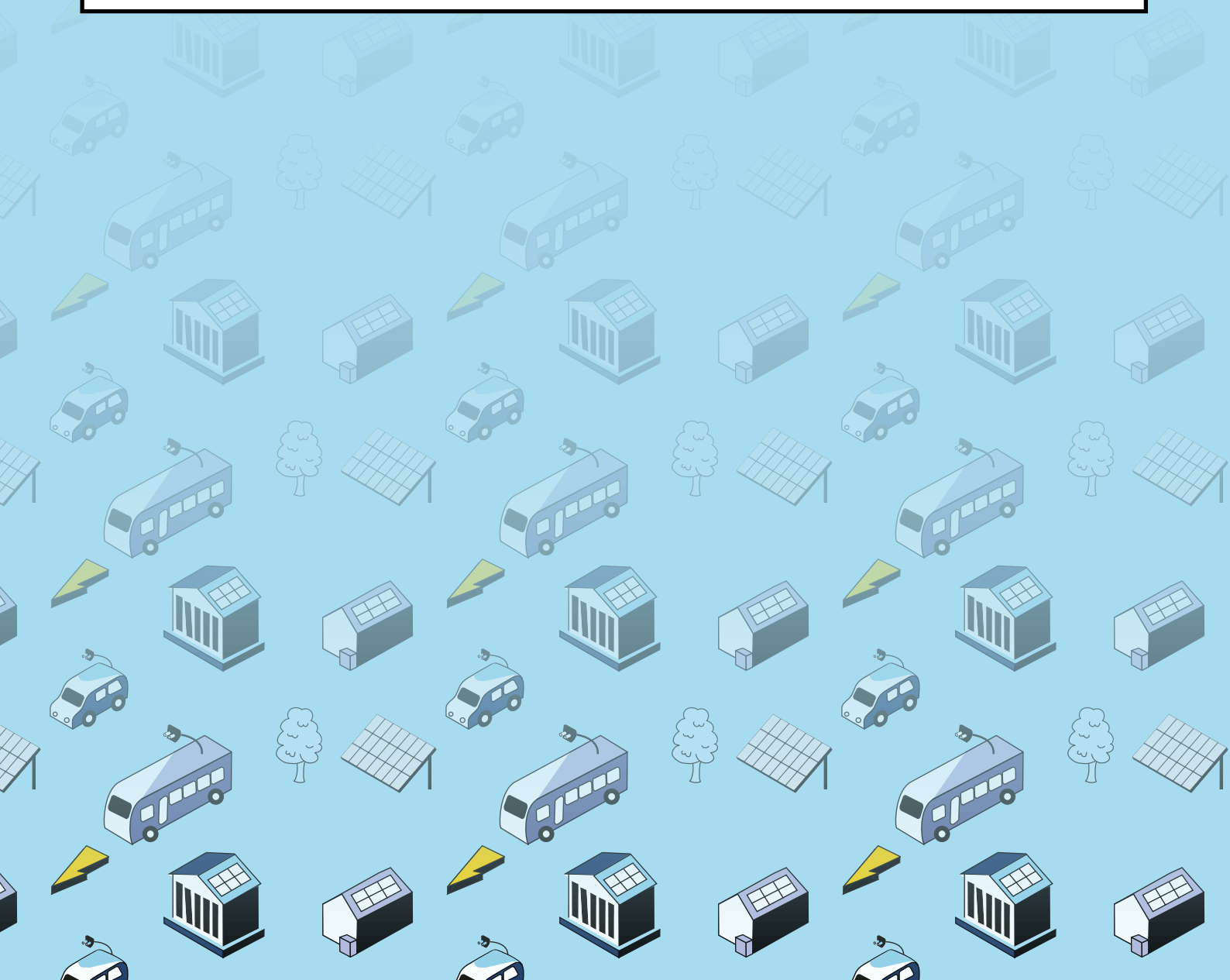
GLOBAL COVENANT of MAYORS for CLIMATE & ENERGY

C40 CITIES

Market opportunities

Accelerating climate action in C40 and GCoM cities

June 2026



Executive Summary

Cities are driving demand for the green technologies that underpin a sustainable, resilient economy—from insulation and heat pumps to solar panels and electric vehicles (EVs).

C40 analysis reveals that markets for green technologies are local rather than national. Drawing on product purchasing data from 151 cities worldwide from 2014 to 2024, we found that per capita spending on green products can vary considerably between cities in the same country. This suggests that the pace of green market growth is set by the urban and regional context, from infrastructure readiness to policy provision and public trust.

City action makes green products more affordable, accessible and attractive to businesses and residents through:

- **Infrastructure planning:** EV charging networks, urban heat planning and nature-based solutions.
- **Streamlining regulations**: building standards, permitting and zoning.
- **Building public trust**: providing political certainty, information campaigns and demonstrator projects.

Our work shows that cities are still at the beginning of their green transition. Urban demand for the key green products we looked at as part of this research grew by 40% between 2015 and 2025 across the cities in our dataset. By 2050, as cities fully implement the climate policies they have already adopted, we expect urban demand for key green products to increase by 825%, on average.

The market for green products will only grow at this pace if the private sector seizes the opportunities created by city policies. Thousands of cities globally are steadfastly nurturing green investment opportunities by introducing impactful policies, reducing market uncertainty and bolstering the investor confidence needed to unlock large-scale climate finance. While more supportive policy action can accelerate market growth, our analysis shows that current city plans are already ambitious enough to open up vast new markets and deliver strong, stable, long-term green growth. The rapid rollout of green products presents a strong commercial opportunity for businesses, in particular SMEs, to scale proven solutions in rapidly expanding urban markets. Those able to mobilise capital and capacity early will be best positioned to capture growth.

National governments and financial institutions can help accelerate this change. National governments can set the enabling conditions for green markets in cities through stable policy frameworks, minimum standards, incentives, procurement, and dedicated funding. Financial institutions then turn that policy signal into investment by backing early-stage companies and SMEs, providing working capital and de-risking tools, and offering finance products such as green loans, mortgages, and blended finance structures that help projects scale. Together, they can lower risk, widen access to capital, and make it easier for cities, businesses, and households to adopt green solutions at speed.

Photo by Jarand K. Lokeland on Unsplash

Contents

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Picture by Christina Xiao

Urban ambition creates market opportunity

From Rio de Janeiro to Cape Town and Aarhus to Udaipur, cities of all sizes are taking steps to tackle the climate crisis. Over 13,000 municipalities, home to 1.2 billion residents, have pledged to reduce greenhouse gas emissions, enhance resilience to climate change and track their progress transparently through their membership of the Global Covenant of Mayors for Climate and Energy (GCoM). These GCoM members are backing up their commitments with concrete actions; the alliance had tracked 193,951 urban mitigation measures as of 2024. Within the C40 network, cities are reducing per capita greenhouse gas emissions five times faster than the global national average.[1]

Climate action plans (CAPs) are the foundation for everything that cities need to do to address the climate crisis. A comprehensive plan provides a roadmap for all actors within a city and sets clear targets for emissions cuts and resilience building, translating ambition into measurable action. It identifies the steps needed to achieve targets, establishes governance structures for implementation and ensures that benefits reach all residents, especially those most affected by climate impacts.

C40's Cities Climate Transition Framework helps cities develop comprehensive CAPs. The framework is aligned with the goals of the Paris Agreement and provides practical guidance that cities can use to plan and deliver transformational change.[2]

In this report, C40 has modelled how the existing urban climate commitments outlined in cities' CAPs will affect demand for key green products in 151 cities around the world between 2025 and 2050.

Our analysis finds that achieving these climate targets will result in a dramatic increase in demand for key green products, such as solar PV cells, EVs, construction materials, heat pumps and nature-based solutions.

This report provides urban decision-makers and businesses with an overview of the scale of the market opportunities associated with supporting a green urban transition, as well as highlighting how cities and businesses can work together to support ambitious climate policies while expanding markets for green products.

