

# Sky-high Risk: The Impact of Increasing Tall Tower Construction in the UK





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## EXECUTIVE SUMMARY

Skylines in the UK, particularly in London, have been undergoing a rapid evolution in recent years. Today, more tall buildings are being planned and constructed than ever before, with 436 towers – defined as those with more than 20 floors – proposed, in planning, approved, or under construction in London, according to research by New London Architecture<sup>1</sup>.

As the number of tall buildings under construction in the UK increases, greater focus needs to be placed on mitigating the associated risks, which can lead to project delays and significant reinstatement costs.

While recent developments, such as the recent UK vote to leave the European Union, could impact planned projects moving forward, we expect to see this trend continue over the long-term.

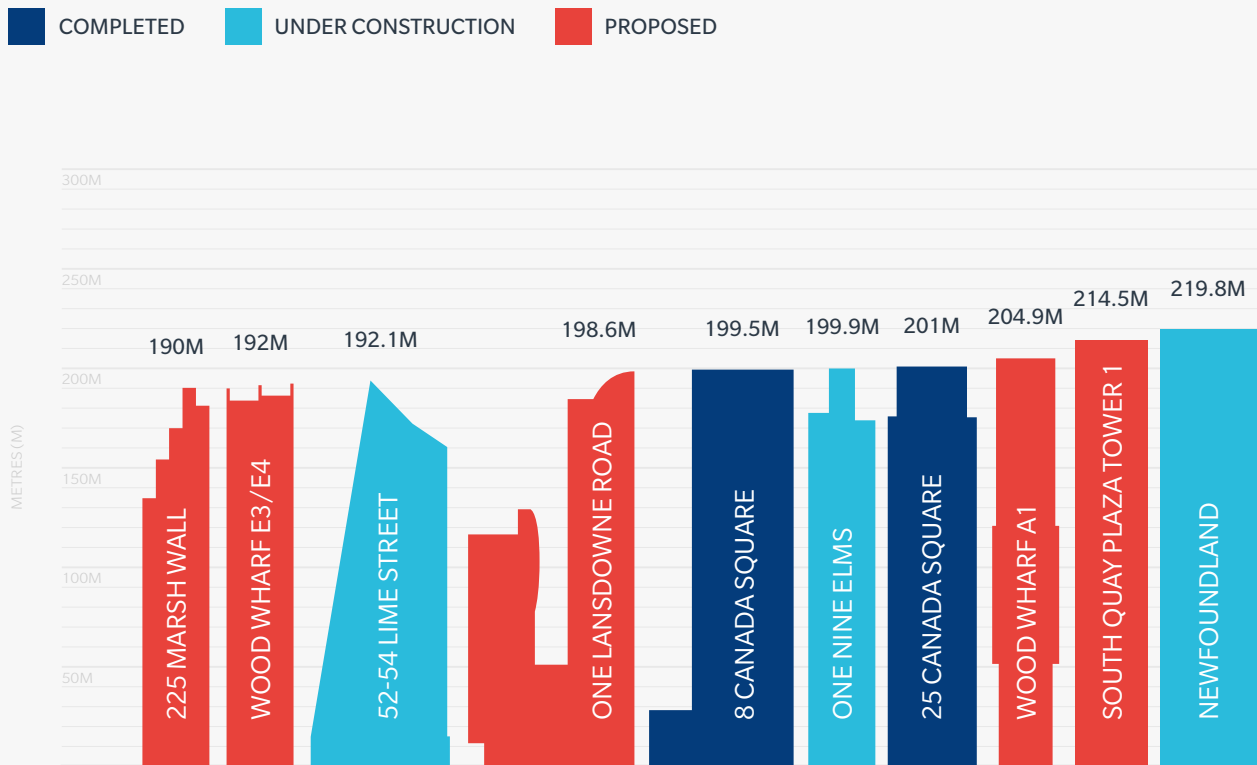
This paper has been designed to highlight and bring greater awareness to the various risks and insurance challenges associated with tall tower construction in the UK.

**FIGURE 1** London's tallest buildings, completed and planned  
Source: Skyscraper Center

The graphic below (FIGURE 1) shows a selection of the tallest completed, under construction, and proposed buildings in London. Out of these buildings, 13 are proposed or under construction demonstrating how London's skyline is set to be transformed over the next decade and the growing trend towards tall tower construction.

