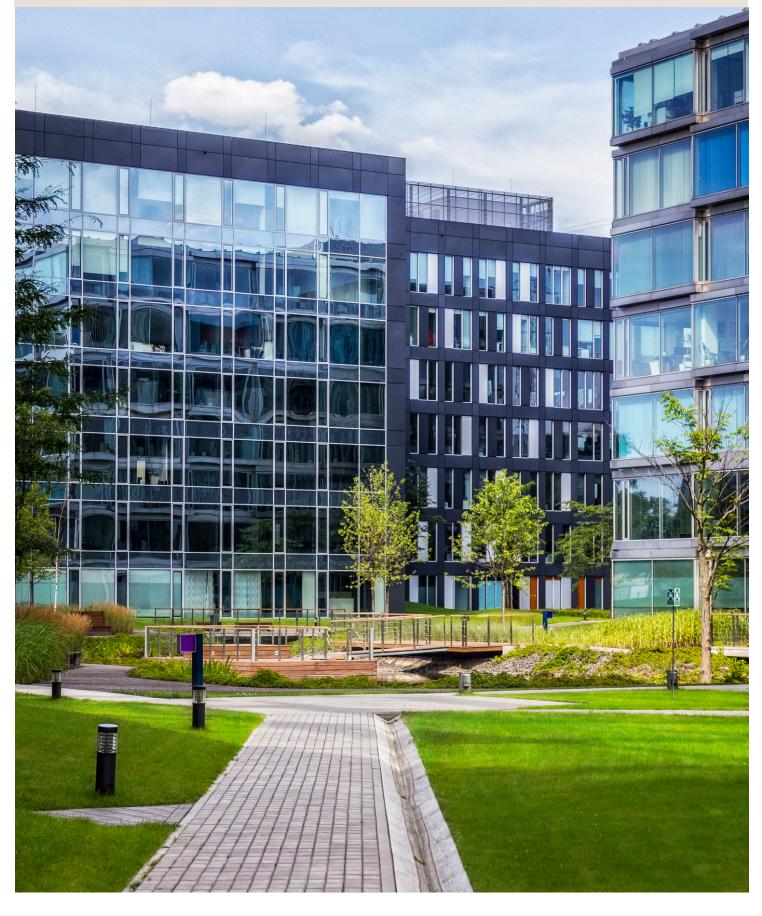


European Office Development





Economic overview

Rising debt costs continue to squeeze developer margins.

Russia's invasion of Ukraine in February 2022 has sent shockwaves through the global real estate development community. European steel prices remain 50% above the pre-pandemic levels following supply chain bottlenecks and limited production. Looking forward, Oxford Economics forecasts demand will weaken in 2023, with European steel prices to fall by a further 7% by end 2023 as production remains lower.

Rising input costs are creating a challenging backdrop for European development viability. Eurozone construction PMIs fell to 45 during March 2023, indicating an 11th consecutive quarterly contraction in activity, reflected in a "weakening in new business, and an increase in job shedding," according to S&P.

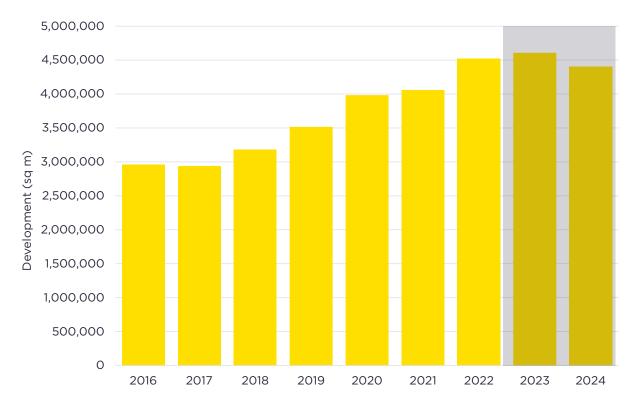
Economist consensus forecasts indicate Eurozone inflation will fall back to 6.0% in 2023, and recover to 2.5% in 2024 as pricing pressures gradually ease. However, the economy is expected to contract by -0.5% in 2023 and only grow by 0.8% in 2024, indicating a stagnant employment growth outlook.

Labour cost increases, material cost increases, but also debt costs have increased pressure on development costs and developers' profit margins. Both lender margins and swap rates have increased to account for the higher levels of risk as credit conditions tighten and banks become more selective on their loan books. Banks are generally willing to lend to pre-let schemes, although are more cautious on speculative. Traditional lenders, including banks and insurance companies, have reduced their

loan-to-value ratios across all sectors and as a result, we are likely to see more alternative lenders fill the funding gap at higher costs of debt.

