

# GOOD GREEN JOBS

*How climate action is driving employment in cities*



OCTOBER 2025



# Foreword

*In 2022, C40 mayors joined forces and **pledged** to deliver 50 million good green jobs in their cities by 2030. Three years later, data included in this report shows that C40 mayors are sticking to their word, with over 21 million green jobs already supporting a just transition to greener urban economies, and C40 cities well on track to meet their 2030 targets.*

*This data arrives at a truly critical juncture for both global climate diplomacy and for C40 Cities. 2025 is a landmark year: it marks our 20th anniversary, the 10th anniversary of the Paris Agreement, and the long-anticipated COP30 in Belém, Brazil. There, nations will be expected to present updated commitments (NDCs) with renewed targets to slash emissions and shield their populations from the worst climate impacts.*

***Yet, this moment is also shadowed by deep concern.** 2024 was the hottest year on record, bringing devastating and unprecedented climate disasters worldwide; while 2025 has seen the U.S. withdrawal from the Paris Agreement alongside unprecedented rollbacks in global development aid. Simultaneously, aggressive, well-funded misinformation campaigns are actively working to undermine public support for climate action, including the pioneering work led by our member mayors.*

*Within this challenging environment, **the data in this report doesn't just provide solid evidence of local progress; it also delivers a simple, powerful message: climate action generates more jobs than "business-as-usual" economic approaches. These are jobs that are good for the people, good for the planet, and good for the economy.***

***As major economic and employment hubs, cities are driving this progress head on. Cutting their emissions faster than their national government, while growing the demand for green jobs and making these opportunities available for all.** In Freetown, we are advancing green jobs and inclusivity through initiatives such as our flagship urban reforestation project, Freetown the Treetown, which has created over 1,200 green jobs already, mostly for women and youth; or through the upcoming construction of a mass transit cable car system, which will reduce emissions and provide safe and affordable transport*



*to hillside communities. **London's** Green Skills Academy has trained over 6,500 workers, securing over 3,000 occupations in key areas such as retrofitting, renewable energy, low-carbon transport and green public spaces. **Rio de Janeiro** has taken significant strides to bring solar energy to informal settlements, while training workers and empowering local residents on related job opportunities. . These are only some of the hundreds of innovative **actions** that C40 cities are taking across regions, from Quezon City to Copenhagen, and from Nairobi to Phoenix.*

***But the reality is, mayors cannot do this alone, they need all 'hands on deck' to fully harness this opportunity.** We need national governments to work with us, to ensure climate action and economic development go hand-in-hand. We need financial institutions to give cities direct access to finance and funding, especially in the Global South, enabling the transition at the scale needed. And we need business, workers and governments - at all levels - to all work together, consulting one another, and ensuring this transition is not only bold and ambitious, but also just and equitable.*

*I look forward to continuing this work with my fellow C40 mayors and their partners.*

**Yvonne Aki-Sawyerr OBE,  
Mayor of Freetown and C40 Co-Chair**

# Mayoral Quotes

---



**Ricardo Nunes,**  
**Mayor of São Paulo**

*"The City of São Paulo has recently been recognized as a global reference in green job creation and the implementation of innovative environmental policies. This recognition came with the release of the international report *From Shortages to Solutions: Good Green Jobs and Labour Migration in Cities*, published during New York Climate Week. This is an area that motivates us and to which the City Hall of São Paulo devotes significant efforts. A prominent example is *Sampa+Rural*, the largest urban agriculture program in Brazil, which successfully integrates agriculture, healthy food, and ecotourism, while also supporting local livelihoods. Launched in 2022, the program has already identified and fostered more than 4,100 initiatives related to agriculture, ecotourism, and healthy food systems in the city."*



**Arthur Sakaja Johnson**  
**Governor of Nairobi**

*"As Nairobi's Governor, my priority is practical climate action that protects residents and creates green jobs—especially for our youth who make up a majority of the population. Through innovative research and projects like *City of Choice*, we show how linking climate, migration, and skills can shape the future of cities worldwide. We are building a resilient, inclusive city that sets an example for urban futures in the region."*



**Joy Belmonte,**  
**Mayor Quezon City**

*"Quezon City is determined to build a greener and more inclusive economy where no one is left behind. Through our Executive Order on Good Green Jobs and our ordinance on the informal economy, we are embedding fairness and opportunity into climate action—ensuring that decent, green livelihoods are accessible to marginalized populations, especially informal workers. By combining bold policy with strong data systems, we are proud to partner with C40 in charting progress towards a future where climate ambition creates dignity, equity, and resilience for all."*



**Maheshwar Rao IAS,**  
**Chief Commissioner of Greater Bengaluru Authority**

*"Bengaluru has taken significant steps in fostering green jobs and livelihoods for vulnerable residents, especially informal workers. Our work has integrated frontline workers into the city's waste management systems which is among the first participatory processes for waste management in India, and has led to the training of 500 waste management workers in Bengaluru city, in a first-of-its-kind project. This work has shown that when frontline workers are empowered and decisions are shaped by meaningful social dialogue, systems, and cities, become more inclusive and resilient. As this research shows, there is still great potential to further transition our economy and meet our climate goals whilst creating good work"*



**Ivonne Bojoh,**  
**CEO at Circle Economy**

*"It's wonderful to see the scope of the green jobs study expand to include more cities globally, particularly those in India. There is still more work to be done to accelerate the transition across sectors and boost employment, not only in the core areas of the green economy such as repair, waste infrastructure and management, sustainable energy, and public transport, but also in the supporting sectors that uphold them. In future iterations of this important global report, I hope to see more cities engage with this initiative and share their employment data. I also look forward to more public-private initiatives that drive good, green jobs, supported by financial institutions enabling innovative and pioneering entrepreneurs to build green businesses, and by education systems preparing the next generations for a regenerative economy."*



**Moustapha Kamal Gueye,**  
**Director of Priority action programme**  
**on just transitions at International**  
**Labour Organization (ILO)**

*"Climate action is not just an environmental imperative, it is a core issue of social justice, and green jobs are an essential element of a just transition - as this research shows. Cities can be essential allies of national governments, businesses and workers, in promoting social dialogue and ensuring these jobs meet fundamental labour standards. We appreciate this solid commitment from the world's largest cities, as well as the involvement of C40 Cities in the Global Coalition for Social Justice, and we look forward to continuing working together towards a truly just transition."*



**Brian Motherway,**  
**Head of the Office of Energy Efficiency**  
**and Inclusive Transitions, IEA**

*"With the right investments in clean energy and skills training, energy transitions can be a major driver of employment opportunities. This research reminds us that cities play a central role in ensuring that, at the local level, energy education and training is accessible and leads to decent employment in energy occupations that are high in demand. We look forward to continuing to work with leading mayors, alongside national governments, industry, trade unions and other key stakeholders to ensure fair and inclusive energy transitions for workers and communities"*



# Executive summary

This C40 report provides evidence that C40 cities are tackling climate change while creating jobs and improving the well-being of their residents. It also highlights multiple initiatives where cities are integrating just transition policies and green jobs programmes in their climate action projects, collaborating with other stakeholders to address inequalities and maximise opportunities.

**The report reveals that over 21 million green jobs** exist across **81 global megacities**, corresponding to 10.4% of their total employment. These include **13.5 million direct green jobs**, which produce the goods and services needed for the green economy, and **7.6 million indirect green jobs** which provide the essential goods and services within the supply chains that support green sectors. This shows that climate investments spearheaded by and in cities are not only creating jobs within the urban centres but also stimulating employment in supplier industries, extending job creation beyond city limits.<sup>1</sup>

Across all regions studied, green jobs exist in all sectors of the economy and at all skill levels. Leading green sectors in terms of **green job concentration are sectors where local governments tend to have more direct powers to act and thus influence job creation, including Waste Management, Transportation, Energy, and Construction, with the green jobs share across all exceeding 20% of total employment.** Other sectors such as Manufacturing,

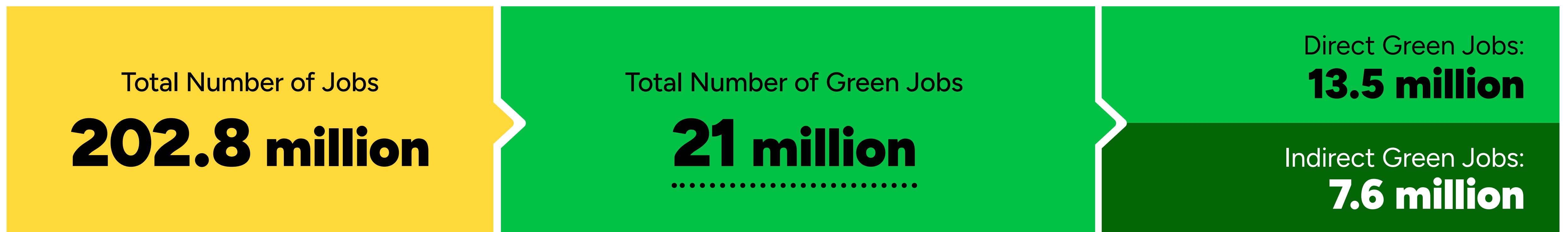
Wholesale and Retail Trade, and Food Services offer significant untapped greening opportunities due to their size. The analysis also identifies crucial enabling sectors such as healthcare, professional services, education, finance, and administrative support.

With respect to previous analysis, **green jobs are largely growing slightly faster than overall employment.<sup>2</sup> This is the case of sectors such as Energy and Transportation.** The overall green jobs shares remained fairly stable overall, with regional differences.

**From a regional perspective,** cities in the regions of Latin America and Africa feature a higher share of green jobs out of total employment on average, with 14.4 % and 11.2% of green jobs, respectively. Some cities in these regions - such as Freetown (Sierra Leone), Nairobi (Kenya), Accra (Ghana), Bogotá (Colombia) and Lima (Peru) - already feature over **20% of green jobs** out of total employment, followed by other cities such as Bangkok (Thailand), Quezon City (Philippines), Oslo (Norway) or Sydney (Australia). There are also promising findings at the sectoral level within regions, for example transportation being over 40% green already in Latin American cities - a sector where C40 cities have had a central focus in their climate action plans in the last years, with clear leadership from cities in clean transportation initiatives.

## Distribution of Green Jobs in C40 Cities

Direct and indirect green jobs in 81 C40 member cities



**In terms of job distribution**, the findings also show that access to green jobs opportunities can often be unevenly distributed across demographics. Data shows a **gender imbalance** across the sectors of the economy where more green jobs are found, with men holding around 60% and women 40% of these positions globally. Male workers dominate green jobs in construction, transportation and storage, wholesale and retail trade, and extractive industries, while women are more prevalent in education, health and social work. The distribution of jobs amongst male and female **young workers** reflects the same structural gender divide observed across the broader workforce. This suggests that women face barriers in accessing some key green sectors, requiring gender sensitive policies and programmes to ensure equitable access to green jobs.

**Workers in the informal economy**<sup>3</sup> contribute significantly to key green sectors, particularly in construction, wholesale and retail trade, waste collection and treatment or manufacturing. Female informal workers are also very high in other sectors such as health and social work. Data shows that, globally, over 60% of workers operate in the informal economy although the share of informal employment varies greatly between regions, where for example 27% of employment is informal in Europe, and 87% in South and West Asia. **Informal green jobs are underestimated in this analysis** since it mostly covers formal employment, as explained in the methodology section. However, ensuring both formal and informal workers are integrated in the economy and have access to good working conditions is essential to achieve social equity in the green transition.

**While challenges such as gender disparities and data gaps in informal work persist, the report underscores the vital role that cities play in a just and sustainable transition.**

However, for cities to be able to scale-up action to ensure that climate action implementation fosters inclusive, fair, and sustainable economies and achieve C40 mayors' ambition of creating 50 million green jobs this decade, cities, businesses, investors and other levels of government must collaborate on several key strategies. These include investing in city-led climate mitigation and adaptation projects that generate good green jobs, developing inclusive workforce development programmes to equip

workers with necessary skills, and gathering further localised data on green and decent employment, including in the informal sector. Additionally, it is crucial to ensure green jobs offer decent wages and safe working conditions for all, implement policies that address existing barriers to access for groups who often have less access to these employment opportunities, expand opportunities for youth, and work with and support mayors on the development of climate plans and strategies due to the critical role that cities play in the just transition.



# Introduction and context

---

**This report is part of C40's ongoing effort to support its members with evidence and data on the potential for climate action to drive employment.** It builds on the 2022 pledge by C40 mayors to create 50 million good green jobs in their cities by 2030, and it directly supports C40's mission to ensure a transition to a clean, green world that is fair, inclusive and addresses the injustices of climate breakdown and delivery against C40's leadership standards.

More in detail, **the analysis presents a comprehensive overview of green employment across all sectors of the economy, for 81 global cities across five regions,** providing critical evidence that C40 cities are delivering on their commitment to limit global heating while improving the health and economic well-being of their residents. This data is critical to equip mayors and cities to better understand the sectoral distribution of green employment within their cities, identify sectors with significant growth potential, and establish pathways towards a just transition. A key feature of this C40 study is its consistent methodology applied across most cities, enabling comparable and aggregable results.

As data included in this study shows, **the last three years have seen unprecedented progress in city-led climate action that both drives jobs creation and invests in the workforce needed to sustain a green and just transition.** Hundreds of [city-led initiatives](#) are already being implemented across regions, proving that climate action is not only working for the planet, but also for the people and the economy. These include millions of jobs being created in clean energy, clean transportation, clean construction, among others, and critically contributing to both reducing urban emissions and making cities more resilient to worsening climate impacts. At the same time, cities are emerging as just transition implementers, leveraging this huge employment opportunity to also address existing inequalities, ensuring that the process of moving to a greener economy is also just and equitable.

*Against this backdrop, the report is structured as follows: After the methodology, the report presents global and regional findings and sectoral trends, including inspiring and replicable examples of bold city initiatives, and ends with opportunities for further collaboration and ways to move forward.*





# Methodology & key definitions

**This analysis assesses the number of direct and indirect green jobs across 81 C40 member cities.** Induced jobs are not included in this analysis. The cities of Jakarta, Bengaluru, Delhi, Ahmedabad, Mumbai, Chennai and Fortaleza have now been also added to the initial 74 cities included in the first [analysis](#).

The [methodology](#)<sup>4</sup> was first developed between **Circle Economy and C40 Cities** in 2023, adapted from a methodology previously developed by Circle Economy for measuring jobs in circular economy activities in partnership with the United Nations Environment Programme (UNEP) to measure circular jobs.

 **Direct green jobs,**  
 which produce the goods and services needed for the green economy: for example, in renewable energy, waste recycling, or building retrofits.

 **Indirect green jobs,**  
 which produce all other goods and services needed by the workers with direct green jobs, and therefore are required for the proper functioning of the green economy: for example in supply chains or through education.

Jobs not included in the green categories above, have been categorised as follows:

- **“Other”:** jobs that are neither explicitly green nor non-green by definition. This means most of them may have the potential to transition into green jobs as the economy becomes greener and more industries either supply or source their input from green sectors. Others (for example, jobs in the education sector) may not be considered fully green by existing definitions in this methodology but are also not directly causing greenhouse gas emissions and can often make a significant and under-recognised contribution to public education on sustainability issues and more.
- **“Non-green”:** jobs in sectors that either a) are directly tied to fossil fuels and emissions generation, or b) have been considered “non-green” for this analysis until a sector-specific method for estimating their green activity is developed (for example, the clothing sector). It is important to note that this analysis underestimates the overall green jobs, as it does not account for potential green jobs in this second group of sectors. A just transition for workers in the first group, such as workers in the oil and gas sectors, into renewable energies and other opportunities is possible with the right planning, investment, and commitment, including social dialogue with affected workers and communities.

## What are good green jobs?<sup>5</sup>

Drawing from the definitions from UNEP and International Labour Organization (ILO), C40 Cities defines green jobs as:

- New green jobs or existing jobs transformed into green ones, sustained by transformative climate action;
- Jobs that enhance health and well-being, preserve or restore the environment, and help to limit greenhouse gas (GHG) emissions;
- Jobs that occur across a range of urban sectors, including construction, transport, energy, resilience, health care and more;
- Good quality jobs for sustainable economies, aiming to provide living wages and safe and stable working conditions.

## The methodology

The analysis draws on an **Input-Output model** and uses sub-sectoral employment datasets from publicly available sources, prioritizing city-level data where available, and using nationally reported data downscaled to the city level where necessary. For many countries where local sources were not available or recently updated, data has been sourced from the **ILO's federal employment data** available at the sub-sectoral level at the time of analysis. The sectoral classifications used are **ISIC** (for most cities), **ANZSIC** (for Australia and New Zealand), **CNAE** (for Brazil), **NAICS** (for Canada and the United States), **NACE** (for Denmark), **SIC2007** (for Norway and the UK), and **NIC** (for India).<sup>6</sup>

In general, this analysis has aimed to cover the **metropolitan areas of cities**, a common geographic scope scale to capture the economic hub that exists in and around the cities, however in some instances only city data is covered due to data availability. More details on the sources for each city can be found in the [methodology](#).

**This analysis mostly covers formal employment** as data is sourced from official employment data sources, and it is often difficult to gather disaggregated data on workers in the informal economy. **This means that total green jobs in this analysis are under-represented.** However, for countries where ILO data was used, informal employment is partially covered.<sup>7</sup> Please note that this methodology is first-of-its-kind and may evolve over time. The analysis will continue to be refined in future iterations of this exercise as more disaggregated employment data becomes available.

