

Construction companies see efficiency gains due to milder winters

Warmer winter weather means European construction contractors are experiencing less business disruption as our climate warms. More extreme heat in the summer can make outside work impossible, but those disturbances are only increasing marginally



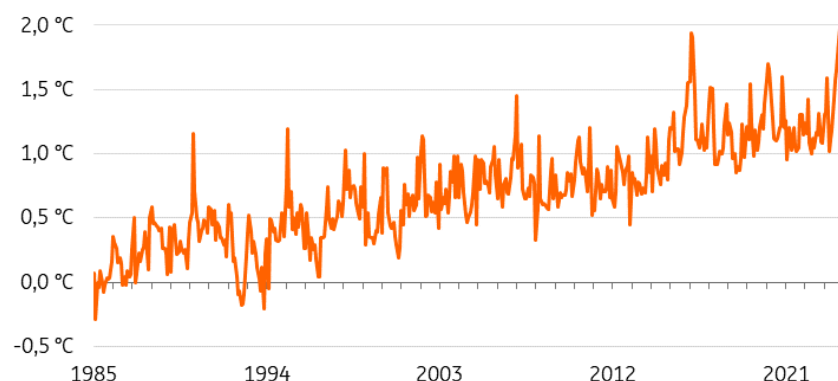
Fewer European contractors mention that their winter activities are being limited by the weather

The impact of climate change on the construction sector

Climate change is having a major impact on construction companies. New buildings, for instance, must become energy-neutral, power grids need to be expanded to accommodate the energy transition, and dykes must be reinforced to cope with higher water levels. Not only does the demand for construction companies change, but contractors also have to adapt themselves as well. Building activities are often outdoors, which makes them vulnerable to changing weather conditions due to global warming.

Rising temperatures

Temperature anomalies in the Northern Hemisphere, Monthly, Jan 1985 to Jan 2024



Source: NASA, Our World in Data, ING Research

We wanted to see if rising temperatures have already had a measurable impact on European construction companies' annual production cycles. We find that construction activities suffer less during the winter as temperatures increase. The opposite is true during the summer, although only marginally. More intensive heat periods are (but barely) disturbing construction in the summer. We use two indicators for this:

- The share of companies that mention that their production levels were limited during the winter (January and February) and summer (July and August) periods due to weather conditions.
- The variation of the actual construction volumes in these periods.

Smaller percentage of companies complain about bad winter weather

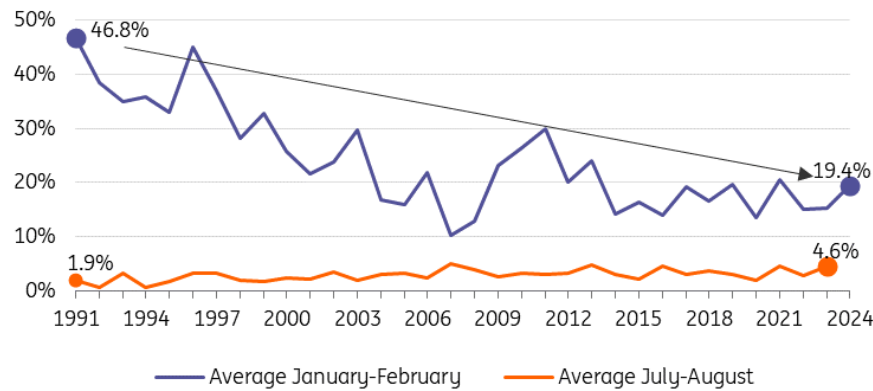
In the last 25 years, fewer contractors have mentioned that their winter activities have been limited by the weather. In 1991, almost 50% of EU contractors said their activities were restricted due to bad weather in January and February. This share decreased gradually to less than 20% during these winter months in 2024. So, we find a clear decline in winter weather issues in the construction sector, which could be attributed to rising temperatures.

Summer circumstances become only slightly more problematic

Where building companies have cited fewer complaints about disturbing winter weather, the opposite is true during the summer period (July and August), although less profoundly. In 1991, fewer than 2% of the EU contractors complained about weather conditions. These numbers slowly increased to 4.6% in 2023. So, although it's still quite marginal, more contractors are experiencing weather-related issues in the summer.

Fewer contractors complain about bad winter weather

Percentage of EU construction firms that have to limit the production because of weather conditions



Source: Eurostat, ING Research

Northern countries complain structurally less about winter conditions

The impact of changing weather patterns differs among countries. You might assume that less cold winters notably improve construction volumes in Northern Europe. Yet, this is not the case. Contractors in Finland and Sweden have, in general, always had fewer issues with weather conditions than Germany, Belgium and the Netherlands. We see three possible reasons for this:

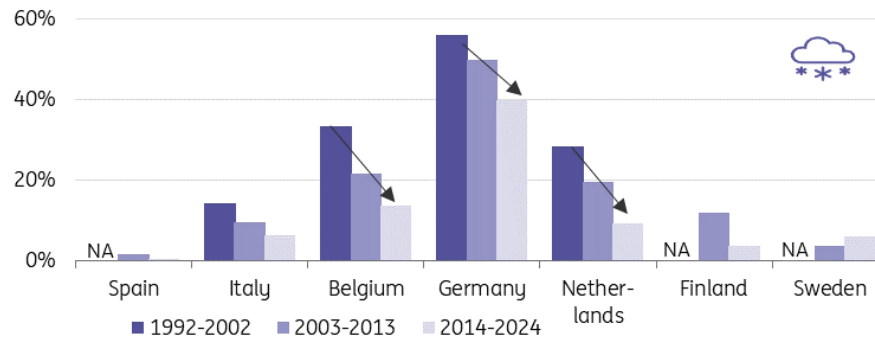
1. Building companies active in cold areas of Europe invest in special winter equipment so that construction can go on because their winters are colder and last longer. For instance, their transport vehicles have winter tyres or even spikes.
2. More production activities are indoors (prefab) to cope with long periods of darkness and cold weather.
3. With project planning, they already take into account that certain building activities, such as excavation works, are just not feasible during the winter. They plan these during the summer, which makes disturbances due to frozen ground less common.

