

Energy Transformation, Social Inclusion, and Economic Prosperity in Latin America: An Introduction

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☞ 1. INTRODUCTION ☞

Latin America is endowed with large reserves of fossil fuels and critical minerals, abundant water resources, biodiversity hotspots and carbon sinks, and untapped renewable energy potential. Despite this richness in natural resources, many countries in the region continue to struggle with poverty, unemployment, inequality, and a long list of underperforming sustainable development indicators. The energy transition offers significant opportunities for economic and social transformations in Latin America, and evidence-based studies are needed to better understand potential socio-economic improvement strategies in this setting.

This EEEP symposium examines the implications of recent policy and market shifts due to the energy transition on social inclusion and economic prosperity in Latin America. The symposium brings together fiscal, institutional and political economy analyses on fossil fuel subsidy reform, as well as grounded perspectives on the regional implications of phasing out fossil fuels. It also presents overarching partial equilibrium analyses on the benefits of accelerating the energy transformation towards renewables, not only in the energy system, but in the economy as a whole.

☞ 2. STRUCTURE OF THE SYMPOSIUM ☞

The symposium includes three contributions focusing on energy transformation in Latin America. The papers share the view that shifting from fossil fuel extraction, transformation and use towards renewable energy is necessary. While they diverge on the pace and direction of this shift, it is nevertheless clear that the energy transformation requires deliberate steps to dismantle key pillars of the fossil-based energy system. This may include the phase-out of onerous subsidies or the exclusion of fossil fuel-fired power generation from power system expansion. We present balanced discussions on a rich diversity of topics by highly qualified specialists in the field, respecting EEEP's aim to provide in-depth, non-technical overviews of

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policy analyses and recommendations, as well as conceptual questions that motivate further academic research.

Carlos Munoz-Piña, Mariza Montes de Oca and Marisol Rivera-Planter examine Mexico's carbon pricing experience over the course of the last decade. Through carbon pricing instruments, Mexico managed to transition from a peak of 1.8% of GDP given as fuel subsidies in 2008 to generating positive fuel tax revenues equivalent to 1.6% of its GDP in 2018. This paper analyzes the mechanisms that made fossil fuel subsidies a large burden on public finances, the strategies followed in the five-year phase-out, and the institutional changes that enabled crossing into positive carbon taxation, both explicit and implicit. While the literature on carbon pricing tends to focus on explicit instruments (such as cap-and-trade schemes and carbon taxes), the authors show that it is important to also investigate implicit carbon pricing instruments, such as general excise fuel taxes. The authors assess the contribution of explicit and implicit carbon pricing mechanisms to emission reductions, showing that excise taxes applied to fossil fuels accrue the largest emission reductions across all carbon pricing mechanisms. They also present evidence of decoupling between fuel (gasoline and diesel) consumption and economic growth. Based on their findings, carbon pricing should not be restricted to explicit instruments, but should be calculated as the sum of excise taxes, carbon taxes and other forms of carbon pricing, subtracting any fiscal credits or subsidies present. Additionally, the paper analyzes features that have made the Mexican strategy successful, such as its graduality aimed at political feasibility, long-term political commitment involving at least two administrations, its ability to generate a long-term price signal, and its capacity to weave the momentum of the final stage of its subsidy phase-out into the strategy for structural change that made explicit carbon taxing a permanent element of Mexico's fiscal and environmental policy. Finally, the authors analyze the resilience of the reform to shocks and find encouraging signs that carbon pricing in Mexico is resilient to sharp political changes including an administration favoring fossil fuels, as well as the COVID-19 lockdowns and recession, putting Mexico on track to fully deliver on its updated transportation sector NDC commitments by 2030. In this regard, Mexico's experience with carbon pricing can provide important lessons for other countries in Latin America (and beyond) that have mounting fuel subsidy challenges and require a politically feasible strategy to overcome them.