## Comparability against previous results

The report includes comparisons with previous analysis carried out by C40 Cities and Circle Economy, notably with the [first baseline analysis](#), which used data from 2022 or earlier. Considerations regarding the comparability of results across the studies:

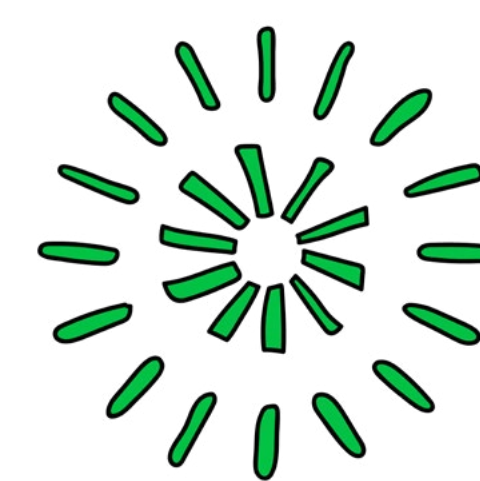
1. The difference in the year of data compared to the previous iteration varies on average by 1 to 3 years, depending on each city, which is short-term and can reveal immediate economic shifts. However, comparisons need to be treated cautiously until the data covers a more extended period of time over the next few years.
2. Exact comparability between the two analyses is further challenged by the fact that this report expanded the cohort of cities studied from 74 to 81. In this respect, when comparisons are framed in terms of trends, it is important to notice that these refer only to the 74 cities included in both studies.
3. In order to improve accuracy and comparability, also in future iterations of the tracking, some data quality improvements were implemented from the initial baseline results, which used data from 2022 or earlier. These updates are outlined in full in the [methodology](#), and are common procedures amongst global studies that rely on publicly available datasets that are subject to revisions over time. For some cities, the baseline data source was changed where more reliable or detailed data became available (e.g. with higher sectoral granularity).

## Data on distribution of green jobs

The study also includes data on **gender, youth and informality** for a set number of countries from the International Labour Organization dataset (2023). This employment data is available at a lower granularity level (often ISIC-2 level), and is therefore not mapped to green jobs but provides data on distribution across broader sectors of the economy. In fact, while the green jobs analysis based on formal employment data allows for more detailed insights into subsectors (for example, distinguishing between building construction and civil engineering or infrastructure works within the Construction sector), the data on informality, gender, and youth only provides aggregate figures for the Construction sector as a whole, without the breakdown across its subsectors. It still provides insights on the demographic distribution across sectors, and some insights have been included in the global trends section of this report.



# Global Trends



## 1. Global green jobs distribution and leading key sectors

Within the **81 cities** included in this analysis, **over 21 million jobs can be considered green**. This accounts for **10.4%** of the overall employment analysed (over 202.8 million jobs overall). Of these:

- **13.5 million jobs** (6.6%) are considered **directly green**, providing the goods and services needed for the green economy. For instance, in the energy sector, direct green jobs include occupations such as solar and wind technicians, renewable energy engineers, or installers.
- **7.6 million jobs** (3.7%) are considered **indirectly green**, providing the goods and services required for green sectors to operate. For instance, in the energy sector, indirect green jobs include occupations such as workers that manufacture components for renewable energy infrastructure, training providers, or occupations that offer digital and financial services that support clean energy.

**~10.4% Green Jobs**  
(Over 21 million green jobs)

**13.5**  
Million indirect  
green jobs

**7.6**  
Million direct  
green jobs

The indirect green jobs demonstrate how climate action in urban areas is also driving green employment across the broader supply chain, including in the supply chains that are beyond their municipal boundaries. This indirect employment, outside of the urban areas assessed in this analysis, can be extremely significant and has not been accounted for in this analysis, yet it shows potential to expand its scope further.

Out of the remaining employment, approximately 80% is neither currently considered green nor non-green, meaning that these jobs may have the potential to transition into green jobs (see “other jobs” in the methodology section), and 9% are currently non-green.

**Sectors with the highest green jobs shares globally** (over 25% of total employment) across all 81 cities assessed

include Waste and water management (81% green, 751,200 green jobs), Transportation and storage (32% green, 3.8 million green jobs), Energy (28% green, 206,700 green jobs), followed by Construction (22% green, 2.8 million green jobs). These are amongst the key sectors where cities are delivering climate action projects, as part of their Climate Action Plans, as illustrated in the examples provided in this report. **In terms of absolute numbers**, the sectors with the largest numbers of green jobs are Transportation and Storage (3.8 million green jobs), Wholesale and Retail Trade (3.4 million), Construction (2.8 million), Manufacturing (1.5 million) and Other Services (1.3 million).

**The sectors with the highest green jobs shares, are those where** cities are driving transformative change through local climate action policies:

**Sectors with the highest total number of green jobs** (direct and indirect)

Sectors	Total employment	Total green jobs	Green jobs %	Direct green jobs	Direct green jobs %	Indirect green jobs	Indirect green jobs %
Transportation and storage	11,737,930	3,795,860	32.3 %	3,173,010	27 %	622,850	5.3%
Wholesale and retail trade; repair of motor vehicles and motorcycles	37,353,980	3,436,780	9.2 %	1,656,360	4.4 %	1,780,420	4.8%
Construction	12,396,330	2,788,660	22.5 %	2,432,020	19.6 %	356,640	2.9%
Manufacturing	23,400,110	1,498,880	6.4 %	768,170	3.3 %	730,700	3.1%

**Over 80% of the jobs in the waste sector can be considered green jobs, accounting for over 751,200 jobs in the cities studied.** C40 mayors have significant powers in waste management, allowing them to implement zero-waste strategies, enhance waste collection, recycling and treatment, reduce landfill emissions, and promote circular economies. Cities are also working to ensure that informal waste workers have good working conditions and are recognised, as shown in the examples of cities such as Bengaluru (India).

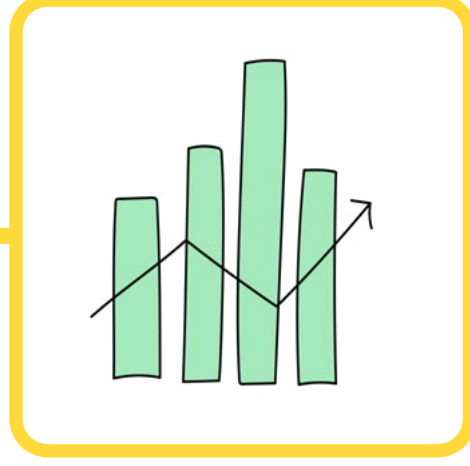
**Over 32% of the jobs in the transport sector can be considered green jobs, accounting for 3.8 million green jobs in the cities studied.**<sup>8</sup> The powers of mayors in transportation include policies and programmes focused on people, such as expanding public transport and zero-emission zones, promoting walking and cycling, and creating zero-emission areas which reduce congestion, emissions, and improve air quality and health for all residents. The share of green jobs in this sector is particularly outstanding in Latin America, with the sector being 42% green, which may encompass the impact of key programmes such as the Zero Emission Bus Rapid-deployment Accelerator for electric buses or the Laneshift initiative to decarbonise freight.

**Over 22% of the jobs in the construction sector can be considered green jobs, accounting for 2.8 million green jobs in the cities studied.** Mayors are leveraging powers such as municipal procurement, setting green building codes and standards to drive clean construction, and urban planning initiatives, collaborating with industry to reduce emissions, reuse existing buildings and materials, and accelerate the widespread adoption of sustainable construction practices in public and private construction in a fair and inclusive way. North American cities, where there has been a strong focus on decarbonising buildings and infrastructure and promoting clean construction practices that create green employment, are leading in this sector, which is over 35% green in the region.

**Over 28% of the jobs in the energy sector can be considered green jobs, accounting for over 206,700 green jobs in the cities studied.** More and more cities are raising ambitious commitments to renewable energy targets such as the use of 100% renewable energy, achieving universal access to reliable, sustainable and affordable electricity, and reducing energy poverty for residents. Although this sector is comparatively small in terms of the total number of people employed, and therefore it does not translate into a large number in terms of green employment in absolute terms, it is driving green employment across other sectors that either support it (such as manufacturing) or are influenced by it (e.g. more ambitious clean energy targets in the city can influence most sectors). Importantly, the Energy sector has the potential to grow more significantly in cities as it becomes greener, since more green energy jobs will be located in cities (e.g. installing solar panels or in the implementation of energy efficiency measures in buildings) compared to fossil fuel-related jobs which often happen outside the cities.

Other sectors such as **Ports & Shipping**, present a good opportunity to create green employment due to the speed at which the sector is growing. This study estimates that approximately 15% of the existing jobs in the ports and maritime transport and shipping sectors are currently green.<sup>9</sup> This includes industries such as water transportation, shipping activities, shipbuilding and boatbuilding, repair and maintenance of ships and supporting activities for water transportation. Of these jobs, nearly half of them are happening across the supply chains (indirect jobs).





*With respect to previous analyses,<sup>10</sup> overall job growth has been estimated at approximately 8% for total employment, and approximately 9% for green employment. This suggests green jobs may be growing slightly faster than the overall employment.*

***In most sectors, the increase in green jobs slightly outpaces overall employment growth: this is the case of Transportation, Wholesale and retail trade, Human health and social work activities (large employing sectors), and the Energy sector.<sup>11</sup>***

The results also show other sectors that have significant potential for greening. This includes **Manufacturing**, one of the biggest sectors with more than 23 million total workers in the cities included in this analysis, yet only about 6.5% of jobs are currently green on average; or **Wholesale and retail trade** which employs more than 37 million people across the cities included, and is currently 9% green. Due to the size of these sectors even small shifts could drive significant green employment, for example through the use of renewable energy for their operations, sourcing their materials more sustainably and locally, moving towards greener supply chain practices or including more circularity and waste reduction practices. The **Food services** sector also employs over 10 million people and is around 5% green, holding great green employment potential for cities through food waste reduction, or enabling more access to organic, local food.

**Direct green jobs show marginally more visible growth than indirect green jobs.** This indicates that the green transition could be driven primarily by the growth of direct employment — jobs that directly support the transition, such as in energy and electrification or waste collection management — while indirect jobs in the wider supporting ecosystem are not expanding at the same pace, indicating that more could be done to boost the demand for green jobs and services in cities - through public procurement, more sustainable supply chains, or within the education or services sectors.



Parallel [research](#) by C40 Cities looked at **projected green labour and skills shortages in cities by 2040**, focusing on the construction, waste management and transport -including ports- sectors. The results show how, driven by climate investments, the demand for workers in occupations in these sectors is projected to create a need for 12 million jobs within the next 15 years, but that few cities and countries currently have the workforce ready to support the green transition.

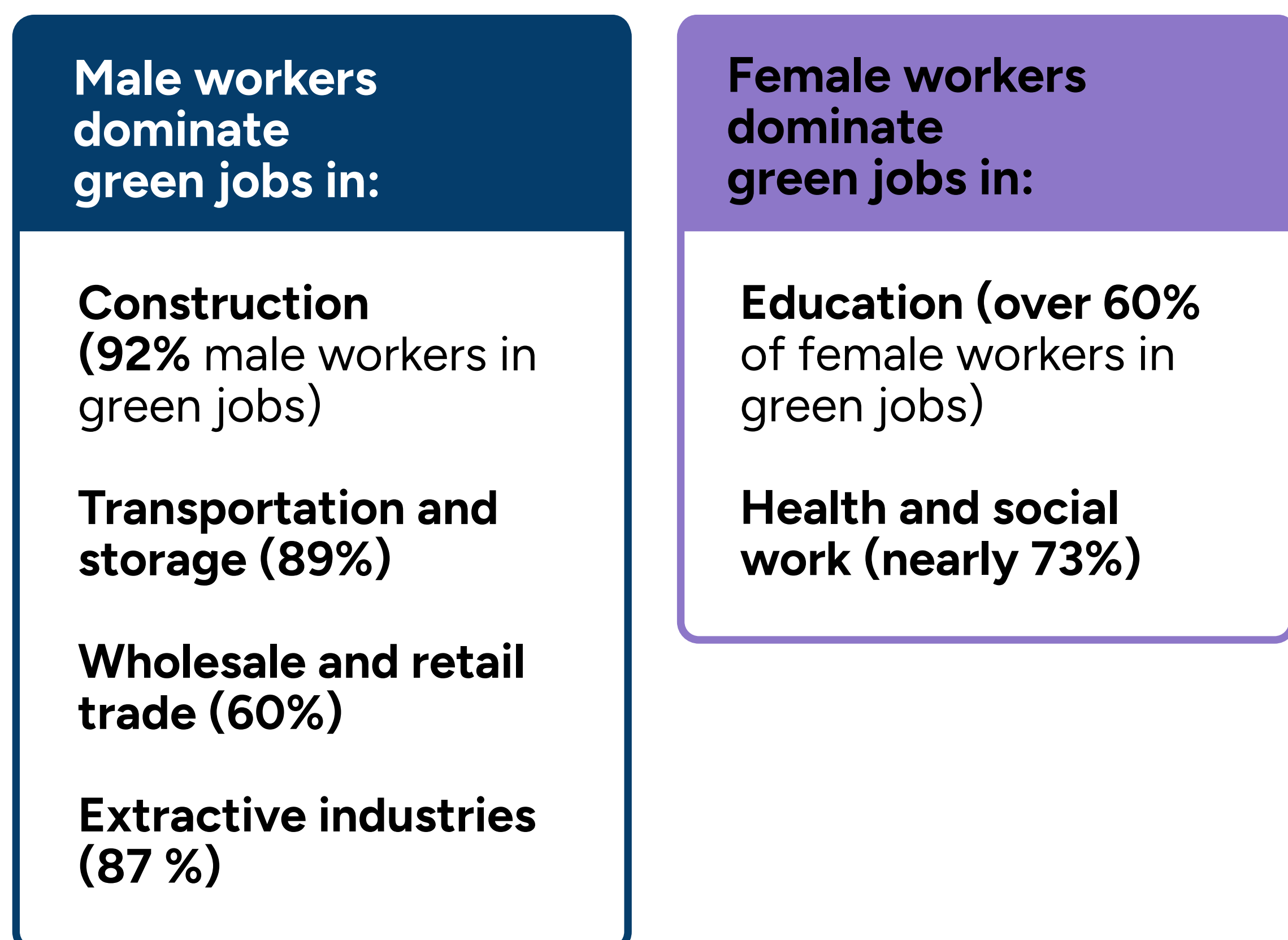
For the 21 C40 cities included in the analysis, it is projected that **up to 51% of future demand (over 6 million green jobs) may not be met with the existing workforce.**<sup>12</sup> However, **this shortage can be more than halved** (bringing the shortage down to under 3 million) by ramping up investment in targeted technical and vocational training. Not only does this show the positive impact of green investments to drive significant employment, but also the critical need to accompany these investments with ambitious and inclusive [skills](#) and workforce development policies, to ensure opportunities are harnessed so that workers are not left behind.

## 2. Job distribution and informality

As illustrated in the methodology section, the analysis was also able to provide useful insight on how existing green jobs are distributed across demographic groups - particularly in terms of gender and age groups - as well as some useful estimates about the share of informal employment.

The **gender** distribution of employment across sectors shows a **difference in the participation of male and female workers**, both globally and regionally, as well as across sectors of the economy. Overall, data shows a predominantly male workforce active in green employment, with male workers accounting for 60.4% of total green employment and female workers making up 39.6%.

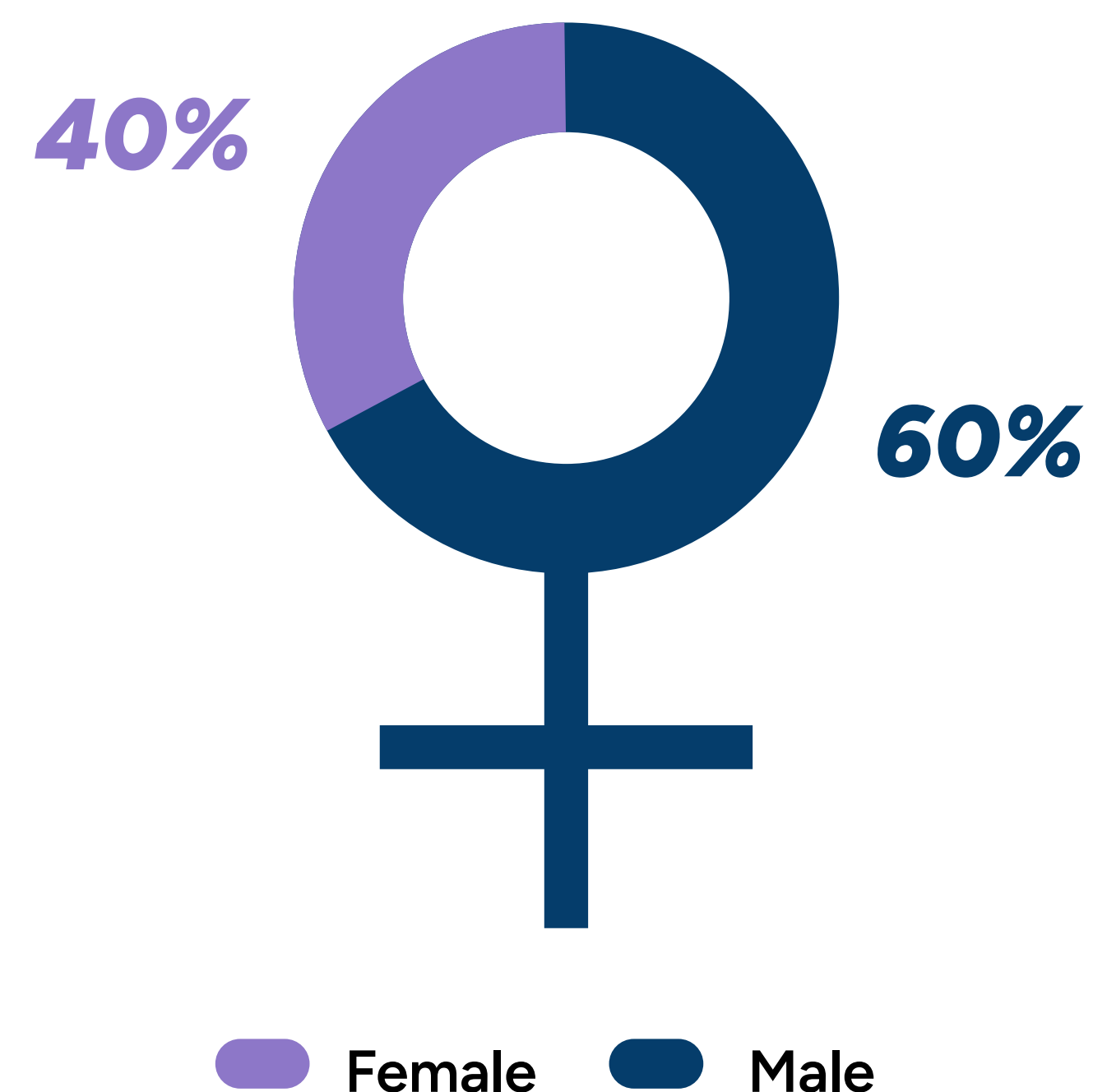
Nevertheless, exploring distribution amongst sectors reveals gender imbalances in certain industries:



Other sectors such as Accommodation and food services, Other Services, and Finance have a more balanced representation of men and women holding green jobs. The analysis shows that male workers are currently dominating sectors where the green transition is happening faster, showing women face more barriers to accessing these sectors. Nevertheless, it is important to note that sectors such as **Education or Health**, where female workers are more represented and are essential for the green transition, are very large sectors in terms of total employment (together they employ over 28 million workers across the cities assessed).

