



# Radical retrofit: adapting cities for a resilient future

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## Background

Cities drive over 80% of global GDP but also account for 70% of CO<sub>2</sub> emissions, largely from transport, industry and outdated infrastructure. The global urban population is forecast to rise from 2.9 billion in 2001 to approximately 4.9 billion by 2030—equivalent to adding seven megacities a year. Urban areas are both major emitters and vulnerable to climate impacts. At the same time, shifts in work patterns, including hybrid work, are increasing the demand for flexible, tech-enabled, high-performing spaces.

**Retrofitting refers to the enhancement and improvement of built assets resulting in energy efficiency, lower emissions and greater resilience. Retrofits can not only play a vital role in value creation for investors and owners, but can also enhance urban resilience, wellbeing and social cohesion.**

Economist Impact's research *Radical retrofit: adapting cities for a resilient future*, supported by JLL, examines how building retrofits and adaptive reuse can help cities meet sustainability, climate resilience and public well-being goals, while exploring the drivers and barriers to retrofits across both developed and emerging urban contexts. Underpinned by a survey of senior business leaders in the built environment sectors and advisory engagements with key stakeholders, this research tracked global progress, challenges and opportunities across twelve cities spanning the Americas, EMEA and Asia-Pacific.

New York	Los Angeles	Washington, D.C.	Mexico City	London	Paris
Berlin	Dubai	Delhi	Singapore	Tokyo	Sydney

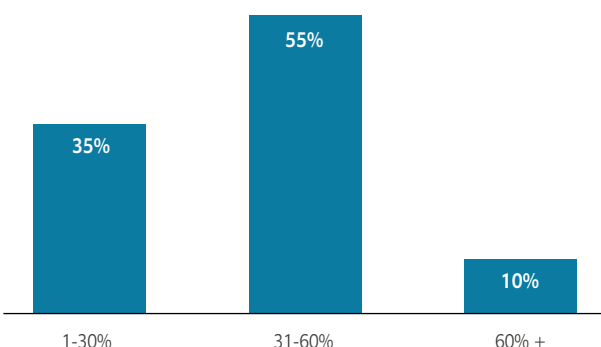
## KEY HIGHLIGHTS

### 1 Retrofitting is gaining momentum but remains far from scale.

69% of organizations surveyed by Economist Impact reported a shift in their business mix towards retrofitting in the past three years. To align with climate goals, however, the retrofit rate must accelerate from today's 1% to around 3% annually. Encouragingly, 82% of survey respondents expect moderate or significant growth in retrofitting activity in their cities over the next five years.

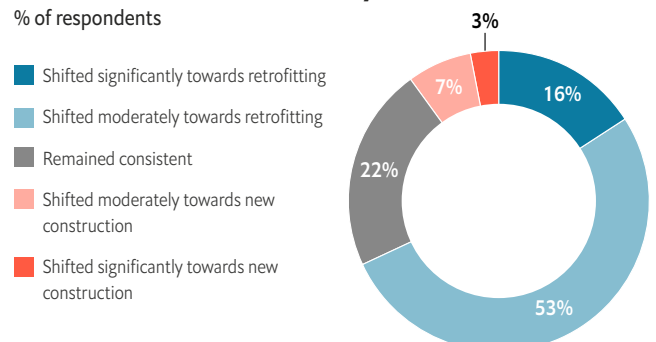
#### Current shares of retrofitting in business