Reduced winter disruptions in Belgium, Germany and the Netherlands

German, Belgian and Dutch contractors cite that their activities are hindered by winter weather most often. They probably prepare less for freezing weather than their counterparts in Northern Europe. Yet, these three countries also witness the sharpest decline in winter condition disturbances. For instance, in Germany in the nineties, more than 55% of the contractors complained about winter weather. This has decreased to less than 40% in the last ten years.

Fewer winter weather disturbances in Belgium, Germany & the Netherlands

Percentage of construction firms that have to limit production because of weather conditions in the winter (average January & February)



Source: Eurostat, ING Research (No data available for Finland, Spain & Sweden 1992-2002)

Summer weather disruptions are increasing, albeit marginally

It's not just milder winters influencing construction activities; hotter summers can also affect them. For instance, extreme heat can make working outside impossible. Yet, Spanish contractors don't complain as much about hot weather during the summer months of July and August. Like Swedish and Finnish contractors, during the winter, they likely adjust their building plans to the summer heat, making them less vulnerable to productivity losses.

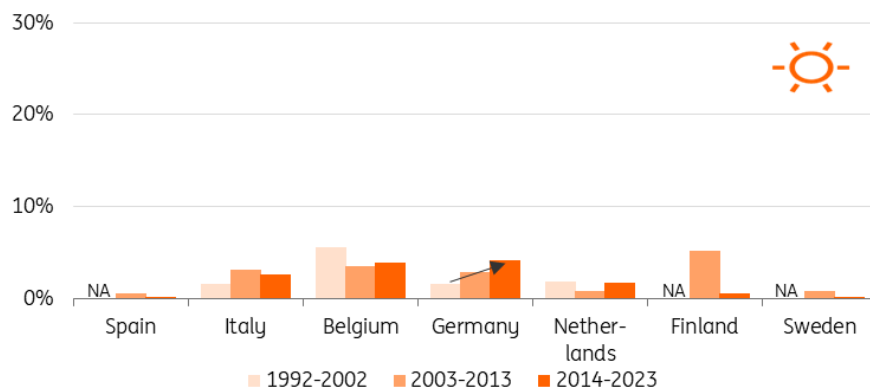
Heat is not the only factor causing building disruptions during the summer

Summer weather conditions mainly hinder Italian, Belgian and German builders. Nevertheless, it's marginal compared to winter disturbances, as we mentioned before. In the 90s, fewer than two per cent of German contractors complained about weather conditions in July and August. This percentage has doubled in the period from 2014 to 2023.

More summer disturbances are probably not only due to higher temperatures. A changing climate also influences river water levels. Low water in the summer poses a risk of supply chain disruption as many heavy building materials, such as sand and gravel, are often transported by barges, which sometimes can't be loaded to full capacity, and routes are also simply cancelled. Those low water levels are presumably what's causing the marginal increase in summer disruptions.

More summer weather disruption in Germany, albeit marginal

Percentage of construction firms that have to limit production because of weather conditions in the summer (average July & August)



Source: Eurostat, ING Research (No data available for Finland, Spain & Sweden 1992-2002)

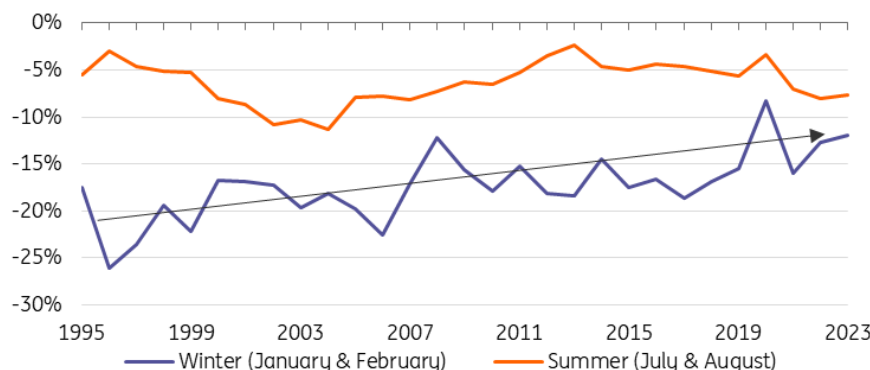
Fewer production declines due to winter weather

Builders not only indicate in surveys that they face fewer weather-related obstacles in winter. Production data also clearly shows that the EU construction sector has become more productive over the past decades during January and February. Between 1995 and 1999, average construction volumes then were 22% below the annual average. This has decreased to 13% between 2019 and 2023. Fewer weather disturbances during the winter months make construction 9% more productive during these two months, which is a yearly gain of 1.5%.

The average production decline was much smaller in July and August. The impact of climate change is still hardly noticeable there.

Less construction volume decline in winter

EU construction level compared with 12 months yearly average level of the same year



Source: Eurostat, ING Research

Fewer construction workers needed due to climate change

We need to be absolutely clear that climate change is not a positive thing. However, as we have seen, higher average temperatures enable construction companies to be more productive during the winter; it raises productivity by 1.5% annually. Construction activity is now less frequently interrupted, and fewer construction workers have to stand idly by.

Well over 14 million people work in the EU construction industry. This means that a 1.5% productivity increase results in more than 200,000 fewer workers needed. Without that productivity increase, structural labour shortages in the construction sector would have been even bigger than they are today.

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