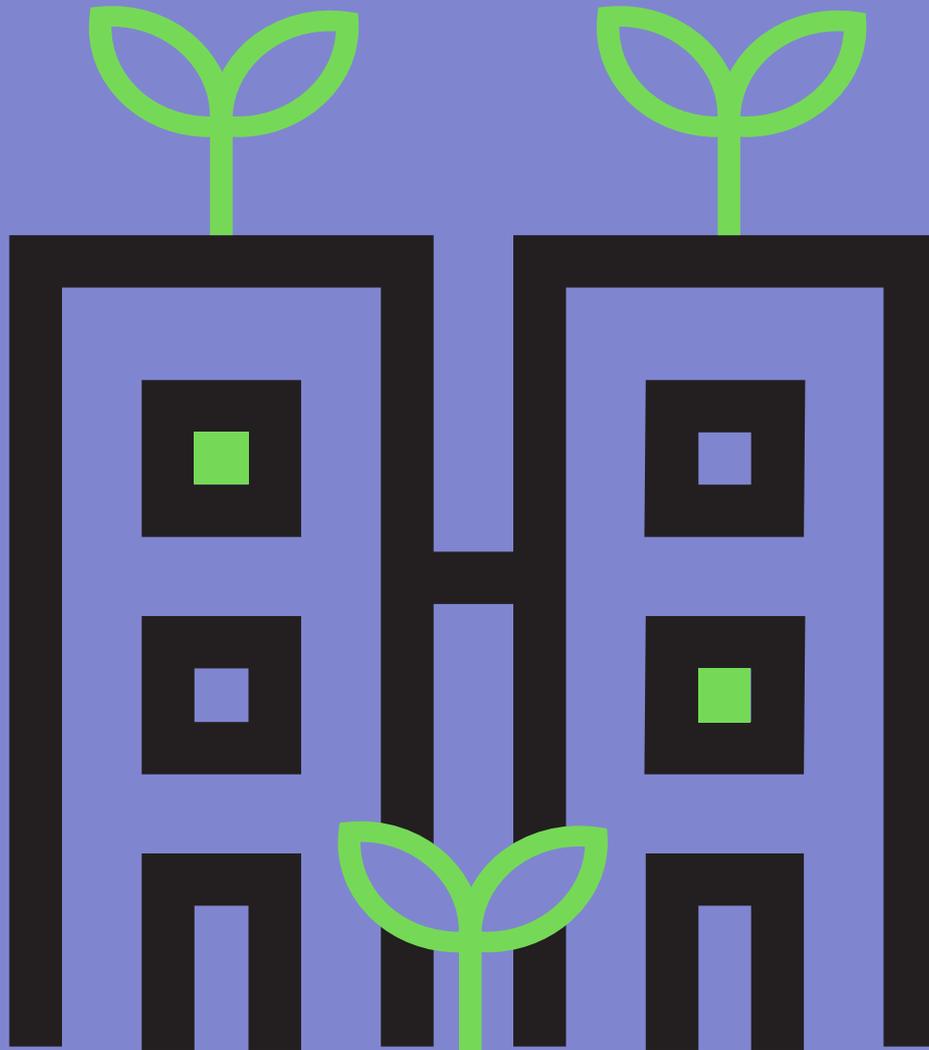


From Office to Oasis

How landlords and developers can

transform workplaces with green spaces



Hassell

THE MOST PRIZED OFFICE AMENITY: GREEN SPACE

We asked 2,500 office workers: Which amenity do you most want in your office?

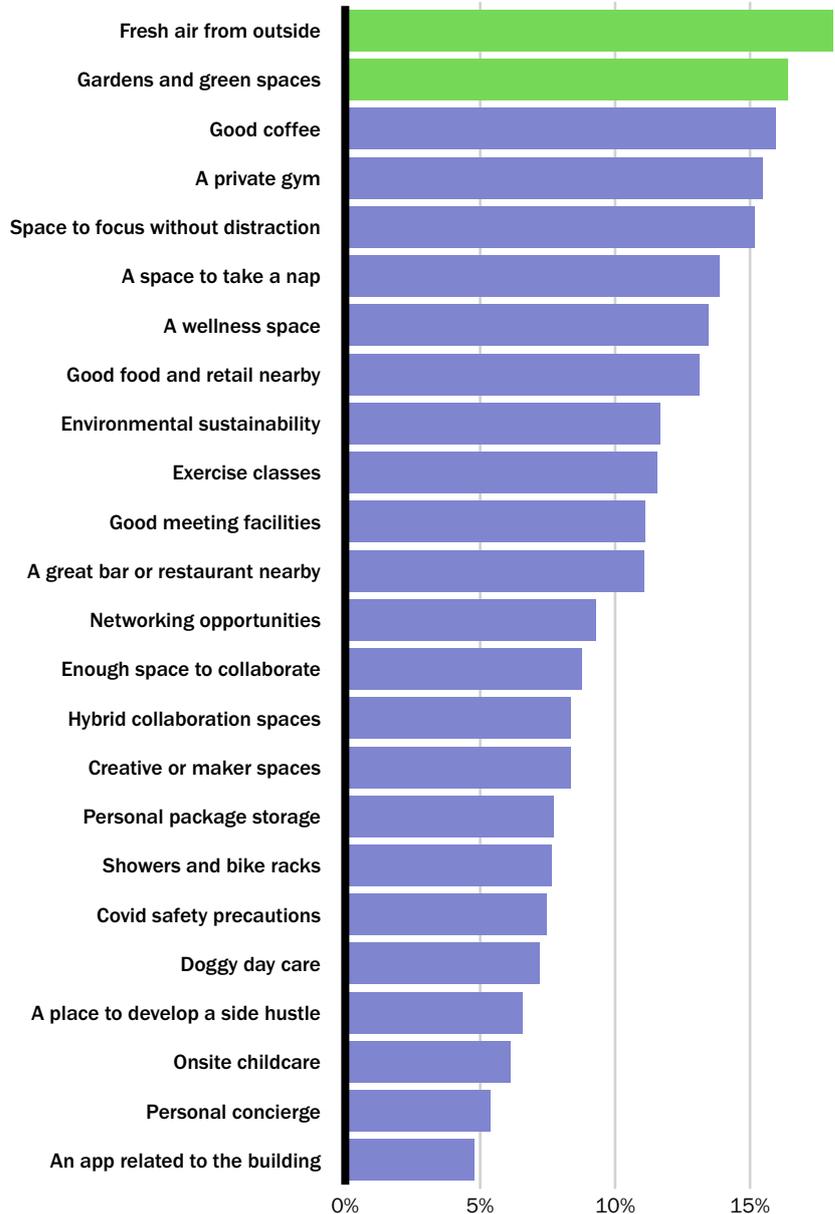
According to [Hassell's latest global workplace survey](#), fresh air and green space are two of the most desired workplace amenities. Other studies have shown similar results. For example, in 2016, [CBRE found](#) that green space was one of the most popular office perks for millennials.

Coming out of the pandemic, tenants are looking for ways to entice employees back to the office. High on the wish lists of many prospective tenants are green spaces, which include everything from green roofs to terraces, winter gardens, and indoor planting.

But green spaces aren't always cost-effective. They can be expensive to maintain, and if poorly designed, they often sit unused.

So how do you add green space to a new or existing office? And how do you ensure these spaces benefit tenants, the environment, and the bottom line?

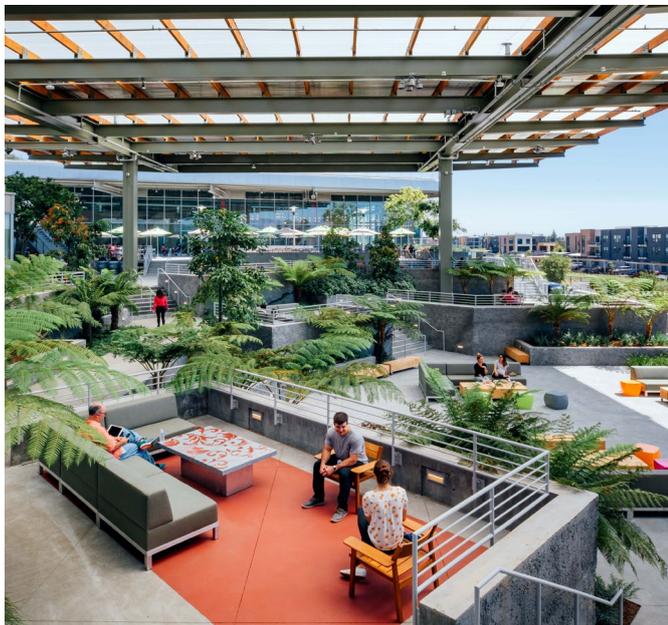
To conduct this research, we spoke to people on all sides of the table – landlords, developers, designers, and tenants. We also surveyed 2,500 office workers in Australia, China, Singapore, the United Kingdom, and the United States. The following summarises the most successful design strategies for adding green spaces to office buildings.





Many of the world's best brands put green spaces at the centre of their workplaces to attract and retain the best staff.

- **Apple** (top left)
Foster and Partners, San Francisco, USA. 2017. Photo: Courtesy of Apple.
- **Facebook** (bottom left)
Gehry Partners, San Francisco, USA. 2017. Photo: Courtesy of Facebook.
- **Amazon** (bottom right)
NBBJ, Seattle, USA. 2018. Photo: Courtesy of Amazon.



WHAT IS GREEN SPACE?

There are many ways to add greenery to an office building. In this paper, we'll focus on these three main methods.

Rooftop and terraces

One of the most common ways to turn otherwise unused outdoor space into a valuable amenity.

Winter gardens

Enclosed gardens that are part of the tenant's Net Lettable Area (NLA) and can be used year-round in most climates.

Indoor planting

A proven way to boost productivity and improve people's mood. Also often the cheapest and easiest upgrade.

WHY TENANTS WANT GREEN SPACES

For many prospective tenants, 'green space' is high on their wish list. They consider it an important tool in recruiting the best talent, improving employee performance, and meeting sustainability goals.

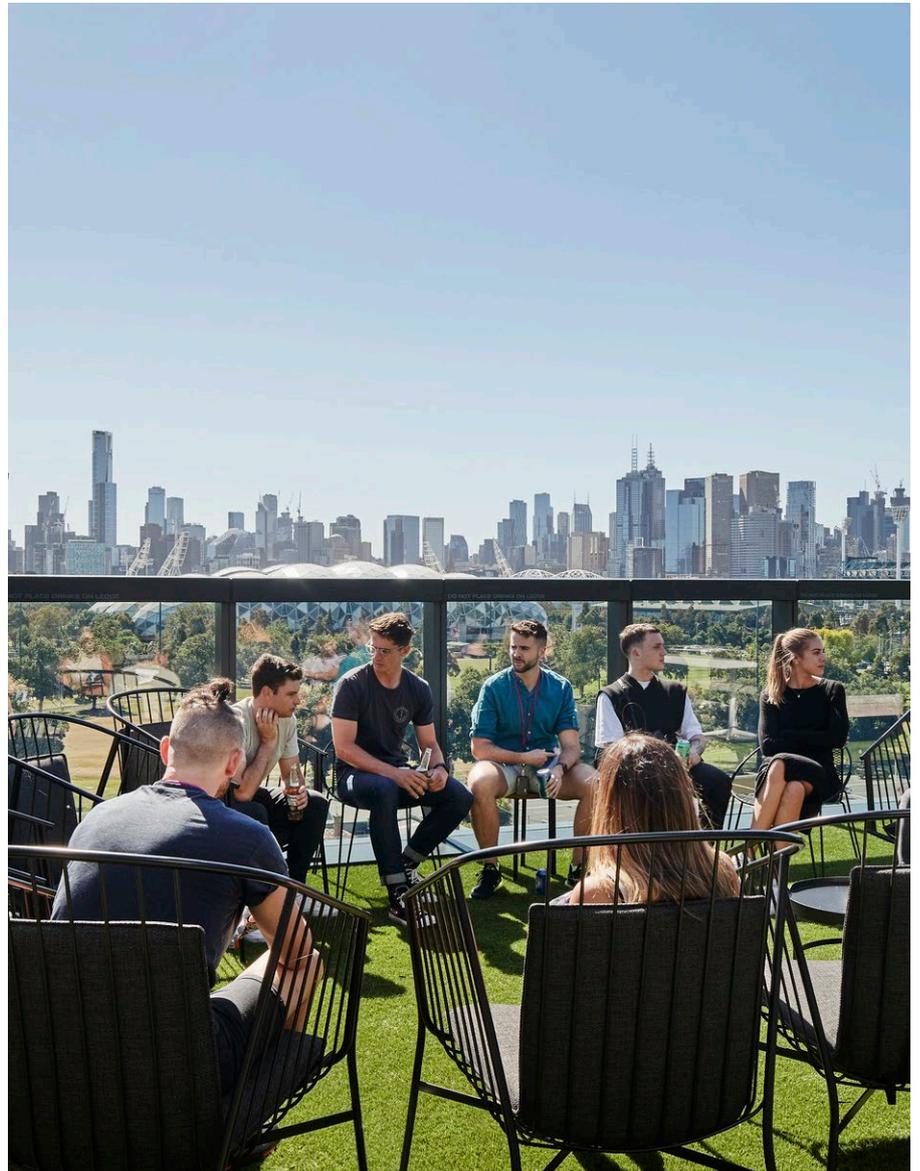
1. To attract employees and entertain clients

It's a tight labour market, and employees have more options than ever. Some are quitting, adding to the 'great resignation'. Others are staying home, reluctant to come back to the office. Employers are forced to work harder than ever to attract and retain the best talent. And in this war for talent, green space is considered a significant perk. They're spaces for hanging out with colleagues, for taking a break, for exercising, and for rejuvenation. They're also important spaces for entertaining clients. As such, there's been a 'flight to quality' in the commercial real estate market as tenants seek out spaces that give them the edge in attracting employees and winning over clients.

