic growth has also been more modest, and the impact has been, for example, the euro crisis

of 2012-2014 and the economic sanctions imposed on Russia due to the illegal annexation of Crimea, which significantly affected Finland's exports to Russia.

Correspondingly, starting from 2021, the price of material inputs has risen strongly and faster than labor input. Covid-19 caused a lot of production disruptions in the industry which affected the availability and price of products. Finland's economy is highly export-oriented, and at the same time in other parts of Europe and the United States, as well as in Finland, the demand for construction materials rose exceptionally high. At worst, this caused a direct shortage of building materials and raw materials in Finland.

The growth rate has since slowed down, but at least for now the price of material inputs has remained permanently at a higher level than the price of labor inputs. High energy prices and general price inflation have likely contributed to this. In addition, the sanctions imposed due to the war in Ukraine have made it difficult to obtain many products and raw materials. Creating new supply chains has increased costs.

Financial uncertainty has increased, and this has partly caused companies to transfer their own risk to the prices of their products. Inflation has also had an effect, and when looking at the entire supply chain, the effects have been considerable.

Financial uncertainty has increased, and this has partly caused companies to transfer their own risk to the prices of their products. Inflation has also had an effect, and when looking at the entire supply chain, the effects have been considerable.

Material availability problems have decreased, but in recent years, availability problems due to Russian's war in Ukraine caused a clear rise in construction costs. However, the price levels of materials have not decreased, but remained permanently at a higher level than before.

At least part of the reason for this is probably the effect of the sanctions against Russia, which has greatly affected the availability of building materials and raw materials. The new supply chains are more expensive than the previous ones. Inflation also has an effect, and there will probably never be a return to the old prices.

We do not consider consolidation of suppliers to be a significant factor affecting the price of building. We do not see particularly large changes in this regard in the building product industry in Finland in recent years. However, it is true that the wood industry produces a lot of construction material for export, and only a small part remains for domestic use. In the upswing phase, the increase in exports can cause price pressure, when the industry seeks the highest possible profit for its products.

Regulative barriers

In certain cases, the requirements, caused by land use planning, make the implementation of residential buildings very expensive. For example, implementing underground parking increases the prices of apartments significantly. Small and challenging plots that are difficult to plan and build, as well as the diverse and challenging exterior and material requirements defined in the plan also affect the price of residential construction, and Finland's plan regulations cannot be influenced much.

There are many requirements in affordable housing production to have the building project to be financed with a government-subsidized interest subsidy loan. Some of these requirements increase the price of building projects, for example common gathering spaces or accessibility requirements. However, the requirements are considered justified because their purpose is to ensure, among other things, the longevity and suitability of the apartments for those who need them.

In Finland, the requirements to build civil defense shelters for residents increase the cost of construction. The requirement is very exceptional compared to other countries and practically every apartment building in Finland has a civil defense shelter. There have been discussions over the years to remove the requirement, but recent events in the world have once again put an end to all such discussions.

Financing

Affordable Housing production financed with an interest subsidized loan is somewhat different from market-based housing production. The costs of building projects are closely monitored, and the success of the project also

However, in 2022-2023, housing production in Finland was exceptionally overheated and this was clearly reflected in the very high offer prices. The contractors chose the projects they assumed to be most profitable and not enough bids were necessarily received to tender competitions.

requires strong expertise from the contractor. Typically, the construction company's margin on the project is also lower because the price level is regulated.

Because of this, only few construction companies are interested in taking part in affordable housing projects' tender competitions, which can in some cases cause difficulties for projects in finding implementers and/or achieving sufficient price competition.

Labor force developments

Now, jobs in the building industry have decreased in Finland because there are not enough new projects for everyone. We cannot assess whether the amount of labor has affec-

ted the prices. The effect is probably not very significant. However, in 2022-2023, housing production in Finland was exceptionally overheated and this was clearly reflected in the very high offer prices. The contractors chose the projects they assumed to be most profitable and not enough bids were necessarily received to tender competitions.

Barriers to acquiring land

Finland has also experienced difficulties associated with acquiring land and the scarcity of financiers.

