

GGGI INSIGHT BRIEF NO. 6

# Key Actions for a Just Transition through Green Jobs in Cities

---

September 2022



## PART OF GGGI'S INSIGHT BRIEFS SERIES

1. Mind the Gap: Bridging the Climate Financing Gap with Innovative Financial Mechanisms, Eric Plunkett, Vikalp Sabhlok, December 2016.
2. Solutions for the Missing Middle: The Case for Large-Scale Mini-Grid Development, Gulshan Vashistha, Eric Plunkett, September 2017.
3. Assessment and Main Findings on the Green Growth Index, December 2019.
4. Green Deals to Accelerate Climate Action Post-COVID-19, Frank Rijsberman, October 2020.
5. Unlocking Climate Change Project Potential: Lessons Learned from the Call for Project Concept Notes of the GCF Readiness Programme, November 2021.
6. Key Actions for a Just Transition Through Green Jobs in Cities, Christina Cheong (GGGI), Michael Fink (Consultant, Dortmund, Germany), Stelios Grafakos (GGGI), Alexander Kleibrink (BMZ), Anna Pegels (German Institute of Development and Sustainability (IDOS), Wolfgang Scholz (TU Dortmund University, Germany), September 2022.

Copyright © 2022

Global Green Growth Institute

Jeongdong Building 19F

21-15 Jeongdong-gil

Jung-gu, Seoul 04518

Republic of Korea

This policy brief incorporates policy experience from GGGI and the research project “Ecological Economic Policies – Green Economy” commissioned by BMZ to IDOS. The Global Green Growth Institute does not make any warranty, either express or implied, or assume any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed of the information contained herein or represents that its use would not infringe privately owned rights. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the Global Green Growth Institute or the Federal Ministry for Economic Cooperation and Development.



# CONTENTS

1	Key Actions for a Just Transition through Green Jobs in Cities	04
2	National Policy and Institutional Structures to Catalyse Green Investments in Cities	06
3	Policy Recommendations	07
4	References	08

04	Box 1. Green Jobs in Cities
05	Table 1. Number of green jobs (millions) created in urban sectors by 2030 based on the low-carbon scenario, compared to the BaU scenario

# Key Actions for a Just Transition through Green Jobs in Cities

This policy brief examines actions for a just transition that are fundamental to the socio-economic transformations of local job markets in developing countries' cities. It outlines how this transition can create 'winners' and compensate 'losers'. Green jobs in cities are premised on ensuring a just transition of local employment markets, both formal and informal, and making cities function more sustainably. They are part of a wider inclusive green economy aiming at carbon neutrality and resource efficiency with a focus on human well-being and social equity while paying special attention to local nature-based solutions.

Cities account for around 75 percent of greenhouse gas emissions, 70 percent of global energy consumption, and 75 percent of natural resource consumption. They are likely to be home to around 70 percent of the world population by 2050. The relevant economic sectors for a just transition are predominantly in cities: buildings and construction, infrastructures for sustainable energy supply and use, mobility, waste management, and support for a circular economy.

These transformations will have a great impact on intermediary cities with one to five million inhabitants, which are the fastest-growing urban areas today (United Nations, 2018). These cities have the potential for building the necessary technical capacity and expertise to guide an economic transformation while also being small enough to allow close partnerships between stakeholders in the private and public sectors and in civil society. Fast-growing intermediary cities urgently need to expand their urban areas and create new infrastructure networks, which should already be part of the transformation process towards an inclusive green economy.

A just transition towards an inclusive green economy has important implications for jobs and employment worldwide. It holds great potential for new job opportunities through greener economic activities, although some may only materialise in the medium to long term. Table 1 summarises the green jobs creation potential in selected urban sectors according to relevant studies. At the same time, compensating for short-term employment losses in carbon- or resource-intensive sectors is needed for social cohesion. Both the 'winners' and 'losers' play essential roles in the required just transition. To break the carbon lock-in and transform all economic sectors towards more sustainable and environmentally friendly practices, it is necessary to 'develop... new perspectives for and with

those who stand to lose' (IISD 2018), including future generations, and to unlock the innovative potential of those who can benefit from the transformation.





