

RE-326

Evaluation of the Public Utilities Policy as Applied to the Electricity Sector (PUP-E)

Office of Evaluation and Oversight (OVE)

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EXECUTIVE SUMMARY

The Public Utilities Policy (PUP) approved in 1997 set out a new strategy for Bank intervention in the electricity sector. This strategy focused on institutional changes that would introduce market dynamics into the sector with a view to overcoming the inefficiency and lack of sustainability exhibited by the electrical power industry in the early 1990s. This meant that the countries and their electricity industries would have to make simultaneous, coordinated changes in a variety of areas: legal frameworks, the State's role in the sector, the industry's structure, management models, and the social valuation of the services. The central hypothesis was that these changes (contained in the basic conditions of the PUP) would lead to the fulfillment of the policy's development objectives for the sector, which were to ensure its long-term sustainability, achieve economic efficiency, safeguard quality, promote accessibility, and meet broader national objectives such as preserving the environment.

The IDB approved the PUP nearly a decade into sector reforms and four years after the World Bank had launched its policy for the sector based on the new model's tenets. In the specific case of the electricity sector, then, the PUP consolidated a process that was already taking place in the region. The model for this process was serving as a basis for many World Bank and Inter-American Development Bank (IDB) structural adjustment operations at that time. The specific objectives of the PUP did not differ from those of earlier policies. What did mark a major change was the definition of a specific sector structure and regulatory policy for achieving the objectives that took the form of a set of basic conditions that had to be met in order to achieve the objectives (PUP, OP-708).

1. Institutional changes

As of 2002, 11 of the 19 countries in the region covered by this study had made progress, with differing rates of success and degrees of depth, in implementing the reform model. The countries with reforms in place, listed in order from the most to the least comprehensive reforms, were: Argentina, Bolivia, Peru, Panama, Chile, El Salvador, Colombia, Guatemala, the Dominican Republic, Brazil, and Nicaragua. Countries that did not adopt the reform model or that had made only tenuous progress were: Honduras, Ecuador, Guyana, Venezuela, Costa Rica, Mexico, Paraguay, and Uruguay. Thus, countries in the region range from those having a vertically integrated electricity industry in which State-owned enterprises play a large role under a monopolistic regime to those in which the reform model has engendered a vertically disintegrated sector with a high and varied degree of private participation, governed, on the one hand, by competition in the wholesale market and, on the other, by the regulation of sector activities. Between these two extremes are countries that are midway along in this transition, many of which are having serious difficulty in either moving ahead with their reforms or reversing the reform process.

Since 2002, problems with implementation of the reform model have become apparent in many countries of the region. Due to a lack of political consensus, the general public's increasingly negative view of privatizations and concessions, and private investors' waning

interest, some of the ground gained in introducing the reform model has now been lost, and progress in this respect has stalled in countries that were in the initial stages of reform.

2. Bank action in the sector

Up until 1990, lending for public electricity companies was one of the Bank's priority areas of action. Since that time, two different yet parallel processes have been taking place. First, the Bank has been focusing on providing sector loans to support structural changes in which electricity-sector reforms figure as an important component. Since 1990 it has approved a total of 15 sector or hybrid loans, 35 nonreimbursable technical-cooperation operations (TCs), and 5 reimbursable TCs tied to investment loans. These operations have all been directed toward helping to fulfill the basic conditions of the PUP.

Second, it drastically reduced the number of investment loans made to public power companies and in 1995 started replacing them with direct loans to the private sector issued by the Private Sector Department (PRI). Since the PUP's entry into effect, investment loans for the electricity sector have accounted for barely 5% of the Bank's business, and in 2002-2004 this type of operation was almost negligible (2%). By contrast, since 1995 direct loans to the private electricity sector have been one of the PRI's main lines of action. In fact, in 1999 and 2000, such operations represented 100% of its activity; this figure has since declined, stabilizing at around 20% (2003-2005).