Given relatively low prime vacancy rates, particularly across core western European markets, we expect local developers will be seeking to comprehensively refurbish well-located older stock in order to capture rental uplift.

Chart 1: European total office development pipeline (sq m)



Source: Savills

Office development pipeline

New speculative development to be absorbed amid demand for prime stock.

Overall in 2023, 4.6m sq m of space is expected to be delivered across our sample of 21 European markets, with 4.4m sq m forecast for delivery in 2024 (Chart 1). On average, this is in line with 2022's peak, although still 27% above the historic average level of deliveries.

The proportion of speculative space has remained stable at 61% of total space under construction between 2022/23 and 2023/24. Occupiers with upcoming lease events who are looking to sign for best-in-class office space will need to act earlier in order to beat the competition.

Across the European cities, new speculative space under construction during 2023/24 accounts for an average of 2.6% of total office stock, so we do not expect any significant increase in overall vacancy rates. Barcelona (8.1%), Bucharest (5.7%) and Berlin (5.4%) are the cities with the highest proportion of speculative space as a percentage of

current stock. However, Berlin's vacancy rate remains low at 3.3% so is more sheltered to the level of new deliveries. Barcelona and Bucharest have vacancy rates in the region of 10%, indicating they are likely more exposed to the higher levels of new office deliveries, although this will provide occupiers with much-needed ESG-compliant space over the next two years.

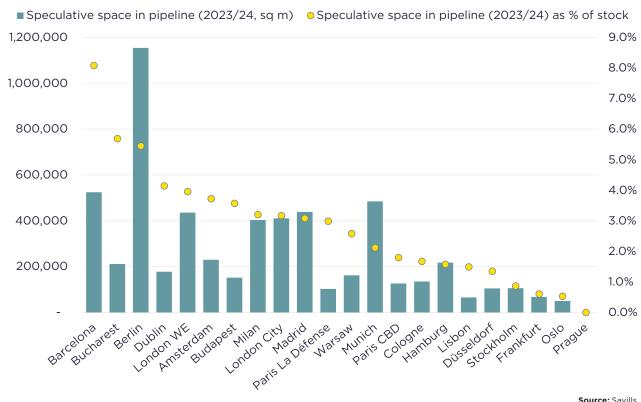
Nonetheless, we expect leasing activity to remain buoyant throughout the year, in which time a large part of this space will be absorbed. In 2022, European office take-up reached 2% above the pre-pandemic average and although we expect a weakening in demand in 2023, demand will be resilient for prime stock, and any rise in headline vacancy rates will be accounted through secondary stock being returned to the market.

Delays are building

Last year, Savills anticipated that 5.4 million sq m of office development would complete in 2022. Our latest data shows that only 4.5 million sq m of space was delivered, indicating that 17% of space set for completion in 2022 has been pushed into 2023/24. Given continual delays to source materials and labour, along with uncertainty over debt costs, it is more than likely that completion dates will be pushed back further in the year.

Labour shortages will continue to disrupt development timeframes over the next 18-24 months. Eurozone construction job vacancy rates fell from a peak of 2.8% during Q2 2022 to 2.6% during Q4 2022. Looking across Europe, job vacancy rates remain highest in the Czech Republic (5.2%), Netherlands (4.9%) and Belgium (4.2%), as the industry struggles to attract workers.

Chart 2: European office speculative development pipeline by city



Source: Savills

Sustainable development

Dan Jestico, Sustainable Design Director, explains why whole-life carbon analysis is only part of the development conundrum.

With the pressure on businesses to meet net zero targets ahead of the UK Government's 2050 deadline, developers are looking to reduce the carbon footprint of buildings, raising the question of whether to revive existing stock or to start from scratch from the bottom up.

Real estate is responsible for 39 per cent of global carbon emissions – operational emissions account for 28 per cent with the remaining 11 per cent attributed to embodied carbon – that is, emissions associated with materials and construction processes throughout the whole building lifecycle.

Demolishing an existing building and constructing new will have a considerable impact in terms of embodied carbon emissions and is coming under increased scrutiny in local and national policy. Despite this, it often presents the greatest opportunity for operational efficiency.

