

## **Urban energy poverty must be understood to achieve just transitions: insights from Latin America and the Caribbean**

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Countries in Latin America and the Caribbean (LAC) have experienced rapid urbanisation in recent decades, but have lacked institutional strength to adequately respond to growing demand for infrastructural systems. There are issues with affordability, adequacy, reliability, and safety across various key urban infrastructures, including drinking water, energy, and transport. LAC countries also face social challenges, particularly with regards to the Sustainable Development Goals for poverty reduction, education, peace, and gender equality, which compound infrastructural issues, and impair population well-being. Focusing on energy poverty, there are some major pinch points to achieving just transitions in LAC.

*LAC has significant inequalities in access to clean, affordable, and reliable energy*

The LAC region has a high average rate of access to electricity (98.3%), with multiple success stories of countries transitioning to generating 99% or more of primary energy from renewable energy, including Costa Rica and Paraguay. However, these figures disguise an uneven pattern of domestic energy access, with an extremely low connectivity rate of 45.3% in Haiti, followed by 88.1% in Nicaragua, and 91.8% in Guyana (World Bank, 2021a); it also ignores the additional challenges of electrification within so-called 'Small Island Developing States' (Surroop et al., 2018). Moreover, it overlooks quality of supply: data from the World Bank's Enterprise Surveys shows that 64.8% of businesses in LAC have experienced electrical outages, with an average of 2.1 outages in a typical month, each lasting 2.7 hours on average, leading to 26.0% of businesses owning or sharing a generator (World Bank, 2021b). This is despite the fact many parts of LAC are rich in energy resources. Indeed, the history

and identity of many LAC communities is deeply intertwined with natural resources and the conflicts around its extraction and use by colonial and neo-colonial powers (González Salinas 2016, Riofrancos 2017).

### *Simplistic measures of energy poverty hinder action for just transitions*

Reducing energy poverty is typically implicit when just energy transitions are invoked.

Energy poverty is a relatively nascent topic of study within LAC, despite it being one of the most diverse and populous regions of the world. This means most countries in the region are relying solely on simplistic metrics of access to understand energy deprivation, thus overlooking more complex dynamics associated with energy poverty. An in-depth review of academic and grey literature highlights two pertinent observations about the evidence base for LAC (Thomson et al. 2021):

First, quantitative energy service-based approaches, such as adapted Multidimensional Energy Poverty Indexes (MEPIs), have been dominant across LAC. This is an interesting observation since energy services-based approaches generally indicate that higher levels of energy poverty are found within rural areas (Hernandez et al., 2018; Castelao Caruana et al., 2019), attributed to lack of adequate infrastructure and poor housing quality. By comparison, metrics based on energy expenditure, as found in Brazil and Mexico (Piai Paiva et al. 2019), point towards higher probability of energy poverty in urban areas. In Mexico, this observation can be attributed to reduced opportunities for using locally sourced firewood, as well as increased expenditure on electricity. This has distribution justice implications and points to the need for research that integrates both energy expenditure and energy services to detect different dimensions of energy poverty, and to ensure urban energy deprivation issues are adequately captured.

Second, studies in LAC mainly, but not exclusively, answer questions relating to: *How many people are energy poor?* and *Which regions are most impacted?* But fail to provide evidence to questions such as: *What are the characteristics of an energy poor household?* and *Who is most affected?* As such, there is an urgent need for intersectional analyses of social vulnerability to energy poverty, with greater geographical specificity, and focus on urbanisation.

### *There are institutional and socio-legal challenges to just transitions in LAC*

Despite its size (spanning 33 countries and 15 recognized territories of other countries) and shared characteristics - including languages, cultures, climate, and processes of post-colonial recovery - LAC lacks institutional 'unity' akin to the European Union polity. On the one

hand, the region enjoyed several waves of institutional integration that resulted in the creation of political or economically oriented regional institutions, such as UNASUR (Union of South American Nations), CARICOM (Caribbean Community), OAS (Organization of American States), MERCOSUR (Southern Common Market), and many others (Pastrana Buelvas, 2013). On the other hand, the results of these integration blocks have been questionable in political and economic terms. Intra-regional exports in LAC only account for 14.6% of the total exports, as opposed to 68.0% in Europe (United Nations Conference on Trade and Development, 2020). LAC is also far from having a solid supranational body of norms equivalent to European law. Besides, some of the political regional organizations, such as OAS and UNASUR, overlap and compete in diplomatic affairs (Nolte, 2018). These circumstances present significant institutional challenges to collective regional efforts to achieve just transitions.

There are no formal definitions of energy poverty in LAC, although many countries informally use the parameters provided by the UN's Economic Commission for Latin America, CEPAL (Montoya, 2020). Several national written constitutions include clauses that allude to the right to have access to electricity as a fundamental good, and for achieving other constitutional rights. Nevertheless, further socio-legal work is needed to ensure that equitable access to affordable, reliable, and safe energy can be guaranteed for all in LAC. This includes designing formal and explicit constitutional recognition of access to energy as a fundamental, interconnected, and interdependent right, instituting new mechanisms for systematically evaluating the quality and reliability of energy carriers (including renewable forms of energy), and implementing new policies to address energy vulnerabilities.