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[1] Global Covenant of Mayors for Climate & Energy (2024), Banking on change. Brussels. Available at: https://www.globalcovenantofmayors.org/wp-content/uploads/20products24/11/GCoM-Impact-Report-24.pdf.

[2] C40 Cities (2025), Climate action planning. London. Available at: https://www.c40.org/what-we-do/raising-climate-ambition/1-5c-climate-action-plans/.

Box 1. C40 Accelerators support green growth in key sectors

C40 is actively supporting cities in setting ambitious collective targets to accelerate the adoption of key green products by way of high-impact Accelerators (***Table 1***). The Accelerators are concrete, target-driven public commitments that aim to speed up climate action implementation by electrifying transit, reducing energy use in buildings, restoring parks and water bodies, and investing in green infrastructure.[3]

Seventy-five C40 cities have signed up to C40 Accelerators since 2017 - on top of their existing climate commitments - with as many as 61 cities signing up to two or more and committing to ambitious actions across multiple sectors.[4] Accelerator cities implement climate projects at scale and continue to nurture markets for green solutions by showing other urban actors what is possible.

To date, Accelerator commitments have helped mayors to mobilise US$42 billion in green investments.[5]

Table 1. Key green products and services and associated C40 Accelerators

This product list is not exhaustive, but the products were selected because they represent key technologies essential to achieving zero-carbon energy, buildings and transport, and urban resilience.

	Key green products and services	Relevant C40 accelerator	Relevant targets and objectives contained in the relevant C40 Accelerator
Energy	Solar PV	Renewable energy	• Lead by example, either by switching municipal electricity consumption to 100% renewable energy by 2025 or by deploying renewable energy systems on all feasible municipal assets by 2030 • One of the three pathways: (1) accelerating renewable energy transition, (2) enabling energy access with renewables, or (3) maximising local renewable energy
Transport	Electric buses Private electric vehicles	Green and healthy streets Clean air	• Procuring, with our partners, only zero-emission buses from 2025 • Ensuring a major area of the city is zero emission by 2030 • Implement new policies, enforce strong regulations, prioritise resources and build the necessary skills to achieve ambitious reductions in source sectors of air pollution that are within the city's control
Building operations	Insulation material Heat pumps	Clean construction Net zero carbon buildings	• Reduce embodied emissions by at least 50% for all new buildings and major retrofits by 2030 • Enact regulations and/or planning policy to ensure new buildings operate at net zero carbon by 2030 and all buildings by 2050
Construction	Cross-laminated/ engineered timber Low-carbon cement	Clean construction Net zero carbon buildings	• Reduce embodied emissions by at least 50% for all new buildings and major retrofits by 2030 • Reduce embodied emissions by at least 50% of all infrastructure projects by 2030 • Require zero-emission construction sites citywide by 2030, where technology is available.
Adapt	Nature based solutions	Urban nature	• Implement new or enhanced public green spaces and green streetscapes in areas with the greatest impact on the most vulnerable

[1] C40 (2025), Accelerator Reports. London. Available at: https://www.c40.org/what-we-do/raising-climate-ambition/accelerator-reports/

[2] C40 Cities (2025), C40 Cities Annual Report 2024. London. Available at: https://www.c40.org/wp-content/uploads/2025/05/C40_annual_report_2024_Final.pdf

[3] C40 Cities (2025), Accelerators in action. London. Available at: https://www.c40.org/what-we-do/raising-climate-ambition/high-impact-accelerators/

Main findings

The green transition presents a huge opportunity for the private sector in our cities. The need for solutions to the climate crisis will create, expand and support the markets for innovative green products. These markets are local, not national, and are shaped by city policies and actions. Our research into eight products across 151 cities shows the scale of the opportunity.

The green growth potential in cities

City policymaking and projects will fundamentally reshape the urban environment over the coming decades as millions of buildings are retrofitted (there are 65 million buildings in the 97 C40 cities alone), the electricity grid adapts to renewable energy sources, new heating and cooling solutions are installed, transit and vehicle fleets are replaced by EVs, and the urban environment becomes greener and more resilient.

Urban expenditure on key green products in the 151 cities in our datasets has grown by 40% over the past decade. However, this is only the beginning; most cities are still in the early phase of their sustainable transition, meaning spending on green products is still small compared with what will be needed to deliver on existing climate commitments between 2025 and 2050.

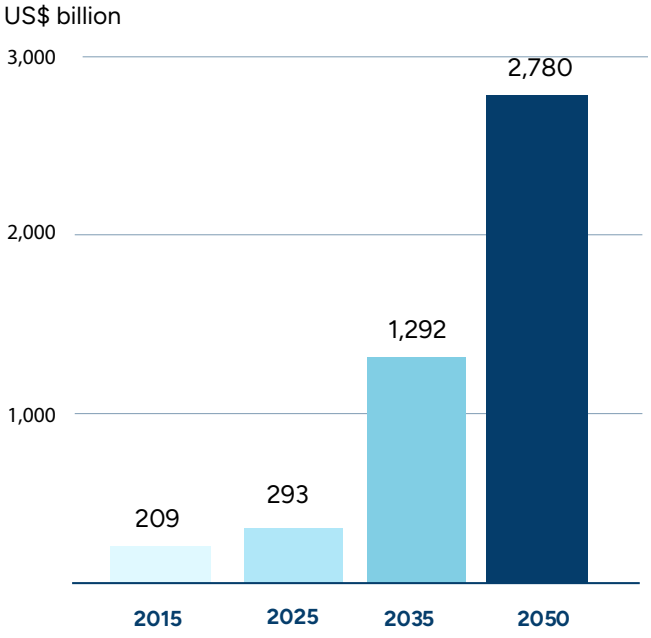
We expect urban expenditure in these key green products to grow by more than 500% by 2035, after adjusting for inflation.

Expenditure on green products is projected to rise thanks to a range of city CAPs already being implemented (*Figure 2.2*).[6]

Our analysis found the growth outlook for different products to be rosy, but varied. Mature technologies, such as heat pumps and insulation materials, are projected to see increases in city spending of 114% to 284% by 2030 and as much as 241% to 878% by 2050. Spending on products where innovation is likely to play a larger role in driving down prices, such as solar PV and private and public EVs, is expected to grow even faster.

The sensational projected growth rates for green cement and timber (3,680% and 3,640%, respectively, by 2050) can be explained by their relatively limited use as construction materials at present, but underscores the tremendous potential on offer for first movers establishing themselves in the sector.

Figure 2.1. *Urban expenditure on key green products in the 151 cities, in 2025 prices*

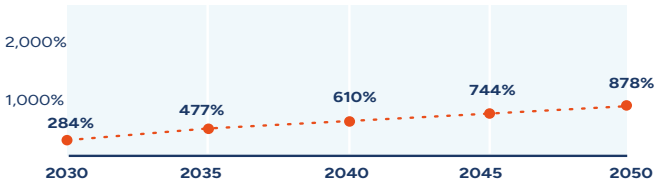


[6] Spending on heat pumps and insulation is not presented for certain regions (Africa, East, Southeast Asia and Oceania, and Southwest Asia), as cities in these regions are not expected to have significant heating demand.

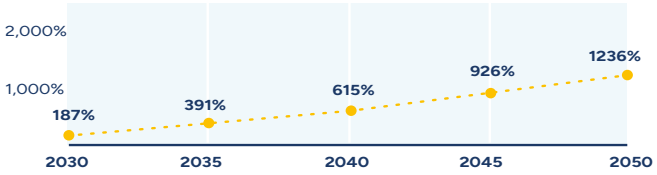
Figure 2.2. *Percentage growth in cities' green product spending to 2050 based on city CAPs*

Base years for growth projections are 2022 for green cement, 2023 for other products.