Conversely, keeping a building intact reduces the upfront carbon impact but the operational emissions are likely to be much higher. This is reflected in market sentiment resulting in sustainable retrofit and refurbishment often prioritised over new development.

A major refurbishment can reduce operational carbon emissions considerably by upgrading the fabric and providing equivalent building services to newly built standards. At the same time it can cut embodied carbon emissions by half or even more – more

than 50 per cent of embodied carbon emissions of a new build are associated with elements such as the sub-structure, upper floors, roof and frame, that should be retained at a major refurbishment.

An understanding of the relative whole-life carbon emissions, made up from both embodied and operational contributions, is therefore key to evaluating the carbon credentials of a development proposal. Whether that is through ESG-focused technical due diligence, net zero carbon roadmaps, engineering and material interventions through to the design and management of a retrofit.

To enable widespread adoption of this approach we need a whole-life carbon hierarchy, an overall understanding of a building's carbon impact – similar to the energy hierarchy widely adopted in planning policy – to be able to accurately measure total emissions impact of a building at the decision-making process.

Given the extent to which-whole life carbon emissions can vary, depending on the state of any existing building, together with the variety of construction materials and methods that can be employed, it is important to assess each project individually, rather than applying blanket policies favouring one approach or the other. Results from whole-life carbon assessment should be viewed objectively and in the context of other sustainability considerations. If a proposed demolition/rebuild project has higher whole-life carbon than those that would result from a refurbishment,

consideration should be given to the other benefits that may emerge from a new build scheme. Is the placemaking improved? Does the new building provide a higher quality internal environment than would be possible with the refurbishment? Are additional social value opportunities available for new build? Minimising whole-life carbon is clearly of great importance when considering retrofit or rebuilding, but it should not be considered in isolation.

In the future, we are likely to see greater knowledge in the sector regarding standardisation of inputs and outputs for whole-life carbon assessments, which will give the assessment greater credibility and consistency. However, it would also be helpful for all stakeholders in the development process to understand the context of results and whether there would be additional benefits from new build that cannot be realised from a 'retrofit only' approach to policy making and planning.

Timber development options

Kat Martindale, Head of ESG Research, examines the case for timber development in the office sector.

In recent years timber has been promoted by many as the solution to an array of challenges facing the construction industry, from solving the housing crisis, to the climate crisis. In line with this promise, the French government has mandated that all new public buildings must include a minimum of 50% timber. More broadly, proposals for structural timber buildings in the commercial sector have ranged from supertall towers to voluminous warehouses but are they a realistic option for future commercial developments?

Exponents of timber construction will cite a long list of benefits that often start with its environmental credentials and a technical discussion around the carbon impact of materials. Besides being a renewable resource, carbon is sequestered in timber and, as a single material, its production is far less carbon intensive than steel, cement or concrete, and depending on its use, if the building is demolished, can lock away that carbon indefinitely.

Weighing much less than steel-framed commercial buildings, structural timber offers several benefits. Being lighter demands less fuel, making it cheaper to transport, and later requiring less expensive cranage on site. A lighterweight structure allows for construction of taller and financially viable structures on sites that may have been deemed structurally unsuitable or too expensive, for example, building above or close to underground stations. Research conducted at the University of Minnesota Twin Cities in 2016 identified that timber construction weighs 29 lb/sq ft compared to 150 lb/sq ft concrete and that, depending on the use of timber, the overall cost could be reduced by 21.7%.

Taking advantage of this in south London, UK architects AHMM are building Southwark Over Station Development. The 75m tall hybrid steel and cross-laminated timber (CLT) represents a 40% reduction in carbon emissions over concrete, and when complete in 2025, will offer over 200,000 sq ft of office space above retail and affordable workspace above Southwark Tube station in south London.

For this method, components are fabricated off-site with production also offering benefits including avoiding construction delays due to inclement weather, while the production process, using computer aided design (CAD) software, minimises material waste. Creating the sections with fewer materials also requires fewer deliveries to the factory and then on to site. On-site, the construction process is markedly faster with buildings erected in 60% of the time it would typically take, with little waste generated on site.

However, no one single construction method is without its drawbacks and for timber construction there are two significant challenges. First, is the supply of timber. Most of the timber used for these projects is felled in the forests of eastern Europe, and so the current geopolitical problems matched with the increased costs of fuel for transport, post-Brexit import processes and currency fluctuations have made timber a more expensive material to use en-mass in the UK. Timber Development UK reported a 24.8% decrease in imports of all timber and timber products in Q1 2022 compared to the same period in the previous year.