% of respondents



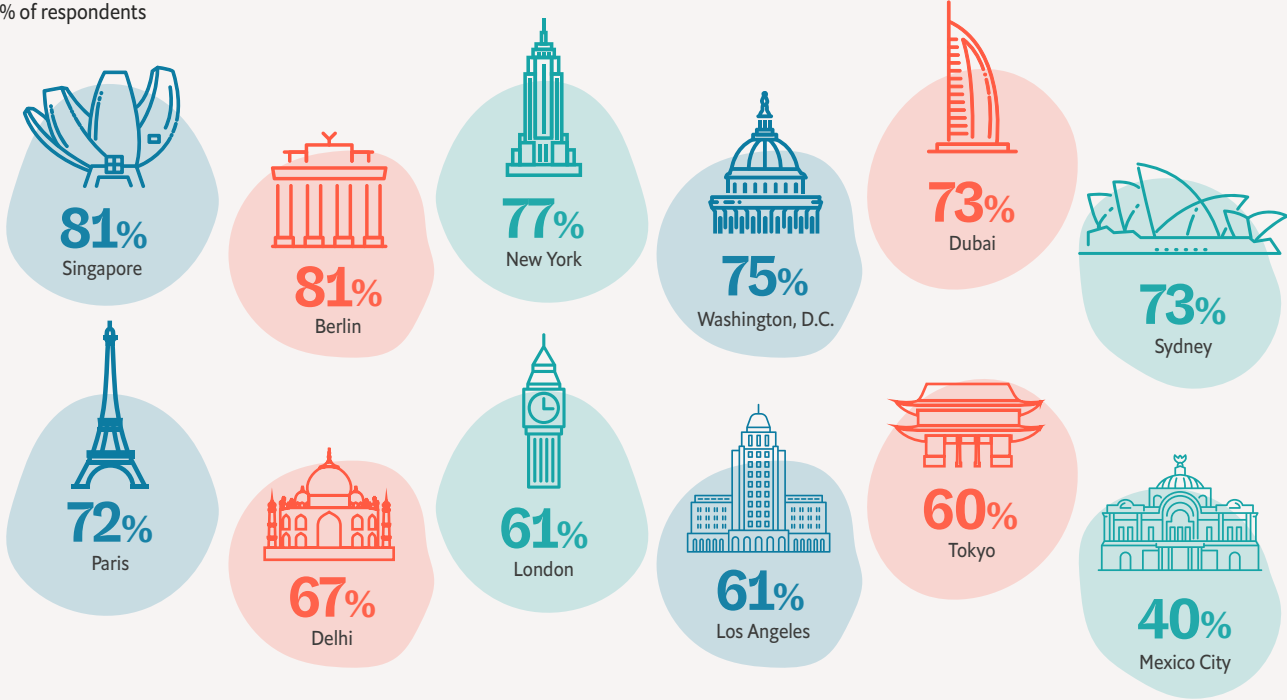
#### Business mix between retrofitting and new construction in the last three years