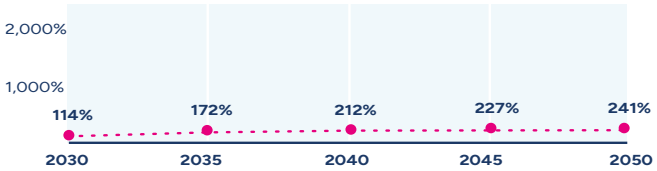
Insulation



Solar PV



Heat pumps



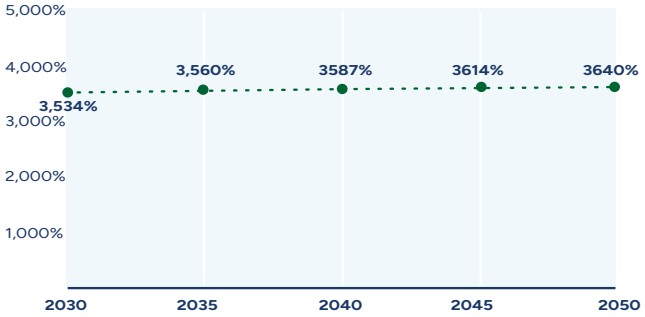
Box 2. How we modelled demand growth for key green products

C40 modelled emission reductions by analysing trajectories from 42 cities with detailed CAPs and sectoral targets. These trajectories were mapped to similar cities without CAPs based on factors such as geography, climate, population and gross domestic product (GDP) per capita. Reduction rates were applied to 2023-24 green product investment data from kMatrix, a consultancy.

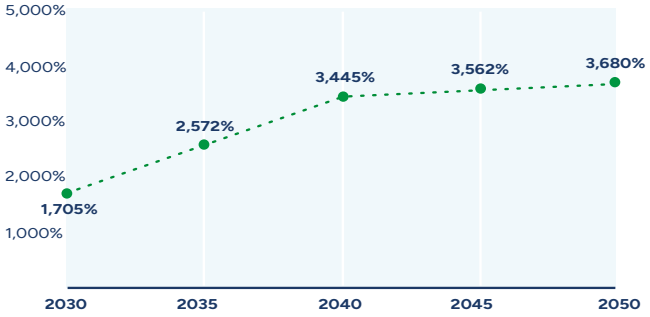
For insulation and heat pumps, only cities with more than 1,500 heating degree days (HDD) were included. For low-carbon cement and timber, growth was estimated using city population projections. Urban green space growth assumes all cities reach 40% coverage by 2030, following the C40 Nature-Based Solutions Accelerator target.

See a more extensive description of our methodology in the ***Appendix***.

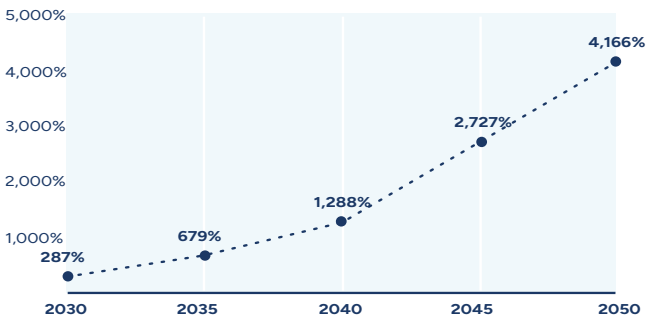
Timber



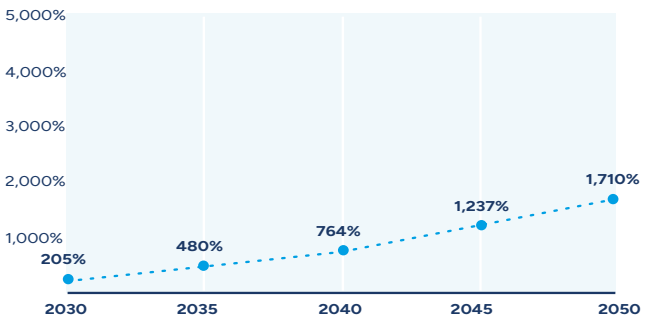
Green cement



Public EV



Private EV



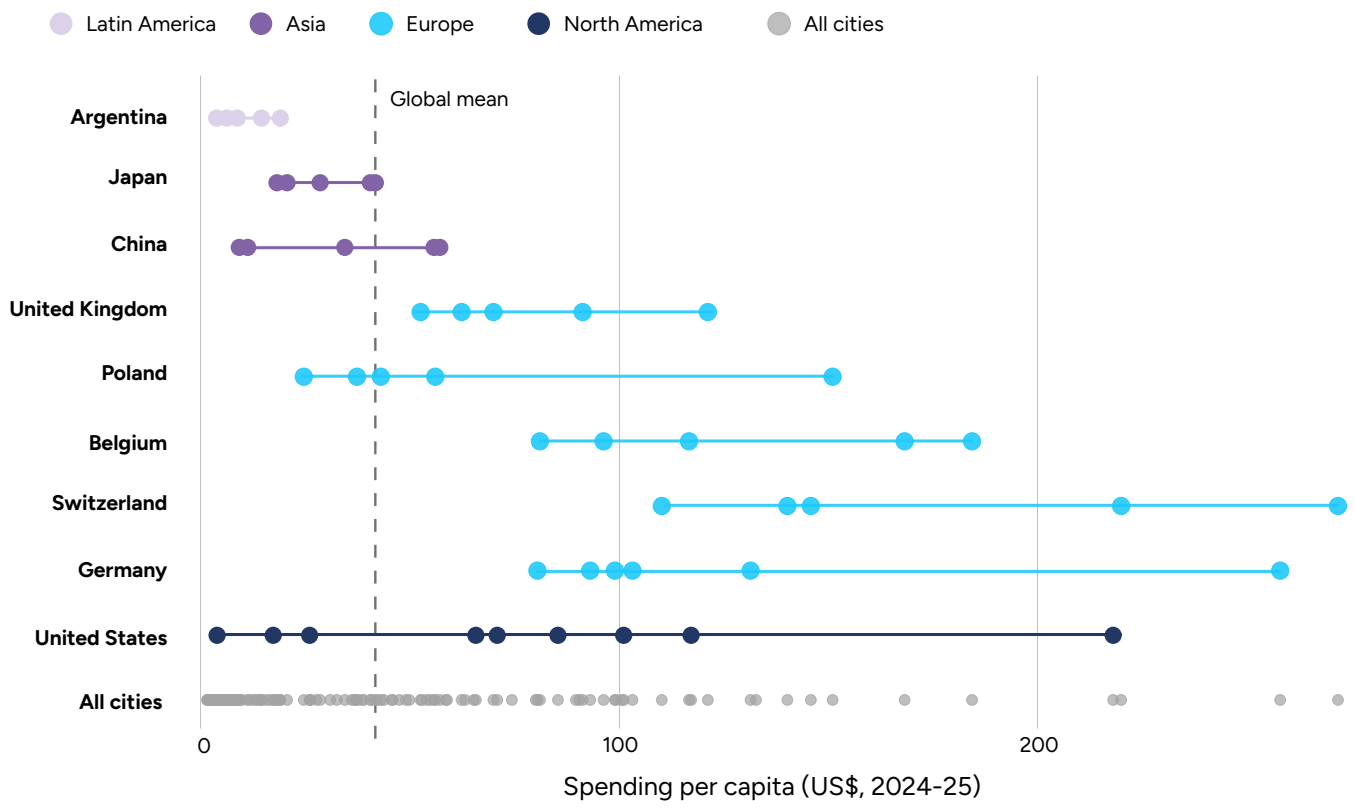
Green growth is local rather than national

The scale of green product markets can differ significantly from city to city in the same country. This is often overlooked, as data on the growth of solar PV capacity or EV sales are routinely presented as national totals, focusing on the differences between countries. This approach masks the accelerated market growth happening in cities.

Across the 151 cities we analysed, it was the exception rather than the rule when cities in the same country had similar per capita expenditure on the same green products. Rather, cities within the same country boasted a wide range of spending values. As can be seen in ***Figure 2.3***, for example, US cities rank both at the bottom and the very top globally when it comes per capita spending.

