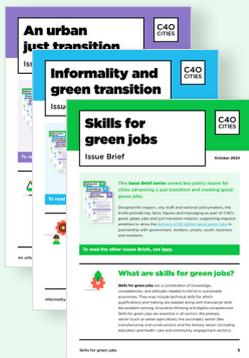


# Skills for green jobs

Issue Brief

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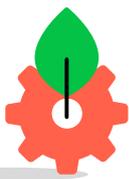
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This Issue Brief series covers key policy issues for cities advancing a just transition and creating good green jobs.

Designed for mayors, city staff and national policymakers, the briefs provide key facts, figures and messaging as part of C40's good, green jobs and just transition mission, supporting mayoral ambition to drive the [delivery of 50 million good green jobs](#) in partnership with government, workers, unions, youth, business and residents.

To read the other Issues Briefs, see [here](#).



## What are skills for green jobs?

**Skills for green jobs** are a combination of knowledge, competencies, and attitudes needed to thrive in sustainable economies. They may include technical skills for which qualifications and training are needed along with transversal skills like problem-solving, innovative thinking and digital competencies. Skills for green jobs are essential in all sectors: the primary sector (such as urban agriculture), the secondary sector (like manufacturing and construction), and the tertiary sector (including education and health, care and community engagement sectors).

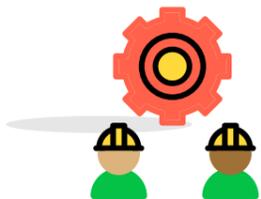
# Why this matters: skills for green jobs gap



## Closing the skills gap to unlock the transition

There are huge opportunities for cities to create decent, green jobs through climate action, offering [a third more jobs](#) compared to a business-as-usual approach. However, the global skills gap is a [critical barrier](#) to an effective transition, including at the city level. Actions geared at addressing the gap could potentially increase the world's economy by around [US\\$6.5 trillion](#) this decade, yet only [13% of the global workforce](#) is ready for green jobs and a projected shortage of [seven million workers](#) by 2030 in the top carbon-emitting economies. Without sufficient investment in reskilling and upskilling, [78 million jobs](#) could be put at risk, threatening the livelihoods of millions and jeopardising a smooth shift to a greener economy.

Closing the skills gap, especially in regions like [Africa, Central and South America, the Middle East, and Eurasia](#) where there is a high demand for these skills and the need for investment to enable a green and equitable transition, requires a collective effort. To create accessible and decent green jobs, developing national and international partnerships and collaboration with local governments, workers, and communities through careful planning and open consultation is essential.



## A just transition in cities hinges on training and empowering the workforce

According to the ILO, [70% of jobs](#) potentially affected by the transition can be saved through labour reallocation, [training, and active labour policies](#)<sup>1</sup>, but [less than 40% of NDCs](#) include any plans for skills training to support climate action or just transitions.

Targeted workforce development, in partnership with workers and unions, can [help](#) potentially displaced workers transition to growing sectors and strengthen local resilience through innovation and diversification. Additionally, designing skills systems with workers and communities at the heart can reduce inequalities by empowering underserved groups like women, informal workers, youth, and migrants: currently, only [33% of women possess skills for green jobs compared to 66% of men](#).



## Skills for urban climate action

Cities have emerged as crucial drivers of the green transition. A recent [C40 analysis](#) found that global C40 cities already boast nearly 16 million green jobs—about 10% of all jobs in these cities. The highest concentrations of these jobs are in the transport, waste management, electricity, and construction sectors. However, a significant skills gap in these sectors is slowing the pace of the urban green transition. In Europe, for instance, over [80% of companies and 60% of local authorities](#) reported that a shortage of skilled workers is holding back climate projects. This highlights the need for urgent investment in urban skills development, which can lead to significant reductions in unemployment.

Equipping city residents with the right skills is also key to boosting their economic resilience, helping displaced workers transition to growing urban sectors. Investing in urban skills is critical to reducing unemployment, building economic resilience and helping displaced workers transition to growing urban sectors. Furthermore, the shift to green jobs in cities must ensure fair wages, good conditions, career growth, and recognition of new skills. This brief outlines the challenges and solutions needed to ensure cities can effectively drive a just transition and shape diverse local workforces swiftly and at scale.



## In focus

### Harnessing the green potential of young people

60% of the urban population is projected to be less than 18 years of age by 2030, and many will face the brunt of climate and social injustices. Investing in skills for green jobs among urban youth (ages 15-29)<sup>2</sup> is essential.