% of respondents



## Most surveyed markets seeing a strong move toward retrofitting

% of respondents

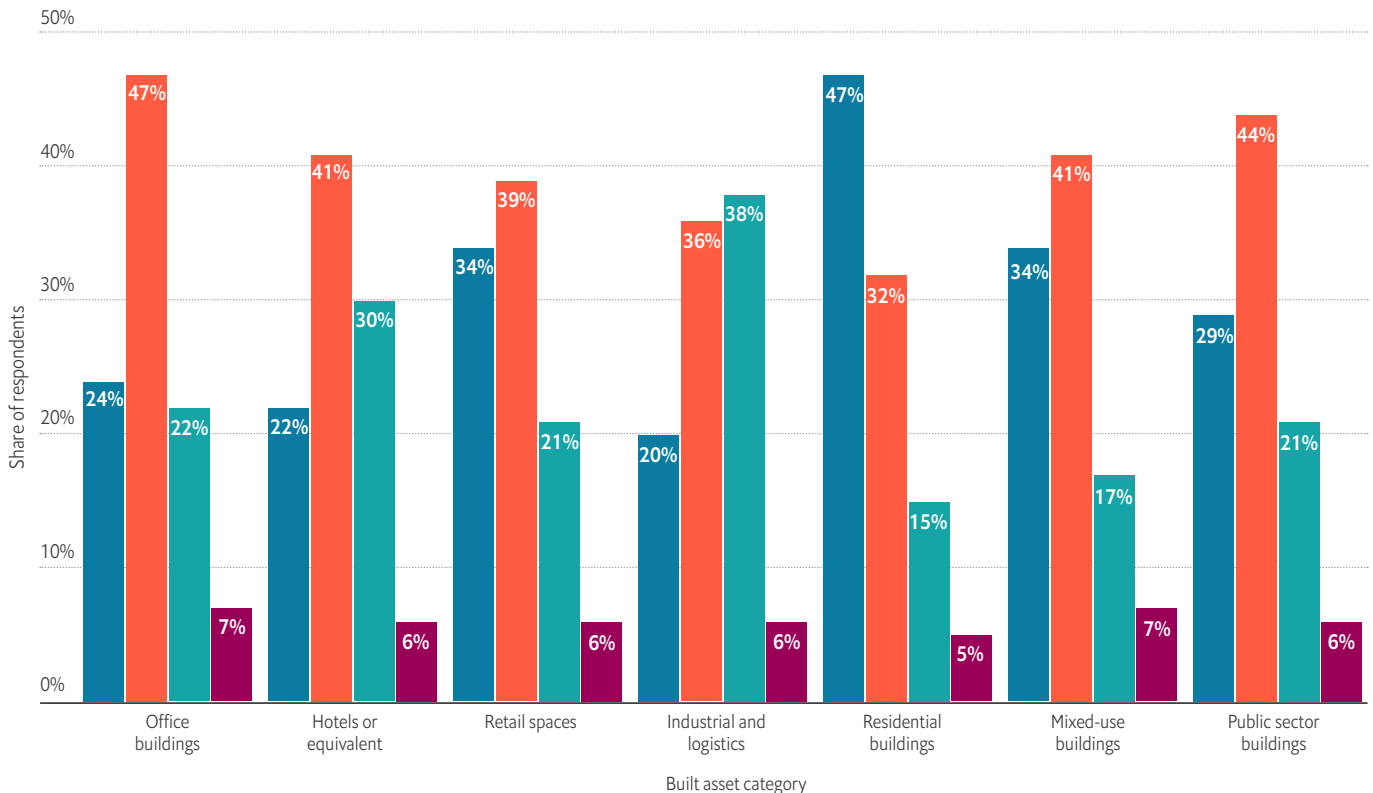


Note: the percentages refer to the share of respondents in each city that noted that the mix between retrofitting and new construction in their business has either significantly or moderately shifted towards retrofitting in the last three years.

## Asset-specific variations seen in retrofits, but moderate retrofits are most common

Moderate retrofits represent the bulk of intervention activity across building asset types, especially office and public sector buildings, but asset-specific variations emerge from the survey. For example, deep retrofits account for a quarter of retrofits overall, but are far more common in industrial assets (40%) than in residential ones (15%), where high costs dampen demand. Residential buildings show the highest share of light retrofits (48%).

■ Light retrofit ■ Moderate retrofit ■ Deep retrofit ■ Conversion



## Energy efficiency retrofits lead the way

Building energy efficiency retrofits undertaken to reduce utility costs and to cut carbon emissions to align with net zero targets are the most common types of retrofits. These retrofits are driven by regulatory and investor imperatives. Climate and disaster resilience retrofits are the third most common type of retrofit undertaken, especially in Mexico City, Tokyo and Los Angeles, all three of which are located in seismically active zones.