These findings highlight the need for policies supporting the green transition to also include targeted workforce development and just transition interventions that ensure women gain equitable access to opportunities in key green sectors, such as through projects like the city examples included in this report, together with ensuring decent

Gender workforce distribution in green employments



working conditions and support for family care activities. For example, **Bogotá** (Colombia) is leading by example through flagship projects such as training and supporting local women to become drivers in the growing municipal electric bus fleet, or as gardeners to implement some of the city's actions to expand urban green areas. **New York's** (United States) 'non-traditional employment for women programme' is supporting women in underserved communities to enter the building and construction workforce in the city.<sup>13</sup>

**Youth workers** (15-24 years old) represent roughly 16% of the total workforce.<sup>14</sup> Of this, young male workers make up about 66% of the jobs, while young female workers hold around 34%.

- The distribution of jobs amongst young male and female workers reflects the same structural gender divide observed across the broader workforce. Youth employment is heavily concentrated in major employing industries, such as **Manufacturing** (where youth account for 20% of the employment in the sector) and **Wholesale and retail trade** (17%). Together, these two sectors account for the majority of youth employment and are also often male-dominated. Other sectors that are also generally male-dominated are **Construction** and **Transport**.

- Female youth employment is dominant in social and enabling sectors, such as **Education** and **Health**. This is also the case in the Accommodation and food services.

Policies supporting the green transition must not only expand [opportunities for youth](#) in general but also specifically address the barriers preventing young women from accessing good green jobs in a broader range of sectors. For example, as a way to showcase the job opportunities in green industries and connect young individuals with sustainable career paths, the city of **Johannesburg** (South Africa) organised a Youth Green Jobs Expo in 2024 together with partners.<sup>15</sup>

**Regarding informality**, it is important to consider that, in the countries studied globally, over 60% of workers operate in the informal economy and that the share of informal employment varies greatly between regions, where for example 27% of employment is informal in Europe, the rate rises to 87% in South and West Asia. As explained in the methodology section, since this analysis mostly covers formal employment, the total number of green workers is underestimated, as there is a high number of informal green jobs, particularly in certain sectors. When looking at workers holding green jobs in the informal economy, and acknowledging there are very marked differences across regions:

- The bulk of informal green employment is concentrated in sectors such as **Construction** (87%), **Wholesale and retail trade** (71%), or Manufacturing (60%). Overall, men account for the larger share of informal workers, although women are also very present in certain industries.
- Female informal employment is concentrated in **Domestic and household services** (73% informal workers in these sectors are female, globally for the countries assessed), **Health** and social work (61%) and **Education** (60%).
- Male informal workers are dominant in high-emitting transition-relevant sectors such as **Agriculture**, **Construction**, and **Transport**.

Addressing informality in green sectors means providing fair and decent work conditions and social protection measures for workers across all sectors, in order to develop [strategies that work to extend protections and opportunities to workers in the informal economy](#), as a pathway to more stable and secure employment opportunities for all. **Quezon City** (Philippines) is leading by example through recent [legislation](#) passed, including their Executive Order on Good Green Jobs and the Ordinance on Informal Economic Development, which provide a framework for the development of programmes for workers in the informal economy in the city. **Accra** (Ghana) has also been working closely with informal waste workers, developing collaborative policy frameworks and improving their rights and working conditions.

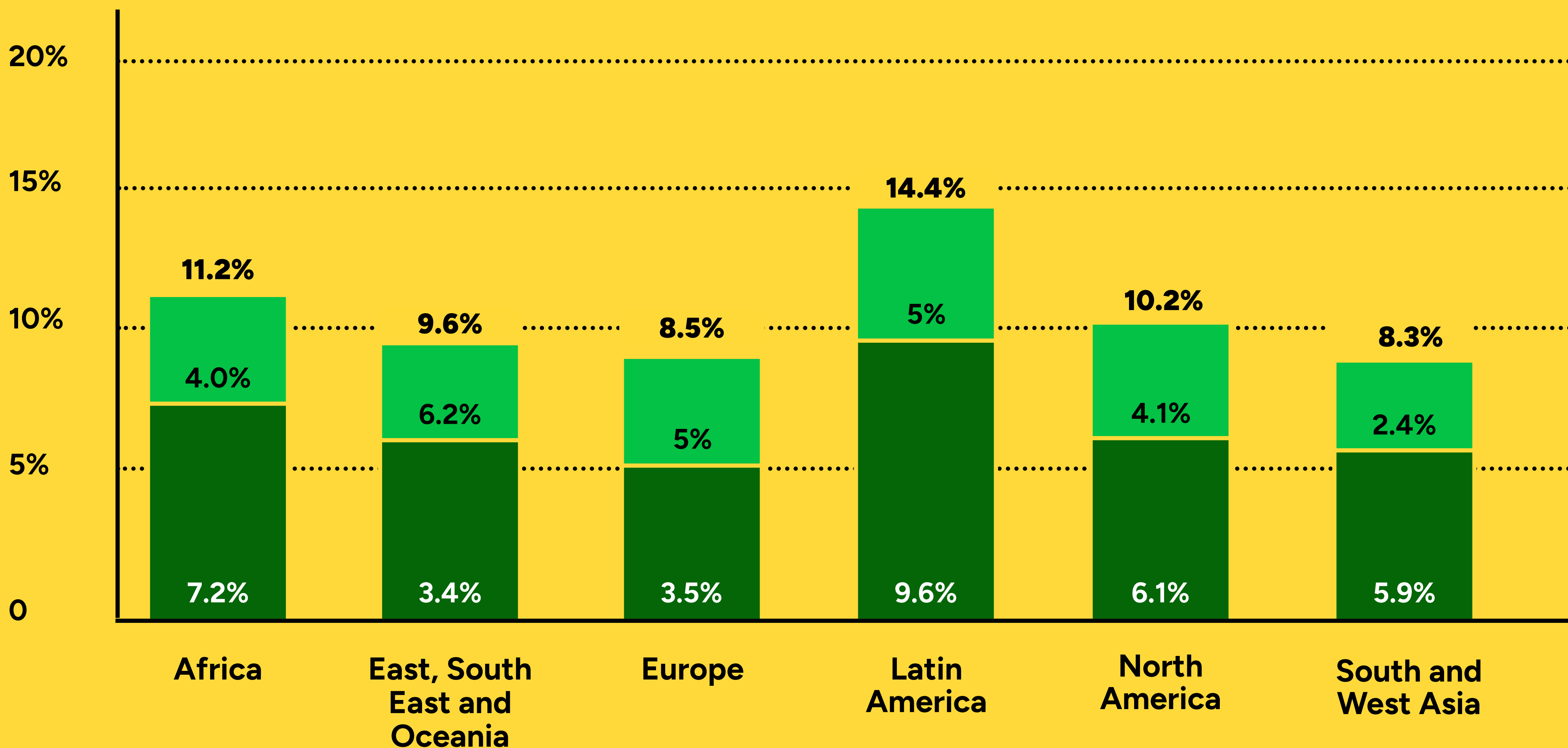


# Regional Trends



This next section will explore the distribution of green jobs in cities across regions, identifying existing patterns and providing more detail on the key sectoral trends under each region, both in concentration and absolute number of green jobs, along with pathways for further urban green job creation. This section also showcases innovative and replicable city-led initiatives that are instrumental in either directly generating or supporting green job opportunities, as examples of best practices.

## Direct and Indirect Green Jobs (Shares)



# Africa

In the 12 African cities assessed, nearly 2.6 million jobs can already be considered green, corresponding to 11.2% of the total employment assessed in these cities (nearly 23 million).<sup>16</sup> About 1.65 million jobs (7.2% of total employment) are considered **direct green**, for example in occupations within clean transportation, renewable energy, clean construction, waste collection or repair; while over 900,000 jobs are **indirect green** (4% of total employment). Indirect green jobs provide the goods and services needed to sustain direct green jobs, and are prominent in manufacturing, wholesale and retail, or education, for example.

African cities have a solid track record on delivering bold local climate action that creates good green jobs, and calling for ramped up national and international investment to accelerate the delivery, as shown, among others, in the [African Mayors Call to Action](#) in 2023. They have also shown a track record of centering inclusion and equity in climate policies, as some of the city initiatives included in this section showcase. This local and regional leadership is having a direct impact on employment, with Africa ranking among the regions with the highest shares of urban green jobs, based on the results of this study. African cities are making significant progress in implementing ambitious climate action, which is creating local job opportunities and ensuring these are accessible to everyone. Cities such as **Accra** (Ghana) have been working closely also with [informal green workers](#), developing collaborative policy frameworks for informal waste workers, improving their rights and working conditions and their recognition in the community. Informal green workers in Accra are also being supported by the city with [air quality information and health awareness](#) campaigns that equip them to better protect themselves in their working environment from the harms of air pollution.

**At the individual city level**, green jobs shares vary widely, featuring more than 20% of total employment already in some African cities. For instance, green jobs in the city of Freetown (Sierra Leone) account for **over 29%** of total employment, including in sectors such as transportation, where the city has set very clear targets in its climate action plan to make public transportation more accessible, safe and equal.<sup>17</sup> Similarly, in **Nairobi** (Kenya) green jobs make up over 27% of total employment - in sectors such as waste and water management, or transportation - showing how climate action can be both ambitious and inclusive: the city has committed to at least 51% of green jobs going to women, and is providing employment opportunities for youth, migrants, refugees and internally displaced individuals through Nairobi's CHOICE Innovation Center.<sup>18</sup>



**2.6 M**  
Green jobs  
(11.2% of all jobs)

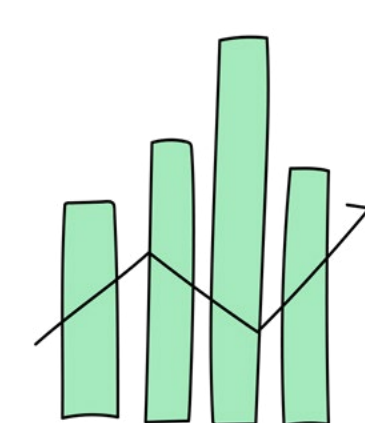


**12**  
African cities

The African cities included are: Accra, Addis Ababa, Cape Town, Dakar, Dar es Salaam, Durban, Ekurhuleni, Freetown, Johannesburg, Lagos, Nairobi, and Tshwane.

**Sectors with the highest green jobs share (over 25% of total employment) in African cities include Waste and water management** (86% green, 71,600 green jobs), **Transportation and storage** (38% green, 464,000 green jobs), **Energy** (35% green, 30,700 green jobs), and **Construction** (28% green, 367,700 green jobs). These are also sectors where African cities are already delivering high-impact actions in line with the Paris Agreement, as part of their Climate Action Plans, as illustrated in the examples in this section. Some of these sectors - such as Energy or Waste and water management - are comparatively small in terms of the total number of people employed, and while they may not translate into a large portion of green employment in absolute terms, they do drive green employment across other sectors that support them.

On the other hand, **sectors that currently feature the highest numbers of green jobs in absolute terms include Wholesale and retail trade, Transportation and storage, and Construction**, which currently provide over 1.5 million green jobs combined, across the 12 cities studied. Lastly, the **Other Services** sector, which includes activities in food and retail, and repair, for example, is another key green employing sector in absolute numbers, being 14% green currently, which translates into over 157,000 green jobs in the cities studied. Due to the size of these sectors, they have the potential to drive the creation of significant green employment through developing more sustainable supply chains, using green energy to power their operations, reducing waste, and investing in low-carbon logistics and electrification.



With respect to previous analyses<sup>19</sup>, the share of green employment in African cities showed modest growth in absolute numbers (400,000 additional green jobs), with the share of green jobs over total employment staying approximately steady. **However, in some sectors, green jobs expanded slightly faster than overall employment.** For instance, in the **Energy** (from 30% in previous analysis to 35.3%), **Waste management, water supply and sewerage** (from 84.2% to 86.3%), or **Other Services** (from 11.4% to 13.9%) sectors.

## Sectoral Highlights

### Construction

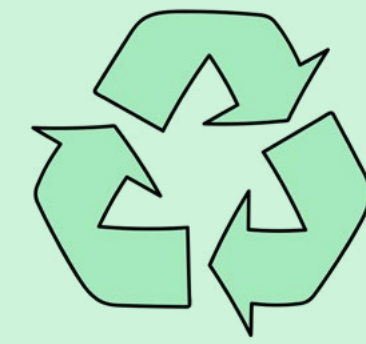


Being **28% green**, the Construction sector already features nearly **370,000 green jobs** across the 12 African cities studied.

Construction is both amongst the sectors with highest shares of green jobs and one of the largest sectors in absolute terms, employing over 1.3 million people across the cities assessed (over 5.5% of the total employment). Particularly high rates of green jobs are observed in occupations that relate to building construction, whose workforce covers residential, non-residential and commercial buildings. In one of the world's fastest urbanising regions, where the urban population is expected to double by 2050,<sup>20</sup> clean construction will be critical in ensuring that urban growth can both contribute to emissions reduction and job creation. In this respect, the increase of green building codes in the region, such as those implemented in South Africa, are key to continue ensuring a sustainable urban development and that new and existing buildings become more energy efficient. *As an example of how to maximise the impact, **Johannesburg, Cape Town and Tshwane** (South Africa), which have all adopted net-zero carbon building policies by 2030, have trained city staff working in the building departments to enforce these regulations and prepare them for further stringency in national energy efficiency and renewable energy requirements.*<sup>21</sup>



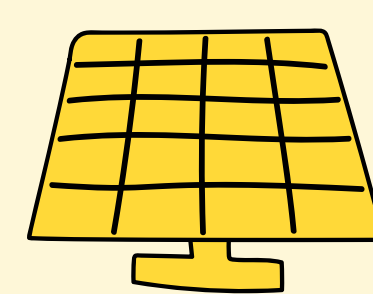
### Waste and water management



Being **86% green**, the waste sector already has over **71,600 green jobs** across the 12 African cities studied.

This includes occupations across water collection and treatment, waste collection and management and recycling or composting activities. **Dar es Salaam** (Tanzania), for example, has established five community-based composting facilities, creating green, inclusive jobs.<sup>22</sup> Despite the accelerating population growth and urban expansion putting very high pressure on existing waste management systems, African cities are working towards diverting organic waste from landfills, creating good green jobs and reducing methane emissions, whilst improving the health and safety of the communities. For example, **Johannesburg** (South Africa) aims to divert 93% of urban waste from landfills by 2040 whilst creating new green jobs and integrating informal waste workers, offering both economic empowerment and environmental benefits, and focusing also on community engagement.<sup>23</sup>

### Energy and electricity



Being **35% green**, the Energy sector already features over **30,700 green jobs** across the 12 African cities studied.

Although this sector is not one of the largest and therefore only contributes to a limited share of total employment in African cities, it exhibits a high green jobs share across the board: 35%, and growing from 30% in previous analysis. This increase in jobs can highlight the increasing availability of renewable energy for African urban residents in line with rising commitments to renewable energy targets by cities. The clean energy sector is already providing good green jobs across cities in the region, including for marginalised groups. This is the case of **Ethekwini** (South Africa) where the "Youth for Energy Transition Programme" is providing thousands of unemployed graduates with accredited Solar Photovoltaic installation training, providing practical green skills needed to meet national and local goals of advancing a low-carbon economy, reducing reliance on fossil fuels and building local capacity in the growing renewable energy sector.

Case Study

## Nairobi's school feeding programme and green jobs

Nairobi is working to foster quality green and inclusive jobs, particularly for women and youth, whilst addressing food insecurity in public schools.

Children are often the most vulnerable demographic when it comes to food insecurity, and the project provides hot, nutritious, and primarily plant-based daily meals to over 310,000 students across 230 public primary schools and early childhood centres.

The establishment of 17 'Giga Kitchens', powered by clean energy, have provided employment in food preparation, delivery and logistics, with over 2,000 roles created thus far.

The programme has enhanced student nutrition for cognitive and physical development, improved school enrolment (reportedly a 34% increase in student enrolment since the programme's inception), and created jobs that boost the local economy and provide stable income opportunities for marginalised communities.

The Dishina County School Feeding Programme offers a replicable model for advancing equity, green jobs, and intersectoral food policy through integrated infrastructure and governance innovation.



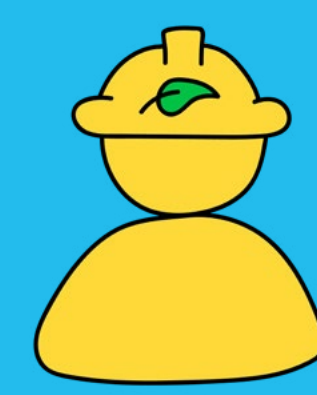
# East, Southeast Asia and Oceania

In the 12 East, Southeast Asia and Oceania cities assessed, over 4 million jobs can already be considered green, corresponding to 9.6% of the total employment assessed in these cities (42.4 million).<sup>25</sup> Over 2.6 million jobs (6.2% of total employment) are considered **direct green**, for example in occupations within clean transportation, renewable energy, clean construction, waste collection or repair; while over **1.4 million jobs are indirect green** (3.4% of total employment). Indirect green jobs are prominent in manufacturing, wholesale and retail, or education, for example. The indirect jobs critically provide the goods and services needed to sustain direct green jobs, and demonstrate how cities are driving green employment across the broader supply chain, including beyond their municipal boundaries (which can be significant and are not accounted for in this analysis).