34%

Percentage of employees that say green space and fresh air is one of their most desired amenities.

Source: Hassell Global Workplace Survey, 2022



SEEK HQ, Melbourne, Australia. Photo: Peter Bennetts.

2. To improve employee wellness and productivity

Greenery has a profound impact on people's well-being. Studies show that people are typically calmer, less stressed, and more productive when they can see elements from the natural environment. In one study, people in rooms containing plants completed tasks 6% faster than those in rooms without. They also had lower blood pressure, faster reaction times, and better concentration. These results aren't unusual. Many scientists believe that humans are genetically wired to feel at ease in the presence of greenery. They suspect that over millions of years of evolution, we came to instinctively fear some parts of the natural environment (like spiders) and love others (like plants). Scientists call this biophilia. As more is learnt about biophilia, many companies are trying to capitalise on the benefits of greenery by ensuring their workplaces have some connection to the natural environment – whether it's indoor plants, an outdoor terrace, or just a simple view of some trees.



Computershare, Melbourne, Australia. Photo: Earl Carter

6%

Increase in productivity when plants are added to a workplace.

Source: [Lohr et al. 1996](#)

8.6mmHg

Reduction in blood pressure (a measure of stress) when employees are in green spaces.

Source: [Yin et al. 2018](#)

3. To meet environmental commitments

Green spaces don't only benefit tenants, they also contribute to the broader environment. For instance, green roofs can provide habitat for plants, birds, and insects, helping boost biodiversity in the surrounding area. Green roofs can also improve air quality, mitigate stormwater damage, lessen heat island effects, and help insulate buildings, saving on energy costs and greenhouse emissions. These environmental benefits have seen many cities and governments push for more greenery in buildings. Tenants are also asking for it. As companies prioritise reducing their climate impact, they're looking for sustainable buildings. In some cases, greenery can help tenants achieve certain environmental certifications.

2x

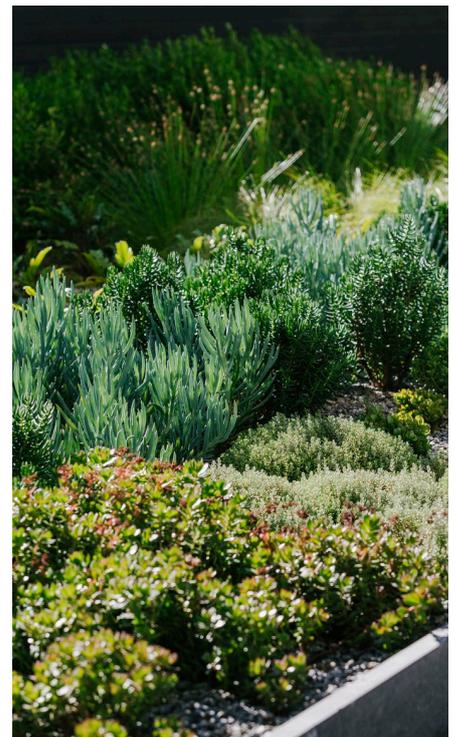
The number of green roofs in London has doubled since the introduction of the 2008 Living Roofs and Walls Policy

Source: [Mayor of London. 2019](#)

72%

Typical reduction in heat transfer through a green roof compared to a black roof.

Source: [General Services Administration. USA](#)



Unisuper, Melbourne, Australia. Photo: Sarah Pannell

THE COMMERCIAL REALITY

In a competitive office market, landlords are under a lot of pressure to attract tenants. Green spaces are one amenity that tenants have been willing to pay for.

The ‘flight to quality’ means amenities are more important than ever

Coming out of the pandemic, people are spending less time in the office. Many companies have adopted hybrid or remote work policies, which has put downward pressure on the office market, with some tenants downsizing their leases or forgoing them entirely. Office vacancy rates have been climbing upwards – 13% in Sydney, 20% in New York, and 14% in Shanghai. By one estimate, the value of the commercial real estate market is likely to decline by 39%.

These effects haven’t been felt evenly. High-quality, amenity-rich offices are actually fairing pretty well. Rents for these properties have remained buoyant as tenants seek out offices that will draw employees back. On the other hand, older, less desirable offices are taking the brunt of the market’s downturn. Many B- and C-grade properties will likely struggle significantly as tenants leave these buildings.

With a flight to quality underway, landlords need to examine their buildings’ amenity packages. Tenants are looking for amenities that will help attract employees back to the office. And one thing that many people are asking for is green space.

“Higher quality buildings, those that are built more recently and have more amenities, appear to be faring better in the pandemic. Their rents on newly-signed leases do not fall or even go up, in contrast with the rest of the office stock.”

Arpit Gupta, Vrinda Mittal, and Stijn Van Nieuwerburgh
National Bureau of Economic Research (USA), September 2022



Fora Borough, London, UK. Photo: Mark Cocksedge.

Tenants are paying a premium for green space

Even before the pandemic, tenants were willing to pay more for buildings with green spaces. The size of this premium depends on many factors, including the building's location and the type of green space. In 2019, CBRE calculated that tenants in New York were paying a 14% premium for floors with terraces compared to those without. In more recent research from 2022, they found that LEED-certified buildings, which often feature green spaces, commanded a 3.7% rent premium, even controlling for other factors, like age, location, and class.

5-10%

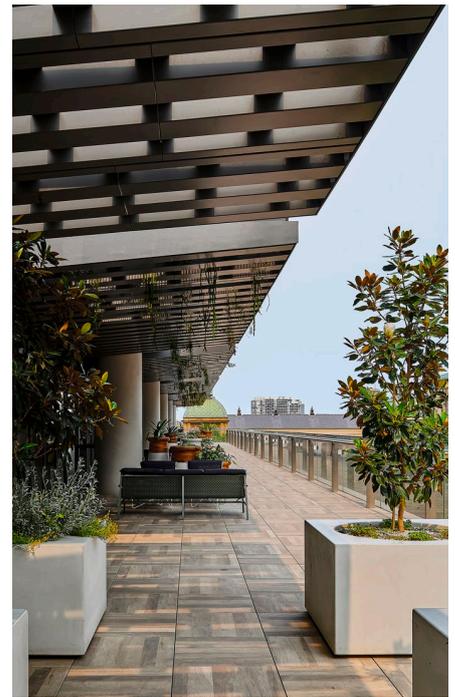
Rent premium for an office with outdoor space in London.

Source: [University of Oxford, 2022](#)

17.9%

Rent premium for office buildings in Melbourne and Sydney that achieve a 5+ NABERS rating.

Source: [Knight Frank, 2021](#)



Sixty Martin Place, Sydney, Australia.
Photo: Mark Syke

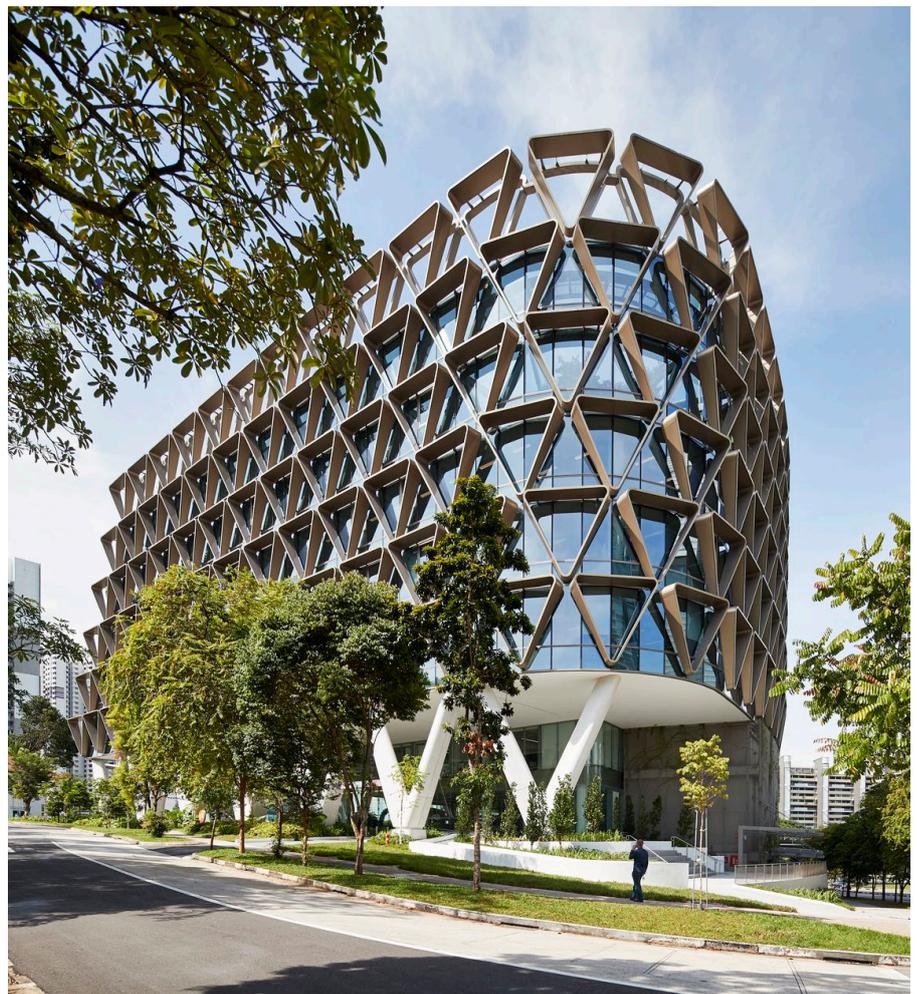
Urban greenery boosts property prices

In an urban environment full of concrete and asphalt, people value access to green spaces such as parks and tree-lined streets. These spaces not only improve the aesthetic of an area but also improve air quality, reduce noise pollution, and provide areas for recreation and relaxation. [Research from MIT](#) shows that commercial tenants generally pay 5.6 to 7.8% more for offices in buildings with street-level greenery. Similar analysis has demonstrated that residential tenants will pay anywhere [from 5 to 17%](#) extra to live on streets with greenery.