In recent years, there have been signs that the usefulness of both of these types of loan operations is beginning to come to an end. The pace of the Bank's work in the region's electricity sector is slackening, and there are early signs that the substitution of private for public investment may be winding down. In 2005 and 2006, the Bank's portfolio was given a boost by the approval of two large-scale hydroelectric operations and a transmission project. All of these initiatives target the public sector, and two are receiving PUP waivers. The approval of these operations suggests that the reforms proposed under the PUP are no longer consistent with the Bank's and countries' needs and interests with regard to financing for the electricity sector.

Finally, although the IDB's portfolio in this sector is small and fairly new in terms of the feasibility of assessing its impact, the Office of Evaluation and Oversight (OVE) has described these operations' effectiveness in furthering the reform model as "limited". OVE has found that, with the exception of Panama, the countries where the Bank has been most active (Guyana, Nicaragua, Colombia, Venezuela, Uruguay, and the Dominican Republic) have made limited and relatively unsustainable progress (Guyana, Nicaragua, and the Dominican Republic), and the reform process has failed to prosper in two of them (Venezuela and Uruguay).

3. Achievement of PUP development objectives

The Bank has neither the systematic database nor the indicators it needs to measure progress toward the PUP development objectives for the sector. Nor has it substantiated

the accuracy of the PUP's basic hypothesis, which is that the basic conditions will ensure achievement of those objectives.

The evidence shows that the region has been highly successful in attracting private investment flows, but that it has not met the objective of ensuring the long-term sustainability of services. Between 1990 and 1999, the region's private investment inflows enabled it to expand its electricity generating capacity at a rate that outstripped the increase in consumption. This made it possible for many countries to eliminate the deficit in electricity generation that had existed at the start of the reform process. Since 1999, however, investors' entry into new businesses via the purchase of equity in public companies and direct private financing have fallen off steeply.

As regards the objectives of achieving economic efficiency and safeguarding the quality of electricity services, the evidence compiled by OVE indicates that the situation in the region as a whole has not improved. In 2003 a total of nine countries had electric energy losses in their major power networks of over 20%, as opposed to seven in the early 1990s. The figures indicate that in 1992-2003 only three (Chile, Peru, and Argentina) of the eleven countries that had implemented reforms had substantially boosted the sector's operating efficiency. In another five (Bolivia, El Salvador, Panama, Colombia, and Brazil), efficiency levels remained more or less constant, while in the remaining three (Nicaragua, Guatemala, and the Dominican Republic), losses rose considerably. And efficiency problems were no better in countries that did not follow the reform model. In fact, of the six countries analyzed that did not undertake reforms, only one (Costa Rica) has kept its level of losses down (7%). Losses in the other five have remained far above 20%.

Electricity prices continue to be at the heart of problems faced by the region's electric power industry. With few exceptions, electricity rates have remained subject to varying degrees of intervention owing to the population's limited payment capacity and the exigencies of political agendas. Political intervention in price setting has been on the rise in recent years as oil prices have climbed.

The number of persons lacking access to electricity services fell by over 50% between 1990 and 2003, from 82 million to 44 million. However, no cause-and-effect relationship can be ascribed to the incorporation of the reform model's basic conditions and the increase in coverage. Implementation of the reform model could not be shown to have any beneficial effects in terms of environmental protection either. On the contrary, according to the literature, the proliferation of small thermal power plants has worked to the detriment of the expansion of renewable energy sources and has substantially raised carbon dioxide emissions.

In short, this evaluation found no evidence that the adoption of the basic conditions has contributed to the achievement of the development objectives for the sector set forth in the PUP. The available information shows that only countries that launched reforms early on, possess substantial institutional capacity, and have the ability to deepen their electric power markets have succeeded in attracting private investment, boosting the industry's efficiency, and improving service quality. Meanwhile, countries that have

implemented reforms in line with the PUP but have done so more recently have managed to increase their private generating capacity, but tensions in the sector have remained and the results of this effort are not apparent. In almost all the countries that have not undertaken reforms, the situation in the electricity industry remains critical as a consequence of interventionism, subsidies, and an inability to generate the necessary investment flows.