**Creating winners:** Urban climate and environmental action can create green jobs in cities by solving urban problems and making cities function in a nature-positive and CO<sub>2</sub>-neutral way, leading to new job profiles, such as energy auditors, experts, and workers in a circular economy making use of waste and by-products (e.g., urban mining); engineers and urban planners connecting green and resilient infrastructure; architects and construction experts for retrofitting buildings with nature-based and renewable energy solutions; e-mobility vehicle maintenance workers; and urban hydrologists for water cycle management. These new occupations can contribute to greener and more liveable cities with more green jobs. While the global impact on job markets cannot be accurately quantified, the International Labour Organization estimates a net gain potential of 18 million jobs through sustainability transitions, mostly at medium-skill levels (ILO, 2019).

**Compensating losers:** Climate and other environmental policies will likely have negative effects on existing jobs in carbon- or resource-intensive sectors, such as fossil fuel energy production and mining, construction, heavy industries, combustion engine-based car manufacturing, and mobility services, including a wide range of supply and maintenance companies for these sectors. Some industries may face a loss of competitiveness if forced to comply with strict regulations too quickly, or if their financial capabilities are not stable or they need to operate in a highly competitive environment. This may lead to job losses or even to the relocation of industries to countries with lower levels of regulation (Schlegelmilch et al., 2017). The employment shifts across enterprises, industries, and sectors may entail adjustment costs for enterprises and workers. Additional government policies, both at national and international levels, may become necessary to support or even trigger these transitions. Shifting employment patterns will require the development of new skills and re-training as well as adjustments to the education system (ILO and UNEP, 2012). The impact will differ across cities, depending on the prevailing economic sectors, the role they play in a globalised economy, and the extent to which the education and vocational training systems provide the necessary skills to the labour force.

## Box 1: Green Jobs in Cities

Green jobs in cities are premised on ensuring a just transition of local employment markets, both formal and informal, and making cities function more sustainably. They are part of a wider inclusive green economy aiming at carbon-neutrality and resource efficiency with a focus on human well-being and social equity while paying special attention to local nature-based solutions.

**Table 1.** Number of green jobs (millions) created in urban sectors by 2030 based on the low-carbon scenario, compared to the BaU scenario.

Sector	BaU scenario	Low carbon scenario	Source
<b>Energy efficiency retrofit for residential energy</b>		5.5	New Climate Institute, 2018, Climate Opportunity: More Jobs; Better Health; Liveable Cities. Quantifying the Benefits of Climate Change Mitigation Measures in Buildings, Transport and Energy Supply
<b>District-scale renewable energy for heating and cooling</b>		8.3	New Climate Institute, 2018, Climate Opportunity: More Jobs; Better Health; Liveable Cities. Quantifying the Benefits of Climate Change Mitigation Measures in Buildings, Transport and Energy Supply
<b>District heating networks, scaled worldwide</b>		3.8	New Climate Institute, 2018, Climate Opportunity: More Jobs; Better Health; Liveable Cities. Quantifying the Benefits of Climate Change Mitigation Measures in Buildings, Transport and Energy Supply
<b>Waste management process</b>		2.9	Ribeiro-Broomhead, J., and Tangri, N. (2021). ZeroWaste and Economic Recovery: The Job Creation Potential of Zero Waste Solutions. Global Alliance for Incinerator Alternatives.

The sources for 1, 2, and 3 can be found at <https://c40.my.salesforce.com/sfc/p/#36000001Enhz/a/1Q0000001nkQ/4a8rov5IElzbqs.8D.JWfxBwY1eUvYHvy6JySnssi8c>  
The source for 4 can be found at <https://zerowasteworld.org/wp-content/uploads/Jobs-Report-ENGLISH-2.pdf>

Eight interrelated fields of action are identified for cities where the trade-offs between ‘winners’ (+) and ‘losers’ (-) may materialise:

Sectoral actions	Horizontal actions
<p>(+) Integrated land use and water management planning towards a compact city concept, addressing informal urban development, disaster risks, food security and strategic resource-use planning for green infrastructure and a circular economy</p> <p>(-) Short-term job losses in the informal sector and increased costs for planning and construction, given the longer time needed and increased complexity</p>	<p>(+) Expand or retrofitting of green, blue, and hybrid urban infrastructure services as a cross-cutting issue in integrated planning (e.g., just and resource-efficient water supply systems)</p> <p>(-) Temporary job losses in dominant infrastructure and mobility sectors (car manufacturing, conventional construction sector)</p>
<p>(+) Green buildings and construction materials to retrofit the existing building stock and guide new constructions including the development of a locally anchored green construction sector</p> <p>(+) Need for immediate training of workers as well as development, production, and marketing of construction materials</p>	<p>(+) Urban tech for people-centred smart city tech that enhances both the quality and efficiency of urban services while creating decent jobs and support for keeping and attracting digitally savvy knowledge workers</p> <p>(-) Relatively small number of jobs and risk of growing inequalities and access gaps for low-skilled workers and digitally unsavvy citizens</p>
<p>(+) Sustainable mobility and urban transportation by developing mobility options with locally applicable technology and job creation, also at the level of unskilled workers</p> <p>(-) Temporary job losses and skills devaluation related to individual, combustion-based transport, such as taxi drivers, or car manufacturing and maintenance</p>	<p>(+) Circular economy approaches ensuring solid waste avoidance and management, repairing, sharing, and recycling to tap unexhausted potential and create jobs, also for unskilled workers</p> <p>(-) Job losses in the informal circular economy activities, such as waste picking, by formalising waste management and recycling systems</p>
<p>(+) Support for investments in renewable energy infrastructure while also addressing energy efficiency as a cross-cutting issue for the built environment, manufacturing, and transport</p> <p>(-) Job losses in fossil fuel energy, such as coal mining and refinery, and risk of higher energy prices</p>	<p>(+) Embedding of just transition within a broader policy framework that ensures equal access to decent quality jobs for women, bringing women into leadership, and improves the rights of informal sector workers</p>

Source: Own compilation based on Scholz, Wolfgang and Fink, Michael (2022). Green jobs in cities: challenges and opportunities in African and Asian intermediary cities. DIE discussion paper 7/2022. German Development Institute (DIE).

These fields of action can serve to identify interest constellations and to discuss options to develop transformative initiatives with local stakeholders. Strengthening the city level as outlined in the New Urban Agenda is key: enabling municipalities to raise their own resources and attract business and innovation agents as well as develop and implement green, blue, and hybrid infrastructure projects.

A just transition towards an inclusive green economy has important implications for jobs and employment worldwide. It holds great potential for new job opportunities through greener economic activities, although some may only materialise in the medium to long term. At the same time, compensating for short-term employment losses in carbon- or resource-intensive sectors is needed for social cohesion. Both the 'winners' and 'losers' play essential roles in the

required just transition. To break the carbon lock-in and transform all economic sectors towards more sustainable and environmentally friendly practices, it is necessary to 'develop... new perspectives for and with those who stand to lose' (IISD 2018), including future generations, and to unlock the innovative potential of those who can benefit from the transformation. To fortify sustainability and growth, the transition should also contribute towards equity outcomes more broadly by closing the gender gap in the labour markets. This means putting in place criteria for equal access to skills development and employment at sectoral and horizontal action levels. Additionally, the overall framework for just transition must also consider the structural barriers to gender parity in the labour market; for example, by addressing issues of unpaid care and extending rights to women in the informal sectors.

## National Policy and Institutional Structures to Catalyse Green Investments in Cities

Apart from these city-based solutions, an enabling national framework for green jobs is needed. This requires the design of a complex policy mix covering fiscal, environmental, economic, employment, training, and innovation aspects. Governments should work towards creating a stable and enabling policy environment to attract private investments in the green sectors while reducing borrowing costs for developers. This can be done by introducing or strengthening existing policies and regulations that promote the deployment of green technologies, including fiscal and financial incentives. Providing clear policy signals of long-term support for green sectors by setting medium- and long-term targets for renewable energy, energy efficiency, e-mobility, and the circular economy in National Determined Contributions (NDCs) and long-term low emissions development strategies (LT-LEDS) could mobilise project developers and institutional investors. In addition, local climate actions must be vertically integrated with LT-LEDS and NDCs, whereas urban LT-LEDS could be developed and aligned with national climate strategies.