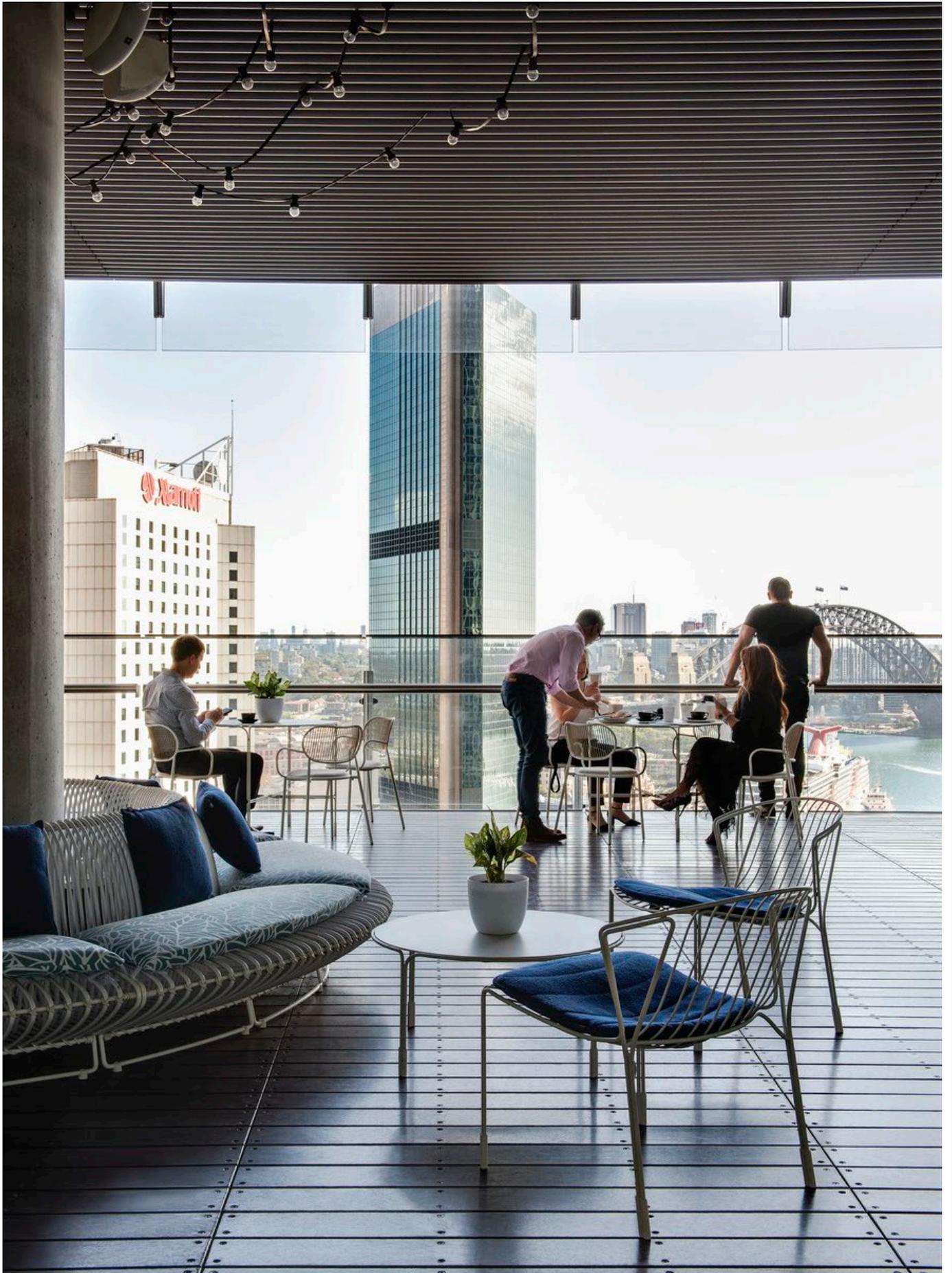
5.6 to 7.8%

Rent premium for offices with street-level greenery compared to those with none.

Source: [MIT Real Estate Innovation Lab, 2021](#)



GSK Asia House, Singapore. Photo: Peter Bennetts.



Clayton Utz, Sydney, Australia. Photo: Nicole England

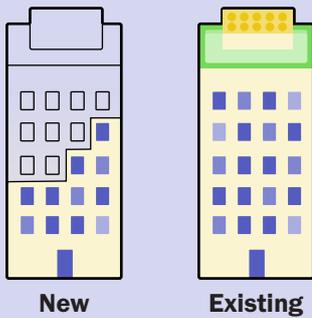
THE BIG CONSIDERATIONS

What to ask yourself before adding a green space to an office

GETTING GREENERY RIGHT

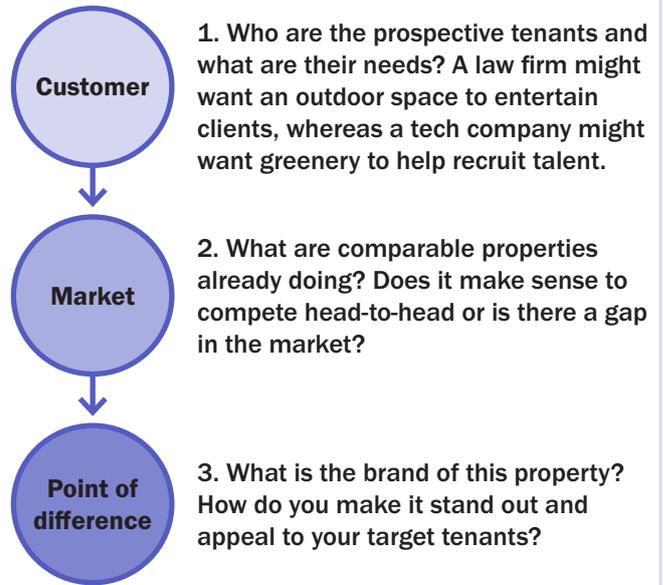
A green space's success depends on site-specific factors, such as the climate and market conditions. So what works on one project may not work on another. Here are some questions to ask before getting started.

Is this a new or existing building?

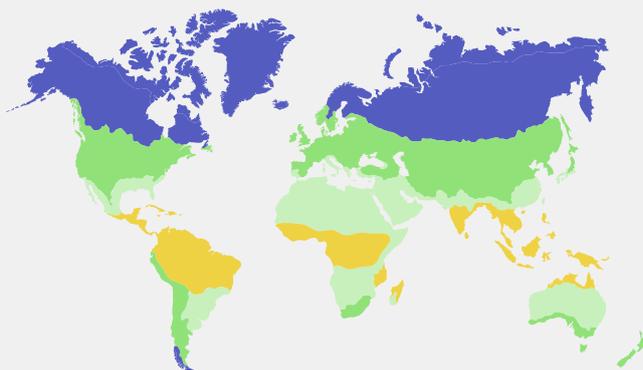


On a new building, you can do almost anything if the budget and climate allow. But existing buildings are more constrained. Ideally, you want to change the underlying building as little as possible. There are lots of gotchas. A roof might have sufficient space for an outdoor rooftop, but the structure might not be strong enough to support the additional weight. Or you might run into problems with egress, planning restrictions, or building services. All of these can be overcome, but careful planning is needed to avoid the worst of them.

Who are your future tenants?

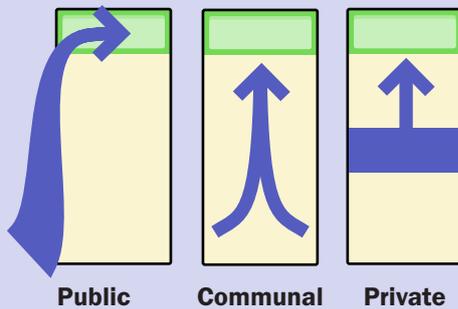


What is the climate like?



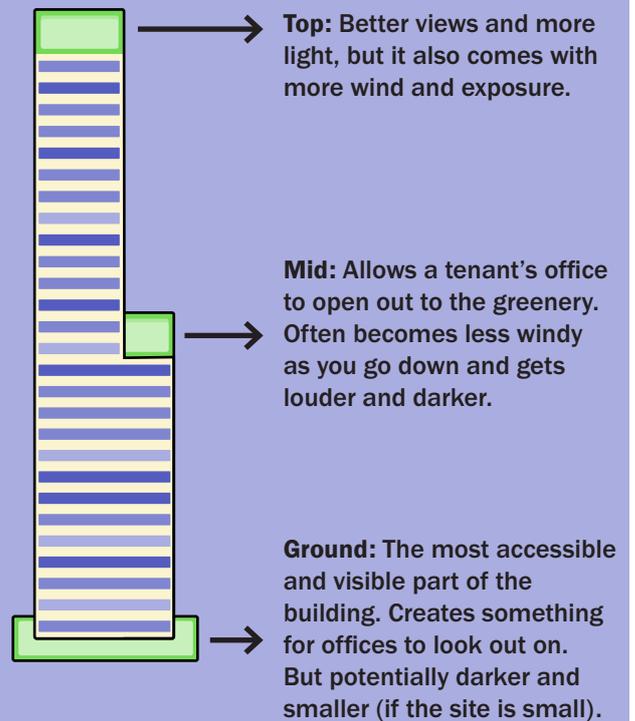
- Tropical:** Outdoor spaces are possible if designed to control heat, humidity, and rain.
- Sub-tropical:** Outdoor green spaces are almost always possible.
- Temperate:** Outdoor spaces are possible in warmer months. Some design interventions can extend the usable season.
- Polar zone:** Indoor greenery often preferable to outdoor spaces. Focus on winter gardens and indoor planting.

Who can access the space?



For spaces like rooftops and terraces, it's important to decide who will have access. If more than one tenant shares the space, you might need a service offering to help manage access and upkeep (much like a shared meeting facility on the interior). If you plan to open the space to the public, consider how they will get there without interfering with others in the building (do you need a separate entrance or more lifts?). And if the space is private to one tenant, you'll want to consider how the interior space connects to the outdoor space.

Where should the greenery go?



Top: Better views and more light, but it also comes with more wind and exposure.

Mid: Allows a tenant's office to open out to the greenery. Often becomes less windy as you go down and gets louder and darker.

Ground: The most accessible and visible part of the building. Creates something for offices to look out on. But potentially darker and smaller (if the site is small).



What will it cost?

It's fairly common for green spaces to be value-engineered out of a project. While they look good in renders, they can be expensive, particularly when it comes to maintenance. It's best to get a sense of these figures early on. If the cost looks like it'll be prohibitive, you'll often get more value by having smaller areas of greenery that are high-quality and high-impact, rather than paring back the greenery in order to spread it thinly throughout the space.

How early can tenants be involved?

Green spaces aren't always easy to modify. For example, rooftop furniture is often bolted down to prevent it from blowing away. Moving the furniture may require adjusting the roof's waterproof membrane, which isn't a particularly easy task! To avoid redoing the work, it's important to involve your future tenants as early as possible in the design process.

What type of greenery?

There are many ways to add greenery to a building – rooftops, winter gardens, terraces, indoor plants, green walls. Each comes with its own set of benefits and downsides. The rest of the report will discuss these strategies in detail.



GETTING GREENERY WRONG

Although tenants say they want green spaces, landlords often find that these spaces go unused or underutilised. It's not a simple case of build it and they will come – many factors determine whether these spaces are successes or failures.

It's easy to say that office buildings should have green spaces; it's much harder to create them. Landlords and developers we spoke to expressed concerns about adding greenery to their projects. Many gave examples of green spaces they'd built, often at a significant expense, which had sat unused or underutilised. They wondered why these spaces were deserted when other green spaces they built were immensely popular.

The truth is, not all green spaces are alike. We've all experienced the bad ones – the windy terrace with too much glare from nearby buildings;

the dirty, neglected courtyard where the plants are either struggling or dead; the unwelcoming rooftop with nowhere to sit. Often it can be something relatively small that turns a great green space into a poorly performing one (we've listed a few common reasons below). But don't worry. The rest of this whitepaper will look at proven strategies for making successful green spaces.

COMMON ISSUES WITH GREEN SPACES

Unwelcoming weather

In many places, it's not comfortable to be outside at certain times of the year. Poorly designed outdoor spaces can make matters worse, exacerbating the wind, cold, and glare.

Red tape

Modifying an exterior space often requires planning approval, particularly if it impacts the building's waterproofing or appearance. These hurdles make it harder to adapt the space for new uses.

A lack of maintenance

Plants require maintenance, and public spaces need upkeep. If these tasks are neglected, the space becomes less appealing and less desirable.

Bad ergonomics

Outdoor furniture is often less comfortable than indoor furniture. When people work for long stretches, they tend to gravitate to places where they're most at ease.

Considered too late

Green spaces can sometimes be an afterthought left to the end of a project. By not considering them early, they often become a poorly integrated box-ticking exercise.

Operational costs

Green spaces cost money to maintain. It's sometimes hard for developers to justify the cost of keeping these spaces open.

Poor access & visibility

If a green space is tucked away or hard to get to, people often won't think to go there.

Unclear ownership

If a green space can be used by multiple tenants, some may feel that the space isn't 'theirs' to use.

Case study

Trouble maintaining the Qiyi City Forest Garden

Qiyi City Forest Garden was an attempt to create greener residential apartments in Chengdu, China. Each unit had a plant-filled balcony, creating a 'vertical forest' of apartments. The design proved popular, and all 826 units were sold before completion in 2019. But the building also proved popular with mosquitos. The main culprit was the balconies, which didn't have sufficient drainage. The water that pooled outside created the perfect breeding ground for insects. There weren't enough resources to maintain the plants, so they quickly became overgrown, further amplifying the insect problems. As landscape architect Daryl Beyers told Curbed: "You can't have a garden without a gardener."