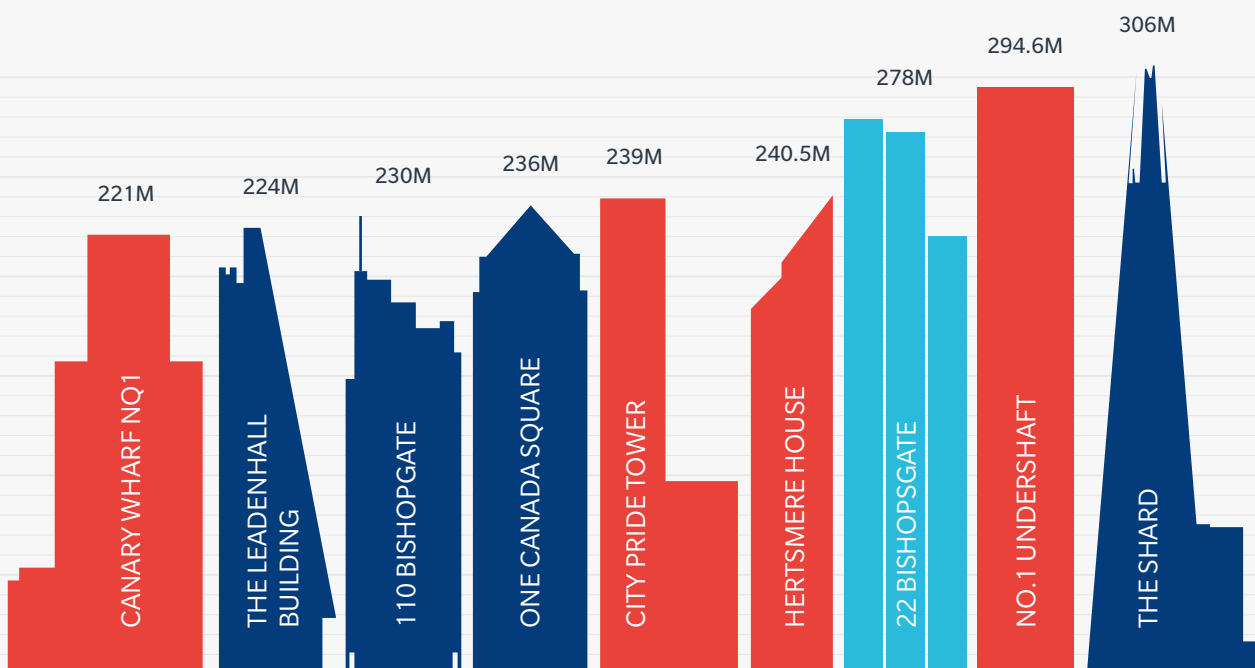
The height of London's skyline remained largely unchanged during the 1980s and 1990s, with only Tower 42, One Canada Square, and the Panoramic being completed at a height of more than 20 floors.

In contrast, since 2000, 50 buildings with more than 20 floors have been built in London, with a further 25 under construction and due for completion over the next three years. The Shard is currently London's tallest building standing at around 306 metres, followed by One Canada Square and 110 Bishopsgate. 22 Bishopsgate, which is currently under construction, will surpass all but the Shard when completed.



London's skyline still lags behind global cities like New York, Dubai, and Hong Kong, largely due to London's historic landscape, protection of landmarks, and building height regulations. However, new construction opportunities available to build higher than ever puts greater focus on the need to mitigate the associated risks as the UK plans its high-rise revolution.\*

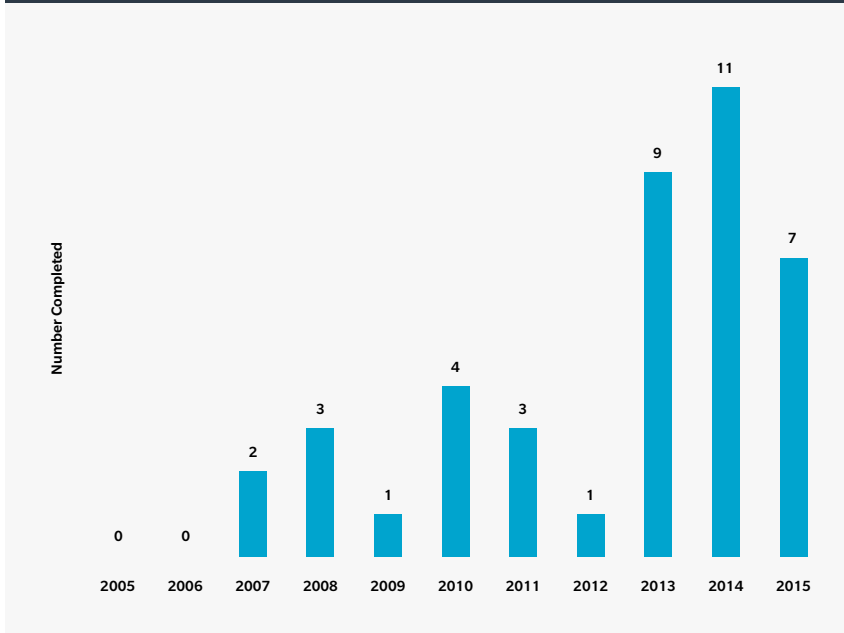
\* Note: Listed data for proposed or under construction buildings is based on information currently available. This data is subject to change until the building has been completed and does not include proposed buildings without confirmed height estimates.



