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Policy Reform for Sustainable Energy in Latin America and the Caribbean

INTRODUCTION
Reliable and affordable energy services are essential to the modern world. Secure access to these services and the stability of their prices are key concerns for policymakers worldwide. For countries that are predominantly dependent on imported fossil fuels for their electricity generation, there are many associated long-term risks in this regard, including the potential economic disruptions due to petroleum prices volatility, the vulnerability of fuel shipping and storage systems to terrorism and climate change impacts (i.e., increased strength and propensity of hurricanes), and negative environmental impacts associated with fuel combustion. However, there exist viable alternatives to the current patterns of fossil fuel consumption. Modern renewable energy technologies have seen dramatic decreases in costs, coupled with increased efficiency and reliability over the past two decades. The tables below illustrate the cost reductions that have been achieved since 1980 and offer projections for further reductions through 2020.

Despite the technological advancements of sustainable energy technologies and the growing concerns for energy security and the global environment, widespread use of renewable energy systems for power generation and substantial energy efficiency measures in Latin America and the Caribbean is not expected without key changes in energy markets. Utility investment decisions regarding grid-tied power and off-grid energy services are largely driven by the rate of return expectations for private power projects. Financial arrangements for electricity utilities favor low upfront costs and continued fuel costs (fossil fuel) over high upfront costs and low fuel costs (renewable energy). The same restraint in high-upfront costs is hindering the widespread deployment of energy efficiency technologies.

In addition to the basic structure of the market, other factors may favor conventional fossil fuel power systems including:
- Fuel subsidies offered by many countries
- Fuel storage and delivery infrastructure costs born by the public
- Petroleum exploration tax (and other economic) incentives
- Availability of low cost project finance
- The absence of charges for environmental impacts

ABUNDANT RENEWABLE RESOURCES
Abundant renewable resources, including solar, wind, geothermal, biomass, and hydro may be found throughout Latin America and the Caribbean offering many countries of the region the possibility to utilize domestic natural resources for the production of clean electricity. In fact, renewable energy technologies can help meet the growing surge in electric power demand: both on and off-grid - throughout the region. Additionally, when coupled with the implementation of energy efficiency improvements significant reductions in fossil fuel use for power generation can be achieved.

Policy Reform

Subsidy Repackaging. Many rural energy needs have traditionally been assured through subsidies on the conventional fuels being used, including diesel and kerosene. Since renewable costs do not generally require fuel expenditures, but rather in the initial capital investments, it is important to restructure rural energy subsidies so that they can also apply to renewable technologies. This is being practiced in Brazil where the CCC Fund (Conto de Consumo de Combusíveis - Diesel Subsidy Fund) may be utilized to invest in solar, wind, and biomass energy where these technologies are more appropriate.

Rural Concessions. Argentina has designed an innovative rural electrification policy, with the support of the Global Environment Facility (GEF) and the World Bank, which gives exclusive power provision concessions for specific rural areas, combined with a uniform kWh subsidy. Franchise rights for rural concession areas are given to the private sector entities that require the lowest subsidy to provide electric services to rural households and community centers.


This USDE Policy Brief series provides a forum for discussion on issues pertaining to sustainable development in help transfer good practices and lessons learned from project design and implementation. This is the fifth in a series that includes topics on:
- Water Resources Management
- Transboundary Aquifers
- Biodiversity Conservation
- Trade and Economic Integration
- Natural Hazard Mitigation

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**Policy Reform for Sustainable Energy**

- **Box 1. Saint Lucia Adopts Sustainable Energy Plan**

St. Lucia is looking to become a Sustainable Energy Demonstration Country within the coming decade. With this objective in mind, Cabinet has endorsed a Sustainable Energy Plan, which outlines a management strategy that seeks to promote energy conservation and efficiency. It was prepared by the Sustainable Development Unit of the Ministry of Planning. The plan seeks to ensure the existence of adequate energy supplies to sustain economic development, while meeting current and projected power demands; provide for stable and reliable electricity supplies for all customers; enhance the security of energy supply and use for all sectors of the economy; protect the local and global environment by maximizing the use of renewable energy and energy efficiency alternatives where viable, thereby enabling St. Lucia to become a Sustainable Energy Demonstration Country by 2008-2012 in accordance with its commitment at the Fifth Meeting of the Conference of Parties of the United Nations Framework Convention on Climate Change. According to Judith Ephraim, Professional Cadet with the Sustainable Development Unit of the Ministry of Planning, the plan includes the following objectives: to increase energy efficiency, reduce energy costs, or take on new risks.