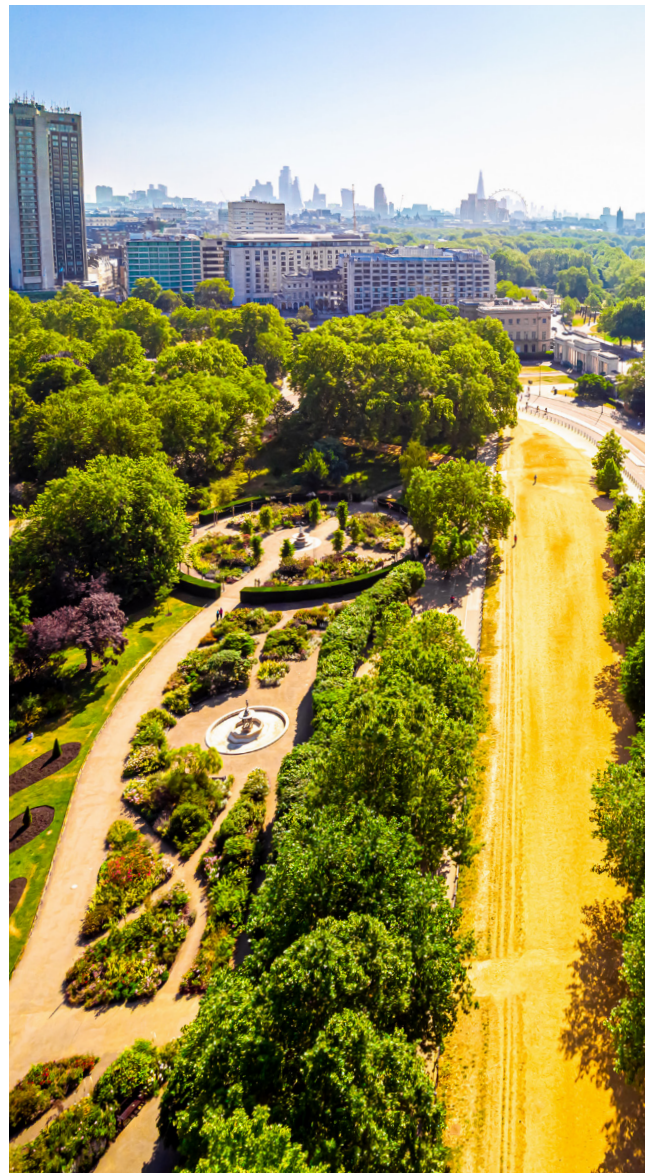
At the same time, policy design should aim to catalyse adequate financing; globally, the estimated needs for sustainable urban infrastructure exceed 4.5 trillion USD (CCFLA 2015). Green taxation can help to bridge parts of this finance gap. Eco-social fiscal reforms

at the national level can also increase cities' fiscal leeway. Most cities in developing countries lack their own resources and have a weak tax base. Revenues from carbon taxes, for instance, could be earmarked for the promotion of green urban development initiatives. Land value capture instruments could be utilised by cities to harness the benefits and finance low-carbon and nature-based infrastructure projects. Development cooperation should thus significantly expand its efforts to support the existing approaches for socially inclusive, ecological fiscal reforms in developing and emerging countries (Altenburg et al., 2022; Cottrell et al., 2016). The second reform needed is vocational training and re-skilling of both formal and informal labour forces to compensate for job losses and ensure social cohesion and political stability. The adoption of innovative green and low-carbon technologies is expected to lead to demand for high-skilled labour in sectors like renewable energy, e-mobility, and the circular economy and should be carefully addressed through the collaboration of higher education and vocational training institutions, the private sector and national and city governments (GGGI, 2020). Multilateral organisations can also provide support and bring in international experience for enhanced learning and sharing best practices, in partnership with national and sub-national governments. European experiences in dual educational systems can serve as inspiration.