With climate investments projected to create 8.4 million jobs, this generation needs the right skills to seize these

opportunities. Equipping young people now will not only improve livelihoods but also drive the success of city climate action. Yet, only 5% of Gen Z workers currently have these skills, and if current trends persist, by 2030 more than 60% of young people may lack the skills required to thrive in the green economy.

Youth unemployment is 3.5 times higher than adults and 65 million young people are unemployed – with rates nearly 1.5 times higher for young women – and 20% are not in education, employment, or training (NEET).



Credit: Unsplash

In **Africa**, over 72 million young people are NEET – that's 25% of Africa's population – with 8 to 11 million more entering the labour market annually, while only 3 million formal wage jobs are created each year, pushing youth into the informal sector that employs over 85% of the continent. By 2035, there will be more young Africans entering the workforce each year than in the rest of the world combined.

In **Latin America**, the youth unemployment rate is more than twice as high as the overall rate. Crucially, the region struggles with a large gender gap and with more than 30 million young people in informal work.

In **Europe**, youth unemployment is at 14%, more than twice the rate for adults. Poor-quality apprenticeships also remain a problem, with 59% of the 4.5 million students doing unpaid internships, and with 30% receiving no valuable learning content. Still, only 25.3% of young people in **Eastern Europe** were employed, one of the lowest rates globally.

In the **US**, about 12% of youth are NEET, with rates reaching 22% for Black youth and 20% for Latino youth. **Canada's** youth NEET rate was 12.8% for 20-to-24-year-olds, with Indigenous and recent immigrant youth more likely to be NEET.

In **China**, almost 15% of young people are out of job, with its urban youth unemployment rate rising to 21% in 2023, up from 15.4% two years earlier, with mismatch between education and training and business requirements.

In **South Asia**, more than half of youth entering the market now will not have the skills needed to succeed in the workforce of 2030. A significant proportion of youth in Southeast Asia is NEET. 77% of young people in Asia Pacific aspire to get a green job within the next 10 years. In **Australia** and **New Zealand**, youth unemployment rates are double and triple that of national rates, suggesting a need for youth workforce development programmes. Throughout Asia and Oceania, training and educating the upcoming labour force will be critical for a just transition.

According to the **ILO**, the **Middle East and North Africa** region has the highest youth NEET rate in the world, with nearly one in three youth (31.5%) not in education, employment, or training. Notably, young women face significant exclusion from the workforce, with fewer than one in ten (6.4%) employed in 2023.

For youth insights on what green jobs and skills mean to them, consult C40's interactive webpage launched for World Youth Skills Day.

# The crucial role of cities

Cities serve as green jobs and skills hubs, being home to large parts of national populations, hubs of economic activity

and by bridging the skills gap and aligning local workforces with national and regional green investments and climate policies.

## Cities achieve this by:

### Convening stakeholders

Cities bring together economic, education, sustainability, social and youth departments and form partnerships with communities, workers, unions, schools, national government, vocational training centres, businesses, and nonprofits – for example through just transition commissions or youth councils – to improve the skills for green jobs landscape and education. Where powers exist, they co-design processes and plans and develop green training and curricula aligned with local market and workforce needs while serving all critical climate sectors.

### Incentivising employers and investing in green workforces

Cities match climate investment with workforce development, integrate skills for green jobs training into procurement, offer tax benefits for green hiring and training and allocate budgets for equitable green workforce development.

### Making skills-building inclusive

Cities identify priority groups – women, young people, informal and fossil fuel workers – ensuring they have access to training programmes and green career pathways.

### Building internal capacity

Cities invest in their own staff's skills for green jobs to enhance climate action, ensure policy effectiveness, foster innovation, and lead in the green economy while maintaining regulatory compliance with national frameworks.

### Raising awareness and attracting talent

Cities run campaigns to boost awareness of green careers and the benefits of a green economy, encouraging more people to pursue skills for green jobs training and enhancing the appeal of green jobs.

### Advocating to inspire action

Mayors utilise regional and global platforms to inspire others, building on the credibility of local action implementation, and build coalitions with key stakeholders including youth to deliver on the commitment to create 50 million green jobs.