The mosquitos won. The South China Morning Post reported that the infestation was so bad that only around ten residents moved into Qiyi City Forest Garden. The project's greenery, once its biggest selling point, had become its biggest liability. Ultimately, this ambitious project failed because it lacked the design consideration to make the greenery a success.



Photo: Imaginechina Limited / Alamy Stock Photo

Case study

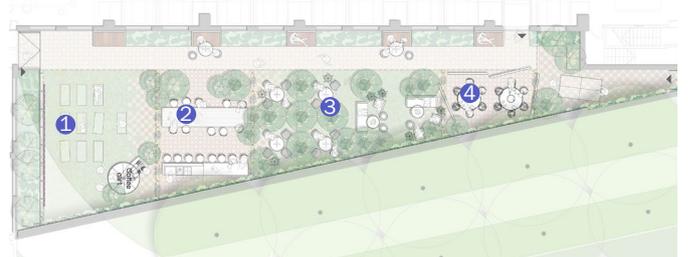
An underutilised courtyard (and the fix)

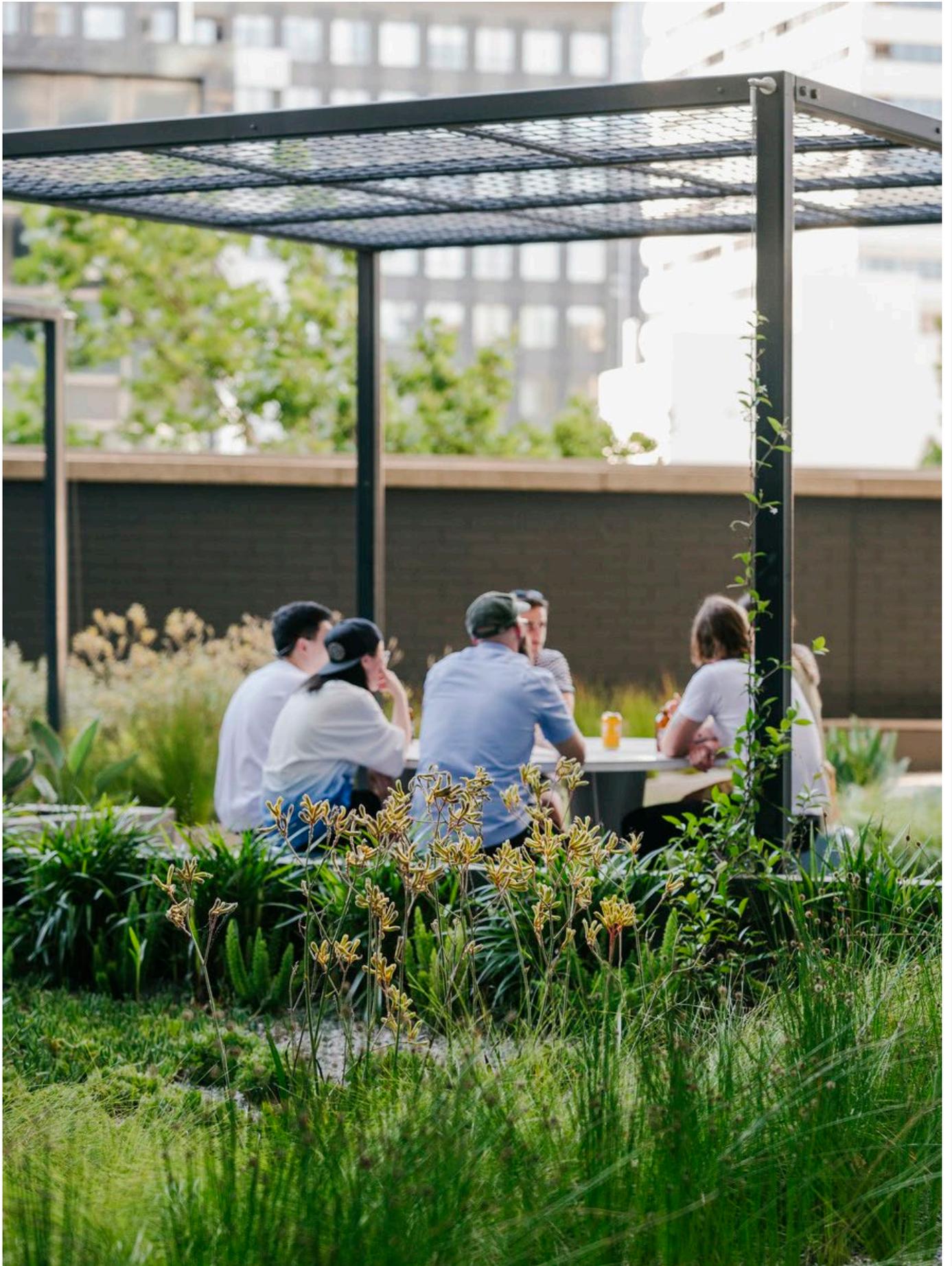
SBS is an Australian television broadcaster. They had a courtyard in their Sydney office, but it wasn't well used. It's easy to see why. There was no shelter from the hot Australian sun, and there was no real reason to go out there other than a few chairs and a BBQ. Like many outdoor workspaces, it was a neglected and overlooked asset.

In 2019 Hassell designed a new courtyard for SBS. The courtyard was divided into four 'garden rooms,' each with a distinct function: ① Celebrate and Play, with space for events, exercise, and coffee; ② Refreshment, with an outdoor kitchen and seating area; ③ Downtime, with a series of nooks for relaxation; and ④ Collaboration, with a couple of meeting spaces. Nine hundred plants and different forms of shading were also added to the space. These changes weren't dramatic – the courtyard was still the same shape and size – but by carefully considering how SBS would use the space, it was transformed into a vibrant social space.



Photo: Simon Woods





UniSuper terrace, Melbourne, Australia. Photo: Sarah Pannell

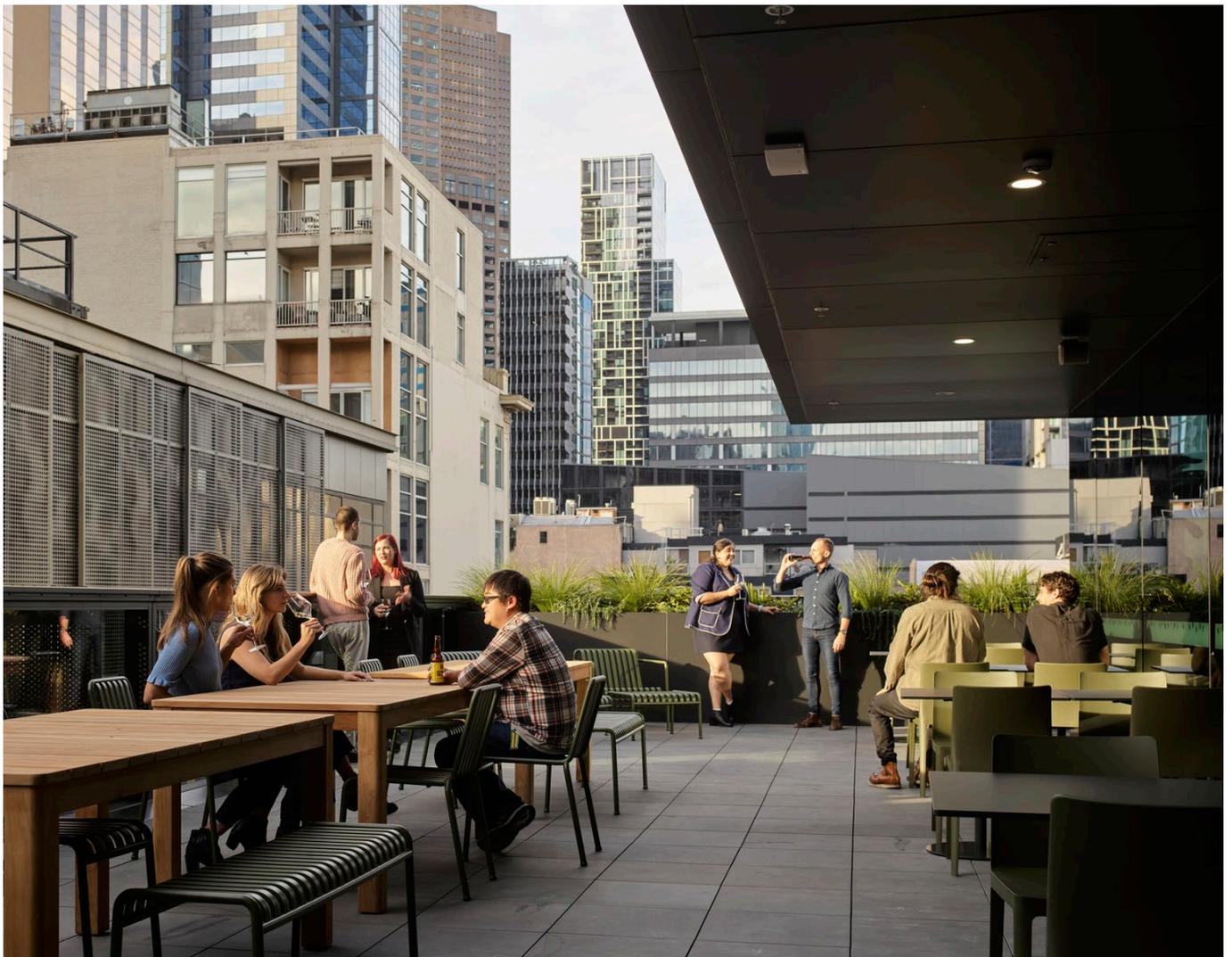
SPACE TYPES

A closer look at three key ways of adding greenery to a project



1: ROOFTOPS, TERRACES, AND STREETS

In tight urban environments, rooftops, terraces, and streets provide valuable opportunities for workers to get outside, relax, and connect with their coworkers. It's one way to turn otherwise unused space into a valuable amenity.



Hub Flinders Street, Melbourne, Australia. Photo: Anson Smart

CREATING A GREAT ROOFTOP, TERRACE, OR STREET

Understand the market

An outdoor space is ultimately an amenity. Like any amenity, it's critical to know what you're competing against. Look for opportunities where your building can stand out in the market.

Choose the right place

It's tempting to put a rooftop or terrace right at the top of the building because this is where the views are the best. But it can be windy up high. You may find that you can create a more usable space lower down on the building or at street level.

Consider the weather

What's possible in one climate may not make sense for your corner of the world. It's essential to understand the microclimate around your building – particularly the wind and sun – to maximise the potential of your site.

Engage tenants early

While tenants can easily renovate an interior office, the same isn't true of a rooftop or terrace. These spaces can be quite hard to modify after they're built. So it's best to get tenants involved as early as possible to reduce any rework.

Create variety

Developers often want to know the 'best' amenity to add to a rooftop. The answer is simple: variety. There's a wide range of reasons someone might use a rooftop, and the more you can accommodate, the better.

Return on investment

If a tenant has exclusive access to a rooftop, they'll typically pay a premium (In 2019, CBRE calculated the premium for an outdoor space was 14% in New York). But there are other ways to monetise the space, from renting it out for events to adding a cafe or bar.

Special considerations for renovating existing buildings

Unused rooftops and terraces are prime locations for adding greenery to a building. But there are a couple of gotchas with existing rooftops and terraces presenting challenges you won't encounter on new builds. A couple of things to consider:

What can the structure support?

You'll need an engineer to assess the structure properly. In that process, you might discover there are limitations to the load your roof can carry. Generally speaking, larger plants and trees require more soil and thus require more support. So depending on the structure, you may have to scale back the planting.

How is the roof waterproofed, and can this be modified?

While adding new furniture to a roof sounds straightforward, you've got to consider the wind. Tables and

chairs may need to be bolted down to ensure they don't fly away. But putting anchors through an existing roof isn't simple because it can compromise the roof's weather tightness. In many cases, you may need to either reconstruct part of the roof or assume the liability for modifying the roof.

How will people access the space?

Many existing rooftops aren't designed to be easily accessed. There may be a small staircase for maintenance, but if you want to allow groups of people up there, you need enough egress to get everyone down safely in an emergency. This may require adding or enlarging a staircase. In many jurisdictions, you'll also need to provide elevator access for people with disabilities (and those that don't want to trudge up a flight of stairs to get to the rooftop).

What infrastructure needs to be added?

Your existing rooftop likely doesn't have the infrastructure for power, plumbing, internet connectivity,

or other building services. Even something simple, such as adding lights, may require building new infrastructure. If you want something more complex, like a kitchen or bathrooms on your rooftop, it'll require even more modification. Furthermore, there may already be equipment up there, like HVAC units or exhaust fans. These will either need to be moved or carefully designed around.