Energy efficiency retrofits to reduce utility costs

56%

Energy efficiency retrofits to reduce carbon emissions/align with net zero

54%

Climate and disaster resilience retrofits

39%

Space optimization retrofits or repurposing to add value to spaces

38%

Tenant well-being-focused retrofits to improve accessibility, livability, social cohesion and public health

34%

Retrofits with onsite generation to ensure energy security

30%

Heritage preservation retrofits to maintain cultural or architectural significance

22%

Circular retrofits focused on water efficiency, waste recycling and material reuse

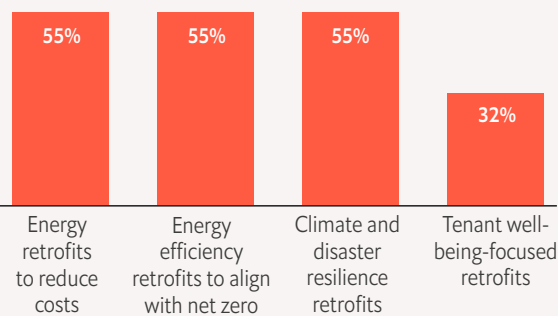
20%

## Top retrofits undertaken across the three regions

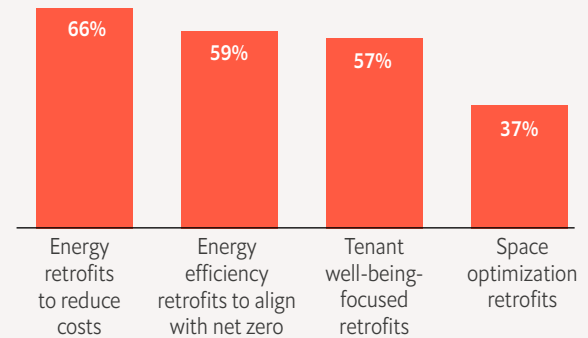
% of respondents

### AMERICAS

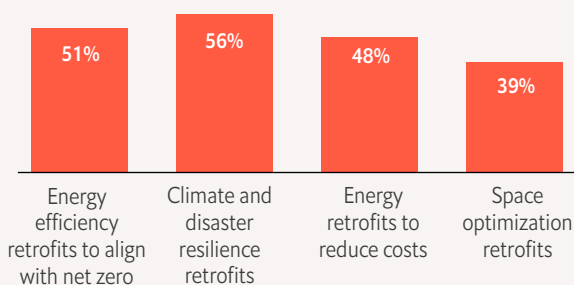
#### New York



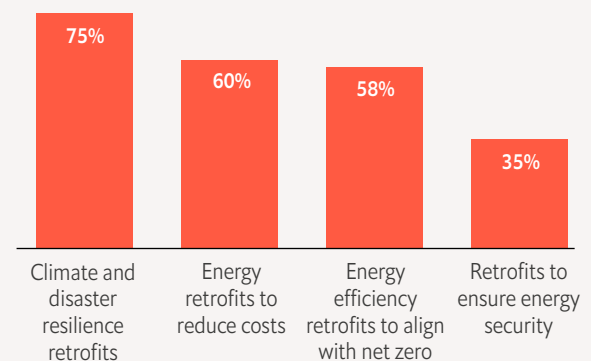
#### Washington, D.C.