Andrea Furnaro and Paola Yanguas-Parra examine insights from the decline of coal mining in Cesar (Colombia) to elaborate a critical narrative on stranded fossil fuel assets from the Global South perspective. In 2020, the coal-producing region of Cesar in Colombia experienced a 33% decline in coal production and an unexpected idling of some of its largest coal mines. The paper uses the sharp decline in fossil fuel demand related to the COVID-19 pandemic and its consequences in Cesar as a natural experiment highlighting some of the impacts that can be created by the energy transition in fossil fuel dependent regions in the Global South. Drawing on interviews with stakeholders and the analysis of statistical data and literature, the authors identify various economic impacts for workers, communities, and local governments caused by the structural crisis faced by this activity. Eight challenges that can be of relevance to other coal-dependent regions in the Global South are grouped in two categories: national challenges accentuated at the regional level (young investments, economic and fiscal dependence, high labour informality and low labour protection, weak environmental liability regulations, and environmental races to the bottom), and more regionally-based challenges (poverty exacerbation, vulnerability of informal and low value-added activities, and direct roles of fossil fuel companies in public spending). The authors argue that in such regions many of the impacts

recognized by the literature on the Global North are exacerbated. More importantly, additional challenges of a decline in coal production, particularly the precariousness of local economies based on high levels of informal and low value-added activities, the role of coal companies in social spending, and limited available data and institutional capacity, increase the risk of coal regions becoming stranded. These findings emphasize the importance for governments of fossil fuel dependent countries and regions of implementing risk management mechanisms and preventive measures, as the private sector has been doing recently for regions exposed to global decisions and changes in global markets. Drawing from this analysis, the authors derive policy recommendations suitable for Cesar and other regions in the Global South, such as including a preventive economic reconversion process of regional economies that takes advantages of still existing fossil fuel rents, improving regulatory frameworks to deal with abrupt withdraws of mining titles, and accelerating investments in environmental remediation to ensure appropriate ecological conditions for new productive activities.

Pedro I. Hancevic, Héctor M. Nuñez and Juan Rosellón warn that the continued planning and promotion of a fossil-heavy energy system, as is currently the case in Mexico's "Fourth Transformation" (4T) policies, can have deleterious impacts for Mexico's middle- and long-term prosperity. Comparing a scenario based on the ongoing 4T policies with a second "green scenario" that makes a more ambitious (yet not complete) bet on renewable energy sources, the authors study the impacts of shifting beyond fossil fuels on key economic variables such as GDP growth and employment. The study analyzes the effects of an accelerated decarbonization process in Mexico, where the current administration (2018-2024) has targeted to regain control of the electricity market by the national power company (CFE). Simultaneously, existing investments in renewable energy have been subject to several drawbacks through provisions of the Mexican Energy Ministry. The authors gauge the specific impact on various economic variables of a green path scenario, compared to a baseline scenario that simulates the energy policy agenda of the current administration. The analysis is carried out with an economic focus, rather than with an environmental climate-change emphasis. An endogenous-price partial equilibrium model considers different renewable and fossil fuel sectors, various electricity generation technologies, as well as transmission networks and fuel imports. Complementary calculations are carried out to assess effects on domestic accounts. The main result is that keeping the policy prioritizing fossil fuel generation by the government-owned company will eventually increase revenues, but renewables will not make any progress. In contrast, in the green scenario, economic growth and employment become notably higher, and GHG emissions are substantially reduced, providing higher social welfare levels.

✎ 3. CONCLUSION ✎

Positioning the energy transformation as a vector for social inclusion and long-term prosperity is central to establishing how climate change mitigation can offer opportunities for social and economic development in Latin America. In this EEEP symposium, the reader will be able to deepen into various core issues in the current debate on this subject. Of course, many other topics remain pendant, such as the more macroeconomic and societal implications of a global fossil fuel phase-out for countries that depend on fossil-fuel rents or the challenges and possibilities of 100% renewable energy systems. This is a potential topic to develop in future EEEP symposia.



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