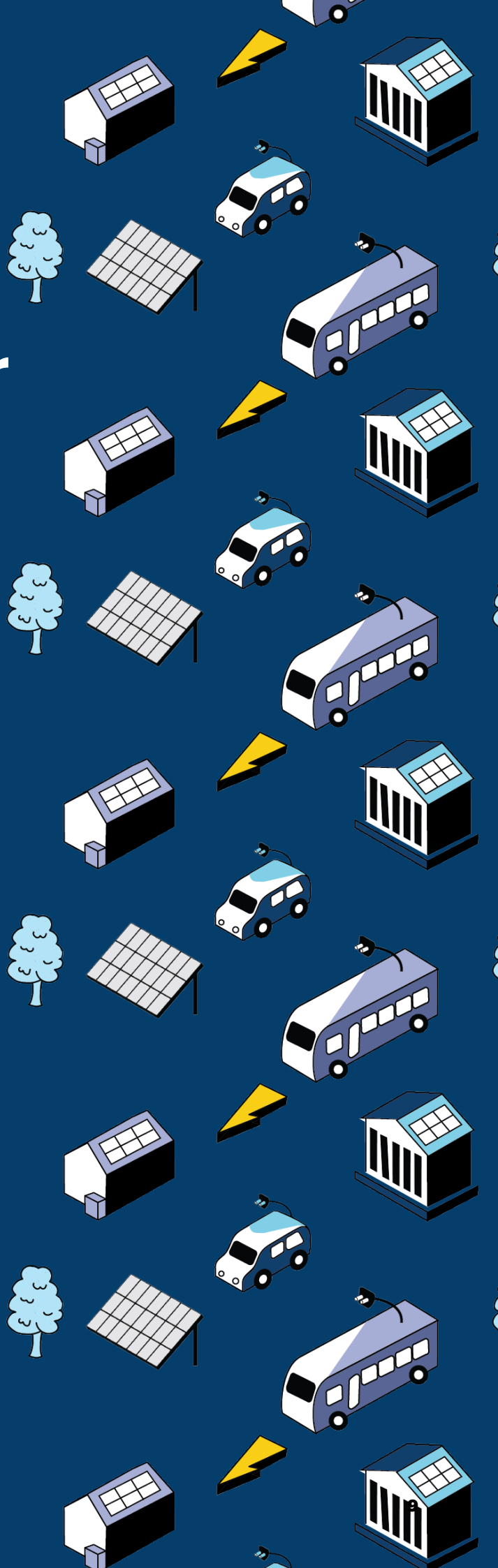
This spending pattern across cities is evidence that growth opportunities for businesses involved in the production, sales and maintenance of key green products are local, at city level. National policy is still critical, as it can set a demand baseline by introducing product standards, or tax rebates and subsidies that make new technologies more reliable and affordable. However, city governments frequently have more influence over the accessibility and attractiveness of clean technologies than national governments, as they control key levers such as infrastructure planning, zoning, streets and parking, public buildings, transit fleets and building codes.[7] Local governments that actively complement national financial incentives with policies that support on-the-ground implementation are, therefore, more likely to see durable demand growth.

Figure 2.3. *Range of per capita annual spending between cities in the same country*



[7] C40 Cities (2025), Accelerating urban climate action: A city guide to creating positive tipping points. London. Available at: https://www.c40knowledgehub.org/s/article/Accelerating-urban-climate-action-A-city-guide-to-creating-positive-tipping-points?language=en_US.

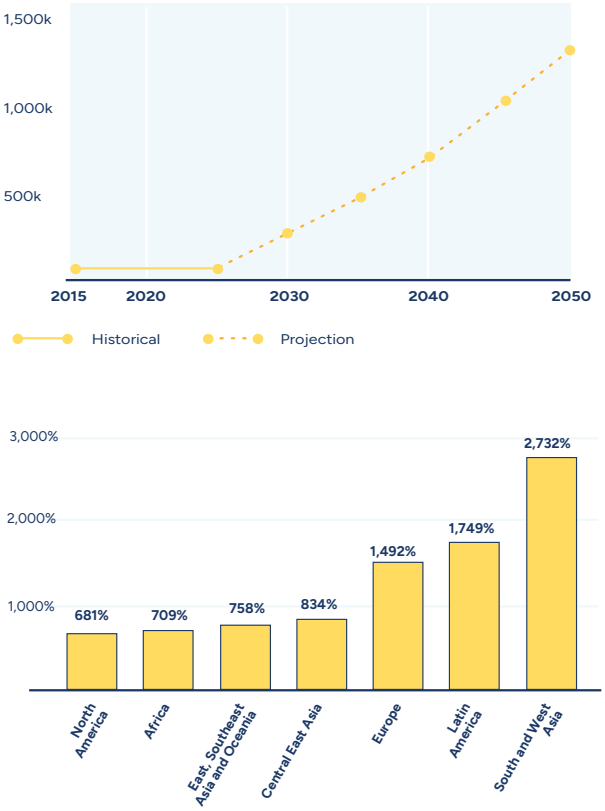
Results by sector



Solar PV

Solar PV is expected to see continued strong growth on the back of the already remarkable run it has enjoyed over the past decade. According to our analysis, the urban markets that will experience the strongest growth in solar PV in the coming decades will be in South and West Asia, Latin America and Europe.

Figure 3.1. *Growth in total urban spending on solar PV between 2015 and 2050 based on city CAPs, US$ million*



Amsterdam and Utrecht

Amsterdam and Utrecht in the Netherlands are less than an hour apart by car or train. They have similar solar potential and are governed by the same national policy framework, yet their purchasing of solar PVs has varied greatly at times, with Amsterdam buying 60% more per capita in 2014-15.

While both municipalities have been supportive of solar PV growth for two decades, Amsterdam's early support gave the city a head start. When Utrecht launched its first climate plan in 2008, Amsterdam had already introduced a pilot subsidy scheme for solar PV expansion in collaboration with the province of North Holland, called 'Zon op je Dak' (sun on your roof),[8] an initiative the city expanded in 2011 with the establishment of the Amsterdam Investment Fund.[9]

Utrecht also established a solar subsidy programme in 2015, to which it allocated EUR 50,000,[10] but by that time, Amsterdam had scaled up its support programme through a dedicated Sustainability Investment Fund that provided EUR 40 million to solar projects.

[8] Gemeente Amsterdam (2008), Zon op je Dak 2008. Amsterdam. Available at: https://www.eco-logisch.nl/pdfupload/Folder%20zon%20op%20je%20dak.pdf.

[9] C40 Cities (2016), C40 Good Practice Guides: Amsterdam - Sustainability Fund and Amsterdam Climate & Energy Fund. London. Available at: https://www.c40.org/case-studies/c40-good-practice-guides-amsterdam-sustainability-fund-and-amsterdam-climate-energy-fund/#:~:text=The%20Sustainability%20Fund%20was%20originally,residents%20to%20make%20investment%20proposals.

[10] Zonnepanelen-utrecht.nl (no date), Collectief zonnepanelen. Utrecht, the Netherlands. Available at: https://www.zonnepanelen-utrecht.nl/collectief.

Electric vehicles

The projected rise in expenditure on private and public EVs (i.e., e-buses) in cities is truly remarkable. Indeed, public EVs are the product for which our analysis projects the single largest increase in expenditure in cities by 2050, driven by significant expansion in North America between 2040 and 2050.