East, Southeast Asia and Oceania cities are delivering bold and innovative local climate action that creates good green jobs, and are ensuring that these actions create opportunities for everyone. Cities such as **Quezon City** (Philippines) have been working closely with informal green workers, and institutionalising good green jobs - as shown in the case study below. **Auckland** (New Zealand) has conducted [local green and circular employment analysis](#) to better understand how the jobs in the city will change in the transition to a low carbon economy, and how Māori and Pacific peoples could be affected by these changes.

**At the individual city level**, green jobs shares vary widely, featuring more than 15% of total employment already in some cities. For instance, green jobs in the city of **Bangkok** (Thailand) account for **over 19%** of total employment, including in sectors such as transportation, where employment is currently over 50% green. Bangkok has been taking ambitious steps in recent years to expand the public metro system, electrify municipal buses and reduce traffic congestion to improve air quality and reduce emissions.<sup>26</sup> In **Quezon City** (Philippines), **Sydney** and **Melbourne** (Australia) green jobs make up **around 15%** of total employment, including in sectors such as waste and water management, and transportation, or administrative and support services activities in the case of the Australian cities.

**Sectors with the highest green jobs share** (over 25% of total employment) in East, Southeast Asia and Oceania cities include **Waste and water management** (86% green,



**4 M**  
Green jobs  
(9.6% of all jobs)

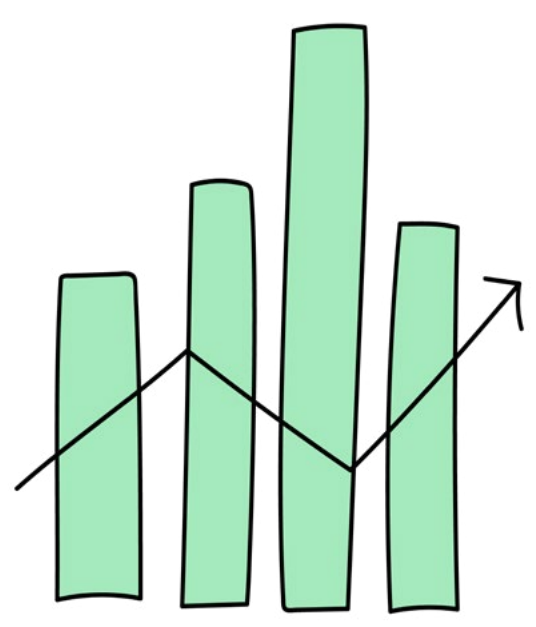


**12 cities**  
in East, Southeast Asia and Oceania

*The East, Southeast Asia and Oceania cities included are: Auckland, Bangkok, Hanoi, Ho Chi Minh City, Jakarta, Melbourne, Quezon City, Seoul, Singapore, Sydney, Tokyo, and Yokohama.<sup>24</sup>*

133,300 green jobs), and **Transportation and storage** (30% green, 804,500 green jobs), followed by **Construction** (21% green, 587,400 green jobs). These are also sectors where cities are already delivering high-impact actions in line with the Paris Agreement, as part of their Climate Action Plans, as illustrated in the examples in this section. The **Other Services** sector, which includes activities such as repair, also has a relatively important share of green jobs (19.5% green, 230,600 green jobs). The waste sector is comparatively small in terms of the total number of people employed, and while it may not translate into a large portion of green employment in absolute terms, it is key to support mitigation and health goals, and drives green employment across other sectors that support it or are influenced by it (e.g. through more stringent waste reduction or recycling targets that affect all sectors).

On the other hand, **sectors that currently feature the highest numbers of green jobs in absolute terms include Transportation and storage** (804,500 green jobs), **Wholesale and retail** (626,600 green jobs), **Construction** (587,400 green jobs), and **Manufacturing** (376,000 green jobs). These 4 sectors together currently provide nearly 2.4 million green jobs combined, across the 12 cities studied. Due to the size of these sectors, they have the potential to drive the creation of significant green employment through developing more sustainable supply chains, using green energy to power their operations, reducing waste, manufacturing components for renewable energy systems or electric vehicles locally, investing in low-carbon logistics and electrification or embedding circularity principles.



With respect to previous analyses,<sup>27</sup> green job growth was modest in the region. While green jobs **increased in absolute numbers** across most sectors; the shares of green jobs, compared to the increase of total employment, only increased slightly in some sectors such as **Construction or Manufacturing**.

## Sectoral Highlights

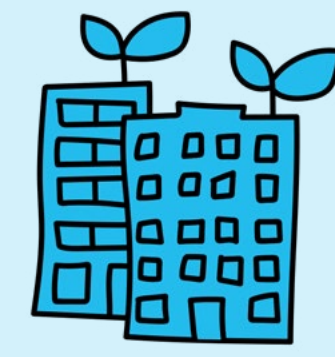
### Transportation



Being **30% green**, the transportation sector already features over **804,500 green jobs** across the 12 cities assessed.

Transportation is one of the sectors with the highest shares of green jobs and is also one of the largest sectors in absolute terms, employing over 2.6 million people across these cities (over 6% of the total employment in these cities). Mass transit (passenger transportation, including by water) accounts for over 467,000 green jobs, which is over half of the total green jobs in the sector. Given the large population of these cities, the **ongoing shift towards clean and people-focused transportation practices** that cities are already leading will continue to create hundreds of thousands of local green jobs. As an example, the city of Jakarta (Indonesia) has committed to electrifying 100% of its Transjakarta bus fleet by 2030,<sup>28</sup> supporting green employment, improving air quality, and creating safer and more equitable communities. Other practices such as expanding the public transportation and urban cycling infrastructure or implementing low emission zones will reduce emissions further, provide cleaner air for all, and transform and create more green jobs.

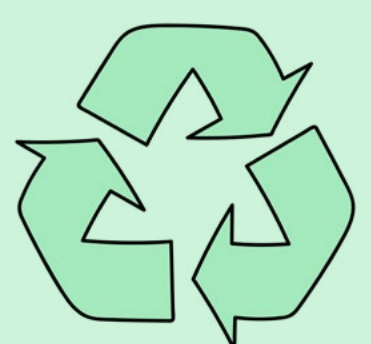
### Construction



Being **21% green**, the construction sector already features nearly **587,400 green jobs** across the 12 cities studied.

It is also one of the sectors with the highest shares of green jobs and is one of the largest sectors in absolute terms, employing over 2.7 million people across these cities (6.5% of the total employment). Most of the green jobs (20%), are considered direct green jobs, whilst indirect green jobs represent only 1.2% of total green jobs. There is significant potential for further greening the domestic supply chain and support services for the sector, which could be a significant source of green employment in the region. For example, the city of **Tokyo** (Japan) has set a vision for all its buildings to be zero-emission by 2050 and promote also adaptation measures, such as strategies to combat heat.<sup>29</sup> Building decarbonisation is a sectoral priority for C40 cities in this region, meaning that there is great potential for employment to grow further as cities continue to implement more stringent green building codes and retrofits.

### Waste and water management



Being **86% green**, the waste sector already features nearly **133,300 green jobs** across the 12 cities studied.

This includes occupations across water collection and treatment, waste collection and management and recycling or composting activities. For example, the city of **Singapore** (Singapore) set a target to reduce the amount of waste to landfill per capita by 30% by 2030. Despite urban expansion putting high pressure on existing waste management systems, ESEAO cities are working towards diverting organic waste from landfills or incineration, creating cleaner, healthier cities and circular economies and local employment.

## Case Study

## Quezon City: Good Green Jobs and the Informal Sector

Advancing its commitment to inclusive climate action, the Quezon City Government supported the organisation and capacity-building of waste workers, enabling them to transition from informal collectors to recognized resource workers. With city assistance, they formed a registered association and received training to strengthen their operations. Today, they recover recyclables and single-use plastics in exchange for income, transforming informal activity into a more stable source of livelihood.

Expanding from these efforts in the waste sector, the City Government has set its sights on the broader workforce through the promotion of Good Green Jobs (GGJs). In 2024, this commitment was institutionalised with the issuance of an Executive Order establishing the GGJ Development Program, which positions climate action and inclusive employment as mutually reinforcing priorities.

Defining and measuring GGJs remains challenging, as much of Quezon City's workforce is informal, where jobs are often invisible and workers face multiple vulnerabilities. To address this, the City undertook a consultative process to refine its local [Good Green Jobs definition](#). Under this framework, GGJs are understood as employment and livelihood opportunities that advance climate action and environmental protection while ensuring fair wages, social protection, safe working conditions, opportunities for growth, and worker cooperation.

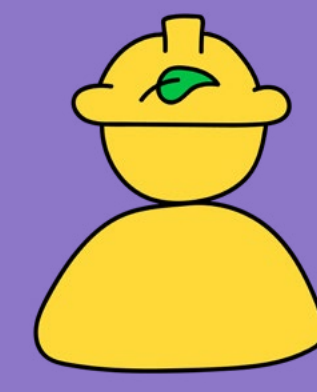
The City has since developed a [baseline of informal economic sectors](#) linked to climate action, along with a Monitoring, Evaluation, and Reporting (MER) methodology to track progress. Priority has been given to sectors with high concentrations of informal workers, including urban farming, street vending, home-based work, waste management, transport, and construction.



# North America

In the 17 North American cities assessed, 4.3 million jobs can already be considered green, corresponding to 10.2% of the total employment assessed in these cities (42.3 million).<sup>30</sup> About 2.6 million jobs (6.1% of total employment) are considered to be **direct green**, for example in occupations within the clean transportation, clean construction, renewable energy or waste collection sectors; while over **1.7 million jobs are indirect green** (4.1% of total employment). Indirect green jobs are prominent in manufacturing, wholesale and retail, or education, for example. The indirect jobs critically provide the goods and services needed to sustain direct green jobs, and demonstrate how North American urban areas are driving green employment across the broader supply chain, including beyond their municipal boundaries (which can be significant and are not accounted for in this analysis).

North American cities have been taking significant strides in implementing bold and ambitious climate action that both drives local job creation and makes these opportunities accessible for all, through inclusive and place-based workforce development efforts. Positive local progress was also made possible by a conducive policy environment at the national and federal level, both in Canada and the United States, during the timeframe of this analysis (note that data refers to 2024). **Canada's** investments in clean energy technologies and infrastructure also grew by 19% in 2024,<sup>31</sup> boosting an unprecedented clean energy surge over the last few years. To ensure that demand for clean energy projects is adequately supported by a prepared workforce, cities such as Vancouver have been fostering ambitious training programmes, with a strong equity focus, as part of its [Sustainable Workforce Coalition](#), with the aim of preparing British Columbia's workforce for a net-zero future. In the **United States**, major public investment packages passed in 2022 as part of the [Inflation Reduction Act](#), have critically boosted clean energy investment at both the state and local level, driving green employment accordingly. As the employment data included in this analysis refers to 2024, they might not reflect the impact of the federal government's policy shifts, under the new administration. Starting in 2025, the U.S. Federal government began significant roll backs on climate action and re-prioritisation of fossil fuels, putting at risk significant parts of the shift toward green jobs. For example, the administration has cancelled hundreds of clean energy projects, which has



**4.3 M**  
Green jobs  
(10.2% of all jobs)



**17 cities**  
in North  
America

The North American cities included are: Austin, Boston, Chicago, Houston, Los Angeles, Miami, Montreal, New Orleans, New York City, Philadelphia, Phoenix, Portland, San Francisco, Seattle, Toronto, Vancouver and Washington D.C.

already led to over 80,000 jobs being already lost or stalled in the clean energy sector.<sup>32,33,34</sup> Nevertheless, C40 cities across North America, and particularly in the US, remain [committed](#) to delivering ambitious climate action, in line with the Paris Agreement, building a greener economy through a just transition, and protecting residents from the worst effects of the climate crisis.

**At the individual city level**, green jobs shares remain relatively consistent across the cities studied. For instance, total green jobs in the Canadian cities of **Montréal, Vancouver and Toronto** account for **over 12%** of total employment, including in sectors such as energy or transportation, which are over 40% green on average. As an example, Montréal's climate action plan includes a target to fully electrify its bus fleet by 2040 and to achieve universal access to sustainable mobility for all<sup>35</sup>. Similarly in some U.S. cities such as **Boston**, for example, green jobs make up nearly **11%** of total employment, with sectors like construction or transportation showing already over 30% green jobs. The city has also made significant efforts to make these opportunities accessible for youth and new graduates, through initiatives like "PowerCorpsBOS", which is training Boston's young adults for jobs in the green industry. Other United States cities like **Washington DC, Philadelphia and New Orleans** also exhibit over 10.5% green jobs out of total employment.





**Sectors with the highest green jobs share** (over 25% of total employment) in North American cities include **Waste and water management** (87% green, 125,100 green jobs), **Construction** (35% green, 804,600 green jobs), or **Transportation and storage** (25% green, 523,900 green jobs). These are also sectors where North American cities are already delivering high-impact actions in line with the Paris Agreement, as part of their Climate Action Plans. Some of these sectors - such as Energy or Waste and water management - are comparatively small in terms of the total number of people employed, and while they may not translate into a large portion of green employment in absolute terms, they are key in the transition and also drive green employment across other sectors that support them or are influenced by them (e.g. more ambitious clean energy targets in the city can influence all sectors). It is also important to note that the Energy sector has the potential to grow more significantly in cities as it becomes greener, since more green energy jobs will be located in cities (e.g. installing solar panels or in the implementation of energy efficiency measures in buildings) compared to fossil fuel-related jobs that often happen outside the cities.

On the other hand, **sectors that currently feature higher numbers of green jobs in absolute terms** include **Construction, Wholesale and retail trade,** and **Transportation and storage,** which currently provide nearly 2 million green jobs combined, across the 17 cities studied. Sectors that are also very large and which are not expanded below include **Wholesale and retail trade, or Professional, scientific and technical activities,** which employ over 6 and 3.5 million people respectively. These two sectors are 10% and 15% green respectively, leading to over 1 million green jobs together in the cities studied. Due to the size of these sectors, they have the potential to drive the creation of significant green employment, for example through developing more sustainable supply chains, using green energy to power their operations, reducing waste, and investing in low-carbon logistics and electrification.

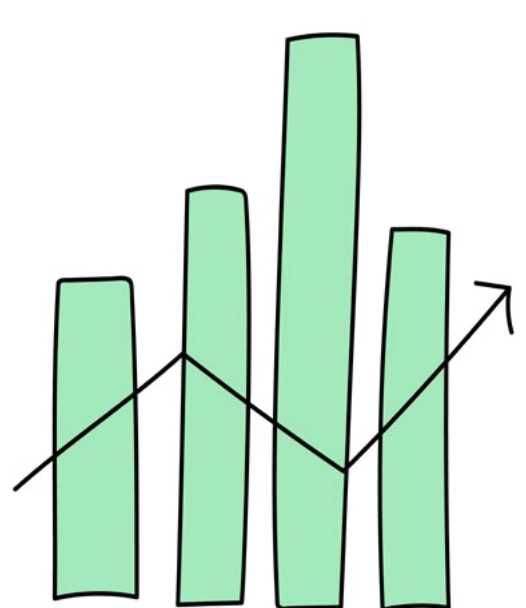
## Sectoral Highlights

### Construction



Being **35% green**, the Construction sector already features over **804,600 green jobs** across the 17 North American cities studied.

Construction is one of the sectors with the highest shares of green jobs and one of the largest sectors in absolute terms, employing over 2.3 million workers across the board (around 5% of the total employment). Particularly high rates of green jobs are observed in occupations that relate to building construction, whose workforce covers residential and non-residential buildings (respectively 47% and 53% green). This pattern may also be a reflection of positive actions taken at the local level to adapt infrastructure across North American cities through sustainability standards and energy-efficient building practices, including through retrofits, which have risen in the industry. Previous [C40 analysis](#) showed how green jobs in this sector are varied and range from architects and designers specialised in energy-efficient buildings, electricians, technicians for smart energy systems, insulation specialists, carpenters, and more. In the context of growing skills and labour gaps identified in the clean construction sector, especially in the U.S., C40 cities are accelerating [efforts to prepare the workforce needed to fill these jobs](#). **Seattle** (United States), through its Climate Workforce initiatives, has created many green jobs and inclusive training opportunities in construction. The construction sector also includes infrastructure for adaptation and resilience, which is critical to protect cities against the increasing impacts of extreme weather.



*With respect to previous C40 analyses<sup>36</sup>, the volume of green jobs in C40 North American cities has broadly increased at the same pace as the overall job growth, with some sectors showing small improvements. For example, in the **Energy** (from 22.5% green jobs in previous analysis to 24%) or **Transport** (from 23.9% to 24.7%) sectors, which have grown slightly faster than overall employment.*

## Transportation



Being nearly **25% green**, the Transportation and storage sector already has nearly **524,000 green jobs** across the 17 North American cities studied.

As one of the largest employing sectors (it employs 2.1 million workers across the cities assessed, representing nearly 5% of the total employment), it provides great potential for further transformation toward green practices and production. As of 2023, the automotive industry in North America had expanded with the growth of EVs in all car sales. However, the sector is also projected to sharply decline, due to federal tax incentives being rolled back.