#### Los Angeles

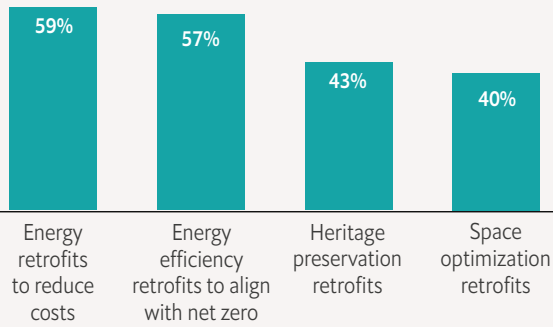


#### Mexico

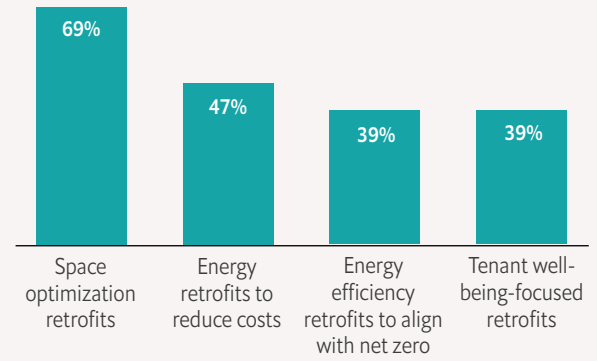


## EMEA

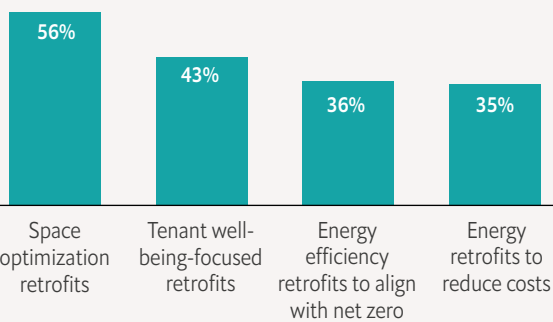
### London



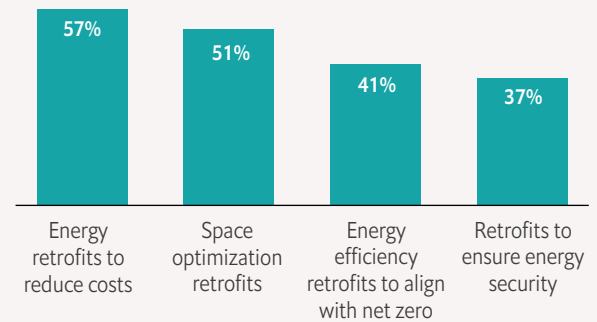
### Paris



### Berlin

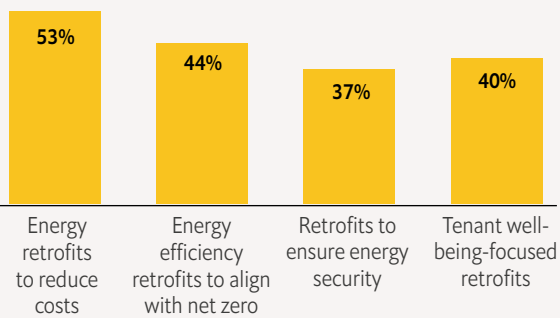


### Dubai

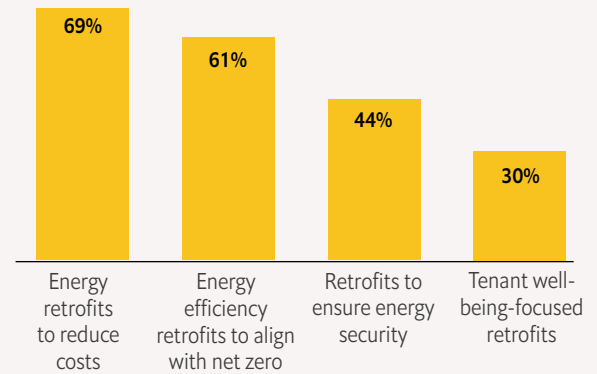


## APAC

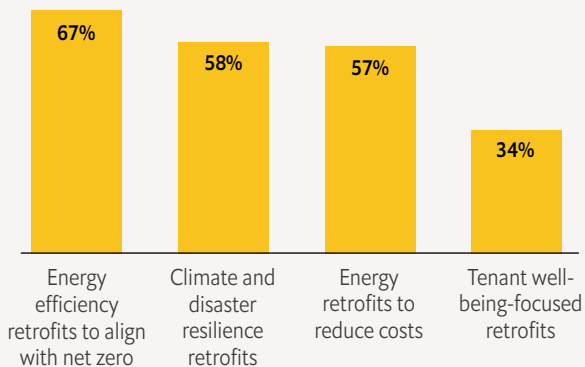
### Delhi



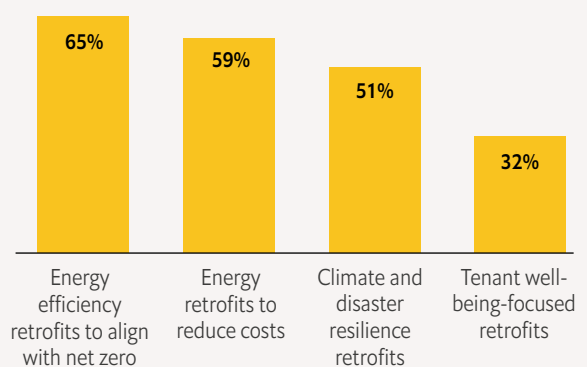
### Singapore



### Tokyo



### Sydney



## 2

### Regulatory mandates, investor sustainability goals and demand from tenants, owners and investors for experience-led workplaces are accelerating retrofitting in the commercial sector.

Besides compliance considerations, retrofitting is increasingly driven by tenant demand for certified, energy-efficient spaces and investors' Environmental, Social and Governance (ESG) alignment goals. Retrofitted commercial properties also deliver tangible value gains such as lower and more stable operational costs, enhanced tenant retention, better talent attraction and reduced healthcare burdens.

#### Top three benefits of retrofitting valued by tenants, owners and investors



#### Addressing urban challenges through retrofitting

From an urban planning standpoint too, retrofitting offers a wide range of benefits which go beyond building performance upgrades, making it an effective solution for addressing urban challenges.



#### Technology as a key driver of retrofitting

Technological innovation is also accelerating retrofitting, with AI, digital twins, and automation tools enabling cost savings, emissions tracking, compliance and decision-making. One-third of survey respondents see tech access as a key driver over the next five years. Yet adoption is uneven. 45% cite high upfront costs as a barrier.