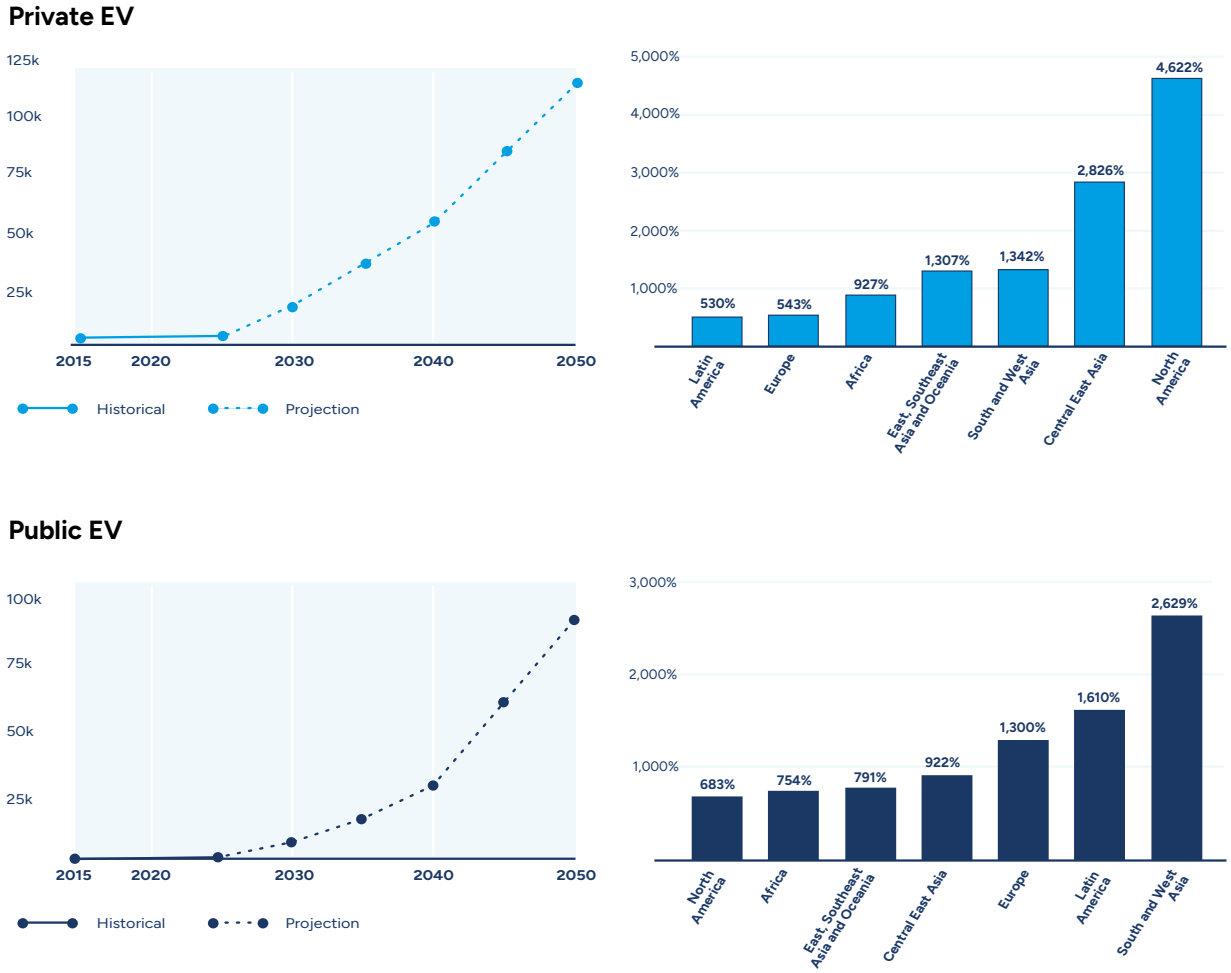
Shenzhen

Shenzhen's early commitment to greening its fleet by 2017 created a market for 16,000 electric buses.[11] After starting with buses, Shenzhen moved on to electrifying 20,000 taxis,[11] as well as introducing zero-emission freight zones in 2018, which spurred sales of 70,000 battery-electric freight vehicles within a year.[12] This was made possible by a mix of supportive policies that tackled key market barriers. Financial hurdles were overcome with national and local subsidies, as well as vehicle leasing options. Meanwhile, operational risks were managed through partnerships to install charg-

[11] IAA Mobility (2023), Shenzhen – The city of green future. Munich, Germany. Available at: https://www.iaa-mobility.com/en/newsroom/news/sustainability/shenzen-the-city-of-green-future.

[12] TUMI (2024), Low-emission zones: Managing air quality in cities. Eschborn, Germany. Available at: https://transformative-mobility.org/low-emission-zones/.

Figure 3.2. *Growth in total urban spending on public and private EVs between 2015 and 2050 based on city CAPs, US$ million*



ing infrastructure and by operators requiring lifetime vehicle and battery warranties from manufacturers at the procurement stage.[13]

A partnership with local manufacturer BYD, which supplied over 80% of the city's buses as at 2020, accelerated the transition by ensuring technological integration and enabling responsive vehicle design based on direct city feedback.[14]

Jakarta

Jakarta is aiming for 100% bus electrification by 2030. TransJakarta, the city's public transport authority, launched its roadmap to electrifying public transport with a pilot of 100 electric buses, successfully integrating a range of operators into the system. The roadmap was part of Jakarta's signing commitment to the C40 Green and Healthy Streets Accelerator.

Because Jakarta already had a large informal and small-operator bus network, TransJakarta worked with many smaller operators instead of relying only on large firms. Out of the 22 bus operators involved, close to 50% were small-fleet owner-operators organised into cooperatives. The city increased the concession period from seven to ten years to allow better returns on investment.

Jakarta's experience shows how important it is to understand the operating conditions and get the business model right early on, and to do so in a way that is appropriate to the existing range of operators.

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[13] Lu, L., Xue, L. and Zhou, W. (2018) How Did Shenzhen, China Build World's Largest Electric Bus Fleet? Washington, DC, World Resources Institute. Available at: https://www.wri.org/insights/how-did-shenzhen-china-build-worlds-largest-electric-bus-fleet.

[14] World Bank (2021), Electrification of Public Transport: A Case Study of Shenzhen Bus Group. World Bank, Washington, DC. Available at: https://documents1.worldbank.org/curated/en/708531625052490238/pdf/Electrification-of-Public-Transport-A-Case-Study-of-the-Shenzhen-Bus-Group.pdf.

Picture by Xiang Ji on Unsplash

Building retrofits

Among the products we considered in our analysis, insulation and heat pumps are the relatively more established technologies, yet the market for both is projected to grow substantially in the coming years. Europe, with its relatively colder climate and older building stock, is expected to be the primary driver of insulation material growth. Because of its climate, Europe is also forecast to be the largest market for heat pumps. Interestingly, despite being a relatively small market for heat pumps at present, Latin American cities have the greatest growth potential due to heat pump's dual use of air conditioning.

Figure 3.3. Growth in total urban spending on building retrofit products between 2015 and 2050 based on city CAPs, US$ million

New York City

New York City had the highest 2024-25 per capita expenditure on heat pumps of the 151 cities in our dataset (USD 1.4 billion), reflecting over a decade of increasingly ambitious policy action at state and city level. New York State initiated heat-pump pilot schemes in 2014 as a part of its 'Reforming the Energy Vision' strategy. The state government then ratified the Climate Leadership and Community Protection Act in 2019, mandating 40% reductions in greenhouse gases by 2030 and requiring a state-wide phase-out of oil and gas furnaces. As a result, the New York Public Service Commission required the state's utilities to launch the New York State Clean Heat initiative in 2020, which included a heat-pump rebate programme.

New York City complemented the state government's initiatives by enacting two significant policies: Local Law 97 (in 2019) and Local Law 154 (in 2021). Local law 97 requires owners of large, existing buildings to reduce emissions by 40% by 2030 through measures such as improving energy efficiency and switching from fossil-fuel heating to electric alternatives. Local Law 154 focuses on new construction and required new buildings below a certain height to be fully electric by 2024. The same mandate will be applied to tall buildings by 2027. New York City thereby became the largest city in the US to require heat pumps or other electric systems in all new buildings. New York City further established the Carbon Challenge, a public-private initiative between key city stakeholders to share best practices and learnings on how to decarbonise buildings and to create an open dialogue between the city and businesses looking to respond to these new requirements.