Are there heritage restrictions?

There are limits to how much you can change a building without going through a planning process. This is especially true of heritage buildings where changes to the building's appearance are often tightly restricted. Even minor alterations, like changing the species of plants on the exterior of the building, may be enough to trigger these rules. Any changes need to be carefully considered in relation to the planning limitations.

MEDIBANK PLACE

The importance of diverse outdoor spaces

Location: Melbourne, Australia

Year: 2014

Client: Medibank

As Australia's largest health insurer, Medibank wanted a workplace that put people's mental and physical health first. Central to this strategy was a series of outdoor spaces and indoor greenery.

On the lower levels of the building is a terrace with a public park, a basketball court, an edible garden and demonstration kitchen, an amphitheatre for watching sports games, and lots of space for people to sit, relax, connect, and soak in the biophilic benefits of being around nature.

The exterior of the building includes two 25-metre green walls at the entrance and an additional 500 plants integrated throughout the facade. The plants are positioned based on where the sun falls and are designed to frame the windows, transforming the views from grey to green.

On the interior of the building, there are 2,300 plants. Wifi-enabled balconies give people another opportunity to spend time outdoors while working. And in the middle of the building, on the 6th floor, is a larger terrace with a BBQ for team gatherings.

All told, Medibank's collection of outdoor spaces and greenery has proved popular. The building features in Medibank's recruiting efforts, with [videos showcasing](#) the benefits of the work environment. For employees, clients, and the general public, Medibank's commitment to physical and mental health is evident through its workplace design.



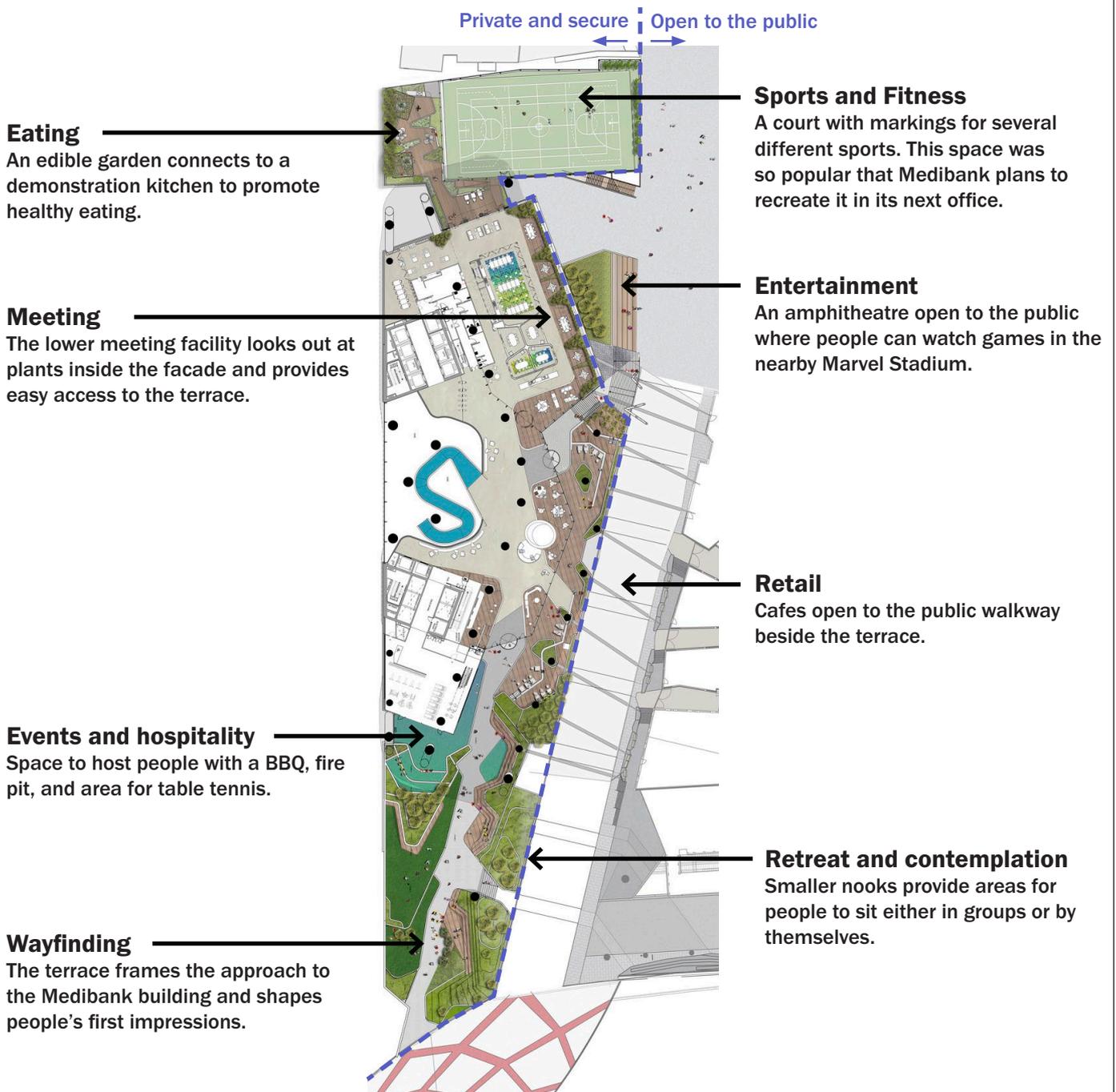
Photos: Peter Bennetts and Earl Carter

Great outdoor spaces have variety

The best outdoor spaces are more than places to get outside. They offer variety. They have a range of spaces for different activities, whether that's collaborating, eating, resting, or working out. When an outdoor space isn't successful, often it's because the space is mono-functional and only really designed for one thing. Much like their indoor counterparts, great outdoor spaces give people options and accommodate a range of uses.

An activity-based terrace

The Medibank terrace has a variety of spaces to support different health-related activities.



GSK ASIA HOUSE

How climate impacts outdoor spaces

Location: Singapore
Year: 2017
Client: GlaxoSmithKline

Outdoor workspaces aren't particularly common in Singapore. The climate is tropical and humid – a relatively constant 28 degrees – so offices tend to be enclosed and heavily air-conditioned.

But GSK wanted something different for their Asian headquarters. As a global pharmaceutical business, they wanted to create a purpose-built office that exemplified the company's collaborative working principles while also connecting to the surrounding environment.

The site surrounding the headquarters was transformed with 60,000 new plants and trees. The lower floor blurs the line between this outdoor park and the building, creating an atrium open to the public. From within the building, employees look out at the park through a screen of 'petals' in the facade.

At the end of each floor, there's a balcony framed by plants that provides space for people to sit, meet, work, and collaborate. The roof extends over these balconies, offering shelter from tropical storms and the heat of the sun. And large fans move air around, making the space comfortable to work in. While these outdoor workspaces are unusual in Singapore, they've proved popular with employees at GSK, and you regularly see people out there holding meetings and catching up with colleagues.



Photo: Peter Bennetts



Photo: Nicole England

Creating productive outdoor workspaces

Companies spend a lot of time creating productive indoor workplaces. They'll go to great lengths to ensure that everything from the acoustics to the ergonomics are just right. The same isn't true of outdoor spaces. While people like the idea of working outside, the experience can leave much to be desired, causing these spaces to often go underutilised. Ultimately, if you want people outside, you've got to make the experience at least as good as it is inside.

Main challenges of working outside

Typically when an outdoor space isn't utilised, it's because one of these nine challenges isn't addressed.



Moisture

Whether it's humidity or rain, moisture causes all sorts of problems for electronic equipment. Things like runoff, drainage, and shelter all need to be considered.



Power

It's harder to provide power outlets outside because they've got to be weatherproofed. But if people are going to be outside for a while, they need access to power.



Ergonomics

Most outdoor furniture isn't very comfortable. It's designed to withstand the weather, not to be sat in all day. You can add things like cushions, but then you need someone to set up the space every day.



Wind

Wind is disruptive outside and often gets worse the higher up you are. Plants and screens can help create shelter from the wind.



Glare

If people use webcams or computer screens outside, glare is a big issue. The only real solution is shade, lots of shade.



Heat

Too much heat can make people sleepy. Shade is the best antidote, but when that's not enough, fans or even misters can make all the difference.



Sound

Whether it's planes passing overhead or the whistle of the wind, it can be noisy outside. This can make phone calls and meetings challenging. In addition, there's no acoustic privacy. Walls of greenery can alleviate some of these issues.



Wifi

The wifi needs to be the same strength and quality you'd find indoors. This can be tricky because IT teams sometimes worry about the security of broadcasting beyond the walls of a building. So they need to be brought into the design process.



Bugs

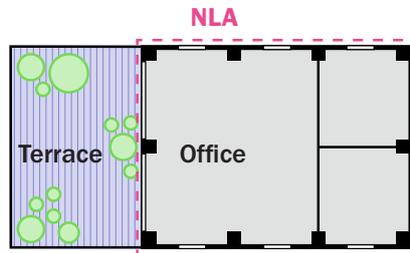
The glamour of being outside drops dramatically once a mosquito has bitten you. Plants and water can act as breeding grounds for bugs, so they must be carefully considered.

2: WINTER GARDENS

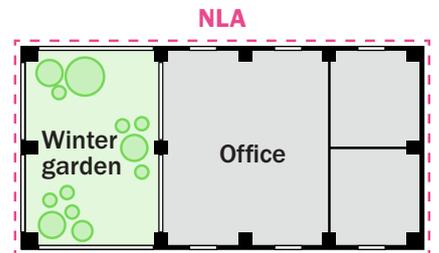
Winter gardens are plant-filled conservatories that sit just behind the facade. They have two main advantages: firstly, since they're protected from the weather, they can be used year-round in most climates; secondly, because they're inside, they are counted as part of a tenant's Net Lettable Area (NLA).

Adding to the NLA

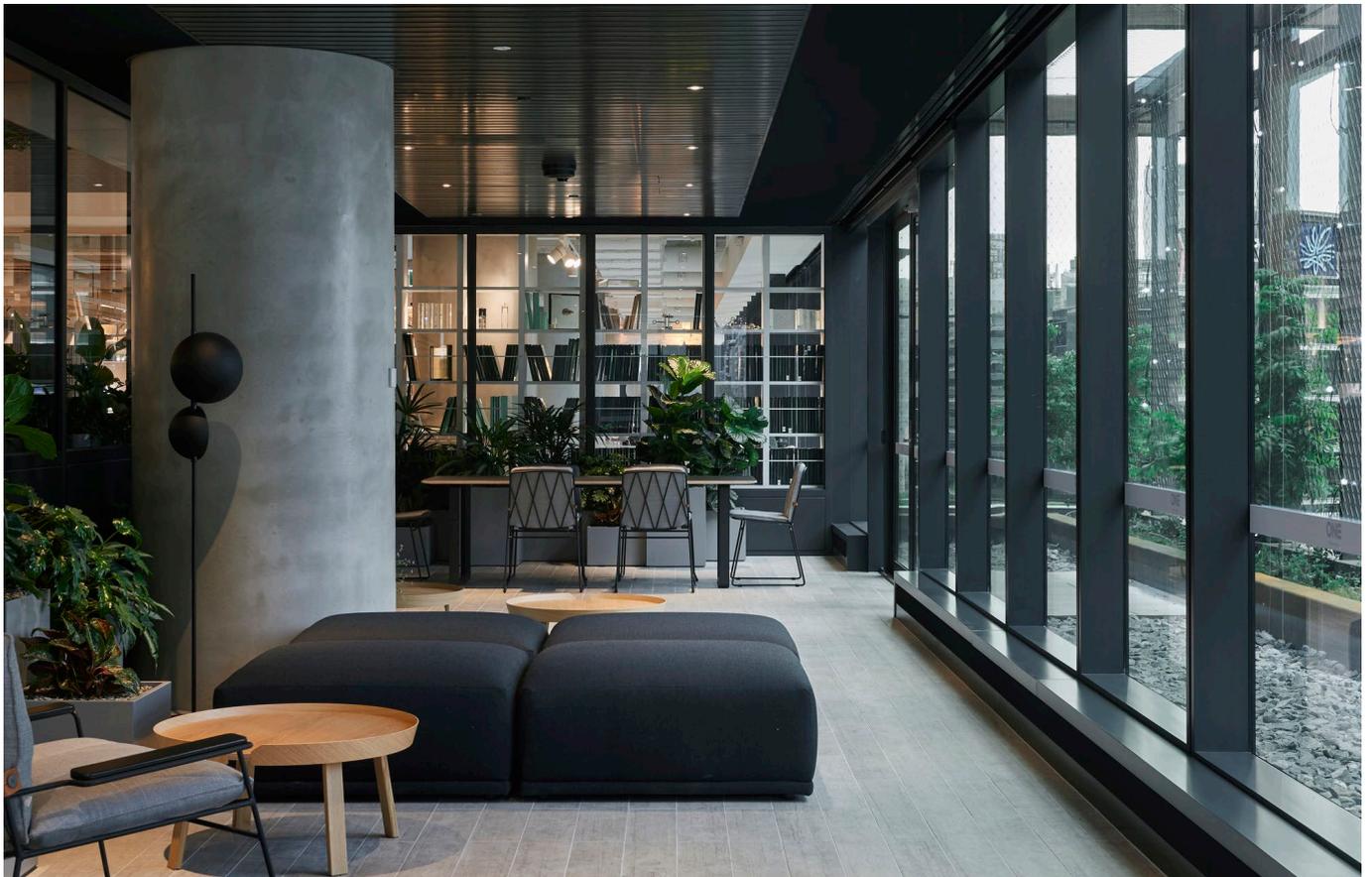
A winter garden is essentially just another room in an office. It therefore counts towards the office's net lettable area (NLA). Compared to outdoor spaces (which aren't included in the NLA), winter gardens can have financial benefits for landlords by increasing the size of the tenancy.