In some cities, the problem is that private parties own the land where construction projects would like to be imple-

mented. Private landowners are not willing to sell land for the needs of subsidized housing production. This is due, among other things, to the fact that the transfer price of the plot must be lower than the market price for the construction project to receive a state subsidized loan. Cities may not have the opportunity to offer enough suitable plots for affordable housing production.

The scarcity of financiers is because in Finland there is practically only one financial institution (MuniFin) that finances subsidized housing projects. This in itself does not increase the price of construction, but unilateral supply is a risk in itself.

Jouhisarankuja, Nurmijärvi, housing project in wood

Photo Jari Härkönen





Residential construction in Iceland

Icelandic social and affordable housing counts 4.500 apartments split between the sites of Félagsbústaðir and Búseti. The current cost of construction in Iceland is estimated at 700.000 ISK per square meter (approx. 4.600 euro/sqm), which includes the cost of building plots.

Iceland's residential building project prices have experienced various fluctuations over the last 30 years, driven by both local and global factors. Overall, the trend in residential building prices in Iceland has been upward, with significant fluctuations tied to economic crises, recovery periods, and shifts in global and local demand.

The pattern is characterized by steep climbs during periods of economic growth and stability, sharp declines during crises, and gradual recoveries influenced by government interventions and market adjustments.

Figure 4.2 shows fluctuations in the number of constructions of residential buildings in Reykjavík over a 20-year period.

- 2000-2007: Iceland experienced significant economic growth, driven by a liberalized financial sector and increased foreign investment. Residential building prices rose steadily due to strong demand, economic expansion, and rising incomes.



Reykjavik, Félagsbústaðir. Photo Thordis Erla Agustsdottir.

Figure 4.2 Number of constructions of residential buildings in Reykjavik area, Iceland, 2000-2021

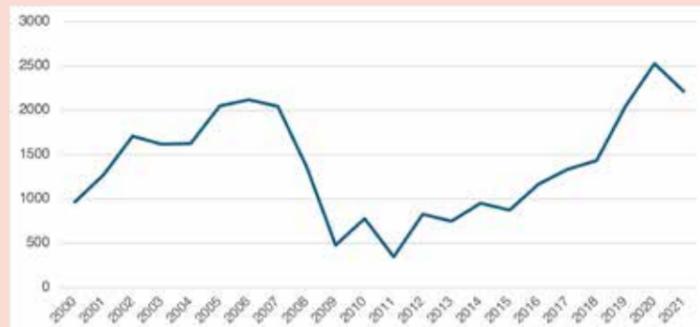
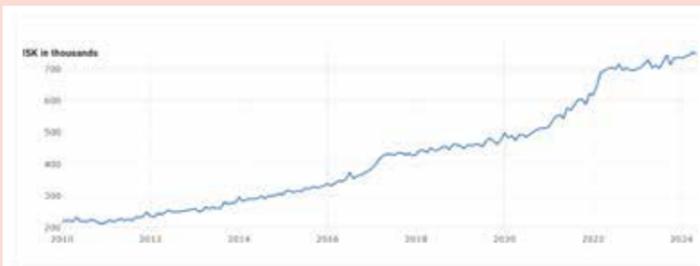


Figure 4.3 Price development per square meter, residential construction in Iceland, 2010-2024



- 2008-2011: The financial crisis hit Iceland particularly hard, leading to the collapse of its three major banks. The currency (Icelandic króna) depreciated significantly, and the country entered a severe recession. Economic uncertainty, high inflation, and a sharp contraction in credit availability discouraged construction and purchasing of residential buildings.
- 2012-2019: Iceland's economy began to recover, partly due to tourism and a more stable financial environment. Residential building prices started to climb again, driven by renewed economic growth, a booming tourism sector, and increased foreign investment in real estate.
- 2020-2021: The Covid-19 pandemic brought a temporary halt to the tourism sector, which had become a significant part of Iceland's economy. However, the impact on residential building prices was mixed. While the pandemic caused a short-term dip in demand, government stimulus measures and low interest rates helped support the housing market.
- 2022-2024: The post-pandemic recovery led to a significant increase in residential building prices. Factors included supply chain disruptions causing higher construction material costs, inflation, and ongoing demand for housing.

