

ECE: Sound Foundation for Sustainable Development

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I. INTRODUCTION

In Latin America and other parts of the developing world that are striving to realize the goals of sustainable development, environmental compliance and enforcement (ECE) institutions provide a critical nexus between policies designed to channel economic growth in more sustainable directions and the regulatory oversight of licensed activities (GGKP 2015, Koźluk 2014). Such policies aim to achieve win-win, “green growth” synergies, where positive economic and environmental (broadly defined) outcomes are simultaneously achieved. A growing body of literature suggests that green growth synergies can be successful if ECE capacities are sufficiently robust to support them. (GGKP 2015).¹ Since sustainable development goals frequently compete with opportunities to exploit natural resources in ways that cause lasting harm, ECE capabilities are critical to ensuring a level playing field and maximizing the economic value of pursuing green growth pathways (Delreux 2016, OECD 2009). This paper proposes that fostering sustainable development in Latin America will require not only strengthening capacity for enforcement against the worst environmental offenders, but also enhancing the effectiveness of compliance promotion and assistance programs implemented by ECE authorities to support environmentally proactive industries.

Existing studies suggest that universal indicators for the economic success of ECE interventions remain elusive. (GGKP 2015). In addition, compliance and enforcement mechanisms in Latin America vary widely across countries, sectors, and environmental issues. ECE institutions in this region must often enforce regulatory requirements that are interwoven with private sector requirements in many green growth industries. However, some Latin American ECE institutions have also developed programs to proactively promote and support the adoption of environmentally sustainable business processes. These efforts represent important capacity building focal points, since industries at the forefront of green growth (e.g., cleaner production, renewable energy, and sustainable infrastructure) help set the agenda for broader environmental compliance goals.

II. BACKGROUND

Role for environmental compliance and enforcement authorities in supporting green growth

Although the capacity to police environmental crimes remains as critically important as ever, ECE institutions in Latin America increasingly help reinforce political and private sector commitment to proactive, rather than reactive, approaches to environmental compliance and sustainability (OECD 2015). Government ECE institutions can provide an enabling environment for green growth in a number of ways. These include verifying and recognizing sustainable performance (avoided pollution and waste, healthy conditions), compliance promotion and assistance, creating certainty that compliance is the least expensive pathway, ensuring the

¹ This document is a pilot for an elaborated mapping of ECE components of environmental governance in Latin America and those needed to provide foundational support for green growth.

integrity of environmental auditors and certification schemes, and backstopping compliance programs with the rule of law (OECD 2013).

III. CONVERGING ENVIRONMENTAL AND ECONOMIC SUCCESS: CASE EXAMPLES

This section highlights four examples of national environmental policy implementations that aim to harmonize environmental objectives and economic competitiveness. These examples operate within regulatory environments that may involve complex interrelationships between public and private sector governance and which require distinctive government ECE mechanisms. “Economic competitiveness” is defined to encompass not only market advantage and profits, but also cost savings and increased GDP.

1. Cleaner production

Under this approach, a commercial enterprise provides goods or services that can be distinguished from similar goods and services based on the sustainable manner in which they are produced (USAID 2010). These products have an intrinsic “environmentally friendly” pedigree for which the enterprise can receive a price premium, enjoy a competitive market advantage, and realize cost savings. Compliance requirements include both generalized and sector-specific legislation, as well as industry standards for maintaining green credentials (Ashton 2015). Noncompliance results in regulatory enforcement actions (administrative sanctions, fines, warnings, facility closure) and industry actions (suspension of green credentials, reduced market access) (CNP+LH 2009). In Honduras, “incentives and other voluntary and flexible mechanisms” are a pillar of the [National Strategy for Compliance with Environmental Legislation](#). Honduras also has a [National Strategy for Cleaner Production](#).

Case example: Green textile industry in Honduras

In Honduras, cleaner production (*Producción Más Limpia* (P+L)) methodologies have been refined by the National Center for Cleaner Production (CNP+LH) in collaboration with the national environmental ministry, SERNA. The owners of textile companies that commit to the cleaner production practices enjoy a competitive advantage in two ways: (1) increased market visibility and access, and (2) cost savings through reduced waste (OAS 2014). Although participation in P+L is voluntary, companies commit to the program by obtaining an environmental license through SERNA, transforming the P+L procedures into mandatory legal requirements. Participating companies must submit to monitoring by both private sector and government auditors and inspectors. SERNA has played a significant role in developing P+L standards and methodologies for over twenty sectors and has created a national reference laboratory (CESSCO) to assist in monitoring environmental performance.

2. Market-based instruments

This category of green growth synergies exists primarily to meet the demands of regulatory instruments, such as emission taxes and tradeable allowances (cap-and-trade), which governments establish to achieve specific objectives (e.g., decreased fuel emissions) through market signals (Kozłuk 2014).

Case example: Green certification of biofuels in Brazil

The production of biofuels in Brazil (ethanol and biodiesel) is based primarily on the use of sugarcane as a feedstock (EC 2016). Originally promoted under Brazil's [Proalcool](#) program to achieve national energy independence, Brazilian ethanol production now helping meet the demand driven by renewable fuel mandates in Europe and North America. Domestically, ethanol production is subject to environmental laws on sugarcane production, runoff, forestry, and land use, and biofuels play a key role in Brazil's National Climate Change Policy (IETA 2015). Where stringent indicators of sustainability are required, ethanol production is audited and certified under the international [Bonsucro](#) voluntary standard. Although the certification process is undertaken by accredited private sector certifiers, government authorities must ensure certification integrity and enforce compliance with national and state laws (Zessa 2013).