**Copenhagen** partners with a local non-profit to recruit and train women in construction. **Quezon City**, with the Department of Agriculture, launched an institute to develop diverse urban farm models and provide training. **Vancouver** hosted a green jobs roundtable with the industry to align teachers' curricula. In **London**, a successful mayoral advocacy campaign led to the devolution of adult education powers and £306 million, enabling skills programmes for jobs in key climate sectors for disadvantaged Londoners.

**Seattle** invested over \$2.2 million in workforce development, focusing on training and recruiting women, people of color, and disadvantaged residents for green jobs. **Curitiba** offers a bidding window for solar companies that hire and train women, while **Rotterdam** encourages companies to invest 5% of revenue in training locals for solar PV installation.

**Johannesburg, Cape Town** and **Tshwane** trained city staff to enforce green building regulations and prepare for stricter national energy efficiency and renewable energy standards.

**Johannesburg's** Green Jobs Youth Expo introduced youth to green careers. **Seattle's** summit highlighted local sustainable businesses with hands-on demos in green construction and tech, offering career insights.

**Salvador** offers free training courses for women as PV assemblers and construction workers, **Durban** aims to train unemployed youth, women, and disabled people in the renewable energy industry, while **Philadelphia** is training students in solar and battery storage installation. **Madrid** trains unemployed women, middle-aged individuals, and refugees in building retrofitting, **Seoul** and **Barcelona** train and employ disadvantaged job seekers as energy advisors. **Austin, New York City** and **New Orleans** provide women, low-income and people of colour with access to green jobs, training, and career pathways. **Hong Kong** subsidises enterprises to employ graduates in environmental sectors. **Phoenix** and **Tshwane** encourage youth to pursue careers in sustainable farming, **Quezon City** trains low-income residents as urban farmers, and a **Freetown** project trains disadvantaged women and youth as greening experts. **Bogotá** supports women to qualify as EV bus drivers and **Bengaluru** identifies training gaps in solid waste management. **Wuhan** provides training for unemployed residents, primarily elderly individuals and full-time mothers, to transform discarded items into crafts for sale, promoting circularity. **Amman** is training waste pickers to improve recycling, emphasising gender equality and gender-based violence awareness.

Mayors provide global platforms for youth to share their views on key green transition issues (e.g., African Youth Statement), collaborate with union movements to influence global climate negotiations (e.g., cities and unions pledge to tackle climate change and inequality together), share best practices to inspire other cities and stakeholders (e.g., Achieving the Just Transition: A Toolkit for City Leaders Across the Globe), and call on global actors to break down barriers to local delivery (e.g., African mayors unite for climate action implementation and green job creation).

## Facts and figures

**Only 13%**

of the global workforce currently has skills for upcoming green job opportunities and at **least seven million** workers in the top ten carbon-emitting economies lack skills for green jobs.

According to [LinkedIn](#), the share of

 **green talent grew by 5.4%**

between 2018-2023, while the share of jobs requiring at least one green skill grew by 9.2%.

LinkedIn's [research](#) also shows

**skills for green jobs are resilient during economic uncertainty.**

From February 2022 to February 2023, job ads requiring at least one green skill grew by over 15%, with higher hiring rates for those with skills for green jobs across 48 countries since 2020.

*The transition to a green economy will require upskilling and reskilling existing workers to ensure they can adapt to new roles and technologies.*

**70% of jobs**

*potentially affected by the transition can be reclaimed through labour reallocation, workforce access to training, and active labour policy measures. It is estimated that about 40% of the required workers will need only limited training.*

New research by C40 Cities and the Mayors Migration Council shows that up to

**8 million people**

are likely to move to the ten cities identified in the report by 2050 as a result of the climate crisis alone, exacerbating existing trends of migration towards cities. A C40 policy brief **shows that these migrants will bring essential skills to these cities, often in agriculture and primary industries that are key for adaptation, nature-based solutions and new urban bio-economies that many of the cities' studied are already ramping up, as part of their climate action plans.**

According to [the World Bank](#), **actions** geared at addressing the skills gap could potentially

**increase the world's economy by around US\$6.5 trillion by 2030.**

However, despite this immense potential, the majority of countries invest less than 0.5 % of the global gross domestic product in adult lifelong learning.