↑ A terrace doesn't add to the NLA



↑ A winter garden is part of the NLA



ARUP, Melbourne, Australia. Photo: Earl Carter

TRANSURBAN HQ

Removing the facade to create a winter garden

Location: Melbourne, Australia

Year: 2014

Client: Transurban

Transurban develops and operates transportation infrastructure around the world. For their new headquarters in Melbourne, Australia, they wanted to support new ways of working, attract the best and brightest and retain the feel of a nimble organisation.

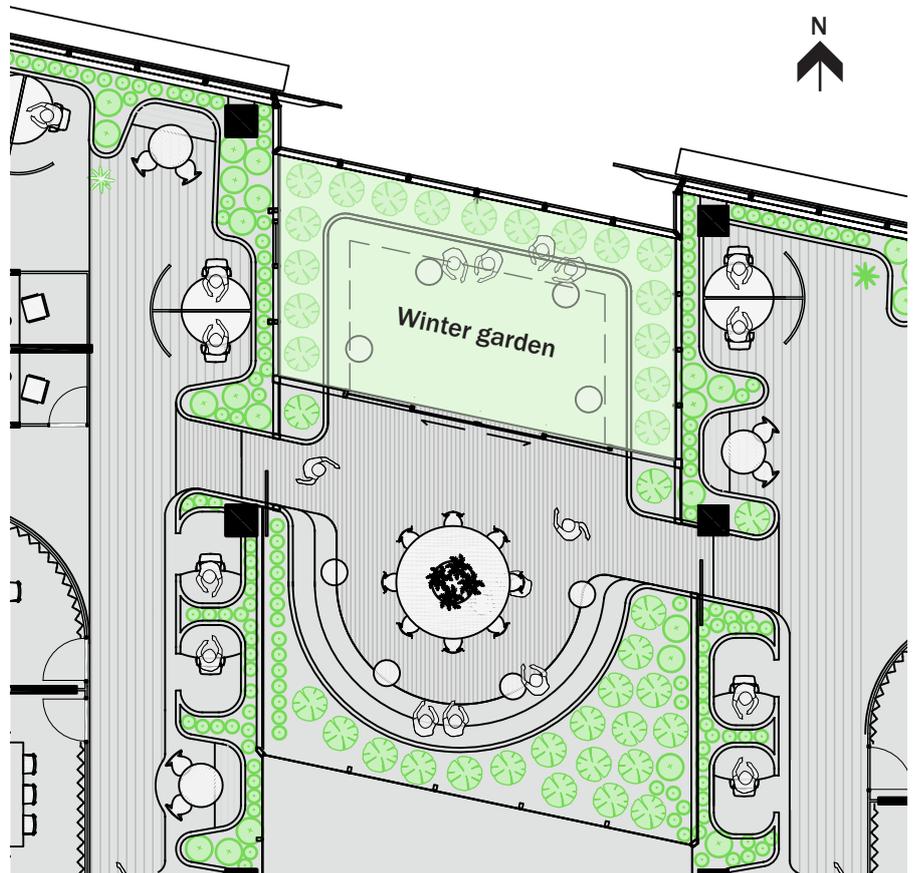
Green elements are used throughout the project. Plants screen parts of the workplace, creating zones of privacy. And they frame the inner atrium, creating a calm, biophilic core to the project.

A winter garden is tucked into the northern facade of the building. To create this space, Hassell worked with the developer to remove part of the facade. The result is a semi-enclosed, double-height space that overlooks the city.

Positioned adjacent to a communal lounge, the winter garden has proved a popular spot for people to step outside and get some fresh air. With planting all around the seats, people go there to take a break, meet with colleagues, or just sit and work for a while.



Photo: Dianna Snape.



Who is responsible, developers or tenants?

It's quite hard to add a winter garden to an existing building. In a perfect world, the project is designed with a winter garden in mind. This makes it easier to specify the HVAC system, construct the facade, and control the office's temperature. Once the project is complete, the tenant is typically responsible for fitting out the space and maintaining the plants. This makes a winter garden something of a collaboration between the developer and the tenant. Ideally, this conversation starts as early as possible to help ensure the garden is in the best location and scale for the tenant.

Advice for developers

Maximise the sun

The best winter gardens are warm, inviting, and light-filled. Plants thrive in these conditions, and people love to spend time in them. To maximise the garden's solar potential, place it in a sunny spot on the facade.

Consider ventilation

Winter gardens don't always need air conditioning. Since these are semi-outdoor spaces, it's possible to design them to open to the outside air. This can save HVAC costs and make the space feel more natural and interesting.

Keep it insulated

The winter garden will typically be a different temperature to the rest of the office. The office should be insulated from the garden much like it's insulated from the outside. If this isn't done, the surrounding area can feel drafty, and the energy performance of the building can suffer.

Tips for tenants

Give it variety

Accommodate a range of activities within the garden by creating different areas for people to meet, relax, and focus. Like other parts of the workplace, winter gardens benefit from having a variety of work settings.

Connect to busy spaces

Since winter gardens need windows, they often get tucked away at the outer edge of a floor. Out of sight, people may not think to go there. To maximise the garden's utilisation, place it beside other highly-trafficked commercial spaces, such as lounges, kitchens, and meeting facilities.

Create differentiation

People use winter gardens because they feel different to other office spaces. Materials, furniture, and even ceiling heights help emphasise this differentiation, making the space feel distinct and special.

SEEK GLOBAL HQ

A collaboration between developer and tenant

Location: Melbourne, Australia

Year: 2021

Client: SEEK

As Australia's largest employment marketplace, SEEK helps people find new jobs, new careers, and new employers. It's a 'people first' company and they wanted their new global headquarters to embrace their unique culture.

Located in the heart of Melbourne's tech scene, the seven-story building was designed to be highly adaptable. Essential to the layout was a series of green spaces spread throughout the base building.

Along the eastern edge of each floor is a winter garden. These gardens catch the morning light and offer views out across the Melbourne suburbs. Filled with plants and furniture, these rooms provide a popular place for people to meet, work, and relax while surrounded by greenery.

The windows open on warm days, allowing fresh air to circulate through the space. When this happens, the HVAC system shuts down in these spaces. The rest of the base building is designed to be thermally separated from winter gardens, so opening the windows doesn't make the rest of the building drafty.

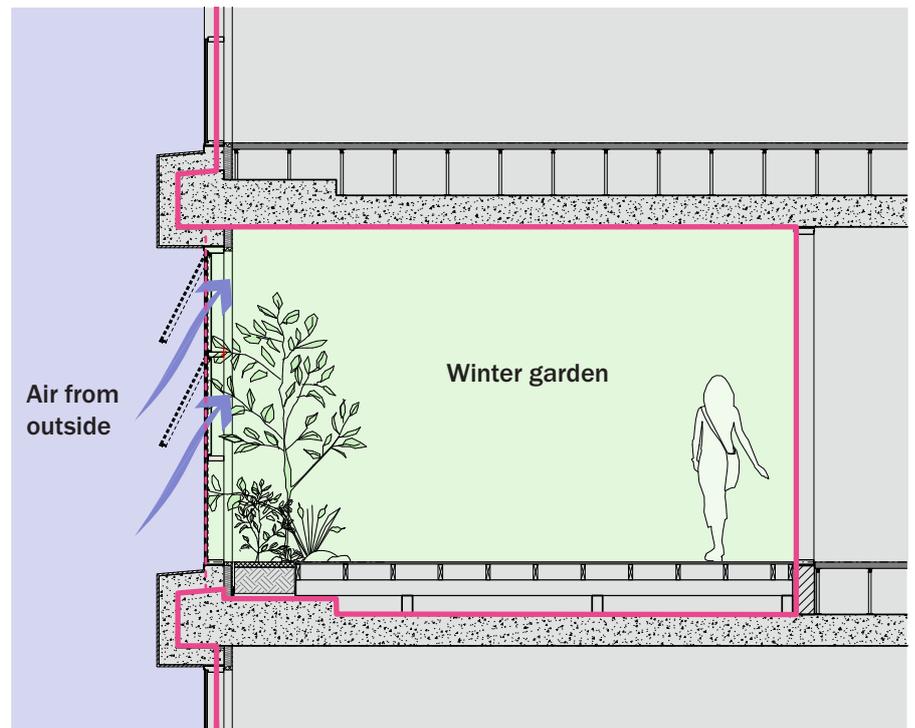
The top floors feature dedicated social spaces. A kitchen spills out to a large rooftop and terrace overlooking the city – a popular place for teams to unwind at the end of the day.



Photo: Peter Bennetts.

“Our wintergardens are the perfect way to invest in the wellbeing of our people. They have access to fresh air all year round and are being used by our people to work, meet, relax and socialise. Personally, I love catching the sun and some fresh air with my morning cup of coffee as I plan the rest of my day”

Brigid Carey, Head of Workspace Strategy, SEEK Limited



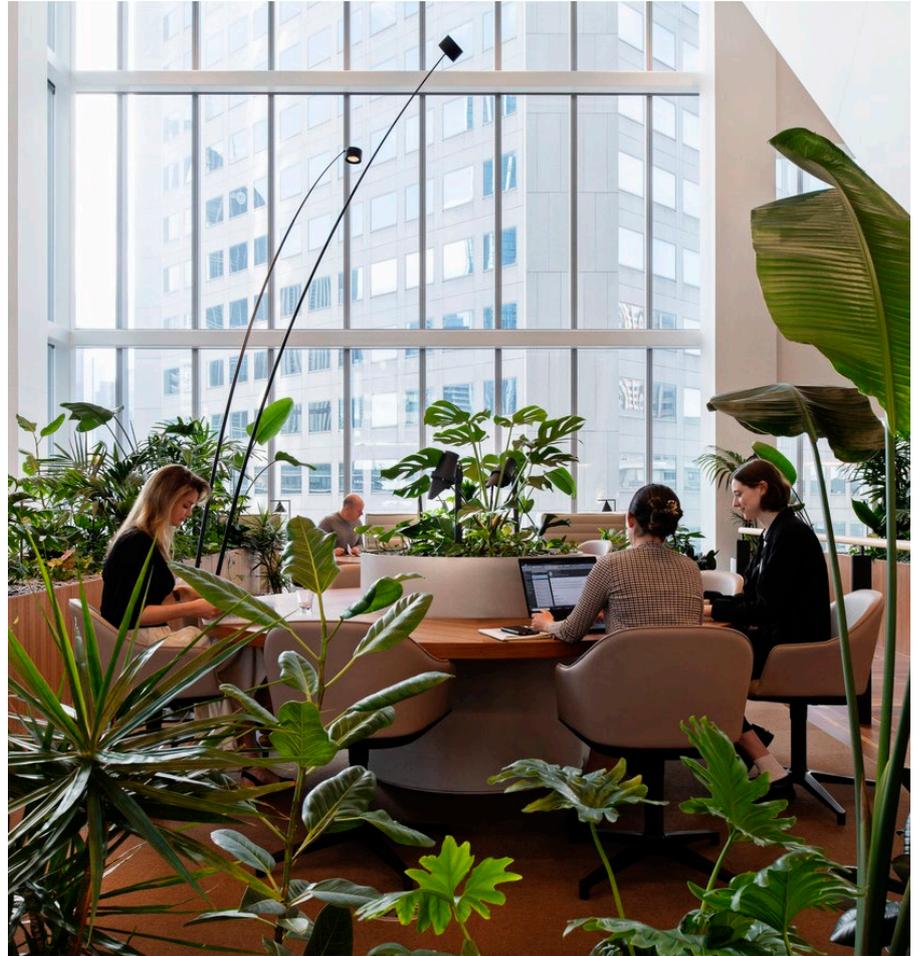
Thermal envelope

3: INDOOR PLANTS

Indoor plants are a simple and cost-effective way to add greenery to an interior space. Whether the space is managed by a landlord or belongs to a tenant, plants are a proven way to boost people’s productivity and improve their mood.