4. Challenges and lessons

Experience has demonstrated the difficulty of bringing about institutional change in this sector and, particularly, of fulfilling conditions that were originally regarded as basic in nature. Many of the problems that have arisen during this reform effort have stemmed from a misjudgment of the situation in three areas: (a) the institutional demands of the model in terms of specialized human resources, information systems, and the efficiency of the relevant regulatory agencies; (b) constraints deriving from the very nature of the electricity industry and specific conditions in the sector in some countries of the region; and (c) private investors' risk capacity relative to the economic and political conditions present in many countries of the region.

The urgent need for funding to cope with the crisis in this sector and the dynamics of adjustment loans per se may have led the countries and the Bank to underestimate the risks associated with the necessary flexibility, graduality, and sociopolitical sustainability of the reform measures. The urgent nature of the situation diminished the PUP's impact and effectiveness in finding long-term solutions to the sector's problems. The evidence suggests that the private sector's entry into Latin America's electricity sector served a dual purpose. On the one hand, it enabled the countries to generate fresh resources that allowed them to deal with the macroeconomic and fiscal crisis. On the other, it injected investment resources into an industry suffering from an investment deficit. This dual objective lent a sense of urgency to the reform effort and the privatization process in particular that forestalled the attainment of basic conditions in such areas as the development of a regulatory framework and the expansion of national markets, which require longer periods of maturation.

Given the magnitude of the problems involved, the changes proposed by Bank Management fall short of what is needed and will not resolve the mounting tension between the Bank's and countries' investment requirements and the PUP mandates. Management's response has translated into the approval of the *Guidelines for the Application of the Public Utilities Policy to the Energy Sector* and the preparation of a proposal for modifying the energy policy and the PUP itself. The proposed changes do not, however, offer effective means for dealing with reform-related risks, nor do they explicitly address the need to support various types of intervention models tailored to fit each country's needs.

5. Recommendations

OVE recommends that the Bank's policy regarding its operations in the electricity sector be reviewed with an eye to dealing with the diverse situations found in the different countries

and their electric power industries. A modification of the policy would provide an opportunity to incorporate lessons learned from the Bank's 10 years of experience in applying the existing policy and from over 15 years of experience with the sector's reform process.

- 1. OVE recommends the following general lines of action to modify the PUP:
 - a. **Reorder the PUP development objectives for the sector** to guarantee that the value added by Bank action is aimed at ensuring access and equity in the delivery of electricity services.
 - b. Redefine the basic conditions, incorporating them into a set of intervention strategies under more flexible criteria and in consideration of the specific institutional context, for which the following steps should be taken:
 - (i) Maintain the PUP criteria on good governance but refrain from drawing up specific strategies for their fulfillment. Generally speaking, these good governance criteria include: specialization of State functions; economic regulation of services and the application of quality standards; clear-cut incentives for the promotion of efficient management models and forms of conduct; transparency in the performance of assigned duties; participation of private enterprise; design of an industry structure that will provide more room for competition while ensuring the economic, social, and environmental sustainability of services; and development of institutional regulatory instruments that are in keeping with the chosen regulatory framework.
 - (ii) Incorporate explicit mandates to ensure the consistency, proper sequencing, and gradual nature of the measures to be taken with a view to the progressive creation of the organizations, capacities, instruments, and forms of conduct required to mitigate the risks associated with the model. Ensure, in particular, that sufficient time is provided for the development of regulatory capacities and tools.
 - (iii) Ensure that public policies and programs are designed to promote access for all. Make sure that subsidies are dismantled gradually in order to avert any sort of social exclusion or "social shocks" that could undermine reforms.
 - (iv) Include guidelines for promoting the selection of producers that place priority on environmental protection and the use of renewable energy sources.
 - (v) Set the electricity-sector policy within the context of a broader perspective on energy policy that balances the risks associated with each electric power production function.
 - (vi) Promote the adoption of public/private cooperation strategies for striking a new balance of risk, with political and institutional risks

assigned to the public sector and commercial and technical risks assigned to the private sector.

