



► Jobs in a net-zero emissions future in Latin America and the Caribbean

Copyright ©2020 Inter-American Development Bank ("IDB") and International Labour Organization ("ILO"). This work is licensed under a Creative Commons IGO 3.0 Attribution-NonCommercial-ShareAlike (CC-IGO 3.0 BY-NC-SA) license (https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode) and may be reproduced with to the IDB and ILO and for any non-commercial purpose in its original or in any derivative form, provided that the derivative work is licensed under the same terms as the original. The IDB and ILO are not liable for any errors or omissions contained in derivative works and do not guarantee that such derivative works will not infringe the rights of third parties.

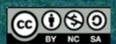
Any dispute related to the use of the work that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's or ILO's name for any purpose other than for attribution, and the use of IDB's or ILO's logo shall be subject to a separate written license agreement between the respective organization and the user and is not authorized as part of this CC-IGO license. The link provided above includes additional terms and conditions of the license.

The views expressed in this work are those of the authors and do not necessarily reflect the views and policies of the IDB or its Board of Governors or the governments they represent or of the ILO. Unless otherwise stated, boxes, figures, and tables without explicit sources were prepared by the authors.

The mention of specific companies or products of manufacturers does not imply that they are endorsed or recommended by IDB and ILO in preference to others of a similar nature that are not mentioned.

By making any designation of or reference to a particular territory or geographic area, or by using the term "country" in this document, IDB and ILO do not intend to make any judgments as to the legal or other status of any territory or area.

Note: In this work, "\$" refers to US dollars and the link provided above includes additional terms and conditions of the license.



Suggested citation: Saget, Catherine, Vogt-Schilb, Adrien and Luu, Trang (2020). Jobs in a Net-Zero Emissions Future in Latin America and the Caribbean. Inter-American Development Bank and International Labour Organization, Washington D.C. and Geneva.

ISBN: 978-92-2-133157-5 (print) 978-92-2-133158-2 (web pdf)





The pandemic has cruelly exposed the vulnerability of our societies. The troubling levels of inequality have ensured the coronavirus has hit hard even the most prosperous countries in Latin America and the Caribbean. Informal workers, who represent 49 percent of employment, have been severely affected by lockdowns and social distancing measures, which have limited or temporarily halted their livelihoods. The region's deficits in terms of decent jobs and social protection make it acutely vulnerable to this situation.

Yet, as countries work to protect citizens from the pandemic, safeguard their economies and look towards the recovery phase, the transition to a green economy offers the promise of creating 15 million net new jobs in Latin America and the Caribbean.

A green and inclusive recovery is essential to help confront the climate crisis and build a better future. If we do not act now, the same vulnerabilities that exposed workers and enterprises to the pandemic will expose them to the climate crisis. The ILO estimates that 2.5 million Latin American and Caribbean jobs could

be lost to heat stress alone by 2030, affecting particularly outdoor workers in construction and agriculture, and street vendors. The IDB projects that by 2050, climate change damages could cost US\$ 100 billion annually to the region.

But the future is not set in stone. As the global economy gradually restarts following the COVID-19 lockdown, now is the time to craft a more inclusive. resilient, and sustainable future. Progress is already being made. The IDB is working with countries to create strategies to reach net-zero emissions by 2050. The ILO is also helping countries, their workers and enterprises prepare for the consequences on domestic labor markets. In recent years, with Getting to Net-Zero Emissions and Greening with Jobs, our institutions have shown that a green economy comes with job creation and other development benefits.

For this report, we have joined forces to identify where jobs can be created in Latin America and the Caribbean while transitioning to net-zero emissions. We have found impressive potential in sustainable agriculture, and in other sectors including forestry,

renewable energy, construction, and manufacturing. This collaborative effort is the first to document how shifting to healthier and more sustainable diets, which reduce meat consumption while increasing plant-based foods, would create jobs while reducing pressure on the region's unique biodiversity.