In 2017, the population of Iceland increased by 3.0 %, which is the largest population increase in the 280-year history of continuous population registration in Iceland. This influx of population to the country adds to the upwards pressure on real estate and land prices.

As the situation is now in Iceland, there is still a serious need for more apartments. Prices are relatively high, and the current cost of capital is very high, based on the high Central Bank key rates. The average age of the population is increasing, and it is estimated that until the year 2040, the number of people older than 70 years will increase by 31.000 persons, while the number of those aged 40 or younger will stay the same. This change in age composition of the population is a factor that increases the demand for Icelandic social and affordable apartments in the future.

The developments over the last 30 years are driven both by an increase in labor cost, construction materials, as well as interest rate fluctuations and inflation.

Additionally, in the past several years the cost of land for building plots in Iceland has risen drastically, and increased demand has also contributed to rising real estate prices.

In 2017, the population of Iceland increased by 3.0 %, which is the largest population increase in the 280-year history of continuous population registration in Iceland. This influx of population to the country adds to the upwards pressure on real estate and land prices.

Adding to the upwards pressure on prices of Icelandic construction, restrictions and disruptions in global supply chain, particularly post-2020, have led to increased material costs, influencing overall project costs.

As already mentioned, the main factors are the rising cost of construction materials and labor as well as interest rate fluctuations, currency depreciation and inflation. There has also been a shortage of contractors in the private sector due to constructions in the tourist sector, but the number of projects in the latter area has decreased in the last semesters.

Danish developments in construction

From 2000 to the present, the pricing of residential building projects in Denmark has generally seen an upward trend, influenced by several economic cycles, policy changes, and external shocks.

2000-2007: Growth Phase

The early 2000s experienced significant growth in the Danish housing market. Factors like low-interest rates, economic growth, and strong demand for new housing developments drove up prices. Residential construction costs steadily increased due to higher demand for materials and labor.

2008-2012: Financial Crisis Impact

The 2008 global financial crisis caused a substantial slowdown in the Danish housing market. Residential construction costs and prices fell or stagnated during this period due to decreased demand and tightening credit conditions. The crisis created uncertainty, which led to reduced investment in new projects.

2013-2019: Recovery and Stability

After 2012, the market began to recover, driven by favorable economic conditions, low-interest rates, and renewed confidence in the housing market. This recovery period saw more stable yet gradual increases in residential construction costs, mainly driven by rising labor and material costs as demand recovered.



Danmarkshusene, AKB Rødovre. Photo Lars Grøsborg Mathiasen.

Denmark



Lisbjerg bakke, AI2bolig. Photo Henrik Karstenskov.

The most groundbreaking housing event in Denmark for the last two years is the political agreement favoring the non-profit housing sector with a plan to construct 22,000 new affordable and sustainable homes.

2020–Present: Covid-19 Pandemic and Post-Pandemic Effects

The Covid-19 pandemic caused initial disruptions in the supply chain and construction activities, leading to temporary delays and increased costs. However, the post-pandemic period has been characterized by sharp price increases for construction materials, such as wood, steel, and concrete, driven by global supply chain issues and inflationary pressures.

Something that further accentuated the rising costs of construction during and following the Covid-19 pandemic was the poor economic forecasting of the crisis. The policy response to the crisis was to infuse the economy, and especially the Danish construction sector, with additional funds to get through the recession.²⁴ However, the economy never took the expected downfall, instead letting the infused funds add to already very high levels of construction activity, pushing up prices in the sector.

The cost of materials increased by over 10 percent in 2021, while energy costs also rose significantly. Additionally, the Russian invasion of Ukraine in 2022 led to energy price spikes and further material shortages that impacted construction costs.²⁵

Both material and labor costs have played significant roles in driving up prices for residential building projects in Denmark. In recent years, Denmark has seen substantial fluctuations in material costs. For example, the cost of lumber, steel, and concrete has surged due to global supply chain disruptions, increased demand, and energy price shocks. Data from Statistics Denmark shows that material costs have increased by around 15 to 20 percent over the past few years.²⁶ This is also shown in figure 1.2.