- 2. Update the relevant policy guidelines in order to gear their application to the particular conditions found in each country, bearing in mind institutional capacity and the specific situation in the local electricity sector. On this basis, the countries and the Bank should agree upon the most suitable institutional arrangement, define the types of changes to be made, and select the most appropriate intervention mechanism from among those available.
- 3. For use in overseeing the fulfillment of the development objectives and assessing the impact of the changes on them, OVE recommends that the Bank design measurable indicators for each development objective and maintain a statistical information system based on those indicators.
- 4. OVE wishes to alert the Bank to the technical demands entailed by a change of this sort. It recommends that the Bank broaden its specialized technical capabilities so that it will be able to apply the new policy in line with the specific conditions in each country, thereby adding substantive value to its operations in the electricity sector.

Introduction

This report evaluates the Public Utilities Policy governing Bank operations in the electricity sector (PUP-E). The evaluation conducted by the Office of Evaluation and Oversight (OVE) as part of its 2006 business plan seeks to answer four questions:

- 1. How relevant was the PUP-E to the sector-related issues identified at the time of its approval?
- 2. What changes have taken place in the region's electricity industry and how effective have they been in achieving the stated development objectives?
- 3. What support has the Bank provided during the sector reform process in terms of its consistency with PUP mandates?
- 4. What lessons can be learned and what challenges have been posed by this experience that can guide the Bank's actions in the sector in the future?

The evaluation covers all Bank activities between 1997 and 2005 that were directed toward the electricity sector, either wholly or in part, as well as operations prior to the PUP's approval (1990-1996) that incorporated its underlying principles.

The following methodology was used to conduct this study:

- Analysis of the documents produced for approved operations, the Bank's monitoring and oversight reports (Project Performance Monitoring Reports, Project Completion Reports), and pre-existing OVE evaluations of a number of operations in the electricity sector.
- A review of the literature published by the Bank, other multilateral agencies, and specialized entities
 on changes in the electricity sector in Latin America during more than 15 years of reform, together
 with evaluations of individual countries' achievements and risks.
- A comparative analysis of the progress made by the reform process in the individual countries' electricity sectors, the scale of Bank intervention, and attainment of PUP development objectives. In order to carry out this examination, indicators were constructed using information from the above-mentioned sources and from specialized databases maintained by the World Bank, the Organización Latinamericana de Energía [Latin American Energy Organization] (OLADE), and the Economic Commission for Latin America and the Caribbean (ECLAC).

The report is divided into five chapters. The first four will address the four questions that serve as a framework for the evaluation. The final chapter sets forth OVE's conclusions and recommendations.

There is broad consensus among sector experts about the difficulty and complexity of the reforms undertaken in the region's electricity sector and the need to rework existing postulates in order to cope with problems facing the sector. This consensus notwithstanding, it is not yet clear what direction should be taken in reformulating these postulates or how

extensive the changes should be. Against this backdrop, OVE's evaluation of the PUP seeks to provide inputs that will aid the Bank in developing a new approach to the electricity sector, within the context of the New Lending Framework and the realignment process on which Management has embarked.