There can be little doubt that agriculture and forestry hold vast potential for new employment. Latin America and the Caribbean holds 40 percent of the world's biodiversity, almost 50 percent of tropical forests and is one of the world's leading food exporters Progress in this area would allow for the restoration of ecosystems, sustainable agriculture, and, in the longer term, ecotourism, which in turn could create millions of jobs. This will complement those already being created in renewable energy, energy efficient buildings, electric mobility, public transport, manufacturing, and waste management.

As countries prepare expansive recovery plans, there is a compelling case for pursuing both decent job creation and a transition to net-zero emissions. Countries need to establish the right policies to help workers and businesses acquire new skills

through training and education and to create an enabling business environment to capitalize on opportunities and ensure decent working conditions.

The Paris Agreement offers a framework to move forward. All countries in the region have been invited to communicate multi-sector roadmaps towards netzero emissions, while reaffirming the importance of ensuring a just transition for workers, firms, and consumers. Built in consultation with social partners, roadmaps to net-zero emissions can help governments anticipate and facilitate job creation and identify sectors, including fossil fuels and livestock, that can be negatively impacted. Affected workers. communities and enterprises will need social protection, reskilling programs, compensation mechanisms and other policies to bounce back.

The report shares timely lessons to help guide a post-coronavirus recovery that prioritizes the creation of decent jobs and a more inclusive, sustainable, and resilient future. This can be a path to creating a better world for workers and enterprises while also tackling the climate crisis.



Ana Maria Rodriguez-Ortiz

Ana Maria Rodriguez-Ortiz
Vice President for Sectors and Knowledge,
Inter-American Development Bank

Moussa Oumarou
Deputy Director-General for Field
Operations and Partnerships,
International Labour Organization

# Acknowledgements

The report Jobs in a Net-Zero Emissions Future was written by Catherine Saget. Chief of the Work Income and Equity Unit, ILO Research Department; Adrien Vogt-Schilb, Senior Economist at the Climate Change Division, IDB Climate Change and Sustainable Development Sector; and Trang Luu, ILO Research Department. It was coordinated by Catherine Saget and Adrien Vogt-Schilb. Significant contributions from Tahmina Karimova, Severin Baumann, and Antoine Bonnet (ILO Research Department), Guy Edwards (IDB Climate Change Division), Kirsten Wiebe (SINTEF), and Johannes Tobben (GWS-OS) are acknowledged.

We are particularly grateful for the insights and suggestions provided by Vinicius Pinheiro, ILO Regional Director, Latin America and the Caribbean; James Howard, Senior Adviser to the ILO

Director-General; Graham Watkins, Acting Chief of the IDB Climate Change Division; and Ana Maria Rodriguez-Ortiz, Vice President for Sectors and Knowledge at the IDB.

The team thanks numerous colleagues from IDB and ILO for their constructive comments and suggestions at various stages of the project. We are grateful to IDB colleagues Claire Bentata, Dulce Dias, Marie-Lena Glass, Esperanza Gonzalez, Hector Valdes, Isabella Marinho, Michelle Carvalho Metanais Hallack, Juan Manuel Murguia, Laura Ripani, Graciana Rucci, Jose Manuel Sandoval, Manuel Urquidi, and Ariel Yepez-Garcia. The team also appreciates the comments received from the participants in the IDB seminar on Greening with Jobs presented by Guillermo Montt (ILO) in November 2018. Our special thanks go to Ana



Sanchez, ILO Green Jobs Specialist for Latin America and the Caribbean, who provided extremely helpful suggestions and support to the project. We thank the following colleagues from the ILO: Christina Behrendt, Floriana Borino. Luis Cordova, Marva Corley-Coulibaly, Christoph Ernst, Angela Doku, Veronica Escudero, André Gama, Sajid Ghani, Sabrina de Gobbi, Moustapha Kamal Gueye, Claire Harasty, Marek Harsdorff, Waltteri Katajamaki, Emmanuel Julien, Jean-Louis Lambeau, Hannah Liepmann, Elizabeth Echeverría Manrique, Valter Nebuloni, Ira Postolachi, Elisenda Estruch Puertas, Pelin Sekerler Richiardi, and Lucie Servoz.