## ON THE RISE

As the population of London continues to grow, the capital has been gripped by a construction frenzy which has seen a greater number of taller buildings being planned and constructed. “London is in the middle of a population boom that shows no sign of slowing down, and it’s important we look at a range of options to achieve both the housing and workspace need,” the former London Deputy Mayor of Planning, Edward Lister, said earlier this year<sup>2</sup>.

**FIGURE 2** Number of towers completed in London 2005-2015  
Source: Skyscraper Center



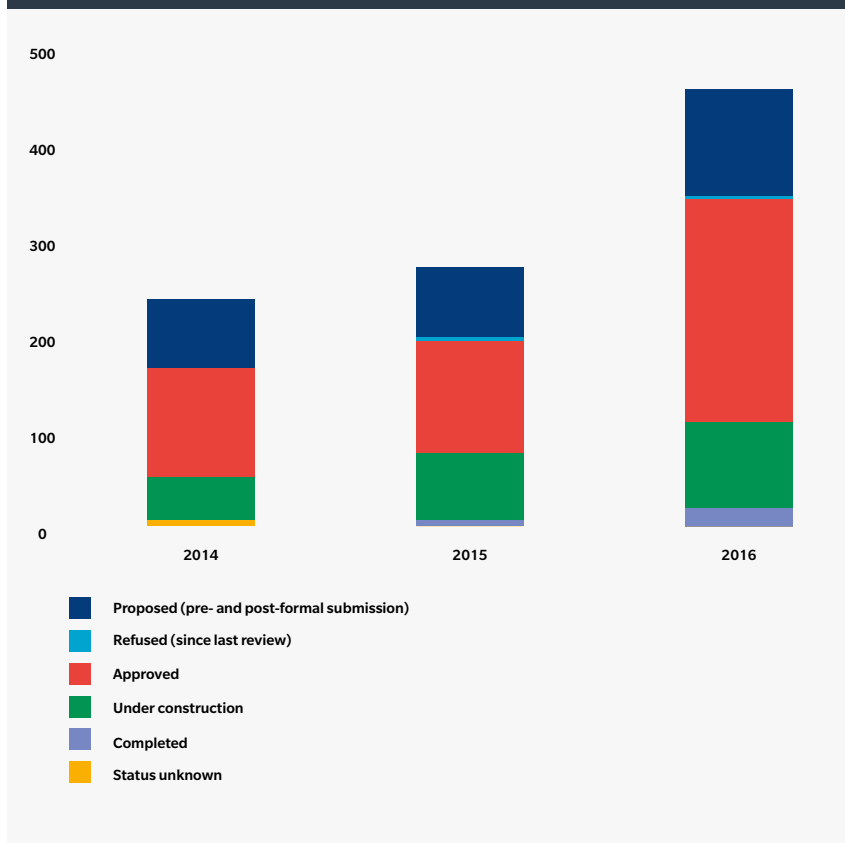
Meanwhile, the new Mayor of London, Sadiq Khan, has recognised that more housing is needed, and therefore more construction in the city, saying, “my single biggest priority will be to build thousands more homes every year.”

This trend is predicted to continue over the next decade. This year’s pipeline has seen an increase of 119 tall buildings compared to 2014, bringing the current number of those proposed, approved, and under construction to 436, according to New London Architecture (see FIGURE 3).

“London is in the middle of a population boom that shows no sign of slowing down and it’s important we look at a range of options to achieve both the housing and workspace need.”

**EDWARD LISTER**  
FORMER LONDON DEPUTY  
MAYOR OF PLANNING.

**FIGURE 3** Comparison of London tall buildings pipeline 2014-2016  
Source: New London Architecture



It is not just the number of these projects that needs to be taken into consideration, but also the fact that the height of the individual buildings seems to be rising.