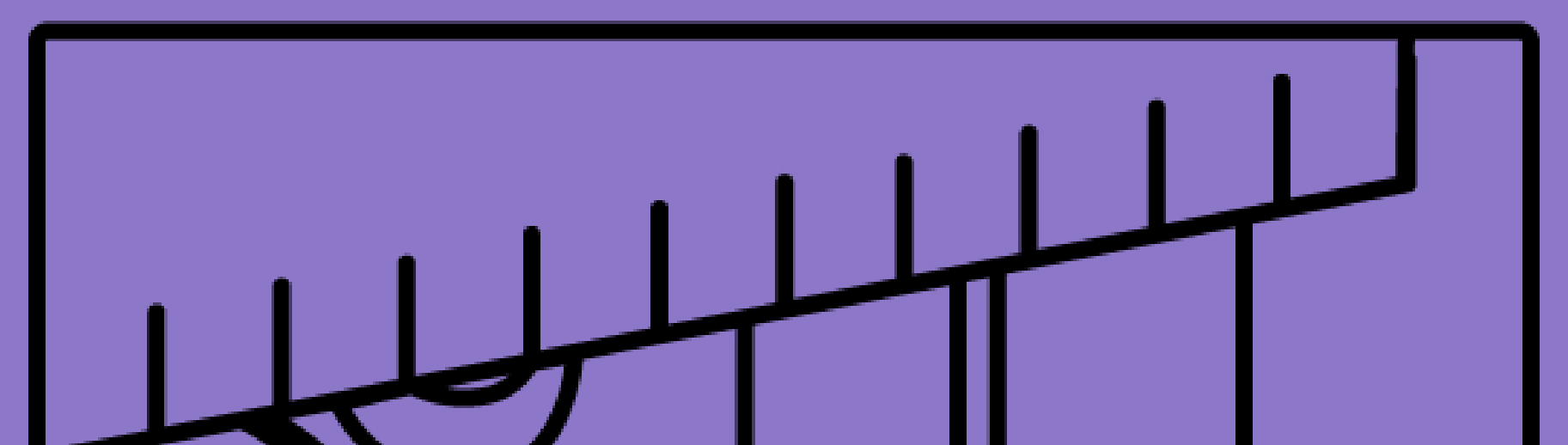
**Mass transit sectors account for more than 160,000 green jobs** across the cities assessed. Other transport sub-sectors that have a large number of jobs in the region, (such as truck transportation, or freight transport by road, which employ over 309,000 and 120,000 people in total, respectively), have between 14-26% of green employment. This shows how continuing the shift towards more [environmentally friendly and people-focused](#) transportation practices has the potential to drive the creation or transition of hundreds of thousands of green jobs. As an example, **Toronto** (Canada) shows a higher than average share of green jobs in transport compared with the regional average. The city has the potential to further grow green jobs in this sector, due to the ambitious targets in its TransformTO Net Zero Strategy for 2030, such as to have 30% of registered vehicles in the city electric, and to have 75% of school/work commutes under 5 km achieved by walking, cycling or by public transportation. Other practices such as electrifying trucks and freight, expanding urban cycling infrastructure, implementing low emission zones, and increasing public transit could result in the transformation and/or creation of green jobs in the sector, on top of other additional benefits such as decreasing emissions and cleaner air.

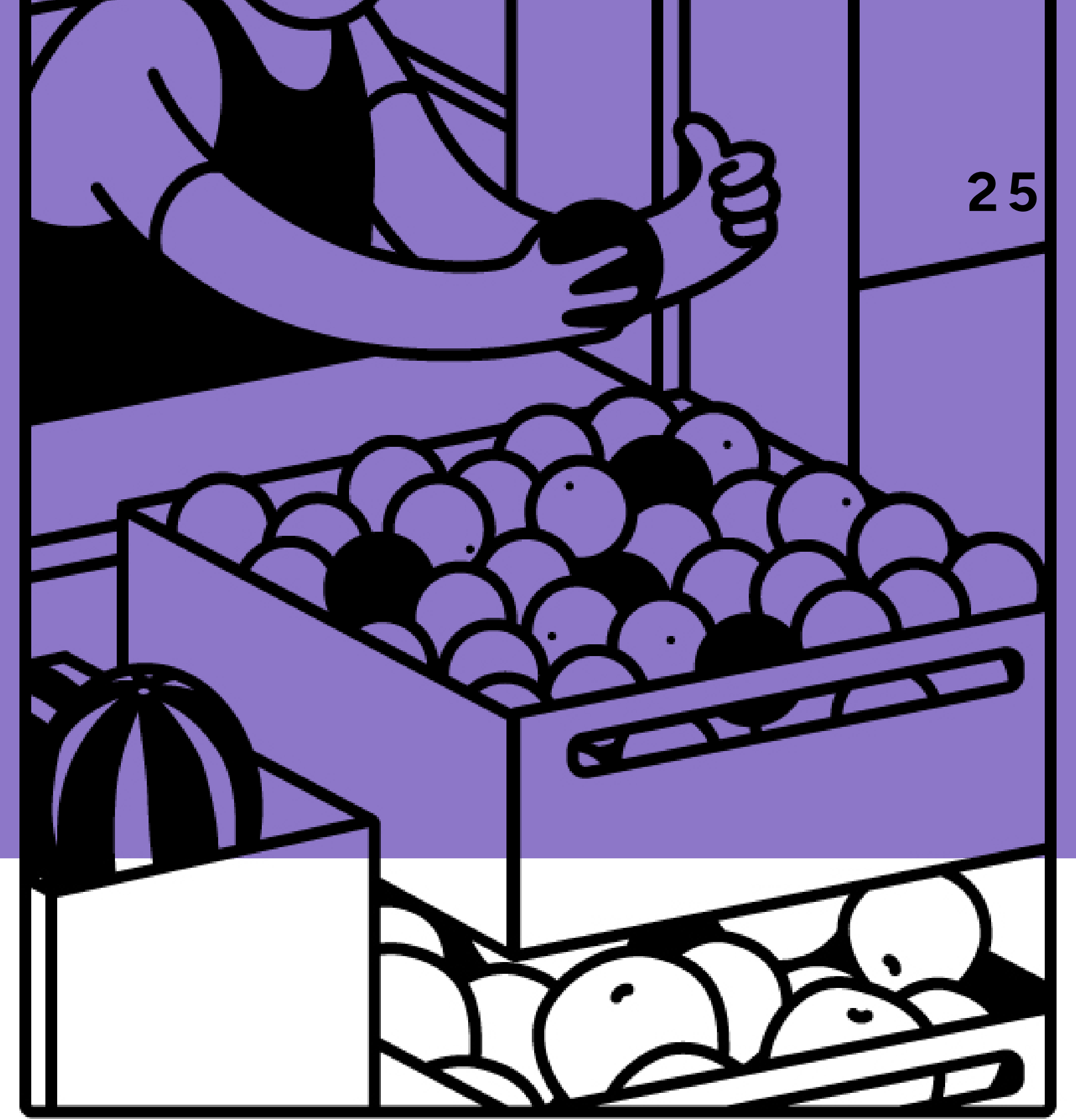
## Energy and Electricity



Being nearly **24% green**, the Energy sector already features **38,400 green jobs** across the 17 North American cities studied.

Although this sector is not one of the largest sectors in urban areas and therefore only contributes to a limited share of total employment in North American cities, the share of green jobs has grown in recent years. In the electric power generation, transmission and distribution sub-sector, green jobs are growing at a slightly faster rate than the overall employment in the energy sector (14.9% growth versus 9.3% growth for the sector overall). Rising commitments on renewable targets by cities, along with urban clean energy projects, including solar fields such as **Houston's** Sunnyside Solar Farm Project,<sup>37</sup> or through the increase in rooftop solar projects, can further drive local green employment on both the construction and maintenance of the sites. On the other hand, the share of green jobs in sectors related to the manufacturing of renewable energy infrastructure, such as engine, turbine, or power transmission equipment in cities is still not as high, presenting an opportunity to foster growth and transformation in local manufacturing sectors. This also includes jobs that previously built, replaced, or maintained oil and/or gas transmission lines and that could transition to green jobs instead, building out the transmission grid capacity for renewables,<sup>38</sup> enhancing the distribution of clean energy. As an example, **Los Angeles** (United States), presents a great example of a successful [Just Transition Task Force](#) and strategy to greener energy sources and jobs, informed by direct dialogues and engagement with oil workers.



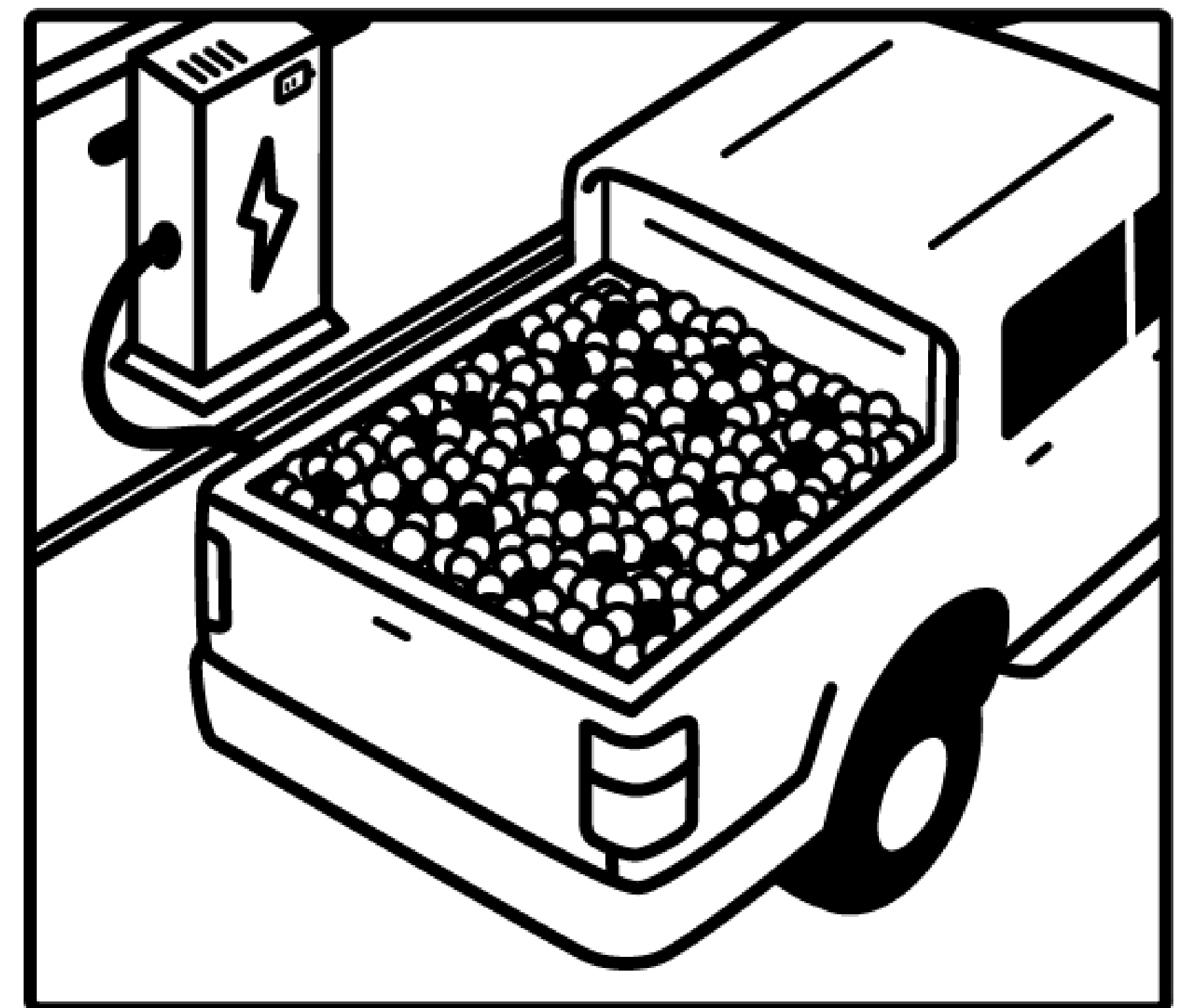


## Case Study

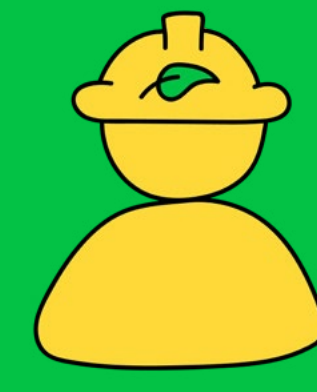
# Philadelphia - Plug in Philly

The city of Philadelphia is rapidly adopting electrification in transportation, which is creating a high demand for a workforce that can support the electric vehicle (EV) charging infrastructure, grid development, and maintenance. To support electrification, the city has launched a pre-apprenticeship project that will equip 45 city residents with access to good-paying jobs in the workforce. Created in partnership with businesses, local organisations, and unions, the project aims to reduce barriers to accessing green, good-quality jobs in this growing and well-paid sector. The project targeted participants of the training to include women and BIPOC individuals.

To better understand its needs, the city first conducted a workforce assessment for the EV sector and identified existing workforce gaps in the sector, looking at distribution of jobs across gender and race groups. The programme was created to meet the demand for jobs and to ensure that workers' needs are met at the same time. The comprehensive programme includes hands-on training and mentorship, combined with support services such as training stipends, childcare, transportation, and career coaching. The city is also committed to helping the participants access pathways to permanent, full-time employment in the EV industry. Ultimately, the project will increase and diversify the workforce needed to make a regional EV charging station network possible, ensuring that the workforce is well equipped for the transition.



# Latin America



**5 M**  
Green jobs  
(14.4% of all jobs)



**13 cities**  
in Latin  
America

*The Latin American cities included are: Bogotá, Buenos Aires, Curitiba, Fortaleza, Guadalajara, Lima, Medellín, Mexico City, Quito, Rio de Janeiro, Salvador, Santiago, and São Paulo*

**In the 13 Latin American cities assessed, 5 million jobs can already be considered green, corresponding to 14.4% of the total employment assessed in these cities** (over 34 million).<sup>39</sup> **Latin America is currently the region with the highest overall share of green jobs**, based on the results of this study. About **3.3 million jobs** (9.6% of total employment) are considered **direct green**, for example in occupations within clean transportation, renewable energy, clean construction or waste collection sectors; while nearly **1.7 million jobs are indirect green** (4.9% of total employment). Indirect green jobs are prominent in manufacturing, wholesale and retail, or education, for example. The indirect jobs critically provide the goods and services needed to sustain direct green jobs, and demonstrate how urban areas are driving green employment across the broader supply chain, including beyond their municipal boundaries (which can be significant and are not accounted for in this analysis).

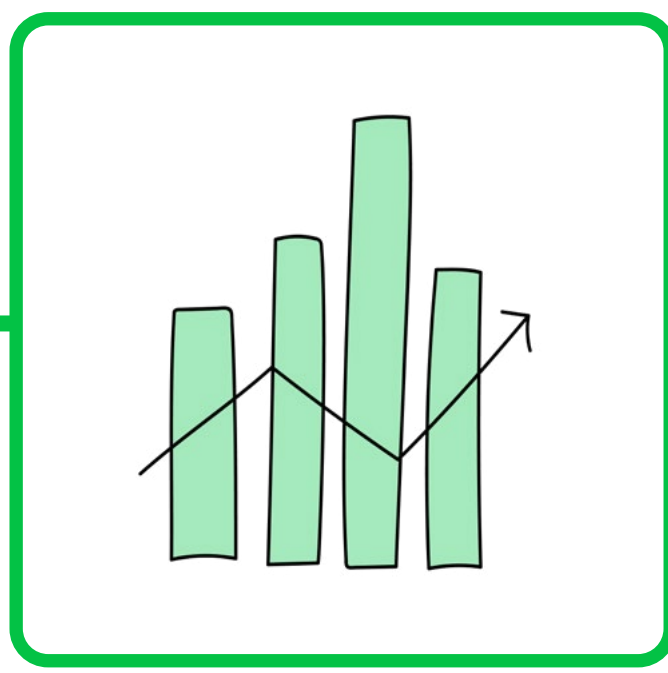
Latin American cities are implementing bold local climate action that creates good green jobs, and ensures the opportunities are inclusive, accessible and benefit disadvantaged communities, through targeted **workforce development programmes**. Cities such as **Bogotá** (Colombia) have been implementing flagship projects that generate good green jobs for women in vulnerable situations. These projects include training and supporting over 300 local women to be the drivers of the growing municipal electric bus fleet, or training women as well as gardeners to implement some of the city's actions to expand urban green areas, thereby supporting the city's goals of both mitigation and adaptation. **Salvador** (Brazil) is also empowering unemployed people and women in the city's growing solar industry through their Salvador Solar programme. With 82% of the population residing in urban areas<sup>40</sup>, Latin America is one of the most urbanised regions. This can translate into a strong and growing demand for green skills in the rapidly expanding green economy<sup>41</sup>, which cities are leveraging through these kinds of actions.

**At the individual city level**, green jobs shares vary widely, featuring more than 20% of total employment already in some Latin American cities. For instance, green jobs in the city of **Bogotá** (Colombia) account for **over 22%** of total employment, including in sectors such as transportation, where the city is rapidly transitioning its public transport and government fleets to electric vehicles, whilst improving equity and inclusivity. Similarly, in **Salvador** (Brazil), **Lima** (Peru) or **Quito** (Ecuador) green jobs already make up **over 21%** of total employment, with sectors such as waste and water management, transportation, or energy being over 40% green already in the three cities.

**Sectors with the highest green jobs share** (over 25% of total employment) in Latin American cities include **Waste and water management** (90% green,<sup>42</sup> 243,000 green jobs), **Energy** (over 60% green, 57,000 green jobs), **Transportation and storage** (47% green, over 1.1 million green jobs). These are sectors where Latin American cities are already delivering high-impact actions in line with the Paris Agreement, as part of their Climate Action Plans, as illustrated in the examples in this section. Some of these sectors - such as Energy or Waste and water management - are comparatively small in terms of the total number of people employed, and while they may not translate into a large portion of green employment in absolute terms, they are key in the transition and also drive green employment across other sectors that support them or are influenced by them (e.g. more ambitious clean energy targets in the city can influence all sectors). The **Other Service activities** sector, which includes activities such as repair, is also a large sector in the region and makes a notable contribution, with 29.6% of jobs classified as green.