We are also grateful for valuable feedback on the report provided by Slim Dali, Antoine Godin, Farid Lamara, Guillaume Meyssonnier, Florence Mouton and Cecilia Poggi from the Agence française de développement; Russell Bishop, Isabel Blanco, and Mattia Romani from the European Bank for Reconstruction and Development; and Steven Stone from UN Environment.

The report was edited by Rita Funaro. Graphic design by Eveliz Jurado. Cover design by Priscille Latchman.

This report benefited from funding from the IDB's Economic and Sector Work (RG-E1563), the IDB's French Climate Fund (RG-T3193) and the ILO.





The devastation of COVID-19 has forced households, businesses, and governments to rethink how the natural environment connects with their economies and societies. Today, prevailing decent work deficits, inequalities, and dependence on fossil fuel exports make Latin America and the Caribbean particularly susceptible to the social and economic impacts of the pandemic. These same issues will make the region vulnerable to the impacts of climate change tomorrow. In response to the pandemic, a just transition to net-zero emissions can redress the adverse economic and social impacts of the global crisis and at the same time provide an opportunity to create employment, tackle inequality, and boost inclusive growth.

International commitments provide a framework to build a future with better jobs, greater equity, and a healthy environment. The parties to the Paris Agreement have been invited to design and communicate a strategy to progressively transition towards net-zero carbon emissions. This report highlights the potential to create 15 million net iobs in sectors such as sustainable agriculture, forestry, solar and wind power, manufacturing, and construction during such a transition. With adequately designed measures to ensure that these jobs are decent and that those who lose out in the transition are protected and supported, recovery plans can stop the climate emergency while also boosting growth, tackling inequality, and making progress towards the Sustainable Development Goals.

### A Brighter Future with **Net-Zero Emissions**

### The Need

Stabilizing climate change below 2°C and as close to 1.5°C as possible, the objective set in the Paris Agreement, requires getting to net-zero carbon emissions by around 2050 (IPCC, 2018). Reaching netzero carbon emissions, or decarbonizing the economy, means reducing manmade emissions of carbon due to human activities, such as fossil fuel combustion, and balancing out remaining emissions, for instance by planting trees at scale.

### The Feasibility

Latin America and the Caribbean can achieve carbon-free prosperity through immediate and parallel actions around five pillars (IDB and DDPLAC, 2019): (i) phasing out fossil fuel electricity generation and replacing it with carbonfree sources such as wind and solar power; (ii) using electricity instead of fossil fuels for transportation, cooking, and heating; (iii) increasing public and nonmotorized transportation; (iv) halting deforestation and planting trees, which will require shifting diets away from animal-based foods towards more plantbased food, and; (v) reducing waste in all sectors, recycling materials, and switching to sustainable construction materials, such as wood or bamboo. The required transformations go further than the first round of Nationally Determined Contributions (NDC) that countries presented after the Paris Agreement.

NDCs are widely acknowledged to be insufficient to achieve net-zero emissions by 2050 and the overall goal of the Paris Agreement: limiting global warming between 1.5°C and 2°C above preindustrial levels.

### The Economic Opportunity

Thanks to its rich resources and relatively low level of population pressure, the region is well-endowed to make a transition to net-zero. The cost of key technologies, such as renewable power or electric vehicles. has dropped dramatically, to the point where zero-carbon solutions are often cheaper than incumbent fossil fuelbased technologies. Decarbonization also comes with immediate benefits. Already, renewable electricity is often cheaper than fossil fuel alternatives and is a solution for electrifying remote rural areas and serving poor and marginalized populations. Efficient public transport can improve worker productivity and reduce the health and socioeconomic impact of air pollution, noise, and accidents. Diets that rely relatively less on meats and dairy can be healthier.