See tech as a key retrofit driver

33%

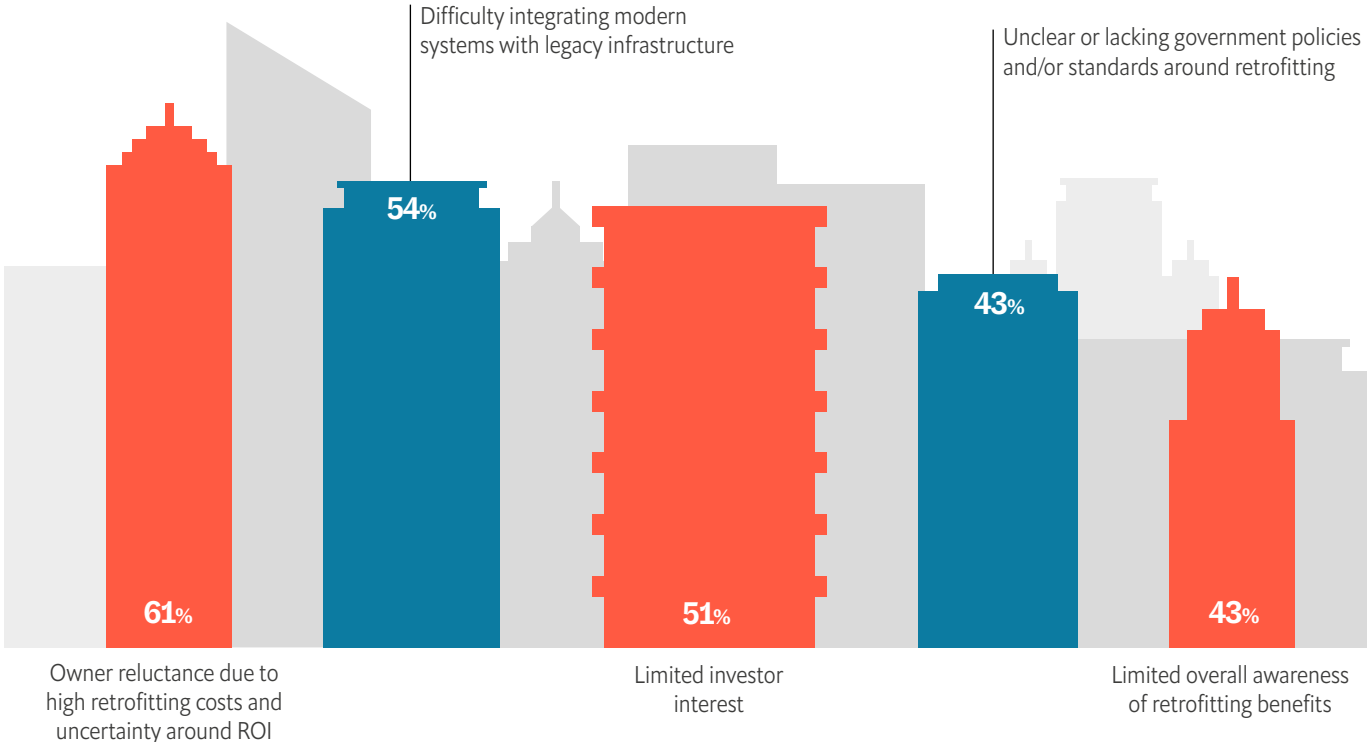
Cite high upfront costs as a barrier

45%

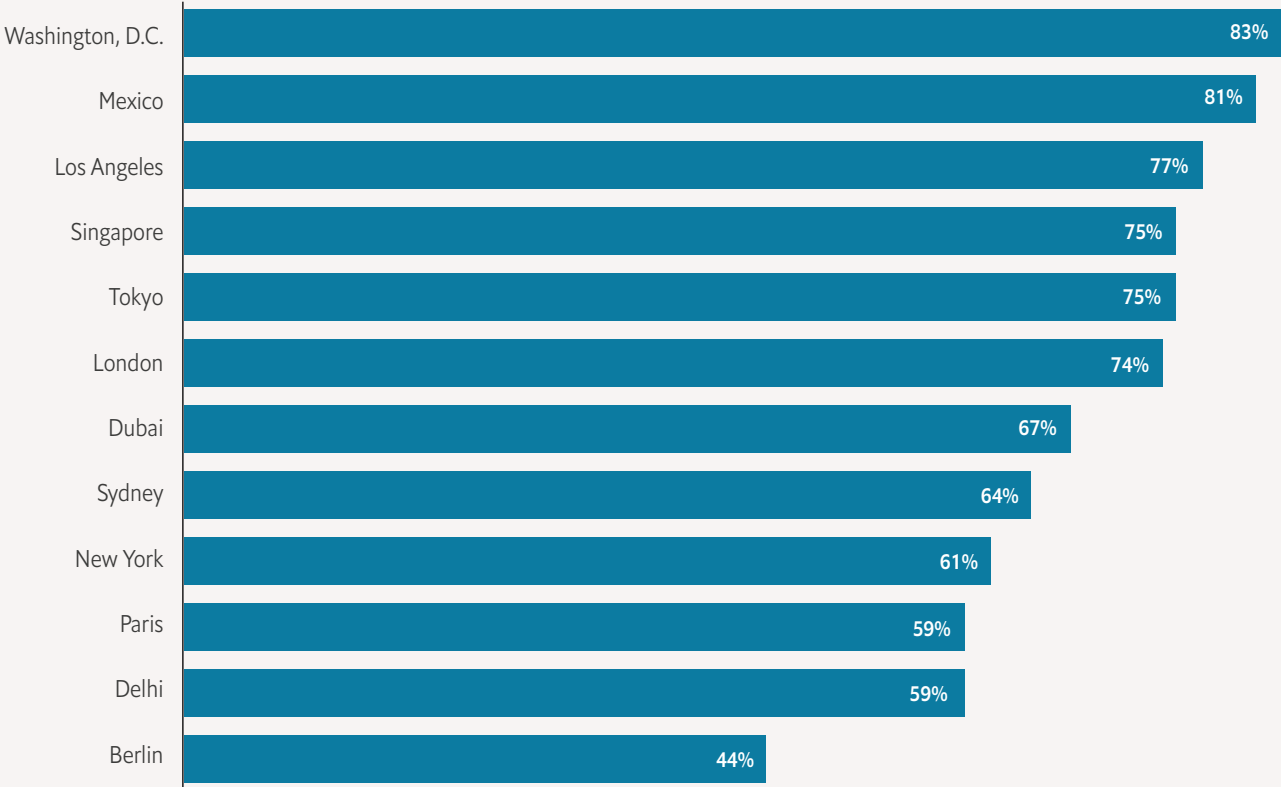
# 3

## Financial barriers and misaligned incentives are the most cited obstacles to scaling retrofits.

A lack of motivation among developers and owners to undertake retrofits due to the high upfront cost coupled with uncertain returns on investment and inability to lease space at rents necessary to break even is the most cited obstacle to retrofitting: 61% of survey respondents cited this as a top barrier. 51% point to weak investor interest.



### High upfront costs of retrofitting are a top challenge across the surveyed cities



# 4

## Six critical pathways need to be activated to accelerate retrofitting progress over the next five years.



### 1. Building awareness among all stakeholders

Reframe retrofitting as a multi-dimensional opportunity, not just a technical fix

Collaborate with academic partners to drive awareness, advocacy and policy change

Collaborate with contractors to align certifications with actual retrofit outcomes

For building owners, promote retrofits as ESG and talented strategies



### 2. From awareness to action: implementing policy action

Pair national mandates with local implementation

Align mandates with meaningful incentives

Retrofit public buildings to build confidence



### 3. Quantifying the benefits of retrofits beyond energy savings

Define a holistic set of benefits that capture health, well-being and spatial quality metrics

Define metrics for measuring each benefit

Evaluate the benefits through economic valuation methods

Use data on broad-based benefits to define financing criteria for planned retrofits



### 4. Unlocking innovative financing mechanisms

Make performance-based financing models mainstream