The second challenge is the perception of timber as a construction material. Many tall timber buildings not already under construction, both commercial and residential, were indefinitely paused or cancelled following the fire in Grenfell Tower on 14th June 2017. The subsequent review of construction materials on residential buildings conducted by the UK Government and referred to as the combustibles ban, was formalised in December 2022 with amendments to the building regulatory guidance. While these apply only to housing, hospitals and care homes, and despite fire testing and evidence-laden research, there has been a negative impact on the perception of the safety of structural timber and its use in other sectors, including commercial developments. However, such risk perceptions and legal restrictions do not extend to Europe.

In the La Défense district of Paris, and set in 19 acres of parkland, The Arboretum comprises the retrofitting of

two existing buildings and a cluster of new CLT buildings providing 125,000 sq m of office and service space with additional amenities including a sports hall, a conference centre, an outdoor green amphitheatre and restaurants. The campus project, a collaboration between three French architecture practices, Leclercq Associés, Nicolas Laisné Architectes, and DREAM Architecture with a fourth, Hubert et Roy Architectes, responsible for the restoration of two heritage buildings on the site. Due for completion in late 2030, the material selection has been driven by an environmental ambition with an anticipated reduction in the site's carbon footprint of 48%.

Recognising the environmental impact of typical construction methods drove many of the design decisions and material selection for White Arkitekter's Magasin X development in the Swedish city of Uppsala. Completed in 2021, the 13,000 sq m commercial building, also home to one of the practice's studios, is LEED Platinum certified and has been designed to allow for flexibility of use for current and future tenants, minimising the demand for materials and the financial and climate costs that would entail. This approach to flexibility is evident elsewhere including the 22,500 sq m, seven-floor headquarters for SR Bank in Stavanger, Norway, designed by Norwegian architects Helen & Hard and SAAHA.

While new and forthcoming timber buildings are regularly announced, no one European country is significantly ahead of its neighbours but northwestern Europe generally is leading, given its progressive policy environments, client mindset and technical skills base. Despite significant interest from architects, clients and investors, timber construction has not triggered the global reset of construction predicted almost a decade ago and is often viewed as new. The future for timber buildings lies with the clients, policymakers and insurance agencies, willing to expand beyond traditional construction methods and meet the enthusiasm and desire for innovation already present across the architectural industry.

Where is the green office stock?

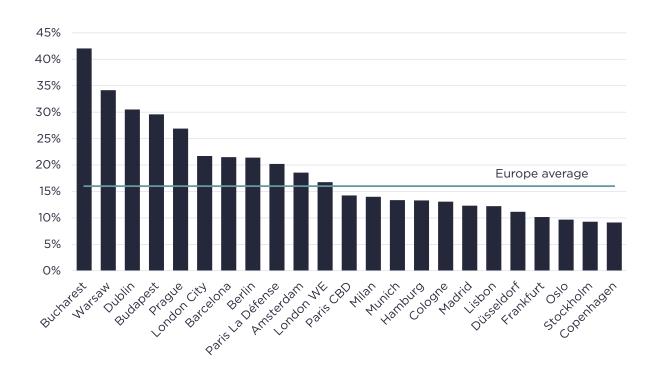
The highest proportion of newly developed stock is in CEE cities and Dublin.

Many investors are seeking to increase exposure to green, or more energy-efficient stock in order to reduce leasing, regulatory and liquidity risk in their portfolios. Many lenders are willing to invest in non-ESG-compliant buildings if the investment is supported by a business plan to make sustainable; however, many other lenders are only willing to finance acquisitions for high-quality, newly developed stock to meet their ESG criteria.

On average, 16% of European office stock has been developed since 2016 or will be completed by end 2024, with newly developed stock compliant with current building regulations. Savills analysis of European office developments indicates that Central Eastern European cities have the highest proportion of newly developed stock, led by Bucharest (42%), Warsaw (34%), Budapest (30%) and Prague (27%), likely due to less restrictive planning laws and lower development costs. Dublin (31%), meanwhile, has seen significant new development due to the expansion of big tech companies in recent years.

On the other hand, cities where there is more restrictive planning regulation and a higher proportion of listed, heritage CBD office stock, including the Nordic cities of Stockholm, Copenhagen and Oslo, have seen 8% or less development as a percentage of stock over the same period.

Chart 3: Development completions since 2016 + pipeline 2023/24, as a percentage of stock (%)





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