### The Challenge

The road to a net-zero carbon world is littered with obstacles. One challenge is to ensure a just transition by making the shift as equitable as possible based on a participatory approach (ILO, 2018). Despite more than a decade of steady progress, the region is still struggling with gender and ethnic inequalities, skills gaps, insufficient social protection, and a large informal sector (Alaimo et al., 2015). Advancing social and environmental goals together means ensuring that workers and enterprises have the skills

needed for a net-zero carbon future and enjoy decent work conditions. A just transition also means supporting workers, firms, and communities that will be negatively affected by downsizing the most polluting industries such as fossil fuel extraction or livestock herding. Social dialogue-from the simple exchange of information between the private sector. trade unions, and governments to negotiating solutions-can help design climate-friendly solutions that are aligned with sustainable development goals and widely accepted by local stakeholders. Education and public information are essential to achieve a net-zero emissions economy.

## Jobs in a Net-Zero Economy

Decarbonization needs not be done at the expense of jobs and growth. By 2030, structural changes in production and consumption patterns can result in 15 million more jobs in Latin America and the Caribbean compared with a business-as-usual scenario. The gain in employment will largely be the result of changes in diets, and to a lesser extent of decarbonizing the energy system.

### Winners and Losers from Decarbonization

In the transition to a net-zero carbon economy, 7.5 million jobs are destroyed in fossil fuel electricity, fossil fuel extraction, and animal-based food production. However, these lost jobs are more than compensated by new employment opportunities, as 22.5 million jobs are created in agriculture and plant-based food production, renewable electricity, forestry, construction, and



manufacturing. To ensure a just transition, efforts to promote decarbonizing must be accompanied by policies that facilitate the reallocation of workers, promote decent work in rural areas, offer new business models, and support displaced workers and their communities.

## Shakeups in the Food and Energy Sectors

Dietary changes turn out to be the main driver of the labor impact of decarbonization, affecting one of the largest employers in the region: the agri-food sector. Shifts in diets create 19 million more full-time equivalent jobs in plant-based agriculture in 2030, but 4.3 million fewer jobs in livestock herding, poultry, dairy, and fishing. Job creation and destruction in the power sector are modest in terms of the total number of jobs in the economy, but important as a share of total employment in the

sector. The transition results in 60,000 fewer jobs in fossil fuel power plants and 100,000 more renewable electricity jobs. Construction, manufacturing, and forestry also enjoy net job creation.

## Taking Care of Unfinished Business

## Reskilling Workers and Enterprises

More than half of the 22.5 million jobs created are in the medium-skill category (13.5 million), one-third in the low-skill category (8 million), and 1 million in the high-skill category. These new low- and medium-skill jobs will benefit part of the 66 million people who are being underutilized in the labor market, including 9 million unemployed youth (ILO, 2020). Many people who lose their jobs in carbon-intensive sectors may find

Labor underutilization includes the unemployed, those who are employed but want to work more hours, and those unemployed but not currently available or looking for a job.

a new one that makes use of their skills in new industries after brief retraining or on-the-job training. Enterprises also need to acquire new skills to cope with climate change impacts. Training can strengthen entrepreneurial management skills to foster the adoption of innovative, environmentally friendly technology, human resource development, and better productivity. Updating curriculums is also key to make sure future workers receive an education that allows them to take part in the transition.

### **Furthering Gender Equality**

More than 80 percent of the new jobs created by the decarbonization agenda will be in today's male-dominated sectors. Women will not benefit from job creation unless the current gender segregation by occupation is addressed.

## **Ensuring New Jobs A Decent Jobs**

Policies must ensure that new jobs created in emerging sectors such as plant-based agriculture and renewable energy are decent jobs. Agricultural workers, and more generally workers in rural areas, often lack access to social protection; strategies to extend both contributory and noncontributory social protection coverage in rural areas need to be strengthened. Rural workers can also benefit from strategies to improve risk management in agriculture such as drought sensitive insurance. Occupational safety and health measures can help enhance the quality of jobs in agriculture. On a broader level, decarbonization can improve food security and bring better jobs if it embraces rural

development objectives. This may require strengthening public services such as rural infrastructure service provision. It is also important for producers to have access to markets and to integrated into supply chains so that they benefit from changes in market demand. The quality of jobs created in sustainable tourism and waste management also needs careful monitoring.