On the other hand, **sectors that currently feature the highest numbers of green jobs in absolute terms** include **Transportation and storage** (over 1.1 million green jobs), which is expanding as indicated below, **Wholesale and retail trade** (860,000 green jobs, despite being only 12%

green) or **Manufacturing** (nearly 300,000 green jobs, being 9% green). Due to the size of the Wholesale and retail and Manufacturing sectors, which together employ over 10 million people across the 13 cities assessed, they have the potential to drive the creation of significant green employment through developing more sustainable supply chains, using green energy to power their operations, reducing waste, investing in low-carbon logistics and electrification, or incorporating more recycled or circular materials into production - practices that can be influenced by local climate policies. These practices would translate into more jobs such as electric truck drivers, manufacturers of pieces for renewable energy, waste management workers within factories, amongst others.



With respect to previous analyses<sup>43</sup>, **green jobs in Latin America have grown** both in absolute numbers and in the share of green employment.

Large sectors showed small but steady gains - such as **Transport** (from 45.5% in previous analysis to 47.3%), **Wholesale/retail** (from 11.5% to 12.3%), **Manufacturing** (from 8.9% to 9.3%)

## Sectoral Highlights

### Transportation



Being nearly **47% green**, the transportation sector already features over **1.1 million green jobs** across the 13 cities assessed

Transportation in Latin American cities stands out as it combines both a high share of green jobs and a large workforce, employing over 2.3 million people across these cities (nearly 7% of the total employment in these cities). The leadership in clean transportation in Latin American cities, through initiatives such as [C40's Zero Emission Bus Rapid-deployment Accelerator Partnership](#),<sup>44</sup> which is accelerating the deployment of zero emission buses, is paying off - not only providing already over 1 million green jobs in the sector across member cities, but also through other benefits that these actions bring for the population, such as cleaner air. For instance, **Quito** (Ecuador) aims to eliminate all fossil-fuel vehicles from public transportation by 2030. The trolleybus network is one of the most used transportation means in the city, and the city is moving to a 100% electric fleet whilst upskilling drivers and mechanics for them. Mass transit alone (passenger transportation) accounts for more than 800,000 green jobs across these cities. Other transport sub-sectors that have a very large number of jobs in the region, such as freight transport (either by road, rail or water), which employ nearly 85,000 people, have around 20% of green employment. This shows how continuing the shift towards more [environmentally friendly and people-focused transportation practices](#) has the potential to drive the creation or transition of hundreds of thousands additional green jobs.<sup>45</sup>



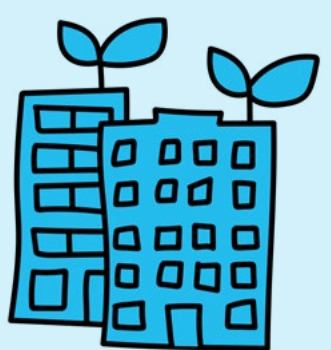
## Energy and Electricity



Being nearly **60% green**, the Energy sector includes **57,000 green jobs** already across the cities assessed.

Although it is not one of the largest sectors, it has a very high rate of green jobs in the region, related to hydropower and complemented by expanding wind and solar sectors across countries in the region. Cities across Latin America are taking accelerated action to cut demand for fossil fuels and lead a just transition to clean and affordable energy. Rio de Janeiro (Brazil) is purchasing 100% renewable energy for their municipal buildings from the free market for their municipal buildings. Curitiba's (Brazil) Solar Pyramid, is the first solar plant to be built on a former landfill in Latin America, which is also incorporating gender-specific measures to enable greater gender inclusivity in the planning and implementation stages of the project.<sup>46</sup>

## Construction



Being **15% green**, the Construction sector already features over **316,400 green jobs** across the cities assessed.

As one of the largest employment sectors, with over 2 million people employed across the cities included, it has great potential to drive the creation of thousands of green jobs. Research carried out for cities such as **Mexico City** (Mexico) or **Bogotá** (Colombia) also shows that adopting [clean construction practices will generate more jobs](#) than continuing with high-carbon construction.<sup>47</sup> For example, clean construction in Mexico City is projected to create more than 1.1 million job years<sup>48</sup> by 2050, nearly tripling current levels, primarily through building maintenance and retrofitting. In one of the world's **most urbanised regions**, where 82% of the population lives in urban areas, clean construction will be critical in ensuring that urban growth can contribute to emissions reduction, decent green job creation, and improve equity and inclusion through workforce development practices.<sup>49</sup> By way of example, the city of **Salvador** (Brazil) is offering qualification and job placement opportunities for women in occupations in the civil construction sector, traditionally male-dominated, such as electricians, painters, and plumbers, working in partnership with industry and the private sector.<sup>50</sup>

## Case Study

# São Paulo's Sampa+Rural Program

The [SAMPA+RURAL program](#) is central to the City Hall of São Paulo's wider initiatives aimed at preserving its green spaces and watersheds, fostering urban agriculture, and boosting sustainable economic development. Launched in 2022 and coordinated by the Municipal Secretariat of Economic Development and Labor, the program already includes the identification of more than 4,100 initiatives in agriculture, ecotourism and healthy food systems in the city. Each of these locations is mapped and published on a collaborative platform.

Through an integrated vision of the production value chain, the Sampa+Rural program directly supports more than 400 urban gardens and small farmers on a continuous basis with resources like technical assistance and rural extension, marketing and document formalization support, demonstrative distribution of bioinputs, training, and free use of agricultural machinery. By supporting and championing local production through sustainable and regenerative practices, the city of São Paulo is increasing the awareness and recognition of the role of local agriculture in food production, food security, employment and income generation, environmental sustainability, and climate change mitigation. This innovative approach is supporting both local green jobs and good food systems in the community, and creating a more resilient, equitable, and sustainable São Paulo.

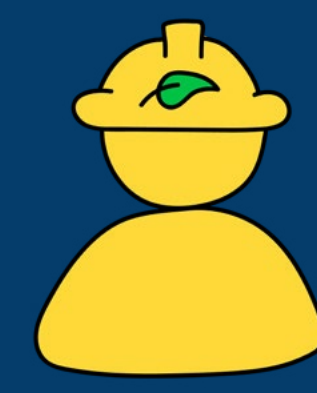


# Europe

In the 18 European cities assessed, 2.8 million jobs can already be considered green, corresponding to 8.5% of the total employment in these cities (33 million jobs).<sup>51</sup> Nearly 1.7 million jobs (5% of total employment) are considered **direct green**, for example in occupations in clean transportation, renewable energy, clean construction, or waste collection; while over 1.1 million jobs are **indirect green** (3.5% of total employment). Indirect green jobs are prominent in manufacturing, wholesale and retail, or education, for example. The indirect jobs critically provide the goods and services needed to sustain direct green jobs, and demonstrate how urban areas are driving green employment across the broader supply chain, including beyond their municipal boundaries (which can be significant and are not accounted for in this analysis).

European cities are making significant strides in implementing ambitious climate actions that not only advance climate and social objectives but also stimulate local job creation, and ensure these opportunities are accessible to everyone through integrating workforce development and training into their climate action projects. For example, a collaboration between the city and port of Rotterdam (The Netherlands), one of Europe's largest ports, is driving a green transition to low-carbon fuels through innovation, workforce development on green jobs and collaboration between all stakeholders.<sup>52</sup> **Madrid's** (Spain) TándEM project presented below is another example of skills development and labour inclusion. Cities are vital in implementing the [European Green Deal](#) and achieving the goals of the [Clean Industrial Deal](#), which aims to leverage decarbonisation as a catalyst for growth in European industries towards climate neutrality for the European Union by 2050 and in alignment with the Paris Agreement.<sup>53</sup> This local and regional leadership is having a direct impact on employment. By implementing a range of legally binding targets and regulatory actions, it is driving green investments across crucial sectors such as renewable energy (solar and wind), energy-efficient buildings, and sustainable transportation.

**At the individual city level**, green jobs shares vary widely. Cities with a share of total green jobs between 10-15% include **Oslo, Stockholm, Warsaw, Athens, Lisbon, London or Copenhagen**. For instance, green jobs in **Oslo** (Norway) account for **15%** of total employment, including in sectors such as energy and electricity or transportation. These



**2.8 M**  
Green jobs  
(8.5% of all jobs)



**18**  
European  
Cities

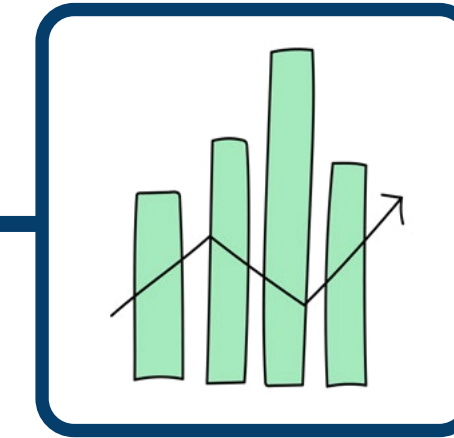
The European cities included are: Amsterdam, Athens, Barcelona, Berlin, Copenhagen, Heidelberg, Istanbul, Lisbon, London, Madrid, Milan, Oslo, Paris, Rome, Rotterdam, Stockholm, Tel-Aviv Yafo, and Warsaw

sectors are impacted by Oslo's [procurement strategy](#) which requires all municipal projects to use, where possible, zero-emissions or electric technology for all vehicles and construction machinery. **Warsaw** (Poland) with over **12% green jobs** out of total employment, is implementing initiatives including [tackling energy poverty](#) by retrofitting low-income housing and replacing coal stoves with more sustainable alternatives, ensuring the climate transition benefits vulnerable groups.

**Sectors with the highest green jobs share** (over 25% of total employment) in European cities include **Waste and water management** (56% green, nearly 120,000 green jobs), **Energy** (26% green, 39,000 green jobs), followed by **Construction** (over 18% green, nearly 340,000 green jobs). These are sectors where European cities are already delivering high-impact actions in line with the Paris Agreement, as part of their Climate Action Plans, as illustrated in the examples in this section. Some of these sectors - such as Energy or Waste and water management - are comparatively small in terms of the total number of people employed, and while they may not translate into a large portion of green employment in absolute terms, they are key in the transition and also drive green employment across other sectors that support them or are influenced by them (e.g. more ambitious clean energy or waste recycling targets in the city can influence all sectors). It is also important to note that the Energy sector has the potential to grow more significantly in cities as it becomes greener, since more green energy jobs will be located in cities (e.g. installing solar panels or in the implementation of energy efficiency measures in buildings) compared to fossil fuel-related jobs that are less often located within the cities.

**On the other hand, sectors that currently feature the highest numbers of green jobs in absolute terms** include **Construction** (nearly 340,000 green jobs) or **Transportation** (nearly 224,000 green jobs). Other outstanding green sectors in absolute numbers include

**Wholesale and retail trade** (nearly 335,000 green jobs), **Manufacturing** (314,000 green jobs) or **Professional, scientific and technical activities** (264,000 green jobs). These last three sectors employ over 11 million people together across the European cities included. Their share of green jobs is currently between 7-10%, but due to the size of these sectors, they have the potential to drive the creation of very significant green employment, for example through developing more sustainable supply chains, using green energy to power their operations, reducing waste, and investing in low-carbon logistics and electrification.

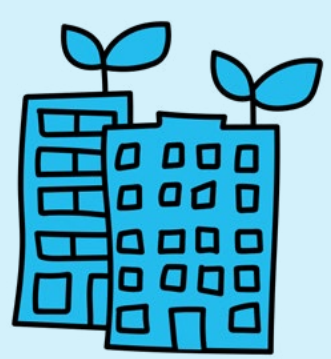


*With respect to previous C40 analyses,<sup>54</sup> green jobs in C40 European cities have grown by 9%, which is slightly faster than the overall growth in employment (7%).*

*In terms of sectoral green jobs shares, with respect to previous C40 analyses, they remained stable overall, with the exception of some sectors that show small improvements - such as **Construction** (from 17.5% green jobs in previous analysis to 18.4%) or **Energy** (from 25.6% to 26.2%)*

## Sectoral Highlights

### Construction



Being **18% green**, the Construction sector already features over **340,000 green jobs** across the 18 European cities studied.

It is one of the sectors with the highest shares of green jobs and is also one of the largest green sectors in absolute terms. It employs over 1.8 million people in total across the cities assessed, which is 5.5% of the total employment. Particularly high rates of green jobs are observed in occupations that relate to the construction of residential and non-residential buildings or 'site preparation', which are both over 35% green. This could be linked to the slow but steady increase in the adoption of green practices in the sector, which range from sourcing green materials, retrofitting or adopting green standards and certificates. There are ample green employment opportunities in the built environment's energy efficiency system through building renovations, insulation and technologies such as heat pump installations and pipe insulation.<sup>55</sup> Research carried out for cities such as **London** (United Kingdom), **Madrid** (Spain) or **Oslo** (Norway) also shows that adopting clean construction will often generate more jobs than continuing with high-carbon construction whilst bringing social benefits (see case study below).<sup>56</sup> C40 mayors are also ensuring that the transition addresses other pressing social and equity issues, for example, housing affordability, and the cities of **Barcelona** (Spain), **Paris** (France) or **Rome** (Italy) are leading initiatives such as 'Mayors for Housing'. European cities are showing how cities can accelerate retrofits in an inclusive and fair way while tackling the housing affordability crisis.

### Transportation



Being nearly **13% green**, the transportation sector already features over **224,000** across the 18 European cities studied.

As a large sector (it employs over 1.6 million workers across the cities assessed, representing nearly 5% of the total employment), it provides great potential for further transformation. Europe has paved the way for decarbonising transportation, and putting an increasingly high focus on zero emissions transport and **clean air zones** in cities. Cities such as **London** (United Kingdom) show that the expanded **Low Emissions Zone** is working, with the city's air quality continuing to improve at a faster rate than the rest of England and pollutant emissions reducing dramatically. **Milan** (Italy) is also promoting a set of initiatives that fosters active and zero-emissions mobility - travelling on foot, by public transport, by bike, or by car-sharing - and strengthens car restrictions, improving air quality and people's health.<sup>57</sup> This type of low emission and sustainable mobility urban policies are driving direct and indirect employment, as they lead to more investments in clean and public transportation and shared mobility, contributing to the green economy growth, reshaping labour markets and creating green jobs in sectors such as electric vehicles (manufacturing and maintenance), energy efficiency and others.

## Energy and Electricity



Being nearly **26% green**, the Energy sector includes **39,000 green jobs** already across the cities assessed.

Although this sector is not one of the largest in cities and only contributes to a limited share of total green employment, it shows a high green jobs share across the board, and seems to present a small but steady growth from previous analysis. There is an increasing availability of and demand for renewable energy for European urban residents, and the rising commitments to renewable energy targets by cities along with urban clean energy projects such as the increase in rooftop solar projects, can further drive local green employment during the construction and maintenance of these projects. For example, cities such as **Copenhagen** (Denmark), **Lisbon** (Portugal), **Paris** (France) or **London** (United Kingdom) have committed to using 100% renewable electricity citywide by 2035.<sup>58</sup>

### Case Study

## Europe's VISIBLE project

The [VISIBLE project](#) is a collaborative initiative between European cities to decarbonise their built environments in a way that is both socially just and economically viable. The project situates collaborative action at its heart, bringing together city leaders and officials with workers unions, housing providers, construction industry actors, asset managers and development stakeholders to explore how social equity and inclusion can be embedded into building decarbonisation.

Through workshops and learning sessions, best practice and experience is shared for inclusive upskilling and workforce development, affordable and sustainable housing, city-business collaboration for market development, and the strategic use of public procurement for social and climate goals.

In the project's first phase the cities of London, Madrid and Oslo shared learnings from a range of pilot projects, these included:

- **London's** pilot initiatives were to integrate social equity into the implementation of the city's Whole Life-Cycle



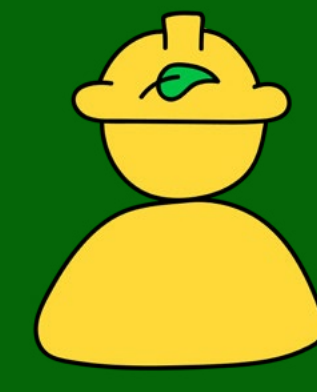
Carbon Policy; and to run a six month design lab with construction businesses to increase minority ethnic workforce representation and to support long-term careers in the green economy.

- **Madrid's** pilots included two innovative municipal buildings - a district library / community centre and a 52-unit social housing block made with industrialised timber structures, as well as an inclusive training programme on sustainable retrofit skills for unemployed youth and migrants.

- **Oslo's** pilot was a deep renovation of a historic multi-use community centre and kindergarten with a wholly emission-free site and extensive reuse of construction materials. Oslo also explored the links between its socially responsible procurement model and standard environmental criteria.

Owing to the success of the first phase, the project is now preparing for its second phase which will continue the work with London, Madrid and introduce the city of Warsaw along with a wider cohort of European cities.

# South & West Asia



**2.3 M**  
Green jobs  
(8.3% of all jobs)



**9 cities**  
in South and  
West Asia

*The South and West Asia cities included are: Ahmedabad, Amman, Bengaluru, Chennai, Delhi, Dhaka, Dubai, Karachi and Mumbai.*

**In the 9 South & West Asia cities assessed, 2.3 million jobs can already be considered green, corresponding to 8.3% of the total employment assessed in these cities** (nearly 28 million).<sup>59</sup> Over **1.6 million jobs** (5.9% of total employment) are considered direct green, for example in occupations in clean transportation, renewable energy, clean construction, waste collection or repair; while over **670,000 jobs are indirect green** (2.4% of total employment). Indirect green jobs are prominent in manufacturing, wholesale and retail, or education, for example. The indirect jobs critically provide the goods and services needed to sustain direct green jobs, and demonstrate how urban areas are driving green employment across the broader supply chain, including beyond their municipal boundaries (which can be significant and are not accounted for in this analysis).