A number of tall building projects are also underway in other metropolitan areas across the UK. For example, according to Skyscraper Center<sup>3</sup>, nine buildings with more than 20 floors have been proposed or are under construction in Manchester, while three new towers are planned in Birmingham.

The risks are two-fold for property developers. It is not just the number of these projects that needs to be taken into consideration, but also the fact that the height of the individual buildings seems to be rising. For example, out of the top five tallest towers in London, three were

built in the past five years. Many buildings that are planned or under construction, such as the 62-storey project at 22 Bishopsgate in London, are following the same trend.

While the new builds provide space for residents and offices, constructing upwards is not without considerable risk. Building a tall tower is complicated, heightens many traditional construction risks, and presents risks unique to these projects. Property developers need to be aware of these risks linked with tall tower construction and take steps to mitigate losses that could occur.



## HEIGHTENED RISK MITIGATION

The increasing number of tall towers has given rise to certain perils before, during, and after construction. There are several risk and insurance challenges that developers and contractors need to consider and potentially transfer via insurance to remove unnecessary risk from the balance sheet.

### FIRE AND/OR ESCAPE OF WATER

The possibility of fire and/or the escape of water represents significant risk to a project's practical completion date. Either one of these events has the potential to cause severe damage to the works and significant delays. This risk is multiplied in a tall tower, due to the high concentration of value in a single structure.

- **Escape of water:** Especially during the installation and testing phase of bathrooms, washrooms, and sprinkler systems, this can cause substantial claims if leaks go undetected, as water damage can impact several floors of the building and has the potential to damage equipment, such as generators and cables located in basements. The Construction Insurance Risk Engineers Group (CIREG), in conjunction with the UK Construction All Risks Underwriters Group, has produced a best practice guide that can provide valuable insight for avoiding water damage claims.
- **Fire:** The Joint Code of Practice (JCOP) needs to be adopted and complied with for tall building construction. JCOP was first published in 1992 in response to two significant fires that resulted

in a combined loss in excess of GBP150 million – a level where insurers were questioning whether the provision of insurance for construction sites could continue economically.

Robust risk management methods and employing contractors with sound track records can ensure that these are controlled and mitigated.

### TERRORISM

We have seen a number of recent examples of terrorist activity across Europe from the bombings in Paris in 2015 to the attacks in Brussels earlier this year. Construction sites can be targeted by terrorists as a method of slowing growth, and therefore strong consideration needs to be given in respect of terrorism insurance to reinstate the construction works in the event of a terrorist act.

Tall buildings also carry a concentration risk, as they are typically located in urban areas, meaning there is a greater risk of damage to property and injury to people due to falling debris. Developers need to properly consider protecting their assets with adequate site safety and security. Post-construction, tall towers have proved to be targets for attacks in the past, such as the World Trade Center buildings on 11 September 2001.

The safety of workers is also of paramount importance. Contractors will likely have a large number of workers on site at any one time and need to think carefully about adequate safety measures and what to do in response to terrorist threats.

Developers need to properly consider protecting their assets with adequate site safety and security.



## PROXIMITY TO THIRD PARTIES

In addition to risks within a site, property developers are exposed to a number of third-party risks during tall tower construction. These projects generally involve working within tight building sites in densely populated urban areas and are in close vicinity to third parties, heightening risks to people, neighbouring properties, and businesses, therefore consideration needs to be given to third-party liability limits of indemnity, taking into account the factors mentioned above.

A significant event such as a tower crane collapsing (see Spotlight: Tower crane collapses in New York) could cause enormous third-party property damage, injury, and/or death. Several factors need to be kept in mind with regards to third-party risk:

- Litigation costs are increasing and need to be considered in the limits of insurance purchased.
- Any claim that settles above the limit purchased becomes balance sheet risk for the developer or contractor.
- Developers should also pay attention to surrounding public realm and infrastructure, for example, walkways, landscape gardens, play areas, and statues. Possible damage to these third parties should be considered.
- The delivery of materials to a site carries risks to cyclists, pedestrians, and other vehicles.

## RAIL

Projects may be adjacent to existing rail and/or underground lines. Debris or materials falling on tracks can cause significant delays for rail operators, meaning developers could be liable for high costs that can include travel disruption and damage to infrastructure.