3. Sustainable infrastructure projects

This category involves infrastructure projects that are designed to remedy the costly environmental impacts that result from the collective actions of a large population. The economic value to the public sector partner can be measured, in part, by a co-benefit of the project: increased gross domestic product (GDP) resulting from the decreased government costs of responding to respiratory illnesses, diseases borne by poor sanitation, and other public health and safety issues (WRI 2015).

Data gathered by the World Health Organization (WHO) and Pan American Health Organization (PAHO) are compelling. More than 100 million people in Latin America are exposed to pollution levels that exceed the organization's recommended limits (CAI 2013). Similarly, PAHO has estimated that urban air pollution is the cause of at least 35,000 premature deaths annually in the region (UNEP 2015). It has been estimated that reduced public health costs could achieve savings of between 2 and 6 billion dollars a year (CAI 2013).

During all phases of infrastructure development, government monitoring and enforcement mechanisms are needed to assure compliance with legislation, as well as licensing requirements derived from the ESIA (e.g., in São Paulo, some new emissions sources must offset existing ones by 110%).² The distribution of air, water, and soil contaminants requires the need for numerous sampling instruments deployed over a broad geographic area.

Case Example: Bus rapid transit (BRT) networks in Brazil and Colombia

Almost three fifths of Brazil's transport emissions occur in cities and are expected to grow by 60 percent per year in the near future (World Bank 2012). In some urban localities, these emissions may even account for 70-90 percent of air pollution (WRI 2015). Since the 1970s, Brazil has been addressing this transport pollution problem by developing a variety of commuter transit systems (EIU 2014). For example, Brazil has been the leader in the use of [Bus Rapid Transit \(BRT\) systems](#). A BRT system in the city of Curitiba has led, in part, to the municipality having the cleanest air of all Brazilian cities. (Cervero 2013). A similarly BRT system, the [TransMilenio](#), has been used in Bogotá, Colombia.

² Decreto Nº 52.469 (2007).

4. Climate change: Carbon sequestration through REDD+

The fourth example derives from national policies and commitments for action on climate change through reduced emissions from deforestation and forest degradation (REDD+), a forest-based approach for sequestering greenhouse gases (GHGs) designed for implementation in developing countries under the United Nations Framework Convention on Climate Change (UNFCCC) (FCPF 2015). Implementation of REDD+ activities may yield carbon credits, payments for ecosystems services (PES), or sustainable, commercial forest products. Since the environmental and social integrity of these outputs is critical to maintaining market confidence, robust monitoring of REDD+ activities as well as the enforcement of legislation and project-specific requirements is paramount (Seppänen 2013).

Case example: REDD+ in the Chaco region of Argentina

Argentina's REDD+ strategy is designed to discourage the conversion of forest to pasture for grazing and other agricultural uses. In Argentina's Chaco region, the market value of avoided carbon emissions from deforestation must be sufficiently high to compete with cattle ranching, a profitable enterprise and the largest driver of deforestation in the region (UN-REDD 2016).

REDD+ arguably represents the extreme case for robust monitoring and verification, since near-perfect performance by the project developer must be assured (Streck et al. 2012). Part of the high standard for REDD+ is the requirement that sequestration of GHGs within the protected area be permanent. (UN-REDD 2017). In the Chaco region, provincial authorities are responsible for assuring that REDD+ projects in their jurisdictions comply with national and provincial laws related to these activities (UN-REDD 2016). These authorities are assisted by a [National Environmental Monitoring Network](#) that provides increased capacity to perform sophisticated monitoring, including satellite surveillance of remote areas. The network also supports other ECE targets (e.g., illegal logging), spreading the cost of these capacities more broadly.

IV. DISCUSSION

A commonality of the four examples is that compliance is driven as much by incentive-based ECE mechanisms as by deterrents for noncompliance, although the presence of the latter is critical for maintaining integrity and public confidence. Nevertheless, there is considerable variation among Latin American countries in implementation of environmental and climate-related policies, at all levels, through the authorities tasked with carrying out ECE functions. Deriving generalized lessons from the varied organization of Latin American ECE systems will require further study.

The cleaner development model used by Honduras involves a high level of public and private sector collaboration, whereas the regulation of the biofuel industry in Brazil involves public and private sector actors who execute parallel but separate oversight functions. In contrast, government institutions for monitoring and enforcing the environmental compliance of sustainable transport projects and REDD+ forest projects involve highly differentiated structures and capacity needs. A central question for ongoing study is how ECE capacities can be strengthened to best support the growing variety of sustainable industry models that exist.

V. CONCLUSION

In order to maintain confidence in the integrity of green industries, government authorities will need to maintain a backstop of stringent enforcement, even where private sector innovation in environmental performance provides desirable environmental outcomes. Ceding ECE functions entirely to private verifiers would invite corruption, undermining a country's exports and reputational advantage.

It is possible that the economic success of green growth models may, over time, result in environmental performance may be seen as a driver of return on investment, justifying cost concerns. In the optimal case, the economic success of green growth will lead to higher political priority and larger budget allocations. For micro, small, and medium-sized enterprises, this will mean deploying many ECE efforts at the local level.

Finally, obtaining sufficient resources for ECE ministries and other authorities may require that ECE mechanisms prove their worth in economic terms. It will be critical to maintain capacities on multiple fronts to address the heterogeneous nature of green growth synergies. Heightened efforts should be applied at critical points where isolated failures could undermine broader confidence in a country's output, such as confirming the validity of green credentials for exported goods. Protecting the integrity of a nation's sustainable pedigree is worth the investment.

The methodological study (underway) that follows this paper aims to provide in-depth, comparable findings.

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