24 Grøn boligafale 2020 (regeringen.dk), Økonomiafale med KL dækker coronaregning og kan sparke gang i væksten (fm.dk)
25 NYT: Byggeomkostningerne er steget med 1,0 pct. - Danmarks Statistik (dst.dk)
26 Statistics Denmark, table BYG42.



Tranbjerg Syd, Al2bolig. Photo BurntWood.

Skilled labor shortage

Denmark faces a shortage of skilled labor in the construction sector, driving up wages – and this shortage is only set to get larger, as for certain skilled labor groups up towards 50 percent of workers in construction are 50 years of age or more.²⁷ This poses a problem, especially as physically demanding work might lead to occupational wear and tear before the current retirement age in Denmark, which is 69 years for people born after 1974. Also, the limited skilled labor force in construction combined with continuously high demand add an upwards pressure on wages and salaries.

The construction boom experienced in Denmark post-Covid has intensified competition for skilled workers, thereby raising labor costs. Additionally, Denmark's strong labor market regulations and social benefits contribute to relatively high labor costs compared to many other countries.

Increasingly Restrictive Regulatory Barriers

Denmark has stringent building regulations, including energy efficiency requirements, safety standards, and sustainability measures. While these regulations ensure high-quality, environmentally friendly construction, they also add to the complexity and cost of building projects.²⁸

There is currently a trilemma between legislation on energy efficiency in building performance on one hand, nested CO2 in new construction²⁹ on the other hand, and an unrevised national building code that does not leave much room for environmental improvements such for example as wooden load-bearing structures, thinner walls and new, sustainable insulation materials. This trilemma must be addressed by legislators to minimize complexity and keeping up with sustainability requirements.

Few subcontractors to the material suppliers

Capacity costs for suppliers and material manufacturers are rising significantly and contributing to the increase in material

²⁷ Confederation of Danish Industry, DI Ejendomme.

²⁸ Danish Building Regulations

²⁹ Ny aftale stiller ambitiøse klimakrav til nyt byggeri - Social-, Bolig- og Ældreministeriet (sm.dk)

Denmark faces a shortage of skilled labor in the construction sector, driving up wages – and this shortage is only set to get larger, as for certain skilled labor groups up towards 50 percent of workers in construction are 50 years of age or more.

prices. Although alternatives exist, the supplier pool is largely the same, supplying the entire Danish market across building supply stores. It is difficult to expand this pool with new material suppliers for the Danish market, primarily due to Danish legislation related to construction projects, including restrictions on the use of new materials in Danish law.³⁰ In Denmark, contractors are also required to inform the client in writing if methods and materials, that have not been thoroughly tested in a Danish context, are used. This puts pressure on the continuously increasing activity level in the construction industry, ultimately leading to higher prices.

Few large consulting engineering companies

The Danish construction sector has experienced a trend of consolidation, where larger architectural and engineering firms are becoming more dominant. Although this can lead to economies of scale, it can also reduce competition, which has resulted in higher prices in recent years.

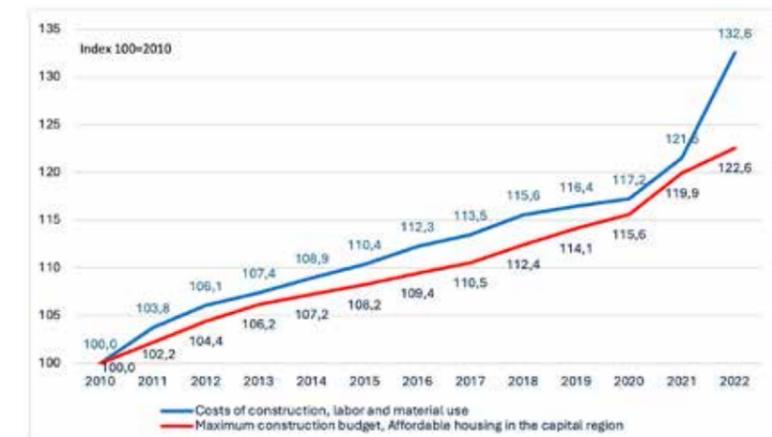
An example of this is the cost of consultancy, which has increased significantly since 2009, when it averaged between 5 and 8 percent of project costs, whereas today it reaches up to 10 to 12 percent. This significant increase in consultants' earnings drives construction costs up, but it is also a strong indication that consultancy in the construction industry has become more complex as regulatory restrictions have increased in recent years.³¹