**Box 2. Brazil: ProInFA - Alternative Electricity Sources Program**

In April 2002, the Brazilian government passed Law 10,438 (or ProInFA) to curtail investments in the generation, transmission, and distribution of electricity. This is the country's first federal law to encourage the use of alternative energy sources in the electricity generation mix. ProInFA also sets a minimum share of wind energy in the national electricity mix by 2010. The law was adopted in November 2002, and its objectives are to increase the use of renewable energy sources and reduce the country's dependence on fossil fuels. The program is expected to generate an increase in the use of renewable energy sources, leading to a reduction in the country's carbon footprint and a decrease in the country's energy costs. It also aims to stimulate the development of renewable energy technologies and foster the creation of new jobs in the sector.

**Box 3. Guatemala: Renewable Energy Law**

On October 30, 2003, the Parliament of the Republic of Guatemala approved a law, which provides economic and fiscal incentives such as exemption of duties on imports of equipment necessary to build power generation projects using renewable resources, as well as various degrees of tax exemptions for companies and individuals implementing such projects, including a ten-year income tax exemption. This law is intended to foster the generation of electricity from renewable energy sources and promote the development of renewable energy projects in the country. The law also includes provisions to encourage the use of alternative energy sources in the electricity generation mix, such as wind, solar, hydro, and geothermal energy. The aim is to achieve a balanced and diversified energy mix and reduce the country's dependence on fossil fuels.

**POLICIES TO ENCOURAGE THE DEVELOPMENT AND USE OF GRID-TIED RENEWABLE ENERGY SYSTEMS AND ENERGY EFFICIENCY TECHNOLOGIES**

When policymakers set out to alter energy market conditions, a first step involves articulating clear goals and objectives for the sector. A national plan may outline the general direction and identify the areas of policy initiatives that should focus. With the support of the Renewable Energy in the Americas (REIA) initiative in the General Secretariat of the Organization of American States (GS/OAS), the national plan may outline the general direction and identify the areas of policy initiatives that should focus.

**Renewable Portfolio Standard**

This system requires a minimum of renewable energy to be part of the overall energy supply portfolio. It is applicable to all large suppliers with diverse portfolios, or to any utility (or state) as a whole, and combined with some type of tradable credit system or systems benefit charge (see below) which ensures that all power providers

**POLICIES FOR OFF-GRID RENEWABLE ENERGY**

There are many factors that can contribute to growth and quality of life improvements in rural areas, but electrification is certainly a key component. Reliable electricity can contribute to improvements in key sectors including:

- **Health care (vaccine refrigeration, lighting, water heating)**
- **Education (TV/VCR and computers, lighting, tape players)**
- **Economic opportunities (small business development, agricultural applications)**
- **Municipal water (water treatment, water pumping)**
- **Residential (lighting, TV, small appliances, computers)**

**POLICY SERIES, NUMBER 5 — Policy Reform for Sustainable Energy**

**Sustainable Energy Demonstration Country**

A general lack of appropriate policies is the principle bottleneck now impeding the uptake of renewable energy sources in Latin America and the Caribbean. Many of the electric power markets in the hemisphere have moved toward deregulated, market-oriented structures. Over the past three decades, many countries have converted their state-owned monopolies into privatized systems.

In Central and South America, many of these are unbundled (separated generation, transmission, and distribution) competitive market models. These competitive markets place great emphasis on short-term "spot market" prices, and place a premium on existing generation and new generation investments that have very short construction lead times and low initial capital costs. Thus, alternative energy systems, such as renewables, are inherently disadvantaged by the structure of the electricity market. In such markets, the relatively high cost of financing from the electricity business and private companies competes for market share, such that this model does not tend to encourage aggressive electrification programs in rural areas where profits are hard to generate, leaving many Latin American citizens without access to modern energy services.

In contrast, throughout the English-speaking Caribbean the dominant model involves privately held monopolies that control all market segments, including generation, transmission and distribution. In the case of many Caribbean countries, the prospects for a competitive, unbundled private market is not practical, given the relatively small power requirements. Yet, the policies governing the private monopolies are no more favorable for renewables than the competitive markets in Latin America. In many cases these monopolies benefit from fixed rates of return based as a percentage of total revenue, so there is little incentive to increase efficiency, reduce costs, or take on new risks.

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