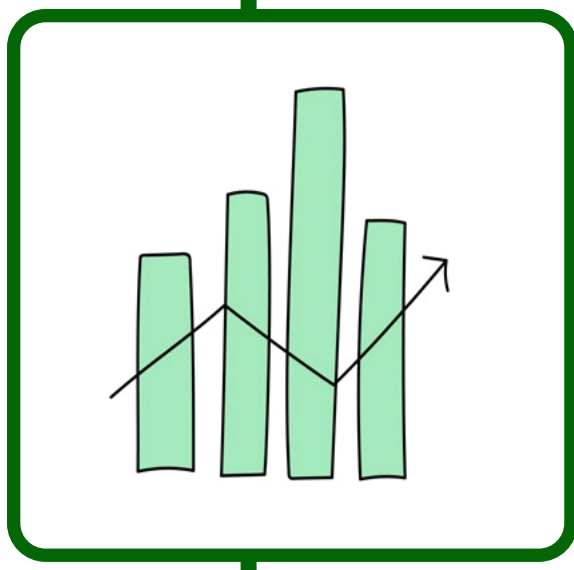
South & West Asia cities are delivering bold and innovative local climate action that creates good green jobs, ensuring that these actions are inclusive and create opportunities for everyone. By way of example, one notable area is the work being carried out with informal waste workers to improve their livelihoods and working conditions, such as in the cities of **Bengaluru** (India) or **Amman** (Jordan), as detailed below. Cities in this region are also investing in **adaptation and resilience** measures. This is the case in cities such as **Dhaka** (Bangladesh) where urban growth and water risks are being tackled through initiatives such as [increasing rainwater harvesting and green spaces](#) by 70% under its 'Zero-soil' initiative. This initiative includes the planting of 200,000 trees with the aim of improving flood resilience, reduce emissions, and create green areas for residents; and is hiring local gardeners for this purpose

**At the individual city level**, green jobs shares vary widely. For instance, green jobs in the city of **Karachi** (Pakistan) account for **over 14%** of total employment, or **Dhaka** (Bangladesh) with 11% of green employment already. In both cities, the number of green jobs is very high, over 60% green already, in sectors such as transportation or waste

management. Karachi, for instance, has set clear targets in their climate action plan on waste and wastewater management which will also increase urban flood resilience and protect communities.<sup>60</sup>

**Sectors with the highest green jobs share** in South & West Asia cities include **Waste management, water supply and sewerage** (over 90% green, 58,400 green jobs) and **Transportation** (39% green, 670,000 green jobs). These are also sectors where South & West Asia cities are already delivering high-impact actions in line with the Paris Agreement, as part of their Climate Action Plans, as illustrated in the examples in this section. The waste sector is comparatively small in terms of the total number of people employed, and while it may not translate into a large portion of green employment in absolute terms, it is key to support mitigation and health goals, and drives green employment across other sectors that support it or are influenced by it (e.g. through more stringent waste reduction or recycling targets that affect all sectors). The **Other service activities** sector is also over **30% green** (204,000 green jobs) showing a high penetration of green jobs through repair activities in this sector.

On the other hand, **sectors that currently feature the highest numbers of green jobs in absolute terms** include **Transportation and storage** (670,000 green jobs), **Construction** (nearly 373,000 green jobs), **Wholesale and retail** (303,000 green jobs). They currently provide over 1.3 million green jobs combined, across the 9 cities studied. The sector of **Wholesale and retail**, which is not expanded below, employs over 5.6 million people in the South & West Asia cities assessed, being the largest sector, although it is currently only 5% green. Due to its size, it has an enormous potential to drive the creation of hundreds of thousands of green jobs through developing more sustainable supply chains, using green energy to power their operations, reducing waste, or investing in low-carbon logistics and electrification.



With respect to previous analyses,<sup>61</sup> **green jobs in total volume increased** in almost all sectors.

However, **green jobs shares seem to have stagnated** or slightly declined in core green sectors such as Transportation, Construction or Energy, indicating that green jobs in these sectors grew slightly slower than overall green jobs.

## Sectoral Highlights

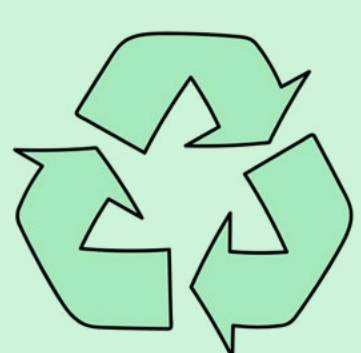
### Transportation



Being **39% green**, the transportation sector already features over **670,000 green jobs** across the cities assessed.

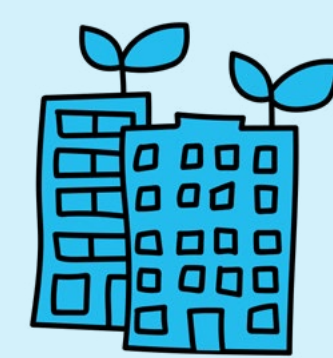
Transportation is one of the sectors with the highest shares of green jobs and is also one of the largest sectors in absolute terms, employing over 1.7 million people across these cities. Given the large population of these cities, the **ongoing shift towards cleaner and people-focused transportation practices** that cities are already leading will continue to create hundreds of thousands of local green jobs. As an example, the city of **Mumbai** (India) is installing [solar photovoltaic panels on the rooftops of bus depots](#) and surrounding areas to decarbonise the grid, powering the city's fast-growing electric bus fleet and creating hundreds of local green jobs both in the construction and maintenance of the system. This project will also help reduce Mumbai's severe heat impacts for workers by creating covered areas in the depots. Other practices that cities are implementing, such as expanding and decarbonising the public transport systems, will further decrease emissions, provide cleaner air for all, and support more green jobs.

### Waste and water management



Being **90% green**, the waste sector already features nearly **58,400 green jobs** across the cities studied.

### Construction



Being **18% green**, the Construction sector already features over **373,000 green jobs** across the cities assessed.

The sector currently employs over 2 million people across these cities (7% of the total employment). Most of the green jobs (14%), are considered direct green jobs, whilst indirect green jobs represent only 4% of total green jobs. This can indicate that there is significant potential for further greening the domestic supply chain and support services for the sector, which will drive more green employment in the region. This can be realised through cities setting clear goals such as is the case in Ahmedabad (India). Here the goal is for '100% of new buildings to adopt green building principles by 2050', creating green jobs in the sector by increasing demand for skilled professionals and sustainable construction materials, reduce emissions and improve air quality.<sup>62</sup>

This includes occupations across water collection and treatment, waste collection and management and recycling or composting activities. For example, the city of **Amman** (Jordan) is providing [training and certification](#) for over 1,000 workers, which will improve their legal recognition. It is also piloting a project on recycling banks which will provide better livelihood opportunities for informal waste pickers whilst increasing the city's recycling rates. Despite urban expansion putting high pressure on existing waste management systems, South & West Asia cities are working towards reducing and diverting organic waste from landfills or incineration, creating cleaner, healthier cities and supporting local livelihoods.



## Spotlight on India:

- Altogether, the five Indian cities included in this study (**Ahmedabad, Bengaluru, Chennai, Delhi, and Mumbai**) contributed over 574,000 green jobs (nearly 25% of all green jobs in the region). With a rate of 5.4% green jobs, Indian cities show similar patterns, with Chennai and Bengaluru being the cities with the highest levels of green employment.
  - The **Waste management, water supply and sewerage** sector is over 90% green.<sup>63</sup> **Other service activities**, which include Repair services, contribute to over 105,700 green jobs overall (28.7% green), being the second top sector with the highest share of green activity, followed by **Energy** which is 13% green.
  - The **Construction** sector has 19,300 green jobs (10.8%). To reach the regional average, Indian cities can accelerate the transformation towards fossil-free forms of energy production and uptake of greener practices in the construction sector.
  - The **Transportation** sector is contributing to 53,900 green jobs (8.4%). Being also a large sector, with over 600,000 people employed across these cities, there is great potential for transformation, similar to the other cities in the region, and significant green job creation.
  - As cities with important and large **Financial and Information and Communication** sectors, the green jobs share found in these sectors is still relatively low (6.3% green, resulting in 21,300 green jobs; and 6%, resulting in 19,800 jobs. As key green sectors such as waste, energy or transportation become greener, this will also drive indirect green employment across these other sectors to the extent that they support them.
  - High employing sectors with lower shares of green jobs are the **Manufacturing** sector (which is 4.2% green but is the second-largest employing sector in these five cities, with over 2 million people employed in total) and **Wholesale and Retail** (2.8% green and the largest employer with over 3 million people employed). These sectors offer a significant opportunity to green employment overall in India. They already contribute to over 110,000 and 91,000 green jobs respectively, representing 16% of the total. Interestingly, within Manufacturing, the Manufacturing of wearing apparel ranks among the top employing sectors across these cities.<sup>64</sup> The current study does not currently account for green jobs in the clothing sector, as explained in the methodology, to avoid an overestimation of green jobs. However, despite being a major employer, the textile sector still follows predominantly linear and unsustainable practices. The sector holds strong potential to transition toward greener practices, and it is equally critical to ensure that workers have access to safe and decent employment conditions (*close to 90% of all workers employed in this sector in India are informal*).
- In India, climate finance has primarily focused on decarbonization efforts like renewable energy, electric mobility, and green construction. However, [achieving a just transition in India requires this finance to also address social equity](#). This includes funding skill development, supporting small businesses, and providing dedicated assistance and transition pathways to communities negatively impacted by the shift to a green economy.

**See note on methodology<sup>65</sup>**

## Case Study

## Bengaluru's integration of frontline workers in waste management

Bengaluru's Green New Deal pilot programme (2022-2025) pioneers an inclusive and participatory approach to solid waste management. Aligned with the city's Climate Action Plan, the project aims to divert waste from landfills by improving source segregation. It focuses on building capacity for city officials and workers in the waste sector on participatory approaches to climate action, with a strong emphasis on inclusivity and Information, Education, and Communication (IEC). Following consultation & co-design of a set of training resources, a series of successful in-person training sessions were delivered to over 85 frontline workers.

In July 2024, building on that engagement, the city brought together over 100 stakeholders including 31 officials from 15 Indian cities for a first-of-its-kind National Inclusive Climate Action Workshop.

In 2025, the programme expanded to four other city zones, training over 530 officials and workers to address capacity, implementation, and monitoring gaps. The city also launched a Social Dialogue process aimed at embedding worker perspectives and the voices of waste pickers, with a focus on youth and women, into city climate governance, planning, and evolving waste strategies. The social dialogue process included listening sessions and focus group discussions with 75 frontline workers such as Marshals, Link Workers, and identified Informal Waste Workers. It led to a number of commitments, including regular health camps for workers; monthly dialogue spaces; updated ID cards and entrepreneurial support; integration of Link Workers under the Swachh Bharat Mission, and provision of training, safety gear, and dedicated workspaces.



Photo Credit: Gaurav Menghaney/UNDP India

# Conclusions and way forward

The analysis presented in this report is part of C40's Good Green Jobs tracking and builds on its mayors' 2022 [commitment](#) to deliver 50 million green jobs in their cities by 2030. Evidence outlined in the report shows that **there are already over 21 million green jobs across the 81 global megacities studied (10.4% of total employment)**. With respect to the last iteration, seven new cities have been included in the analysis, expanding the geographic coverage and reflecting the increased interest of cities in monitoring the employment generation potential of their climate actions.

**Evidence presented in this report underscores the critical role of cities in driving a just and equitable transition, and proving how climate action can be a powerful engine for economic development.** Data included in this report shows that sectors with a higher concentration of green jobs are also public policy areas where cities have more powers to act and influence job creation. Notably, Waste and Water Management, Transportation and Storage, Energy, and Construction, which are all already over 20% green. In parallel, the report has also shown how C40 cities have been also taking significant steps to make these green jobs accessible for all, bridging gender disparities, engaging the informal sector and supporting local skills training.

**The analysis has also shown that while some sectors are already leading as major drivers of green employment, others still have significant room for improvement and untapped greening opportunities,** such as Manufacturing, Wholesale and Retail Trade, or Food Services. In this light, even small shifts in these large sectors—for instance, through powering their operations with renewable energy, greener supply chains, waste reduction or more circularity practices—could drive substantial green job growth in cities.

Finally, **while data shows that C40 mayors are delivering against their commitments and are on track to meet their 2030 targets, it is important to ensure a cohesive approach between mayors, national governments, international financing institutions, the private sector and unions,** to deliver a just and equitable transition at scale and support the creation of good green jobs. In view of this, preconditions for successful policy action include:

- 1. Consulting, partnering with and supporting mayors on the development of national climate plans and strategies, with a particular local focus on both good green jobs creation and inclusive green skills training.**

Find key actions to support cities and strengthen alignment between levels of government, communities, workers, businesses and skills providers to accelerate the transition in this [Skills for green jobs](#) brief, and further evidence on the [opportunity to train existing and new workers to address skills shortages](#) in this new report.

- 2. Increasing the climate and just transition finance that is urgently needed to mitigate and adapt to climate change in a just way, ensuring that resources are directly accessible for cities.**

Find concrete opportunities for national and international actors to invest in local just transitions, with cities as key implementers and delivery partners, together with real-world examples that can be replicated at scale; in this [Financing urban just transitions](#) brief.

### 3. Ensure that the green jobs created provide decent working opportunities for everyone across all sectors.

Find key actions that national governments, international actors and finance institutions can do to support the provision of universal social protection and labour standards, with a focus on informal workers in this [Informality and green transition](#) brief, and [replicable city stories](#) that are creating good green jobs.

### 4. Investing in localised and disaggregated data that focuses both on the employment generation potential of local climate action and on the distributional effects of related investments in different societal groups.

Find guidance on considerations and approaches that cities can use to measure green jobs, build the local economic case for climate action, maximise job-creation benefits and promote workforce equity [here](#).

**This C40-led tracking effort will continue to provide vital evidence and inform potential pathways to achieve the ambitious goal of 50 million green jobs by 2030.** In addition to this analysis, there are additional areas where significant scope for further work has been identified, and where C40 is keen to explore new data-focused partnerships:

- **Geographic coverage of the tracking** - Since the 2022 announcement, C40 has observed significantly growing interest from its member cities and mayors in expanding data collection and analysis. This year's analysis already includes 81 cities in total and, importantly, has filled a geographic gap in South West Asia, for Indian cities in particular. Moving forward, C40 is seeking to fill the existing gap in Central East Asia member cities as well, in order to fairly showcase the scale and speed of the green transition in this region.

- **Informality and decent work** - C40 is exploring ways to better capture and represent the role of informal green workers in the overall green economy. This requires localised capacity for data collection and monitoring. Similarly, with the aim of monitoring progress towards better working conditions for all, C40 is seeking to work with cities and partners on indicators of decent work, which will be essential to complement this current piece of analysis.
- **Overcoming barriers** that are preventing certain population groups from accessing green jobs. To address existing inequalities across green sectors, more work is needed to first identify those barriers in the local context, and develop targeted training and workforce development programmes and skills training - for example for gender, youth and marginalised groups. There is a win-win opportunity to ensure that the transition is not further delayed because of skills shortages, and that the opportunities created can benefit everyone, through increased diversity and inclusion in the workforce. To achieve this it is crucial to work with all other stakeholders to develop and sustain green employment strategies beyond project or government cycles.
- **Good green jobs in the health & care sector** - The healthcare sector currently employs over 16 million people across the cities assessed in this analysis, and this is without accounting for the large share of the jobs that happen informally in this sector. Although most of the healthcare jobs are not classified as green jobs in this study as per the methodology used, the healthcare workforce is pivotal in the transition toward a sustainable economy, and plays a critical role in treating the increasing climate and pollution induced impacts, improving public health and air quality awareness, providing elder care and supporting people impacted by energy poverty. It is also one of the sectors with the highest representation of women and migrants, and includes many occupations that are currently in high demand, presenting an opportunity to both address workforce inequalities and provide millions of workers with decent working conditions by giving better recognition and working conditions. Moving forward, C40 is exploring possibilities to elevate the role of this sector in the green economy and find ways to quantify its impacts on driving green employment.