I. THE PUBLIC UTILITIES POLICY AS A RESPONSE TO PROBLEMS IN THE SECTOR

A. Development of the Public Utilities Policy

- 1.1 The Public Utilities Policy (PUP) (OP-708) entered into effect in January 1997, replacing the Public Utility Rates Policy (OP-718) that had been in force since 1982. The reason for this change was that OP-718 had proved to be unsuitable for tackling the challenges posed by the fiscal crisis of the 1980s, which had forced utility companies to operate under economic and financial constraints that they were unprepared to handle. The PUP applies to the electricity, natural gas, water, sewerage, telecommunications, and solid-waste disposal sectors. In the case of the electricity sector, the PUP is supplemented by the Electric Energy Policy (OP-733-1).
- In practice, the change in policy was also driven by the impossibility of attaining OP-718's objectives, particularly that of setting rates based on long-term marginal costs. In actuality, by the early 1990s, rates had fallen in real terms and were far below the industry's long-term marginal costs. The losses sustained by companies in the region as a consequence of the gap between their marginal costs and permitted rate levels during the 1980s have been estimated at US\$116 billion. This situation undermined the companies' ability to honor their financial commitments and expand electric power systems. The 1993 diagnostic assessment attributed these shortcomings to the limitations of the countries' institutional arrangements for the delivery of electrical power, in which there was strong State intervention.
- 1.3 In the course of the discussion regarding possible policy changes, the problems affecting the sector were quantified using the following indicators:²
 - (i) Sizeable technical and commercial electricity losses that were trending upward relative to 1980 levels. In 1992, such losses amounted to over 20% of power output in seven countries in the region,³ which greatly exceeds the 10%-12% level generally deemed to be reasonable. By contrast, in 1980 only two countries had losses of over 20%.
 - (ii) By late 1980, electricity companies' accumulated debt amounted to US\$31.2 billion, which was equivalent to 9.6% of the total public debt. The electricity sector's high level of indebtedness was seen as the most serious challenge not only for electric power companies, but also for the equilibrium and development of the countries in the region.
 - (iii) As of 1990, the funding needed to solve the industry's disinvestment problem, based on projected expansion plans, was estimated at

Evaluation report on electric power sector tariff policy and lending. Recommendations of the Review and Evaluation Committee (RE-187). (November 1993).

² Ibid

World Development Indicators. World Bank. Annex 3.

US\$155 billion. This was far more than the companies or even the countries could raise.

- 1.4 The statist model⁴ that held sway in Latin America in the 1980s entailed the presence of functionally (generation, transmission, and distribution) integrated monopolies, many of which were held by State-owned companies, whose long-term economic sustainability hinged on State investments and operating subsidies. This model suffered from a number of structural drawbacks that hindered it from dealing effectively with the crisis in the electricity sector. These failings included the following: (a) interventionism and political co-option of electricity-sector companies and managers; (b) the lack of any real incentives for increasing the industry's economic and operational efficiency; and (c) widespread, inefficient subsidies and a weak payment culture among the population, which made it difficult to build consensus on rate hikes.
- 1.5 A sweeping process of institutional change was undertaken in response to these regulatory, management, operational, and financial problems. The institutional arrangements that began to take hold were characterized by the introduction of market criteria into what had formerly been regarded as a monopolistic industry. Multilateral organizations, particularly the World Bank, working in conjunction with OLADE, promoted a wide-ranging debate in the region concerning options in the sector, which led to the introduction of competition and private enterprise as pivotal elements in the industry's recovery.⁵
- 1.6 In Latin America, Chile pioneered a reform process that began in the late 1970s and deepened throughout the 1980s. The electricity sectors in the United Kingdom, United States, and Norway were going through a full-blown overhaul at the same time. In these cases, changes were being made to boost the industry's efficiency by dismantling monopolies, providing increasing market entry opportunities for private enterprise, and deploying competition as an efficient resource-allocation mechanism.
- 1.7 The results obtained by these pioneering countries bore out the initial expectation that it would be possible, using a suitable regulatory framework, to introduce competition into the electricity market, attract private investment, and thus make the industry more efficient while ensuring its long-term sustainability. Five countries in the region launched reforms in the 1990s prior to the approval of the

The terms statist model and reform model used to denote these two types of institutional arrangements are taken from: Millán, Jaime. Entre el Mercado y el Estado: Tres décadas de reformas en el sector eléctrico de América Latina [Between the market and the State: Three decades of reform in the electricity sector in Latin America]. (2006). IDB.