## Policy Recommendations

1. **Assess local potential for green jobs.** Cities should assess the potential for green jobs creation to better understand the opportunities and needs of the green urban transition. They can do this by investing or mobilizing investments in green urban interventions such as urban waste management and the circular economy, energy efficiency in buildings, district heating and cooling, and sustainable transport. Partnerships with local universities and international organisations can support these types of assessments.
2. **Engage with national policies (e.g. climate, industrial).** Cities should engage with relevant emerging national government policies while supporting the creation of 'ecosystems' of low-carbon businesses and industries, by utilising and encouraging networks of universities, the private sector, non-governmental organisations, and others.
3. **Match education offer with skills needs (both for high and low tech).** Cities need to understand the occupational and skills requirements of the green transition to ensure that the labour force is well equipped to support and benefit from the transition. Cities can work closely with education institutions, businesses, and national governments to ensure that local skills provision matches with the new business opportunities offered by the development of green sectors. They could support vocational training and re-skilling programmes of both formal and informal workers in carbon-intensive sectors to ensure a smooth green urban transition that is also widely acceptable and socially just. At the same time, they should support green capacity building to meet the likely additional demand for medium- to high-skilled labour resulting from the adoption of innovative green and low-carbon technologies.
4. **Curate communities of practice and exchange across sectors and countries.** It is important to capitalise on the existing knowledge and experience of municipal, academic, and private sector experts in green sectors worldwide by creating international, regional (e.g., Southeast Asia), and national networks to exchange experiences, share promising practices, co-produce knowledge, and co-design green tailor-made solutions that could maximise the job creation potential of cities. South-South cooperation and knowledge transfer can help to replicate and scale up promising approaches. Experts from African and Asian cities could, for example, learn from their Latin American counterparts about recycling, public transport systems, and civic participation. Experts from Asia, on the other hand, could contribute insights about smart city solutions. Development cooperation could advance local South-South just transition partnerships that organise peer exchange on green place-based economic development with city networks and associations, national and multilateral development banks, and philanthropies. This would be a local building block for national efforts, such as the multi-donor Just Energy Transition Partnership with South Africa.
5. **Establish targeted funding mechanisms and multi-sectoral partnerships.** Local and national governments can design just transition programmes and establish just transition funds to compensate for short-term employment losses in carbon- or resource-intensive industries, ensuring social cohesion and wider acceptance and implementation of green interventions. Development cooperation can play a key role in providing technical and financial assistance to these efforts.
6. **Close the gender gap.** Cities should enhance equity outcomes by contributing to closing the gender gap in the labour markets. Local governments, in close cooperation with national governments, should ensure equal access to skills development and employment at the sector and intervention levels. Frameworks for just transitions must consider the structural barriers to gender parity in the labour market; for example, by addressing issues of unpaid care and extending rights to women in the informal sectors.



## References

---

Altenburg, T. et al. (2022). Ökologische Strukturpolitik: Ein starker Profilbaustein für die deutsche Entwicklungszusammenarbeit. DIE discussion paper (unpublished). Bonn: Deutsches Institut für Entwicklungspolitik.

CCFLA. 2015. State of City Climate Finance 2015. Cities Climate Finance Leadership Alliance.

Cottrell, J., Schlegelmilch, K., Runkel, M., and Mahler, A. (2016). Environmental tax reform in developing, emerging and transition economies. DIE discussion paper 93, Bonn: Deutsches Institut für Entwicklungspolitik.

Grafakos, S., Senshaw, D., Quezada, D., and Toro, A. (2020), Employment Assessment of Renewable Energy: Power sector pathways compatible with NDCs and national energy plans. Global Green Growth Institute (GGGI), Seoul.

IISD (International Institute for Sustainable Development) (2018). Real people, real change: Strategies for just energy transitions.

ILO (International Labour Organization) (2019). Skills for a Greener Future. Geneva.

ILO (International Labour Organization) & UNEP (United Nations Environment Programme) (2012). Working towards sustainable development: opportunities for decent work and social inclusion in a green economy. Geneva.

Schlegelmilch, K., Eichel, H. and Pegels, A. (2017). Pricing environmental resources and pollutants and the competitiveness of national industries. In: Altenburg, T., and Assmann, C. (Eds.) (2017), Green Industrial Policy. Concept, Policies, Country Experiences (p. 102–119). Geneva, Bonn: UN Environment; German Development Institute (DIE).

Scholz, Wolfgang, and Fink, Michael (2022). Green jobs in cities: challenges and opportunities in African and Asian intermediary cities. DIE discussion paper 7/2022. German Development Institute (DIE).

United Nations (2018). 2018 Revision of World Urbanization Prospects. Department of Economic and Social Affairs. United Nations, New York.



**The Global Green Growth Institute**

19F Jeongdong Building, 21-15, Jeongdong-gil,  
Jung-gu, Seoul, Korea 04518

**Follow our activities on Facebook and Twitter.**



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