Basel, Bern and Zürich

The Swiss cities of Basel, Bern and Zürich, which feature prominently in our analysis, are among the world's early leaders in terms of per capita spending on green products and services in 2025 (ranked 1st, 14th, and 4th, respectively). Investments in insulation are a particularly big expenditure item, incentivised by a joint federal-local urban building programme that spurred market growth.

Motivated by the fact that buildings account for 44% of Switzerland's total energy consumption and one-third of CO2 emissions, federal and local governments collaborated on a programme that included support for building retrofits, renewable energy investments, waste heat recovery and building service technologies. Local governments set new energy standards for buildings, while property owners were able to benefit from national subsidies, which were partially funded by a federal CO2 levy introduced in 2022.[15]

Warsaw

Warsaw is also a leading city in terms of per capita expenditure on heat pumps and insulation material. The Polish government introduced the Clean Air Programme in 2018, which provided EUR 25 billion in subsidies over ten years to replace coal and oil furnaces with clean heating alternatives, as well as insulation.

That national programme was complemented by local anti-smog regulations, which banned coal boilers in several Polish cities and regions. City air quality ordinances accelerated the transition to heat pumps at the same time as additional policies were introduced in the form of Poland's 'My Heat' programme in 2022. This provided grants of 30-45% for home heat pumps, contributing to a record number of heat-pump installations in 2022.

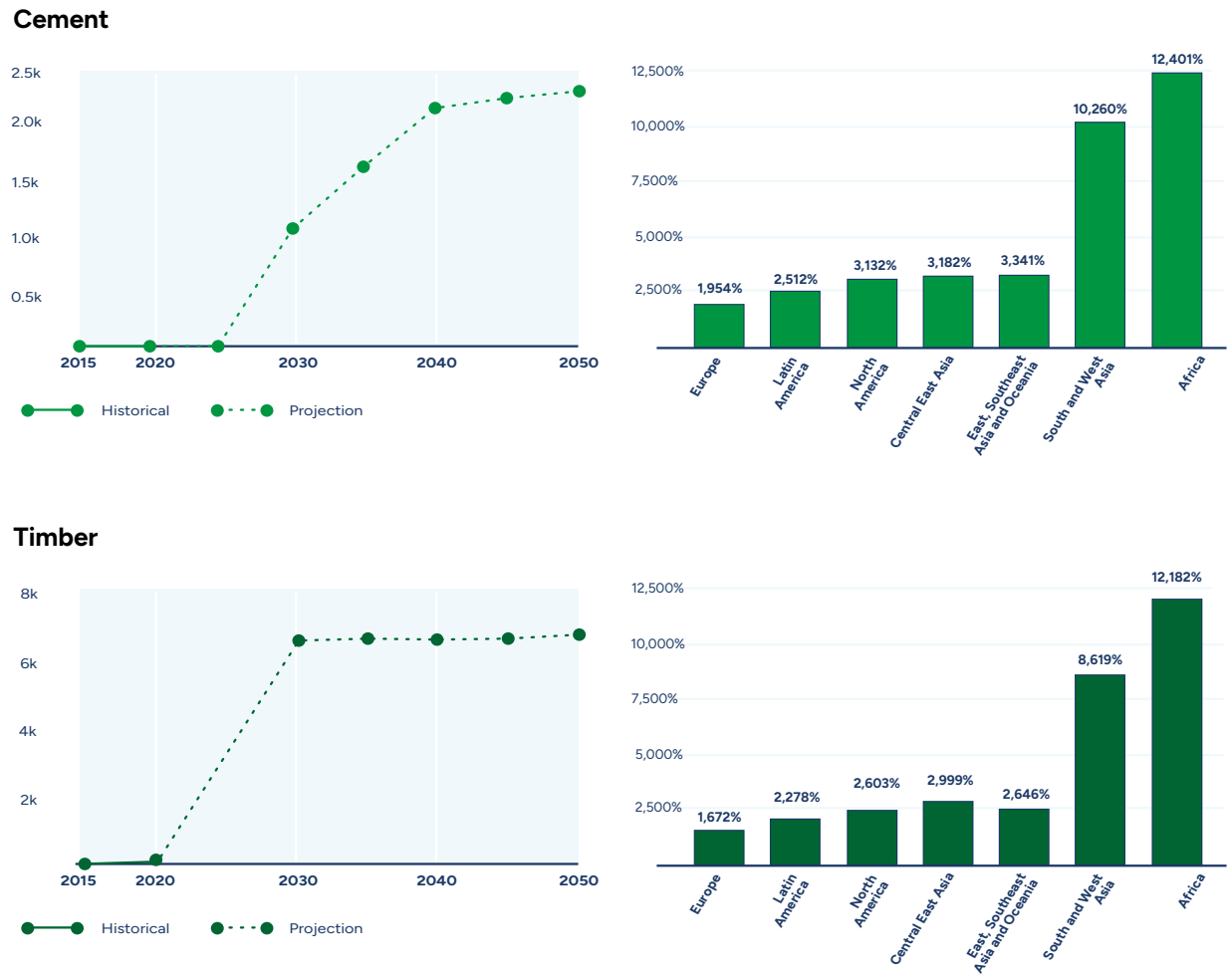
[15] ODYSSEE-MURE (2025), Switzerland profile. Available at: https://www.odyssee-mure.eu/publications/efficiency-trends-policies-profiles/switzerland.html#buildings.

Construction materials

The use of innovative construction materials is expected to increase markedly in the coming decades as cities phase out carbon-intensive ones, adapt planning regulations and establish local supply chains at the same time as national policy and corporate sustainability targets complement city targets to drive adoption of sustainable construction materials.

By 2050, the largest markets for green cement are projected to be cities in North America (USD 463 million), whereas for timber, South and West Asia is the biggest spender (USD 2.1 billion). Projected expenditure growth is fastest in Africa, though this is due to the continent's lower use of green cement and timber at the beginning of the analysis period.

Figure 3.4. *Growth in total urban spending on key construction materials products between 2015 and 2050, based on city CAPs, US$ million*



Vancouver

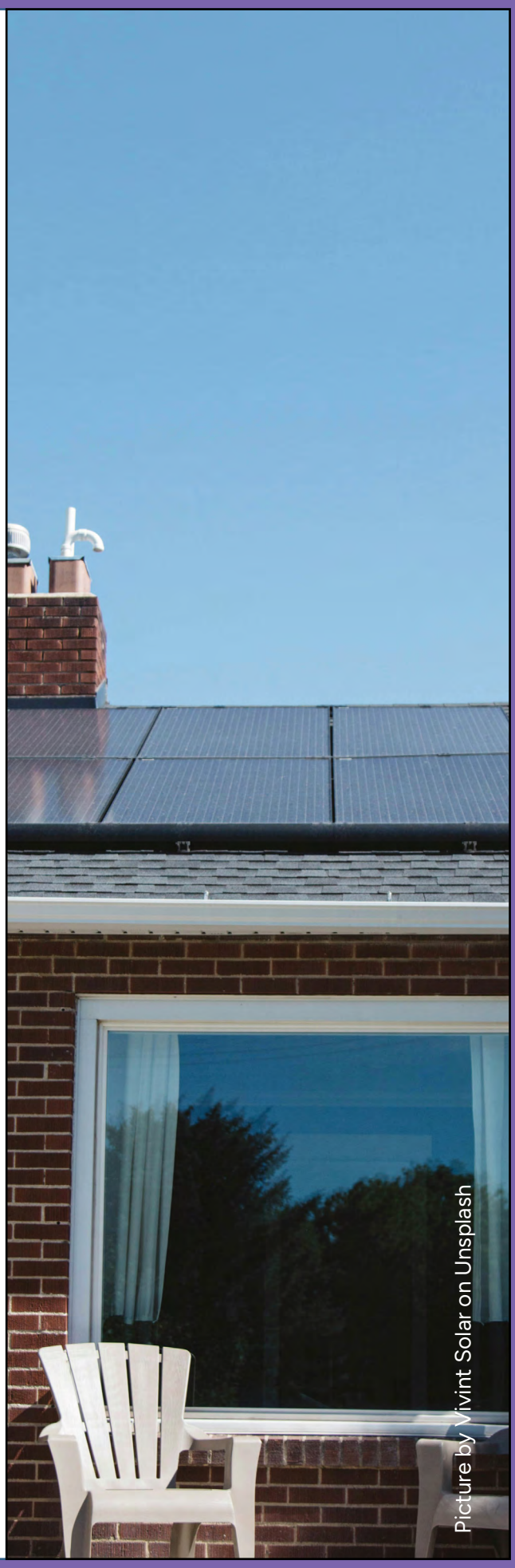
The City of Vancouver has been pioneering mass timber construction and recently started a two-year pilot to fully realise the benefits of this low-carbon building material. To incentivise construction businesses in the city, Vancouver has relaxed height and zoning restrictions for mass timber buildings and offered additional technical support at the pre-application stage.