The maximum construction budget for affordable homes

The Danish legislation around affordable homes leaves little economic flexibility for building new housing units, especially near the capital region of Denmark. The maximum budget per square meter is set between 3.000 to 4.000 €, with variations based on size and type of housing unit, and it is indexed each year based on developments in wage and consumer price indices. Both these indices weigh equally in the development of the maximum budget.

However, this poses a problem, since the development of costs in construction, both in terms of material use and labor, has consistently grown at a faster pace than both consumer prices and wages leaving the purchasing power of the maximum budget at increasingly low levels. This leaves an increasingly difficult, and at times completely impossible, task for affordable housing companies in Denmark to find contractors for new residential housing projects. See figure 4.4 for the development of costs in construction relative to the development of the maximum construction budget.

Figure 4.4 Development of maximum construction budget relative to costs in construction



³⁰ Nicolai Muhs, head of department for Renovation and Operational Support, Danish National Building Fund.

³¹ Nicolai Muhs, head of department for Renovation and Operational Support, Danish National Building Fund.

Mitigation of barriers to future construction in the Nordic region

Icelandic perspectives on mitigation³²

In terms of alleviating the upwards push on prices, there have not been any game changing solutions relating to lowering the building costs in Iceland. At the end of the day there is a need to retain standards of quality. But building smaller units is a way of lowering costs as well as the utilization of prefabricated units.

Based on the increased demand for green building solutions and low carbon footprints, there have been successful projects in Iceland in terms of lowering the footprint. One of the ways of doing this includes the reuse of building materials. This has the potential to lower building costs and support the environment.

Swedish perspectives on mitigation³³

It can help to enable future construction projects if production is rationalized, as the calculations are incredibly difficult to make work. It is all about avoiding cost-driving requirements from the municipalities. For example, some municipalities require that building bodies cannot be the same height within the same block. These are requirements that must be weighed against the possibility of future housing in the detailed planning work. The municipality should also do what they can to facilitate the building permit process and avoid denying building permits on questionable grounds.

³² Icelandic insights on cost mitigation are based on interviews with Buseti, august 2024.

³³ Swedish insights on cost mitigation are based on interviews with HSB and Sveriges Alménnytt, august 2024.

Modular builds

Prefabricating building sections off-site and then assembling them on-site can significantly cut down on material waste and construction time. This method also allows for better quality control and cost savings. Public Housing Sweden has a tender process regarding prefabricated and repeatable buildings which reduces construction costs as well as the time for planning and building.

The tender process and building process offered by Public Housing Sweden has resulted in almost 10.000 apartments from 2010 to 2020. Lower construction costs make it possible to produce affordable housing by this tender and building process provided by Public Housing Sweden.

Norwegian perspectives on mitigation³⁴

Information from Norwegian housing associations indicates that measures that have been taken to reduce costs are mostly project-specific, i.e. primarily case-by-case and not an overall solution that repeats itself in all projects.

Examples of helpful measures in the Norwegian context:

- New and innovative ways of handling stormwater solutions
- Cuts in BREEAM certifications and a more simplistic sustainability approach focusing solely to clear the taxonomy
- Rationalizing construction: for example, through fewer shafts, fewer bathroom types etc.
- Optimizing space efficiency in buildings (optimization of apartment plans, storage and garage facilities)
- Shortening implementation time, for example through closer planning cooperation with the municipality. This is not a new measure, but building projects are now typically going through extra rounds of planning.

³⁴ Norwegian insights on cost mitigation are based on interviews with NBBL, September 2024.