For works that are within the “zone of influence” of Network Rail infrastructure, developers may need to agree contractually (under an asset protection agreement) to indemnify rail operators for things such as damage to property, injury, and disruption to the railways. There is usually a requirement for developers to purchase a minimum level of liability cover and for large schemes, typically at a limit of GBP155 million. Other operators may not suggest a limit or cap the developer’s liability meaning even higher limits should be considered.

Developers also need to consider instances where a non-damage event causes Network Rail to temporarily close a train line, meaning the developer can be liable for payments under the Network Code. In this non-damage scenario, a standard third-party liability insurance policy is highly unlikely to respond and other steps, including specialist insurance coverage, should be taken to mitigate these risks.



### SPOTLIGHT

#### Tower crane collapses in New York

In February 2016, a 565-foot mobile tower crane collapsed in the streets of New York, with reports citing the death of one passerby and the injury of three others.

The crane, which was being lowered due to inclement weather conditions at the time of its collapse, sent debris onto the surrounding streets after crashing to the ground, with reports saying the large piece of equipment also damaged surrounding water mains and gas lines<sup>4</sup>.

## OBSTRUCTION OF LIGHT

Another third-party risk tall tower developers face is “right to light” litigation as new tall towers can often result in overshadowing neighbouring buildings, restricting their access to light. This could mean tens of thousands of residents and office workers will face loss of light if many of the buildings in the pipeline for London are approved and completed. For property developers, this potentially means increasing litigation costs and project delays, alongside loss of value/revenue as a result of compensation costs.

“Right to light” rules are in place throughout the country, dating back to the 1920s. The rules state that property owners should have at least enough natural light to be able to read an article in *The Times* with only a one-foot-high candle in the room as illumination.

However, Section 237 of the 1990 Town and Country Planning Act allows local authorities to take temporary ownership of a development and effectively forces objectors to accept compensation for loss of light rather than allow them to block the scheme altogether through an injunction. In several instances, developers compensate neighbours affected by blocking their light. These costs can be substantial, and consideration should be given to rights of light insurance to provide balance sheet protection for such exposures.

## ENVIRONMENTAL

Liability can also arise from environmental damage. Undertaking construction works in an urban area can give rise to several significant environmental risks, especially as developments are often near waterways, such as the Thames. Ground vibration from the works can trigger pollution liabilities

arising both from so-called “sudden and accidental” events and from gradual pollution events.

The Environmental Agency can mandate on-site and off-site statutory clean-up/remediation and clean-up/remediation of third-party and non-owned property/natural resources. These costs can be significant. In order to mitigate this, consideration can be given to contractors pollution liability policies, which are designed to cover the liabilities arising from new pollution conditions caused by the project development works and liabilities arising from the inadvertent mobilisation or exacerbation of any known or unknown historic contamination associated with the site and above-ground structures.

Examples of such mobilisation include piling, which can create a pathway for the migration of pollution to groundwater, and the taller the building, the deeper the pilings will need to be. It also includes windblown contamination arising from demolition, ground, and enabling works.

## DELAY

Whether a development project will be finished on time is often questioned throughout the construction phase. The financial consequence for a delay in completion can be colossal. It can result in loss of revenue, continuing debt service payments, and, in some cases, the cost of alternative accommodation.

We recommend that strong consideration is given to delay in start-up insurance to provide consequential financial loss cover in the event of a delay taking place.



## SPOTLIGHT

### Daylight dispute over London tower

A recently planned London skyscraper, set to be amongst the tallest in the City of London, recently brought “right to light” rules to the forefront of construction risks<sup>5</sup>. The 62-storey building, which is under construction at 22 Bishopsgate, sparked legal rows over the possibility of significant loss of light from the new tower. Initially, there were fears of lengthy litigation, which had the potential of making it difficult for the building to be completed by its projected 2019 completion date. Talks over “right to light” have since been settled, with the new tower given the go-ahead because of its perceived importance in the City. However, rows over right to light can often lead to delays and expensive litigation. According to reports from the *Evening Standard*, property experts are predicting an increase in the number of disputes as more tall buildings enter the pipeline.

Contractor insolvency also carries a delay risk due to the additional time and costs involved in securing another contractor. While the exposed contract works will often be covered under a project insurance policy, the increased costs and resulting time delays can be uninsurable.