By accelerating the use of mass timber in construction, the city aims to reduce embodied emissions in construction materials by 40% by 2030 and support jobs in the wider municipal region.

New York City

In 2023, the New York City Economic Development Corporation launched the New York City Mass Timber Studio, a technical assistance programme to support active mass timber development projects in the early phases of project planning and design. So far, the initiative has supported 14 projects across all five boroughs of the city, from community centres to multi-family residential and adaptive reuse developments.

The city's design and construction guidelines aim for 25% of new materials procured across the city's US$9bn portfolio to be low carbon, with a view to setting a new standard for material procurement across the whole of New York City. Increasing the use of mass timber in construction fits into a wider strategy of supporting the use of sustainable materials across the city's economy, from fashion to healthcare.



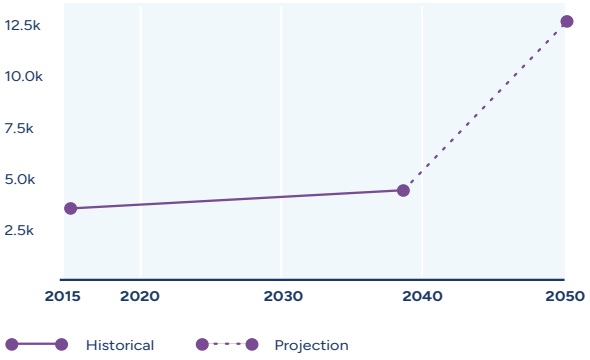
Picture by Vivint Solar on Unsplash

Urban nature

Urban nature has become a major priority for cities around the world who have seen how nature-based solutions can help cities strengthen resilience to extreme heat and rainfall, be more liveable and enjoyable for city residents, while supporting local biodiversity.

As cities strive to meet a target of 40% green cover by 2030, in alignment with the C40 Nature-Based Solutions Accelerator, investments in nature-based solutions will scale and provide significant market growth over the coming years.

Figure 3.4. *Growth in total urban spending on green space (40% city area target) between 2015 and 2050, based on city CAPs, US$ million*



Singapore

The Kallang River in Singapore runs through Bishan-Ang Mo Kio Park. Previously a concrete canal, it was transformed into a naturalised river that meanders through the park. This project was an innovative drainage improvement that increased the capacity of the waterway (thereby reducing flood vulnerability) while providing a green space for the public to enjoy. When the water level in the river is low, visitors can walk down the gentle riverbanks to get closer to the water, but during heavy rain, the parkland next to the river doubles up as a conveyance channel and carries excess water downstream.

How cities and businesses can unlock green growth together

City solutions based on place-based collaboration with the private sector

Globally, 13,000 cities and more than 10,000 businesses[16] have already set ambitious science-based climate targets, and there is a strong potential for urban governments and private businesses to accelerate their climate action if they collaborate more strategically. Place-based collaboration between cities and businesses can help address barriers to green growth by setting and aligning climate strategies, demonstration pilots and investment plans.

Our analysis found that cities that provided policy certainty and coherence at an earlier stage established their position as leading green markets (i.e.,where per capita expenditure on green products is highest) and, crucially, maintained this position over the following decade, even as other cities caught up on implementing green policies. This element of path-dependency - the phenomenon whereby past events determine the direction of change of future ones - is a crucial reason for cities to prioritise green investment to benefit from this growing market as soon as possible.

In **Box 3,** we summarise our C40 Cities city guide to creating the positive tipping points to kickstart these virtuous path-dependent growth trajectories.

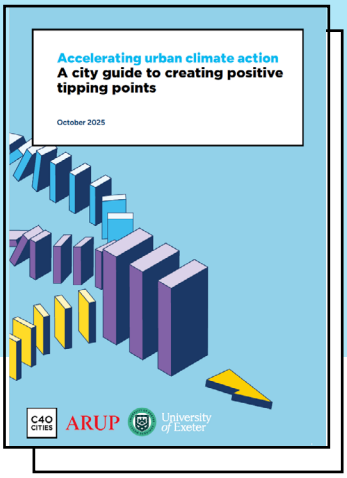
[16] SBTI (2025), SBTi Trend Tracker 2025. London. Available at: https://sciencebasedtargets.org/reports/sbti-trend-tracker-2025.

Box 3. A city guide to creating positive tipping points

A 2025 C40 Cities report explores how cities can create positive market tipping points and accelerate urban climate action. The report serves as a strategic manual for urban leaders aiming to accelerate the transition to sustainable technologies, specifically, EVs and heat pumps. It explains how cities can trigger positive tipping points by making green alternatives more affordable, accessible and attractive than fossil fuels.

The research outlines a 'pull, then push' sequence, whereby initial financial incentives and public-sector leadership precede stricter regulatory mandates. By leveraging their control over infrastructure, zoning and procurement, municipal governments can overcome local barriers that national policies may miss.

The guide also emphasises how collective action among global cities can significantly reduce costs and speed up decarbonisation timelines worldwide. Ultimately, it provides a framework for adapting policy as markets mature to ensure an equitable and efficient green transition, making it a good companion to this report on the market opportunity of key green products.



Research shows that if cities and companies located near each other jointly adopt more ambitious targets, the emission reduction potential can increase by 50%.[17] Moreover, if cities and companies that already have ambitious targets bring other local businesses on board and convince them to adopt similar measures, the emission reduction potential increases by as much as 67%.

Once clear urban policies are in place, private companies can base their business strategies on them, establish long-term plans and make the necessary investments in skills, facilities and **operations to respond to growing demand for key green products and to address common barriers to green growth (some examples found in Table 2).[18]**

[17] Şiir, K., Bjørn, A., Bai, X., Liu, J., Whiteman, G., Crona B., et al. (2025), City–company collaboration towards aligned science-based target setting. Nature Sustainability, 8: 54-65. Available at: https://www.nature.com/articles/s41893-024-01473-w.

Nemet, G.F. (2019), How Solar Energy Became Cheap: A Model for Low-Carbon Innovation. Abingdon, United Kingdom, Routledge.