### Making Social Protection More Effective

Social protection systems need to be adapted and made more responsive to climate and other adverse shocks to protect people from the impacts of both climate change and climate-related policies. Necessary measures include, but are not limited to, unemployment benefits, pensions for old-age workers, and universal health care access. The COVID-19 pandemic further underlines the importance of an inclusive and efficient health-care and social protection system as countries with effective health coverage and social protection are better equipped to protect their populations from threats to their lives and livelihoods. These measures are extremely important to support and protect vulnerable workers, firms, and communities as they cope with short-term shocks.

## Firms and Workers as Agents of Change

New business models, certification processes, and enterprise-level initiatives can facilitate a just transition in the workplace by firms and workers. Green finance can spur environmentally sustainable efforts, especially in the

context of micro, small, and mediumsized enterprises. Other sustainable practices—including green public procurement, education, teleworking, economic incentives to change consumption and production patterns, and the promotion of environmental rights at work—can improve resource efficiency, reduce waste, and promote responsible workplaces. The positive environmental impacts of the COVID-19 pandemic will be short-lived, but they point to the potential long-term effects that behavioral changes and effective measures can have. Teleworking, virtual meetings, e-commerce, sustainable modes of transport, and the promotion of local products have gained popularity with the pandemic. These measures should be kept and combined with efforts to ensure decent work conditions and reduce inequality, once the economy returns to normal.

### Coherent Environmental, Labor, and Sector Policies

More can be done to articulate environmental, industrial, and labor policy, and to promote changes at the sector level. All countries in the region have ratified the Paris Agreement and must now develop strategies to

drastically reduce emissions by 2050. Such strategies should be designed with all relevant stakeholders, including social partners. A shared approach will allow all stakeholders to anticipate the impact of decarbonization strategies on jobs, skills, and gender equality, and ensure a just transition in both the subsectors that need to be downsized and those with the potential for job creation. Such strategies are also key to ensuring that short-term policies to reduce emissions are aligned with the need to reach net-zero carbon emissions

It is time for a transition to a net-zero future that leaves no one behind. Many options such as renewable energy are not only cheaper than current sources. they also create more jobs and can provide better service, especially to poor and remote communities. Government policies, such as skilling and reskilling, are needed to help people transition to the growing sectors while social programs must support those who may be negatively affected. Social dialogue and co-construction with all stakeholders can help governments coordinate social, environmental, and sector development goals and ensure that workers, firms, and communities are prepared to thrive in a net-zero economy.

### References

- Alaimo, V., Bosch, M., Kaplan, D.S., Pages, C., Ripani, L., 2015. Jobs for Growth. Inter-American Development Bank, Washington, D.C.
- IDB, DDPLAC, 2019. Getting to Net-Zero Emissions: Lessons from Latin America and the Caribbean. Inter-American Development Bank and Deep Decarbonization Pathways for Latin America and the Caribbean, Washington, D.C.
- ILO, 2020. World Employment and Social Outlook: Trends 2020. International Labor Organization, Geneva.
- ILO, 2018. World Employment and Social Outlook 2018: Greening with Jobs. International Labour Organization, Geneva.
- IPCC, 2018. Summary for Policymakers, in: Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty. Cambridge, United Kingdom and New York, NY, USA.

The signatories of the Paris Agreement have agreed to pursue efforts to limit global warming to between 1.5°C and 2°C. At the same time, governments are now focused on economic and social recovery with an emphasis on job creation. It is crucial to advance on all fronts.

Jobs in a Net-Zero Emissions Future quantifies job losses and job gains in the transition to a net-zero carbon economy. It finds that 15 million net jobs can be created in the region by 2030. Transformations in agriculture, forestry, energy, transport, waste management, tourism, and construction make decarbonization possible and can create jobs, unlock economic and social benefits, and help protect the region's unique natural resource treasures.

By reading this report, decision-makers and technicians will gain insight into the role of social dialogue, co-construction with public and private stakeholders, and the involvement of environment, labor, and line ministries in the design of public policies and development strategies that can deliver a just transition towards inclusive carbon-free prosperity.