## OTHER RISKS TO CONSIDER

In addition to the property damage and liability risks discussed, the complex and costly nature of tall towers calls for increased attention to the following:

- **Archaeological finds:** Works can be delayed if groundworkers uncover an area of archaeological importance while experts are brought in to excavate the site and preserve artefacts. For example, Crossrail works were recently delayed when a 400-year-old burial site was discovered.
- **Inherent defects:** These are defects discovered after the completion of the project, once the building is operational. Developers must consider inherent risks, as there can be significant balance sheet exposure if these defects manifest themselves. There are specific policies available in the insurance market that can provide indemnity for the costs of repairs if a latent defect is found. For a residential project, developers also need to provide a new home warranty to satisfy the Council of Mortgage Lenders. For commercial projects there may be a requirement for this coverage from the potential tenant or lenders.

- **Flight risks:** As buildings get higher, they present greater risks to flight safety as they could come close to flight paths, particularly in London. Cranes involved in the construction can also pose a risk. For example, in 2013 a helicopter crashed near Vauxhall, South London, after colliding with a crane working on St George Wharf Tower.

In many cases, the risks above may be excluded from an all-risks insurance policy and property developers/contractors could benefit from considering additional policies to fill the gaps.



## SPOTLIGHT

### Cladding/facades

Developers have become increasingly concerned about inherent defect risks, especially regarding curtain wall facades, cladding, and double glazing failures. These items may be manufactured around the world and are unique, made-to-measure pieces, which are assembled on site. Once the building is complete and operational, if these critical items/components fail, the developer could be presented with an enormous unforeseen cost to repair the damage (especially if there is no recourse against the manufacturer/contractor and/or they are now no longer trading). Even if there is recourse, these claims are likely to be tied up in court for years and suing overseas companies in certain territories can be difficult.

In the event of these failures and others, inherent defects insurance does provide long-term balance sheet protection. The policy will step into the shoes of the developer, repair the issue and then try to subrogate from the relevant contractors, sub-contractors, manufacturers, and consultants.

## MITIGATING AND TRANSFERRING TALL BUILDING RISKS

The risks around tall building construction are often higher than other projects due to the complexities around working at height, the concentration of high-value assets, and location.

While risk mitigation measures should be taken before and during the project to reduce the chance it will fall afoul of the risks discussed, insurance solutions are also available to cover many of these risks. Transferring the risks and removing them from the balance sheet is an efficient use of capital and a sound risk management strategy; however, it is important to ensure the building contracts and sub-contracts reflect the strategy in terms of insurance.

As discussed, types of insurance coverage that may be considered for the risks associated with tall building construction projects include (but are not limited to):

- Construction all risks.
- Third-party liability/non-negligent indemnity.
- Delay in start-up.
- Terrorism.
- Rights to light.
- Environmental liability.
- Latent/inherent defect cover.

The construction insurance market, like much of the insurance industry, remains awash with capacity, and is currently a buyers' marketplace for solutions to the challenges discussed within this paper. Given the options available within the insurance market, careful consideration ought to be given to the risks that may affect a tall building project, particularly those located in high-density areas or near critical infrastructure.

## POLITICAL IMPACT ON FUTURE PROJECTS

Although the trend towards tall tower construction is likely to continue, one uncertainty impacting future projects is the UK's future relationship with the European Union (EU). The UK vote to exit the EU in a referendum on 23 June has created some uncertainty in terms of the resulting market volatility, impact on real estate prices, and future foreign investment.

While some projects could be shelved in the short term, the increasing need for housing and office space across the UK continues, implying that tall tower projects will continue in the long term. The situation will become clearer and more certain in the coming months.

The construction insurance market, like much of the insurance industry, remains awash with capacity...

## CONCLUSION

The shortage of land available for building in urban areas will inevitably lead to more tall tower construction in order to meet the rising demand for homes and office space in the UK, a trend which has already been observed in recent years.

This undoubtedly presents more logistical challenges in terms of getting materials to site and the difficulties around building in confined areas.

In some cases the risks associated with constructing these towers are not fully considered until it is too late, and developers and contractors should be giving considerable attention to this highly specialised area of risk. If something does go wrong during the construction phase of a tall tower, it has the potential to be catastrophic, from a damage, liability, and delivery perspective.

It is therefore critical at the outset of a construction project that the correct insurance advice is sought and a sound risk management strategy is adopted and implemented into the overall programme.



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## About this report

This report was produced by Marsh's UK Construction Practice, which is at the forefront of advising the construction industry on risk and insurance issues and has a reputation for delivering insight and solutions for the challenges that our clients face. Marsh's UK Construction Practice are experts in risk management and have considerable experience placing tall tower construction projects throughout the UK, including working with overseas developers entering the UK. Marsh's UK Construction Practice is currently working on a number of high profile UK projects, which if totalised would have contract values in excess of GBP10 billion.

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