Several housing associations have looked at possibilities for home purchasing models offering ways for more people to buy a new home. Approximately 15 housing estates offer various solutions, all for new housing:

Financing

It is not only high costs that challenge the new housing market in Norway. Uncertainty about the development of interest rates and strict requirements for financing house purchases lead to lower demand for housing, and especially so for new homes.

So do strict requirements for financing home purchases in the mortgage regulations. Currently, Norwegian mortgage legislation requires 15 percent equity, and many people who buy their first home have problems supplying this downpayment.

New home ownership models

Several housing associations have looked at possibilities for home purchasing models offering ways for more people to buy a new home. Approximately 15 housing estates offer various solutions, all for new housing:

1. Rent to own, which means that initially tenants rent the home for 3-5 years before they can buy it at an agreed price. This is a model that works best when house prices rise. Now that housing prices do no longer increase as much, demand for this model is somewhat lower than a few years ago.
2. Shared ownership, which means that partial owners buy between 50-90 percent of the home and rent the remaining part. As their economic situation improves, they can buy a larger share of the home.
3. "Reduced price buying" means that owners can buy a home at 10-15 percent below market value. When they sell it, it must be sold with that same price regulation back

The authorities welcome such models, and new laws are issued to facilitate their use. NBBL together with OBOS, among others, have worked with standard contracts, information about the models and influenced the authorities to develop good framework conditions for the models.

Finnish perspectives on mitigation³⁵

Interest rate reductions and clean energy

We believe that when the interest rate hopefully falls, the financing of companies will become easier and this will probably reduce building costs as well. For building products, the price of energy is an essential factor. The increase in renewable energy and the stabilization of the energy price market would hopefully also affect the price level of construction products.

Retaining skilled workforce across business cycles

In Finland, the construction industry has reacted quite strongly to various changes in the economy. At the beginning of the economic rise, the pace accelerated rapidly, and prices rose strongly. A recession has usually been followed by a sudden stop, widespread unemployment and falling prices.

Strong variation is particularly problematic in terms of retaining a skilled workforce. It seems the same cycle is repeating itself right now. In other Nordic countries, economic fluctuations are not so strong and fast. It is difficult to say the exact reason for the difference, the size of the market area may have an effect or, for example, companies' confidence in economic development in Finland.

Regulation supporting flexible parking

An experiment with market-based parking in a housing production. This means that parking spaces can be implemented at the discretion of the developer, and the city plan does not require a certain number of parking spaces. If the plot is located along good public transport connections, very few parking spaces can be made, which somewhat lowers the total costs of the project and leaves more space for construction.

³⁵ Finnish insights on cost mitigation are based on interviews



Skt. Hans, Roskilde, Boligselskabet Sjælland.
Photo Jonas Whitehorn.

Good planning renders legislative constraints redundant

One of the Finnish member companies implemented an apartment building project, where two identical apartment buildings were built on side-by-side plots. One was built from wood and the other from concrete. The goal of the project was to calculate and compare the carbon footprint of the houses, the carbon benefits and the comfort of the residents. The cost information of both houses were also thoroughly compared. As one experience from the project, it can be mentioned that the wooden construction also improved the climate footprint of the concrete house, because more attention than normal was paid to emissions during the construction.

In addition, the project taught us that legislation should not dictate too much about construction materials or construction methods. The required goals can be reached with a variety of solutions and materials, if the design is of high quality and considers the requirements of the project in question. A successful tender encourages the construction company to implement the project as climate friendly as possible.

Danish perspectives on mitigation

If a straightforward solution for overcoming barriers to future construction in the Nordics existed, it would likely have been implemented already, and we would not be having this conversation. However, there are still several measures that could be taken to address the rising costs in the construction sector:

Innovative Tendering Processes

Utilizing new procurement strategies, such as Early Contractor Involvement (ECI), can facilitate better cost management. Engaging contractors early in the design phase enables more accurate planning and cost estimation, reducing the risk of budget overruns. This approach has been employed in the transformation of St. Hans, a former psychiatric hospital in Roskilde, into non-profit affordable housing, to ensure cost predictability and prevent unexpected expenses.