[LinkedIn's](#) latest data shows that

**demand for skills for green jobs is outpacing supply.**

From 2022 to 2023, the share of green talent in the workforce grew by 12.3%, while job postings requiring at least one green skill increased by 22.4%. Additionally, the green talent pool, made up of workers with at least one green skill or one green job experience, **is 66% male, with women representing only 33%.**



Globally,

**68% of energy degrees focus on fossil fuels,**

with just 32% on renewables. At this rate, renewable energy degrees won't lead until 2107, hampering our green transition. **Developing countries, where skills for green jobs are in high demand, offer few clean energy degrees.**



The International Labour Organization [estimates](#) that

**2 in 3 young people are worried about losing their job**

and 1 in 3 youth live in a country that is "off track" for SDG target 8.6, to reduce the share of young NEETs.

# What mayors need others to do

**Local and national governments and partners are leveraging resources to create green jobs and train residents. Despite progress, scaling this change remains challenging. Key actions to accelerate the transition include:**

## National governments

### Strengthen alignment between levels of government, communities, workers, businesses and skills providers

- Work with cities and other actors to scale up successful initiatives on skills building and place-based workforce development, and align national policies, curricula, skills for green jobs investments and plans with local skills needs.
- Delegate skills development powers to cities to enable them to shape local, diverse workforce e.g. devolution of powers in the UK resulted in [London's](#) mandate over adult education with a dedicated \$306 mln budget, some of which is being used directly for skills for green jobs.
- Integrate clear measures and urban targets for workforce development, with a particular focus on marginalised groups, women, youth, migrants and informal workers, in their Nationally Determined Contributions (NDCs) 3.0, while working with cities to create NDCs 3.0 under the [CHAMP](#) initiative,
- Provide robust employment and skills data to enable both national and local levels to plan and deliver in a flexible manner, e.g. [Irish Skills and Labour Market Research Unit](#).
- Foster new entrants in the workforce in sectors where shortages of labour and skills are most acutely felt, including by leveraging labour migration and migrant workers' contribution as part of wider workforce development strategies. This would entail both reducing barriers and timeframes for migrants to access work permits, and establishing regular labour migration pathways that are connected to local shortage occupation lists.

## National governments

## International organisations

## Finance institutions

## Businesses

### Scale investments dedicated to green workforce development

- Commit to allocate at least 40%<sup>3</sup> of upfront climate investments for cities, including for workforce development, to channel to low-income communities and those affected by the transition, including women, youth, informal workers and migrants. This can help cities create a diverse and inclusive workforce by overcoming barriers to access and leveraging the untapped potential of historically disadvantaged groups.,
- Prioritise funding for regions like Africa and Latin America, where the demand for skills for green jobs is particularly high, as well as for countries with the highest youth unemployment rates. This funding should help create decent green jobs and skill-building opportunities, empowering young people to take leadership in climate action and promote sustainable development,
- Ensure long-term and consistent funding for sustainable change and skills development, as short-term investments fail to provide the stability needed for lasting impact,
- Collaborate with cities on place-based workforce development programmes, including training, apprenticeships, and job placement, to ensure accelerated climate action while promoting equity.

Match climate investment with workforce development to build a skills pipeline, set long-term local goals, and minimise duplication.





## Where to go for more information

For additional case studies of cities driving green jobs and skills for green jobs, consult:

- the C40 [Good Green Jobs: Dashboard of City Programmes](#)
- [Policy Brief: Good green jobs and labour migration: Opportunities for urban leaders](#)
- [Barriers to action: Gaps in financing for a just transition, social protection, and loss and damage in cities](#)

## Endnotes

- 1** Active Labour Market Policies (ALMPs) are government programmes that intervene in the labour market to help the unemployed find work, and support the underemployed and employees looking for better jobs. In contrast, passive labour market policies fund unemployment benefits and early retirement.
- 2** C40 follows ILO guidelines to extend the youth labor market age range from 15-24 to 15-29. This broader range better reflects labor market transitions, as many aged 15-24 are still in education or training. Including those aged 25-29 gives a clearer picture of workforce entry. However, not all data in this issue brief aligns with this extended range, as definitions of youth vary across organisations.
- 3** The current lack of integration of just transition principles into finance and access for local governments has a knock-on effect on cities' ability to plan for and implement inclusive climate action at scale. The IPCC emphasises that climate finance is critical for a successful global low-carbon transition, with support needed at global, national, and local levels. National policies and funding should prioritise subnational regions, including cities, to ensure a just transition at the local level. Successful initiatives across different levels of government include the federal Justice40 in the US, California's state-level allocation of 35% cap-and-trade revenue to disadvantaged communities, and Denver's local policy dedicating 50% of tax-generated funds to equity-focused projects.