
recursos naturales e infraestructura

Renewable energy and energy efficiency in Latin America and the Caribbean: constraints and prospects

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Summary

In Latin America, energy efficiency and renewable energy offer great potential for reducing the negative effects of the ever-increasing rates of energy consumption associated with economic growth and the move towards more energy-intensive societal models.

Despite over two decades of discussions aimed at giving energy efficiency and renewable energy more prominent positions in the energy policies of Latin American countries, little has been achieved so far. The fact that these issues have not been integrated into energy policies reflects, to a certain extent, a failure on the part of public policy making and international cooperation to incorporate sustainable patterns of development.

One of the factors underlying this state of affairs has to do with the behaviour of society as a whole. This phenomenon has a number of different facets: (i) individual versus collective behaviour; (ii) a lack of political will on the part of Governments, which is often combined with a lack of knowledge, ideology, perceptions or a lack of public support and the predominance of a liberal economic doctrine that hampers sustainable development in the energy sector; (iii) the market power and dominance wielded by electricity, gas and oil companies; and (iv) changes in the organization of energy production chains, in conjunction with the introduction of pricing and fiscal policies applying to both electrical power and fuels that have various implications for energy efficiency and the market penetration of renewable energy.

This publication demonstrates that there are a number of cultural and institutional reasons for the “relative failure” of sustainable energy development in Latin America. These factors are true not only of Latin America but of the developing world in general. There tend to be three types of barriers to energy efficiency and renewable energy, which can be summarized as follows:

- **Economic:** In the case of renewable energy sources, the primary task is to achieve a competitive position in a liberalized energy market. For electricity generation, it has been shown that it will be difficult to make renewable sources competitive in the short run if the only points of comparison with conventional fossil fuel technologies are investment and the average cost of electrical power generation, i.e., if the externalities of conventional energy sources are not taken into account.
- **Financial:** There are four main types of steps that Governments should take to enable private financial agents or State enterprises to invest in energy efficiency and/or renewable energy sources: (i) establish clear and stable market mechanisms within the framework of a regulatory system designed to reduce investment risk (Based on the assumption that projects will need to become competitive at market prices, an attempt should be made to reduce market risk by concluding long-term purchase contracts with appropriate payment guarantees, such as those used in the PCH-COM programme for small hydroelectric stations in Brazil); (ii) serve as a vehicle for national development banks; (iii) establish systems for providing guarantees for credits extended to small and medium-sized enterprises; and (iv) pass legislation that will free business enterprises from the risks posed by the legal or tax contingencies that currently hamper their operations.
- **Political:** Once energy efficiency and renewable energy sources are recognized as a political priority, the fundamental question is whether public-sector action is required to solve the problem and, if so, to what extent. Political acceptance of the idea that energy resources should be used efficiently does not automatically mean that the State must intervene in the energy sector. The general idea is that State intervention is justified if the costs of intervening (real cost plus externalities) are less than the costs of not intervening. If the costs of intervening are less than those of inaction, Governments should assess the extent to which intervention is politically feasible. In seeking to generate support from social and economic stakeholders, coalitions should be formed to support such policies by involving social interest groups that advocate the aims of the proposed intervention. This is what has happened in Europe, where environmental considerations have become increasingly important and public demands have resulted in political intervention and programmes.

The findings of this study indicate that energy efficiency and renewable energy sources have not been mainstreamed into the energy policies of most Latin American countries. Three different avenues of research were used. The first was to analyse the situation from an “agenda-setting” approach; the second was to examine the discourse of the officials responsible for energy policy; and the third, and perhaps most important, was to look at the public funds allocated to agencies, programmes and other activities relating to the promotion of energy efficiency and renewable energy. In this last connection it was found that, with few exceptions, State budget appropriations and the amount of public funds allocated to public and/or private specialized agencies for the promotion of energy efficiency and renewable energy is marginal and, in some instances, non-existent.

The above notwithstanding, the National Commission for Energy Conservation (CONAE) of Mexico is a case that merits further mention. With a 2001 operating budget of US\$ 6.3 million, CONAE succeeded in saving an estimated US\$ 360 million worth of energy, that is, 57 times its

budget. Another outstanding example is the National Electricity Conservation Programme (PROCEL) in Brazil. Using US\$ 318 million in authorized investments between 1995 and 2000, PROCEL achieved savings of more than 10 TWh in electricity consumption, thereby averting the need for more than US\$ 1.5 billion in investments.

The following measures are considered necessary in order to mainstream policies on efficient use and renewable sources of energy:

- Separating actions and policy instruments for efficient energy use from those relating to renewable energy. It would seem appropriate to design converging instruments and actions but they should at the same time be autonomous and independent, inasmuch as the strategic objectives and actors on which such policies are intended to have a timely and positive impact are completely different. In addition, the measures relating to pricing policies, fiscal incentives, regulations and market structure which Governments can implement are different as well.
- Integrating regulatory instruments and the national energy policy as part of a comprehensive approach. A regulatory framework or law cannot be effective unless they are firmly grounded in the country's energy policy and are backed up by an institutional structure that serve their purposes, together with a range of appropriate instruments, programmes and funds. The point of discussion should not be whether or not it is appropriate to pass legislation but rather which concrete issues warrant legislation and what would be the best way of designing and applying it.
- Establishing a medium-term horizon for the achievement of results. In many cases, there has been a lag between investments in energy efficiency programmes and the production of tangible results. This would appear to suggest that programmes for promoting energy efficiency and renewable sources involve substantial lead time and thus medium- or long-term time horizons for the achievement of visible results.
- Building upon existing international agreements on climate change and renewable energy sources. Governments should take advantage of forums such as the Latin American and Caribbean Initiative for Sustainable Development, which was presented and adopted at the first special meeting of the Forum of Ministers of the Environment of Latin America and the Caribbean. Such forums could provide an opportunity to expand the agenda for discussion to include issues that encompass the design of a joint regional proposal aimed at identifying a strategic positioning for Latin America with regard to the different future scenarios for the global carbon market, with or without ratification of the Kyoto protocol.

The Latin American and Caribbean Initiative and its possible related activities can open up

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