The benefits of biophilia

Workplace design has gone through many fads over the decades, but one thing has remained constant: people love plants. Our fondness for greenery is so consistent, so universal, that scientists believe it must be genetic. Scientists call this biophilia, which literally means a ‘love of living things’. In study after study, plants have been shown to positively affect people’s mood and health. In one seminal study from 1984, patients recovered from gallbladder surgery one day faster when placed in rooms overlooking trees than those overlooking a brick wall. In a meta-analysis of recent research, indoor plants were consistently shown to boost workplace productivity anywhere from 6 to 26%. In fact, our love of the natural world runs so deep that even pictures of nature can elicit the biophilic response. This is all to say, after decades of workplace trends coming and going, indoor plants are as close as you’ll ever get to a sure thing in workplace design.



NAB, Melbourne, Australia. Photo: Nicole England.

0.2

People were 0.2 standard deviations more creative in workplaces containing plants

Source: [Yin, et al., 2019](#)

12%

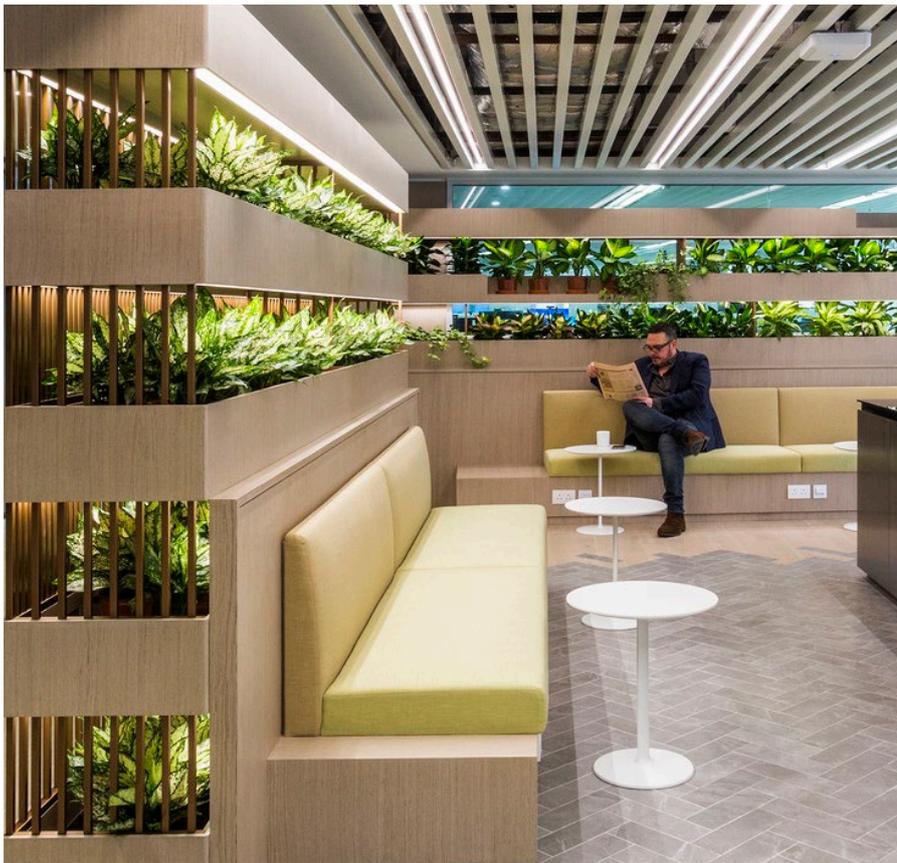
The optimal ratio of plants to other surfaces to boost workplace performance.

Source: [Lei, et al., 2021](#)

6 to 26%

Typical range of productivity increases across 16 studies measuring the impact of biophilia.

Source: [Ostner, 2021](#)



Schroders, Hong Kong. Photo: Hassell.

The economics of plants

Of all the ways to add greenery to a project, indoor plants are likely the cheapest and easiest upgrade. Landlords can add them to the public areas of a building, such as a lobby, and a tenant can add them to their office without much fuss. But there are a few things to be aware of:

- **Lead times:** If you're ordering a lot of plants or unusual ones, nurseries will need time to grow them. This waiting period should be factored into any new build or upgrade.
- **OpEx:** Like any amenity, indoor plants need ongoing maintenance. This operational cost is the most common reason for cutting greenery from a project, so it's important to get a sense early on.

Ultimately the costs must be weighed against the benefits. If indoor plants make employees slightly more productive, or help attract a new tenant, often the cost is more than worth it.

Green walls

Green walls are a way to add vegetation to a vertical surface. Typically these are modular systems that contain all the hydroponics, growing medium, and light that the plants need to thrive.

Normally, green walls are a turnkey solution. The vendor takes on responsibility for the wall's installation and maintenance. This means that if a plant dies or some part of the system fails, the vendor is on the hook for it. It also means that the range of green walls available in a local market is constrained by the companies operating there.

As more companies entered the green wall market in the 2000s, they have become increasingly popular in workplaces. They provide a way of adding lush vegetation to an office without consuming much floor space. But they have their drawbacks too. Green walls are energy intensive, and compared to potted plants, lack some of the texture and variety.



The Work Project, Singapore. Photo: E. K. Yap

SKY CENTRAL

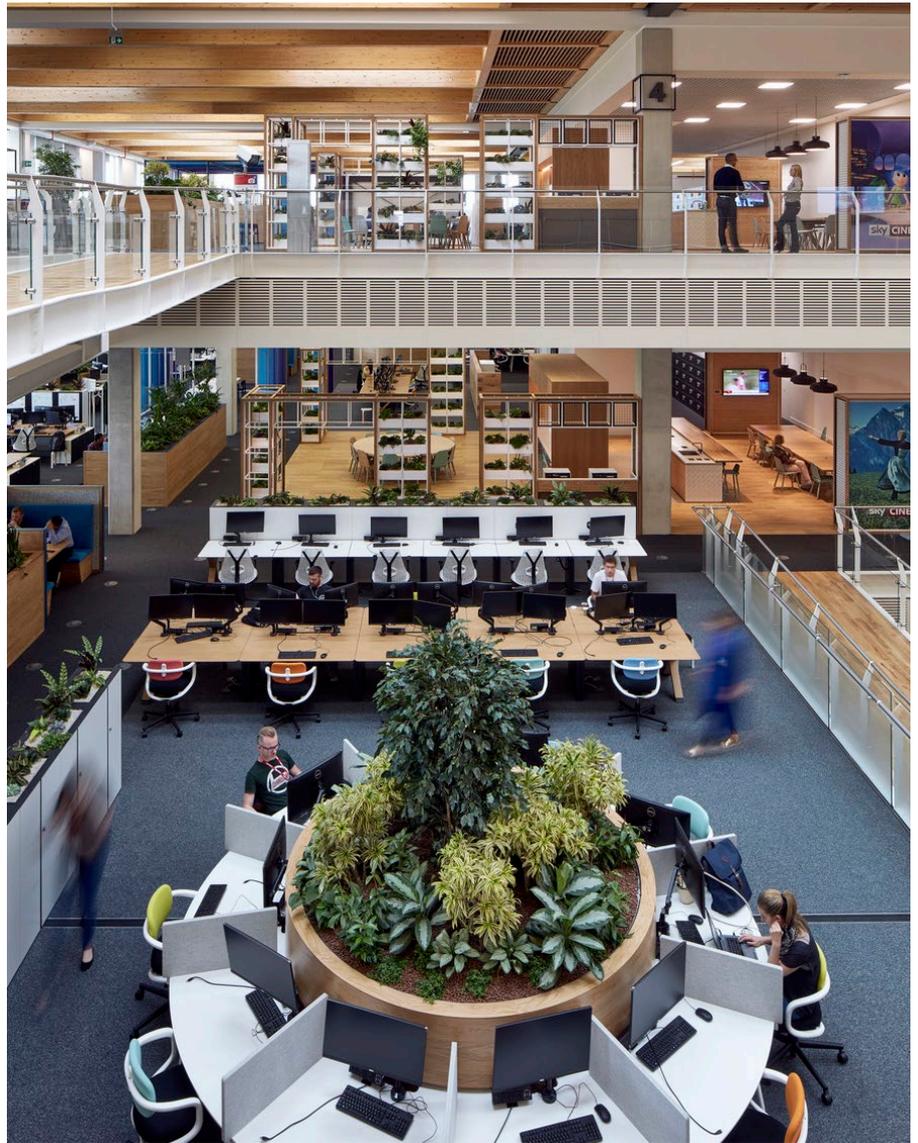
When you can't look outside, add greenery to look inwards

Location: London, UK
Year: 2016
Client: Sky

Sky is an international media company that began thirty years ago in an industrial business park on the fringes of central London. For their new headquarters, they wanted to create a 'game-changing' office that still had some of the character of their industrial beginnings.

Given the industrial nature of the site, the views weren't the best. If there was nothing to look out on, the views had to be created internally. Skylights in the roof enabled the numerous atriums and voids to be flooded with light, which allowed these internal spaces to be filled with plants. With so much daylight coming in from above, the plants thrived in these conditions, helping create internal points of interest as well as natural screens and buffers between the workplace settings. The plants also contributed to the project's BREEAM accreditation for environmental excellence.

There are a lot of plants in this building – over seven per person. The plants were grown in a mini-nursery on the site while the project was being constructed. This meant that they were semi-established by the time the project was complete. Obviously, the plants require ongoing upkeep, but this is outsourced to a third party, and the cost is comparable to having something like a barista in the building. And in this case, for a project that couldn't be orientated outwards and needed to be focused internally, the indoor planting is absolutely central to the experience.



Photos: Mark Cocksedge

AMP SYDNEY

Designing greenery with well-being in mind

Location: Sydney, Australia

Year: 2022

Client: AMP (including AMP Capital)

Overlooking the Sydney harbour in the newly renovated Quay Quarter Tower, AMP wanted a new global headquarters that fostered learning, relationships, and human and environmental well-being.

Given the importance of well-being to AMP, the health benefits of biophilia and indoor planting were a consideration from the beginning. Early on, AMP defined a CapEx and OpEx budget for indoor greenery – a key decision that allowed thousands of plants to be integrated into the project.