C40 remains open to explore and discuss new emerging issues and other areas of collaboration on this topic. **For further details, please contact C40's Inclusive Climate Action team.**

# References

1. The jobs created across the supply chains outside the city or metropolitan boundaries can be very significant and have not been accounted for in this analysis.
2. Growth here is assessed based on the previous results of the analysis, published in 2024, which used mostly 2020-2022 data. Since this current analysis includes 81 cities, whilst the previous phase included 74 cities, comparisons are assessed only for the initial 74 cities.
3. The analysis has also attempted to quantify informality, which is challenging due to the lack of access to informal employment data in most cities/countries in the scope of the analysis. Please refer to [methodology](#) for more information and limitations.
4. These results can differ from other green jobs analyses carried out by cities or other organisations, as underlying methodologies can differ. Whilst they all aim to measure existing green jobs in cities across sectors of the economy, the definition used for green jobs, the employment classifications, scope and methods often vary leading to differences in the results. The estimation of green jobs is still a novel area of research and different methods and definitions are valid.
5. C40 Cities (2025) Good, Green Jobs. Available at: <https://www.c40.org/campaigns/good-green-jobs/>
6. [The International Standard Industrial Classification of All Economic Activities \(ISIC\)](#) is the international reference classification of productive activities. Its main purpose is to provide a set of activity categories that can be utilised for the collection and reporting of statistics according to such activities. [The National Classification of Economic Activities \(CNAE\)](#) aims to standardise the economic activity codes in Brazil, and also the framing criteria used by administrative and tax agencies. [The Australian and New Zealand Standard Industrial Classification \(ANZSIC\)](#) is a standard classification developed by the Australian Bureau of Statistics for use in Australia and New Zealand for the analysis of industry statistics. [The North American Industry Classification System \(NAICS\)](#) is a standard used in Canada, Mexico, and the United States to classify businesses by their economic activity. The [Nomenclature of Economic Activities \(NACE\)](#) is the European classification of business activities. The [Standard Industrial Classification \(SIC\)](#) is a system for classifying businesses by economic activity. The [National Industrial Classification \(NIC\)](#) are the codes used to classify economic activities and industries in India.
7. ILO collects and harmonises household survey datasets (e.g. labour force surveys (LFS)) from national statistical offices worldwide. The 'employment by economic activity' indicator used in the analysis measures total employment, and therefore generally includes both formal and informal employment. However, the extent of informal coverage varies as definitions and measurement practices differ across countries. Accordingly, the employment numbers used for downscaling could reflect a mix of formal and informal employment.
8. Public transportation is considered 'green' overall, for the key role that public transport plays in a green and fair economy, despite the fact that a significant proportion of public transportation systems around the globe are still transitioning away from fossil fuels.
9. Less than a third of the cities included in this analysis had data that allowed exploration of the Ports & Shipping related subsectors, and hence this number is presented only as an estimation and would require further research.
10. Growth has been assessed based on the first results of the analysis, which primarily included 2020-2022 data, as explained in the methodology section
11. In Wholesale and retail trade, green jobs grew faster (9.3%) than total jobs (6.2%). In the Manufacturing sector, although the overall share of green jobs stayed stable at 6.7%, green jobs also grew faster (9.8%) than total jobs (9.0%).
12. The 21 C40 cities included are: Bogotá, Boston, Cape Town, Mexico City, Chicago, Curitiba, Durban, Ekurhuleni, Fortaleza, Guadalajara, Johannesburg, Medellín, Milan, Nairobi, Phoenix, Rio de Janeiro, Rome, São Paulo, Salvador, Seattle, Washington DC.
13. Non-traditional Employment for Women (NEW) (n.d) Available at: <https://www.new-nyc.org/>
14. Based on national youth employment (ages 15-24) by economic activity from the ILO. The latest available year for each country was selected. Reference years are between 2012-2023.
15. City of Johannesburg (2025) The Green Jobs Youth Expo Unveils Exciting Career Paths for a Sustainable Future for Joburg's Youth. Available at: <https://www.youtube.com/watch?v=DgQ96exwjik>
16. All data sources can be found in the [methodology](#).
17. City of Freetown (2022) Freetown Climate Action Strategy 2022-2023. Available at: <https://fcc.gov.sl/wp-content/uploads/2023/01/CAP-Freetown-FINAL.pdf>
18. Mayors Migration Council (MMC) (2023) Climate change: How Nairobi is building a framework for good, green jobs. Available at: <https://mayorsmigrationcouncil.org/news/oped-nairobi/>

19. Growth has been assessed based on the first results of the analysis, which primarily included 2020-2022 data, as explained in the methodology section
20. OECD et al. (2025) Africa's Urbanisation Dynamics, 2025. Available at: [https://www.oecd.org/content/dam/oecd/en/publications/support-materials/2025/03/africa-s-urbanisation-dynamics-2025\\_005a8aa0/AUD%202024\\_Key%20messages-3March-A5.pdf](https://www.oecd.org/content/dam/oecd/en/publications/support-materials/2025/03/africa-s-urbanisation-dynamics-2025_005a8aa0/AUD%202024_Key%20messages-3March-A5.pdf)
21. See further information for each city's project and impact at C40 (2025) Good Green Jobs: Dashboard of City Programmes. Available at: [https://www.c40knowledgehub.org/s/article/Good-green-jobs-Dashboard-of-city-programmes?language=en\\_US](https://www.c40knowledgehub.org/s/article/Good-green-jobs-Dashboard-of-city-programmes?language=en_US)
22. City of Dar es Salaam et al. (2024) Enhancing a Participatory and Inclusive Planning and Implementation of Modern Organic Waste Management Practices for Improved Livelihoods of Informal Settlement Inhabitants in Dar es Salaam
23. City. Available at: <http://www.dcc.go.tz/storage/app/uploads/public/66a/24b/74d/66a24b74d989d173264286.pdf>  
UN Habitat (2022) The Separation @ Source Programme: Transitioning to a recycling economy. Available at: <http://www.urbanagendaplatform.org/best-practice/separationsource-programme-transitioning-recycling-economy#:~:text=Johannesburg%27s%20waste%20crisis%20is%20driven,cultivate%20long%2Dterm%20behavioural%20change>.
24. The analysis covers 12 out of the 13 C40 cities in the East, Southeast Asia and Oceania region. The city of Kuala Lumpur could not be included in this analysis because disaggregated employment data could not be sourced.
25. All data sources can be found in the [methodology](#)
26. Clean Air Fund (2024) The City of Bangkok joins Breathe Cities initiative to curb global air pollution. Available at: <https://www.cleanairfund.org/news-item/bangkok-breathe-cities/>
27. Growth has been assessed based on the first results of the analysis, which primarily included 2020-2022 data, as explained in the methodology section
28. C40 Cities Finance Facility (CFF) (2021) Electric buses of Jakarta's sustainable urban mobility. Available at: <https://c40cff.org/projects/jakarta-electric-bus>
29. Tokyo City Government (2020) Outline of Zero Emission Tokyo Strategy. Available at: <https://www.kankyo.metro.tokyo.lg.jp/documents/d/kankyo/outline-of-zero-emission-tokyo-strategy>
30. [The 2024 employment data for this analysis](#) was sourced from the U.S. Bureau of Labour Statistics for U.S. cities, and from Statistics Canada for Canadian cities. The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analysing, and publishing statistical data related to the business economy in the U.S. and Canada.
31. New Economy Canada (2025) Canada ranks 8th among countries leading in clean energy technology and infrastructure investments. Available at: <https://neweconomycanada.ca/canada-ranks-8th-among-countries-leading-in-clean-energy-technology-and-infrastructure-investments/>
32. Climate Action Tracker (2025) USA Overview. Available at: <https://climateactiontracker.org/countries/usa/#:~:text=Overview,Action%20Tracker%20has%20ever%20analysed>
33. [The results of this study](#) are based on employment data for the end of 2024, and therefore would not reflect any potential changes in the green economy resulting from the change of administration.
34. Climate Power (2025) Trump's Unfolding Energy Crisis. Available at: <https://climatepower.us/wp-content/uploads/2025/09/Energy-Crisis-Snapshot.pdf>
35. City of Montréal (2025) Montréal's Climate Plan: Objective carbon-neutral by 2050. Available at: <https://montreal.ca/en/articles/montreal-climate-plan-objective-carbon-neutral-2050-7613>
36. Growth has been assessed based on the first results of the analysis, which primarily included 2020-2022 data, as explained in the methodology section.
37. Clean Capital (2023) Sunnyside Solar. Available at: <https://cleancapital.com/projects/sunnyside-solar/>
38. Clifford, C. (2023). The world has to add or replace 50 million miles of transmission lines by 2040, IEA says. CNBC. Available at: <https://www.cnbc.com/2023/10/17/world-must-add-or-replace-50-million-miles-of-transmission-lines-iea.html>
39. All data sources can be found in the [methodology](#)
40. World Bank (2024) Urban population (% of total population) - Latin America and the Caribbean. Available at: <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=ZJ>
41. Alfonso, M, Azuara, O., et. al. (2022). Green jobs and skills in Latin America: A look at the LinkedIn data. Inter-American Development Bank. Available at: <http://dx.doi.org/10.18235/0004457>
42. This number is much higher than in other sectors because this methodology has considered waste collection, remediation, materials recovery, wastewater treatment and management as fully green. Waste collection is the largest sub-sector within this category, therefore driving high shares of green employment. Within the waste treatment and disposal activities, the activities considered green are recycling, composting and anaerobic digestion. Incineration or landfill activities are considered non-green. See [methodology](#) for full details.
43. [Growth has been assessed based on the first results of the analysis, which primarily included 2020-2022 data, as explained in the methodology section.](#)
44. C40 Cities. (n.d.). Zero Emission Bus Rapid-deployment Accelerator (ZEBRA) Partnership. Available at: <https://www.c40.org/what-we-do/scaling-up-climate-action/transportation/zero-emission-rapid-deployment-accelerator-zebra-partnership/>
45. C40 Cities. (2020) Accelerating a market transition in Latin America: New business models for electric bus deployment. Available at: [https://www.c40knowledgehub.org/s/article/Accelerating-a-market-transition-in-Latin-America-New-business-models-for-electric-bus-deployment?language=en\\_US](https://www.c40knowledgehub.org/s/article/Accelerating-a-market-transition-in-Latin-America-New-business-models-for-electric-bus-deployment?language=en_US)

46. Urban Shift (2023) Curitiba, Brazil: Solar Pyramid. Available at: <https://www.shiftcities.org/publication/curitiba-brazil-solar-pyramid>
47. C40 Cities (2025) Green job opportunities in clean construction. Available at: [https://www.c40knowledgehub.org/s/article/Green-job-opportunities-in-clean-construction?language=en\\_US](https://www.c40knowledgehub.org/s/article/Green-job-opportunities-in-clean-construction?language=en_US)
48. A **job-year** indicates one job for one year, meaning that 10 job years could translate into 10 jobs that last 1 year, 5 jobs that last 2 years, or other combinations.
49. UNDP (2024) The changing faces of poverty in Latin America and the Caribbean. Available at: <https://www.undp.org/latin-america/blog/changing-faces-poverty-latin-america-and-caribbean>
50. United Nations Public Service Innovation Hub (2024). Available at: [Marias in Construction](#)
51. All data sources can be found in the [methodology](#)
52. Port of Rotterdam, Energy Transition. Available at: <https://www.portofrotterdam.com/en/port-future/energy-transition>
53. C40 Cities (2025) Europe's climate and industrial policies are interlinked - cities are at the heart of both. Available at: <https://www.c40.org/news/europe-climate-industrial-policies-interlinked/>
54. Growth has been assessed based on the first results of the analysis, which primarily included 2020-2022 data, as explained in the methodology section.
55. Odyssee-Mure (2021) European Union Profile: Energy Efficiency & Trends Policies. Available at <https://www.odyssee-mure.eu/publications/efficiency-trends-policies-profiles/european-union.html>
56. C40 Cities (2025) Green Opportunities in Clean Construction. Available at: [https://www.c40knowledgehub.org/s/article/Green-job-opportunities-in-clean-construction?language=en\\_US](https://www.c40knowledgehub.org/s/article/Green-job-opportunities-in-clean-construction?language=en_US)
57. Comune di Milano(2025) Milano Future Ora. Available at: <https://www.milanofuturaora.it/>
58. C40 Cities (2023) Renewable Energy Accelerator. Available at: <https://www.c40.org/accelerators/renewable-energy/>
59. All data sources can be found in the [methodology](#)
60. Karachi Metropolitan Corporation, United Nations Development Programme and C40 Cities Climate Leadership Group (2025) Karachi Climate Action Plan. Available at: [https://www.undp.org/sites/g/files/zskgke326/files/2025-05/karachi\\_climate\\_action\\_plan\\_kcap.pdf](https://www.undp.org/sites/g/files/zskgke326/files/2025-05/karachi_climate_action_plan_kcap.pdf)
61. Growth has been assessed based on the first results of the analysis, which primarily included 2020-2022 data, as explained in the methodology section. For this region, comparisons are done only with the 4 cities included in both analyses (which excludes Indian cities).
62. Ahmedabad Municipal Corporation et al. (2023) Ahmedabad Climate Resilient City Action Plan: Towards a Net Zero Future. Available at: [https://southasia.iclei.org/wp-content/uploads/2024/01/AMC-CRCAP-EXEC-SUMMARY\\_06JULY2023\\_compressed.pdf](https://southasia.iclei.org/wp-content/uploads/2024/01/AMC-CRCAP-EXEC-SUMMARY_06JULY2023_compressed.pdf)
63. This number is much higher than in other sectors because this methodology has considered waste collection, remediation, materials recovery, wastewater treatment and management as fully green. And waste collection is the largest sub-sector within this category, therefore driving high shares of green employment. Within the waste treatment and disposal activities, the activities considered green are recycling, composting and anaerobic digestion. Incineration or landfill activities are considered non-green. See [methodology](#) for full details.
64. Figure taken from the Circle Economy (2024) Global Circularity Gap Report for Textiles, available at: <https://www.circularity-gap.world/textiles>
65. [For Indian cities, sector-specific employment growth was derived from ILO national employment data at ISIC 2 level and applied to city employment data.](#)



# Acknowledgements

This report is part of **C40's Inclusive Climate Action programme** and was made possible through the support of **C40 funders**. It captures the research and full study results conducted by C40 Cities and Circle Economy.



C40 is a network of nearly 100 mayors of the world's leading cities working to deliver the urgent action needed right now to confront the climate crisis and create a future where everyone, everywhere, can thrive. Mayors of C40 cities are committed to using a **science-based and people-focused approach** to limit global heating in line with the Paris Agreement and build healthy, equitable and resilient communities. We work alongside a broad coalition of representatives from labour, business, the youth climate movement and civil society to support mayors to halve emissions by 2030 and help phase out fossil use while increasing urban climate resilience and equity.

The current co-chairs of C40 are Mayor Sadiq Khan of London, United Kingdom, and Mayor Yvonne Aki-Sawyer of Freetown, Sierra Leone; three-term Mayor of New York City Michael R. Bloomberg serves as President of the Board. C40's work is made possible by our three strategic funders: Bloomberg Philanthropies, Children's Investment Fund Foundation and Realdania.

To learn more about the work of C40 and our cities, please visit our [website](#), follow us on [X](#), [Instagram](#), [Facebook](#) and [LinkedIn](#). For more information on C40's work on Good Green Jobs visit our Good, Green Jobs [website](#).



Circle Economy is driving the transition to a new economy. In this circular economy, we help businesses, cities, and nations leverage business opportunities, reduce costs, create jobs, and inspire behavioural change. As a global impact organisation, our international team equips business leaders and policymakers with the insights, strategies, and tools to turn circular ambition into action.

Circle Economy has been at the forefront of the circular economy since 2011. Our annual Circularity Gap Report (CGR®) sets the standard for measuring progress, and we manage the world's largest circularity database, encompassing data from over 90 nations, 350 cities, and 1,000 businesses.

To learn more, please visit Circle Economy [website](#).

## **C40 Cities contributing authors:**

Julia Moreno Rosino, Giovanni Pagani, Jazmin Burgess, Megan Light

## **Circle Economy contributing authors:**

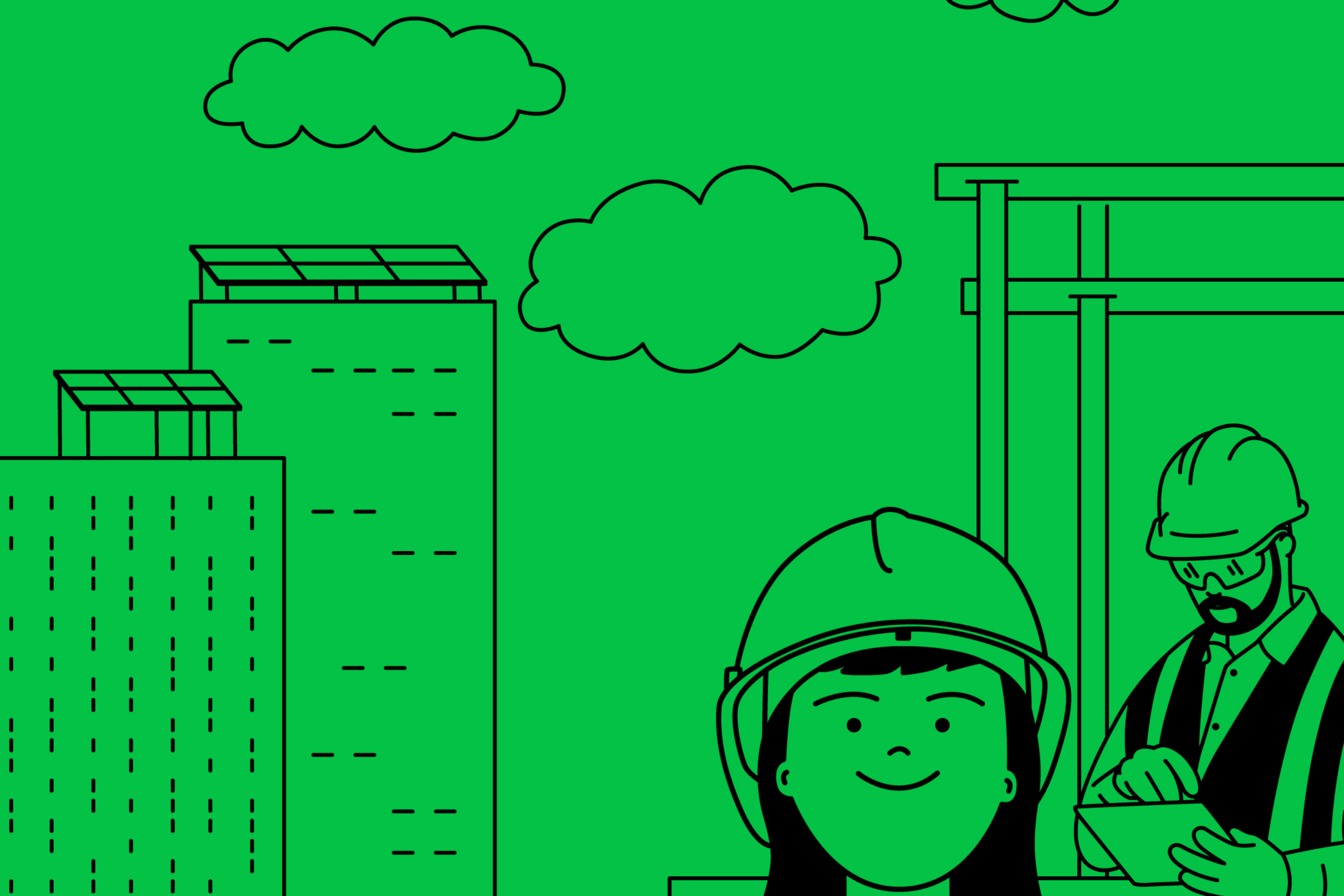
Morgane Veillet Lavallée, Wen-Yu Chen, Mathijs Nelemans, Esther Goodwin Brown

## **Many thanks to other C40 colleagues for their strategic guidance:**

Caterina Sarfatti, Gifti Nadi, Anthony Okoth, Alissa Raj, Ragene Andrea Palma, Gabriel Lewenstein, Kate Johnson, Cristina Argudo, Stelios Diakoulakis, Júlia López Ventura, Anja Katalin De Cunto, Naim Keruwala, Marta Stencel, Krisztina Campbell, Honorine Van den Broek d'Obrenan

**Designed by : [Epigrama Studios](#)**





# GOOD GREEN JOBS

#GreenJobsNow



[www.c40.org](http://www.c40.org)