Adoption of Sustainable and Alternative Materials

Exploring alternative materials, such as recycled or locally sourced options, can help mitigate the effects of volatile pricing for traditional materials. An example is the two housing organizations St. Jørgen and AI2bolig who transfer used bricks from one housing department and organization to the other.³⁶

Workforce Development and Training

Investing in targeted training programs to expand the pool of skilled labor, especially in areas with acute shortages, can help stabilize labor costs over the long term. In Denmark, the non-profit housing sector has been committed to providing vocational internships on their construction sites, with the goal of having 14 percent of the construction workforce composed of interns from construction-oriented vocational schools.³⁷

Revising the maximum construction budget

To mitigate economic barriers to building new affordable housing in Denmark, there is a need to address the indexing of the Danish maximum construction budget to keep up with the overall price development in the construction sector. Even though this is likely to result in upwards adjustments to rent in newly constructed affordable homes in Denmark, the alternative – which is to not be able to build any affordable housing at all – seems like a much worse alternative, especially given the continued high demand for affordable housing in metropolitan areas of Denmark.

Furthermore, a revision of geographical differences in construction budget per square meter and economic flexibility to invest more at the time of construction for materials with lower maintenance requirements and/or higher life expectancy should also be considered. This will help Danish affordable housing organizations in their continued endeavor to supply affordable homes for a broad spectrum of the Danish population.

³⁶ <https://www.bsviborg.dk/media/2687/esg-rapport-uden-skaeremaerker-2023.pdf>
³⁷ The National Building Fund, 2020.

Conclusion

The rising costs of construction in the Nordic region present a complex challenge that is influenced by a confluence of factors. Labor shortages, particularly in skilled trades, have driven up wages and contributed to higher overall project costs. The reliance on imported materials, particularly from regions outside the European Union, has exposed the construction sector to global price fluctuations and supply chain disruptions. Additionally, the stringent regulatory environment in the Nordic countries, particularly around sustainability and environmental standards, while beneficial for long-term ecological goals, adds significant upfront costs to construction projects.



Moreover, the colder climate in the Nordic region necessitates the use of more robust and insulated materials, which further drives up costs compared to regions with milder climates. The ambitious goals of many Nordic countries to lead in sustainable construction also mean that there is a continuous push towards integrating new, often more expensive, technologies, restrictions and materials that align with these environmental objectives.

In contrast, regions like Lisbon, Portugal benefit from lower labor costs, a more temperate climate, and less stringent regulatory requirements, which collectively contribute to more affordable construction. This stark difference underscores the challenges the Nordic construction sector faces in maintaining affordability amid rising demand and high ambitions.

It is however important to note that the challenges faced by the Nordic region stem from the fact that these countries are ahead of the curve. With robust welfare societies being established in the first part of the last century, and an early emphasis on building homes available to the broad population, the focus in the Nordics has naturally shifted towards maintaining and enhancing existing affordable housing. This includes improving the quality of life for tenants through social, educational, and physical improvements to buildings and communities.

Although the need for more affordable housing still exists in the Nordics, Nordic housing organizations now spend relatively less time on new construction projects and more on operations, facility management and social initiatives within housing areas. This sets them apart from many other European countries, where the affordable housing market is still in its early stages, leading to a stronger emphasis on construction.

While this dynamic does not resolve the issue of rising construction costs in the Nordics, it highlights the fact that housing organizations here are much more than just building developers.

As the Nordic countries continue to navigate these pressures, it will be essential for policymakers, developers, and industry stakeholders to collaborate on solutions that balance cost control with sustainability goals and that unifies legislation, building codes and material use across the neighboring countries of the Nordic region. On the shoulders of the industry lies also the responsibility to enhance the use of fundamental building transformations and seeing new possibilities in what is already there in terms of building stock.

Emphasizing circular economy principles, enhancing vocational cross-Nordic training programs to alleviate labor shortages at the national level, and exploring more efficient supply chain management could offer pathways to mitigate these rising costs of the Nordics. As well, looking to new forms of building, both in terms of building smaller, more space effective homes, using prefabrication and modular construction and reusing materials, while still ensuring proper planning and execution, may be ways to enable future construction of affordable housing in the Nordics.