Expand blended finance for large and socially critical retrofits

Strengthen public-private partnerships to pool capital and expertise

Align financing with purpose—climate, equity and resilience



### 5. Leveraging emerging technologies for scale and speed

Use Internet of Things (IoT), artificial intelligence (AI) and smart tools to drive efficiency

Expand technology trials to city-wide programs

Co-design smart systems with tenants

Incentivize adoption and regulate data



### 6. Addressing the talent bottleneck

Upskill traditional construction workers

Use accelerator programmes to identify skill gaps and coordinate targeted training

Promote clear pathways that position retrofit roles as future-proof and professions

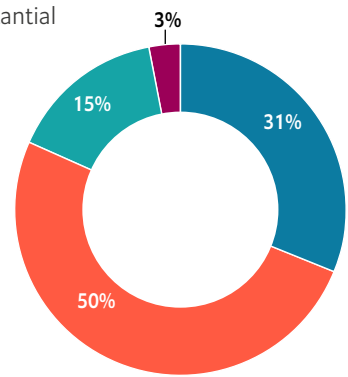
**Transparency and knowledge sharing among key stakeholders is crucial for the successful activation of these pathways**

## CONCLUSION

### The future outlook for building retrofits remains cautiously optimistic.

While almost one third of survey respondents foresees significant growth in retrofitting with substantial investment and widespread adoption, half anticipates moderate growth, with new construction remaining a primary growth sector.

- Significant growth: Retrofitting will become a top priority with substantial investment and widespread adaptation
- Moderate growth: Retrofitting will steadily progress but remain secondary to new construction
- Limited growth: Retrofitting will progress slowly
- Stagnation: Retrofitting growth will remain largely unchanged



Cities that succeed will approach retrofitting as a cornerstone of economic renewal, climate resilience, and improved urban well-being. With coordinated strategies, city leaders can elevate retrofitting from a climate obligation to a transformative opportunity.

Download the report to know more.