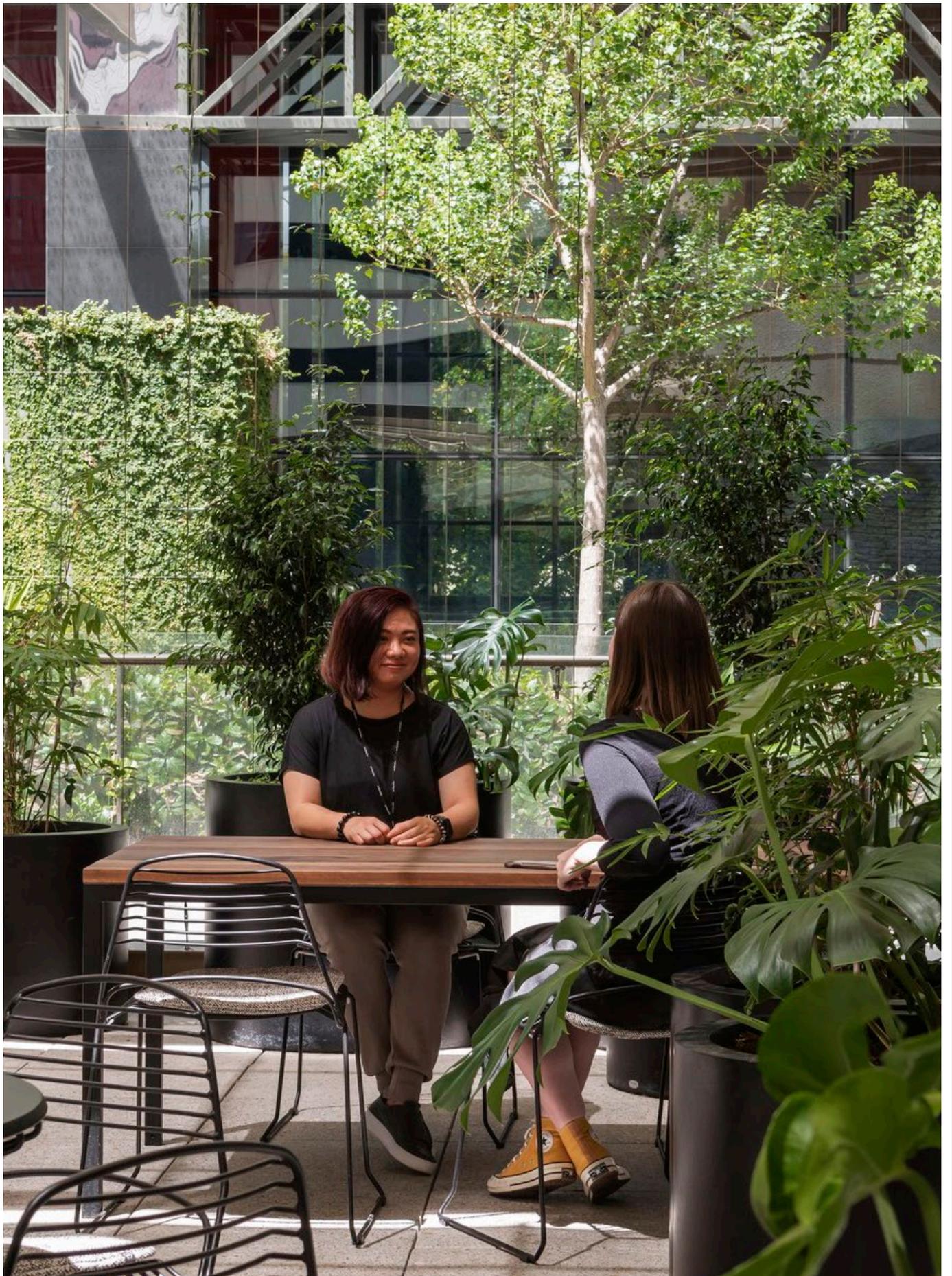
One of the project's most notable elements are the plant-filled atriums. With vegetation lining the walkways and filling the planters below, these spaces are literally 'alive'.

Careful planning was required to create these atrium spaces. The native Australian trees, *Anthurium Scherzerianum*, were craned into place before the facade was built. They were then gently acclimatised, over a period of months, as the facade was added and the air conditioning activated.

The workspaces are also filled with greenery. The planting changes throughout the building based on the light and character of the space. With so many plants, the challenge was ensuring the vegetation complemented the space rather than overwhelm it. Altogether, the plants have a biophilic effect that benefits those using the workplace. The project was awarded a 6-star Greenstar rating, the highest possible sustainability rating, recognising the project's contribution to occupant well-being.



Photos: Nicole England



Hawaiian Perth, Australia. Photo: Dion Robinson.

MAKING GREEN SUSTAINABLE

Strategies for ensuring your greenery is also sustainable

Greening responsibly

Greenery is often seen as a symbol of sustainability. When people see a building covered in greenery, many naturally assume that they're looking at a sustainable structure. The association is so strong that the terms 'green' and 'sustainable' are used almost interchangeably, with sustainable buildings often called 'green architecture'.

In reality, there are many shades of green. Used thoughtfully, greenery can offer many social and ecological benefits. But used badly, it can have limited impact, or worse, can hide underlying issues and distract from important sustainability priorities. In other words, green isn't always sustainable – it comes down to how you use it. So how should you use greenery responsibly?

Beware of greenwashing

Greenwashing happens when a project is superficially changed to appear sustainable without addressing the project's real social and environmental impact. This is easy to do with greenery. To many people, a building covered with plants will appear sustainable even if the underlying structure is inefficient. But the truth is, buildings require huge amounts of resources to build and operate. And greenery alone can't offset a project's environmental impact.

To avoid inadvertently greenwashing a project, greenery should never be something clipped onto a project at the end. It should never be considered in isolation. Rather, it should be part of the project's overall sustainability strategy, and its impact should be considered from the start.

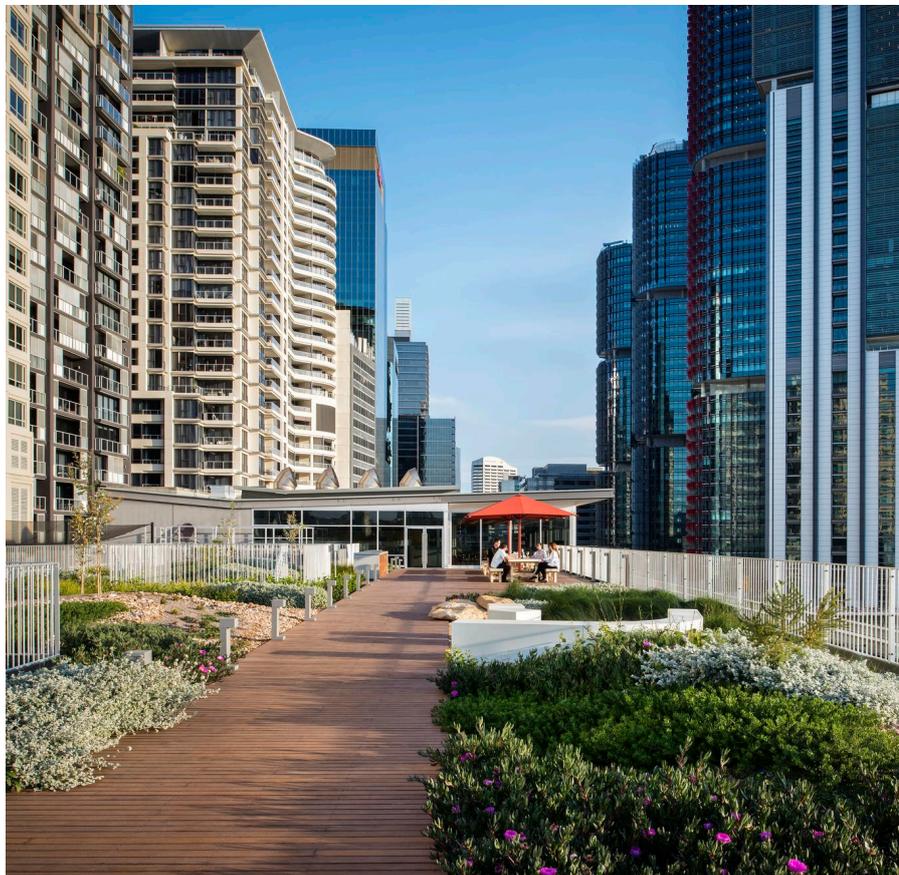
Consider the overall strategy

To create a sustainable building, you've got to start with an overall strategy. Address the big, impactful

items first. And let the strategy drive how greenery is used in the project. In particular, consider how greenery interacts with the other parts of the building – a green roof might help collect rainwater that can be reused in a grey water system, and a row of trees might be carefully placed to reduce solar gain on the facade. In this way, greenery can play a larger, more meaningful role in the overall sustainability strategy.

Involve specialists early

To maximise the project's potential, you should work with a sustainability specialist early in the design process. The early design decisions are some of the most impactful, and a sustainability specialist will ensure the project sets off on the right path. In addition, it's getting landscape architects and suppliers involved early on. They are critical for finalising plant selection, understanding any structural implications, optimising the design for maintenance, and ensuring the design complies with regulations from the outset.



Roche, Sydney, Australia. Photo: Nicole England

ROCHE SYDNEY

Bringing pollinators back to the city

Pollinators are essential to the ecosystem because they help fertilise plants. But in a city, there are few homes for these important birds and bees. Roche wanted to change that. Given their long-term commitment to sustainability, they wanted the roof of their Sydney headquarters to be both a place for their employees and a habitat for local pollinators – a place that improved employee well-being while also boosting local biodiversity.

In designing the roof Hassell worked with plant specialist Junglefy. The plants were selected to attract and retain pollinators while withstanding the hot Sydney sun. Burrows were also added to help creatures feel safe, and a special mineral-based soil was used to help trap pollution and stop it from flowing into the stormwater. Taken together, all these small decisions help create a much more sustainable rooftop.

SIX DESIGN PRIORITIES FOR RESPONSIBLE GREENING

1. Foster resilience & regeneration

Create more resilient places

Greenery on the exterior of a building can reduce the urban heat island effect, helping create cooler cities for everyone. It can also help manage rain runoff, mitigating some of the damage from floods and storms.

Clean the air and water

Plants absorb pollutants from the air and some even remove them from water. By selecting the right types of plants, it's possible to help remove contaminants from the ecosystem.

2. Support equity and inclusion

Public over private

Favour creating green spaces accessible to everyone instead of exclusive to a few.

Equal access

Green spaces should be safe, accessible, and welcoming to all.

Utilise indigenous knowledge

Seek out people with an ancestral connection to the land who understand the area's history and ecology. Through their involvement, the project can develop a stronger connection to its unique place in the world.

3. Create sustainable places

Restore habitat lost to urbanisation

Cities have paved over much of the local habitat for plants and animals. Green roofs, parks, and other greenery offer a chance to restore some of this habitat.

Support biodiversity

Don't just use one type of plant. Select a variety of plants that support different parts of the ecosystem, from bugs and insects to birds and other animals. Consider the use of endemic and threatened plant species.

4. Use materials efficiently

No plastic plants

While it's tempting to use fake plants in areas that don't get much natural light or water, it's almost always better to find another way to add life to the space.

Source from sustainable growers

On many projects, plants are transported great distances from nurseries in other cities or countries. Where possible, source locally grown plants. And pay attention to how they're grown – such as the energy efficiency of their greenhouses and their commitment to fair labour practices.

Avoid peat

Peat stores a lot of carbon. When it's mixed with soil to help plants grow, this carbon is released. Given the environmental impact, the UK is beginning to ban this practice, and other countries are likely to follow suit.

5. Use water efficiently

Reduce your use of water

Where appropriate, reduce water consumption by selecting plants that consume less water. But note that other requirements – such as biodiversity goals and longevity targets – might mean this isn't possible.

Collect runoff

Green roofs provide the perfect opportunity to collect water runoff. This can then be recycled and reused in the building's greywater system.

Reuse collected water

Plants don't need pristine drinking water. You can irrigate greenery with greywater or even treated blackwater gathered from the building.

6. Use energy efficiently

Use greenery for insulation

Cities with lots of greenery have lower ambient temperatures, which means less energy is spent on air conditioning. This makes greenery a win-win for everyone. Green roofs are particularly valuable since they help insulate the building, lowering the interior temperature.

Maintain the thermal envelope

A winter garden can compromise the insulation provided by a building's facade. If the garden is naturally ventilated or designed to be closer to the outdoor temperature, it's important to provide a buffer around the winter garden to thermally separate it from the rest of the office.

Avoid grow lights

Grow lights consume a lot of energy and add heat to an office. Instead of relying on artificial light, consider selecting plants better suited to the space's light levels or relocating the plants to areas that receive more sunlight.



Roche, Sydney, Australia. Photo: Nicole England

NEW PROJECT CHECKLIST



Consider the local market

- Identify your potential tenants.
- Look at what comparable properties are already doing and what they are charging.
- Consider how you can make your property stand out to your target tenants.



Design the right thing

- Make sure you understand the local climate around your building.
- Pick green spaces that are appropriate for the local climate and market.
- Consider how green spaces can contribute to the project's sustainability strategy.
- Look at what's around the property (eg. if there's a great park nearby, indoor greenery might be more valuable than adding another outdoor space).



If it's an existing building

- Double-check heritage limitations and red tape.
- Confirm the existing building can carry the expected load and has the appropriate services.
- Look at how the property is waterproofed and consider how this might need to be modified.



Make the business case

- If there's a 'flight to quality', will your property be considered 'quality'?
- Calculate the rent premium for a comparable green space.
- Look at other opportunities to capitalise on the space, such as through a food and beverage offering.
- Confirm the rent premium covers the capex outlay and ongoing opex.



Set the project up for success

- Engage tenants early in the process.
- Get an early indication not only of the capex cost but also of the opex cost.
- Integrate landscape designers and sustainability experts early in the process.
- Make sure you're set up for the ongoing maintenance and operations.
- Hire a designer that has done something similar and knows the traps you might fall into.

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