Table 2. Urban barriers to market growth and city solutions

Barrier	Potential solution
Underdeveloped supply chains. Underdeveloped national and local supply chains for products and specific components make it difficult to scale up markets, as this can lead to uncertainty in terms of cost (due to exchange-rate volatility) and availability (due to increased potential for supply-chain delays).	**Leverage city procurement.** City governments can address supply-chain issues by using regulatory instruments and procurement through public assets (e.g., municipally owned buildings or vehicle fleets) to create local demand for green products, allowowing service providers to build out local supply chains.
Labour shortages or inadequate workforce and installation capacity. A shortage of trained contractors and installers can slow down adoption, and existing professionals unfamiliar with new technologies may advise the use of conventional options.	**Use pilot schemes to showcase benefits and help build skills.** City governments can address a lack of workforce skills or capacity by setting up pilot projects and establishing public-private partnerships that create durable demand while establishing workforce training programmes and developing information campaigns and guidance targeted at private-sector actors.
High upfront costs or green premium. This can affect key green products such as solar PVs, heat pumps, EVs or EV buses, and even with generous incentives, the cost of purchasing and installation can be high compared with traditional fossil-fuel alternatives.	**Make polluters pay.** Cities can reduce the high upfront cost hurdle by using economic signals such as taxes and levies to balance the costs of sustainable vs. conventional technologies, and by providing direct economic support like subsidies and grants. **Collaborate with others to share risks and lower costs.** Cities can also use procurement models, where risk is spread among multiple actors, or partner with other cities to procure large quantities of green products simultaneously, reducing costs.

Table 2. Urban barriers to market growth and city solutions

Barrier	Potential solution
Incentives, policies and public procurement are too complex to navigate. Incentives offered through government programmes, utility rebates, tenders or local permits can be too complex to complete, and some incentives may not make a significant dent in upfront costs, discouraging adoption.	**Provide clear and reliable information.** Cities can build trust, skills and awareness with the private sector through clear guidance, training and accessible data.
Cost and reliability of electricity. Electricity costs can be high and variable, and although solar PVs, heat pumps and EVs are energy efficient, this can make operational savings less predictable. Electricity tariff structures can be complicated and differ among multiple infrastructure providers within the same city.	**Encourage other market actors to act.** Cities can set clear long-term visions and targets, providing a 'north star' for government and market actors while using economic signals, such as taxes and levies, and regulatory signals, such as rules and mandates, to attract investment in new supply and transmission.
Site-specific challenges in densely built-out cities. • Difficulty in installing new infrastructure (e.g., EV chargers, solar PVs, green space), due to urban space limitations. • As buildings and vehicles are being electrified, parts of the local electricity grid may need upgrades to handle demand. • Building and street space constraints, regulatory and/or structural issues prevent easy installation. • Access to electricity may be unevenly distributed across neighborhoods, particularly in developing countires. In informal settlements or low-income neighbourhoods, the power network may struggle to support building electrification and vehicle charging. Uncertainty surrounding property rights may also hold back investment.	Cities can provide direct economic support, such as subsidies and grants, to reduce site-specific cost barriers. Cities can also 'pre-approve' locations, for example, for the installation of EV charging, where permits are streamlined and grid capacity is secured. Cities can integrate space for green infrastructure over time through planning processes and create mandates for private developers. In informal contexts, cities should address uncertainty surrounding land ownership and tenure to provide certainty for residents and investors. Developing site-appropriate solutions (such as mini-grids) could also help in the medium term.
Lack of consumer awareness. Despite technological advancements, there are misconceptions and mis- or disinformation about new green products and services.	**Cities can build trust, skills and awareness** with clear guidance, training, and accessible data and information.
Navigating local permitting and licensing can be time-consuming and inconsistent across municipalities. SMEs may need to partner with larger solution providers to de-risk investment in their solutions.	To address the complexities of local permitting, cities can **establish clear rules, mandates, and standards that all market actors must follow**, while ensuring that compliance processes are easy to understand and quick to undertake.

Picture by Robert Bye on Unsplash

Main takeaways

What can cities do to drive good, green growth?

Plan for green growth:

- Set ambitious, long-term climate policies and create spaces for meaningful public-private dialogue to enable the delivery of these policies through new products and services.

Lead and enable green growth:

- Create partnerships with industry and academia to accelerate the innovation feedback loop, driving down technology costs and scaling up solutions faster.
- Use public procurement as a 'first mover' to create a stable, early market for new technologies (such as e-buses or green steel), working with financial institutions to de-risk private investment and building new supply chains.
- Help businesses to overcome barriers to upscaling by developing a skilled local workforce and launching pilot projects to create the new supply chains needed for mass adoption.

Monitor and review the city's green growth approach where necessary:

- Ensure that policies are designed in a way that businesses have a clear understanding of opportunities and requirements, for example through ongoing stakeholder engagement, surveys, interviews, and other data collection methods that allows for real-time monitoring and evaluation.

What can the private sector do?

Lobby for green growth:

- Ask cities to pass ambitious climate policies that create the large-scale, stable markets needed for investment, and support them publicly to create a positive feedback loop of political will.
- Proactively engage with city governments to better understand policy and market opportunities, as well as to highlight local barriers to upscaling.
- Actively propose the launch of green pilot schemes that derisk new technologies and business models, demonstrating their viability to the wider market in collaboration with local governments.

Get your operations ready for green growth:

- Identify where global corporate transition plans are not being implemented in local operations and ensure that local lobbying is aligned to help accelerate local progress.
- Align company climate strategies and investment decisions with city policies and targets, and encourage other local business actors to adopt ambitious climate targets. This is particularly valuable when cities and businesses report their scope 3 emissions.

What can the financial sector do?

Support early adopters:

- Collaborate with municipal governments to create blended finance structures and other de-risking instruments.
- Standardise how sustainable assets are valued, so that products' green premium is also reflected in wider prices (for example, sustainability-linked loans on green investments or cheaper mortgages on less carbon-intensive properties).

Help to scale the sector rapidly:

- The rapid rollout of the green products we analysed will rely on a large number of small and medium-sized enterprises (SMEs) and independent contractors being able to access competitive finance to adapt and upscale their operations. Simple products that can help SMEs and households finance the upfront costs of green products will be key to driving growth.

Let investors join in on the green growth potential:

- Develop products for institutional and retail investors, so they can benefit from the projected rate of growth of these green products, and thereby attract more investment to the sector.

What can national and/or state governments do?

Build the foundations:

- Create long-term policy stability and certainty for city governments and businesses.
- Develop financial support packages and mandates that address the affordability barrier, making clean technologies the default economic choice and accelerating adoption for all.

Embrace different local strengths:

- Engage with cities to understand their policy needs and align national-level incentives (such as subsidies) with city-level action (such as infrastructure) to reinforce climate policies.
- Support urban pioneers that are willing to test new policies and solutions and let them go further, outpacing the nation as a whole.

Methodology

To estimate the impact of existing climate commitments on emissions reductions, C40 undertook a multi-step modelling approach covering 151 cities worldwide, representing a diverse geographical spread.

First, C40 selected 42 cities that had developed detailed CAPs with explicit sectoral targets. For these cities, emission reduction trajectories were modelled based on the published CAPs. To extend this analysis to cities without detailed CAPs, C40 used a mapping approach. Emission reduction rates from CAP cities were assigned to non-CAP cities with similar characteristics. Mapping criteria included geographical proximity, climate zone, solar potential, current share of EVs, population size and GDP per capita, ensuring that the most relevant reduction trajectories were selected for each non-CAP city.

Next, these mapped emission reduction rates were applied to city-level data on investment in green products and services and infrastructure, provided by kMatrix. The kMatrix dataset included the total spend (both public and private) for each city in 2023-24 across various green products, such as rooftop solar PV, EVs, heat pumps, insulation materials and nature-based solutions. This allowed for the estimation of city-specific growth rates in the adoption of green products.

For insulation and heat pumps, the analysis was restricted to cities with more than 1,500 HDD to reflect the relevance and potential impact of these technologies in colder climates. HDD estimate the energy required to heat a building. They measure how much the daily temperature falls below a set comfort level (for example, 18°C), so a higher HDD value signifies a colder climate and greater demand for heating.

For clean construction materials, including low-carbon cement and cross-laminated timber, future growth was assumed to follow population growth, using a linear projection to estimate demand over time.

For urban green space, the analysis assumed that each city would reach a target of 40% of its total area covered by green space by 2030, in alignment with the C40 Nature-Based Solutions Accelerator programme. This scenario was used to estimate the scale of investment and associated emission reductions attributable to urban greening interventions.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