The World Bank played a leading role in this change process, and the Washington Consensus reforms included measures to be implemented in the electricity sector. In September 1991, the World Bank, OLADE, and the United States Agency for International Development (USAID) convened a ministerial conference in Cocoyac, Mexico, to examine the different reform options for the electricity sector. This event played a key role in changing attitudes in the region regarding the industry's structure, ownership, and regulatory model.

- PUP: Chile (1978), Argentina (1991), Peru (1992), Colombia (1994), and Bolivia (1994).
- 1.8 The IDB approved the PUP nearly a decade into sector reforms and four years after the World Bank launched its lending policy for the sector on the basis of the new model's tenets. In the specific case of the electricity sector, then, the PUP was meant to consolidate a process that was already taking place in the region based on a model that was reflected in many of the structural adjustment operations under way at that time.⁶
- 1.9 Three main factors drove the electricity sector's reform strategy as set out in the PUP:
 - (i) Technological changes that made it possible to break up the monopoly in electricity generation and technically feasible to create a competitive electricity market.
 - (ii) The growing number of Latin American countries that were already making institutional changes in line with the PUP and the fact that their initial results attested to the effectiveness of the changes.
 - (iii) Interest among international groups and companies in expanding their business activities in the region, and readiness to proceed, as a way of overcoming growth constraints in the markets where they were already operating.

B. The PUP in the electricity sector: The reform model

- 1.10 The PUP's general objective is "to promote the provision of public utility services that contribute to the long-term economic development of the region and to the well-being of its people by adopting a sector structure and regulatory policy" (emphasis added), in pursuit of five specific objectives: ensuring long-term sustainability of the services, achieving economic efficiency, safeguarding quality, promoting accessibility, and meeting wider national objectives, especially with regard to the environment.
- 1.11 The specific objectives of the PUP mirror those set out in earlier policies on the Bank's activities in the sector (OP-718 and OP-733-1), although the PUP places greater emphasis on the industry's economic efficiency and its long-term financial sustainability. What did represent a truly significant change was the definition of a specific **sector structure and regulatory policy** for achieving the objectives within the framework of a set of mandatory basic conditions. The basic conditions included in earlier policies had mainly taken the form of action guidelines and

During 1990-1996, as part of a broader macroeconomic adjustment effort, the IDB worked with the World Bank to approve a sector adjustment loan package that included provisions which were later either wholly or partially incorporated into the PUP. Around 50% of the electricity-sector technical-cooperation operations (TCs) approved during that time were aimed at supporting the creation of the institutional arrangements to be used for the PUP, which were regarded as part of the sector's new rationale.

general strategies for Bank officials, rather than binding requirements. (See Annex 1: Bank policy as applied to the electricity sector). The central component of the changes called for by the PUP is the mandate entailed in its basic conditions, defined as **conditions that must be met to assure accomplishment of the policy's objectives.**

The basic conditions encompass the following actions:

- Separating the State's functions as policymaker, regulator, and entrepreneur. This guideline was characterized as the one that would make the greatest contribution to fulfillment of the objectives (basic condition 1).
- Restructuring the industry in such a way as to separate monopoly activities from potentially competitive activities. The purpose of this structural reorganization is to maximize competition and foster economic efficiency (basic condition 2).
- Adopting a well conceived, suitable regulatory system, to create a favorable climate for investment, lower the cost of capital, promote and oversee competition, regulate prices for natural monopolies, ensure the judicious use of subsidies, and maintain consumer satisfaction (basic condition 3).
- Shaping a legal framework suited to the sector structure and the conditions in each country, and developing appropriate institutional regulatory instruments for the chosen regulatory framework (basic conditions 4 and 5).
- Adopting governance modes that offer incentives for efficient service management based on the
 understanding that the most effective means of achieving this goal is through private sector participation
 (basic condition 6).
- 1.12 The underlying rationale of the basic conditions requires a comprehensive approach to proposed institutional changes, as each condition (basic conditions 1 to 6) actively involves the others to produce a specific sector dynamic aimed at ensuring the industry's sustainability and creating incentives for boosting its economic and operational efficiency. The underlying hypothesis is that fulfillment of the PUP development objectives would be a corollary of this dynamic and, in particular, of the introduction of as much competition as possible, as gains derived from competition would be assumed to outweigh the transaction costs of introducing the new model.
- 1.13 Thus, the introduction and development of the PUP institutional arrangements (referred to in the literature as the "reform model") called for simultaneous, coordinated changes in at least five different areas:
 - (i) **Legal and organizational aspects:** Developing and implementing a sound legal (regulatory) framework and developing specialized autonomous enforcement agencies.
 - (ii) **Role of the State:** Separating political, regulatory, and operational functions, which entailed a redefinition of the State's role and the incorporation of private operators as a means of targeting and limiting State involvement.

- (iii) **Structure of the industry:** Separating potentially competitive activities (generation and marketing) from those that were to remain under monopoly control (transmission and distribution), to help create an electricity market.
- (iv) **Corporate management models:** Boosting the economic and operational efficiency of electricity companies by bringing in private investors and operators and establishing an effective system of economic incentives.
- (v) **Social valuation of services:** Making progress in the following three areas: designing a rate structure that would enhance the industry's efficiency and ensure its long-term financial sustainability; adopting an efficient, transparent system of subsidies targeting the low-income population, to help provide access to all and ensure the services' social and political sustainability; and promoting a culture of payment, to solve the problem of illegal connections and reduce commercial electricity losses.
- 1.14 The way in which the policy was framed and implemented, as well as the dynamics of change in the sector within the region, left little room for substantive changes in the institutional arrangements for service delivery and obscured the important role of graduality, consistency, and flexibility in the success of the reform process, even though the PUP and its supporting policy paper (GN-1869) warned of the need to adapt the model to the particular conditions of each country and sector. The policy actually limits its own flexibility by stating that "significant action can only be taken [by the Bank] when the government has already made credible and irreversible public commitment to the mutually agreed upon process, signaled by the adoption of some of the basic conditions, or at least by making satisfactory progress towards their implementation" (basic condition 7).
- 1.15 The PUP does acknowledge that it cannot account for all sector- and country-specific circumstances and thus "it is conceivable that a departure from one or more of the basic conditions could be countenanced in some cases" (emphasis added). Nonetheless, the direct relationship established between fulfillment of the policy's development objectives and its basic conditions, together with the fact that any alternative arrangement was regarded as a departure, had the effect of consolidating the reform model as the Bank's chosen institutional arrangement for its work in the member countries and advanced it as virtually the only model to be used in all its operations.

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In fact, the new policy drew upon experiences applicable to the electricity sector and was coupled with a set of recommendations and specific references to the types of problems and challenges that Bank staff might face in the course of its execution. When the *Guidelines for the Application of the Public Utilities Policy to the Energy Sector* (2005) were being developed, the possibility of applying the basic conditions was analyzed, and possible courses of action for dealing with the difficulties that arose were explored. *Public Utilities Policy: Rationale for a Change in Policy* (document GN-1869). (July 1996). IDB.

- 1.16 The PUP's main thrust is that its development objectives can be achieved only through the fulfillment of its basic conditions, which essentially entails building a competitive electricity market that can boost operational efficiency and setting efficient prices to ensure the service's long-term sustainability. The point of restructuring the industry and promoting the entry of many different agents other than the State is to pave the way for competition. Moreover, the effort to separate State functions and promote the introduction of a new legal regime and an independent regulatory agency is aimed at fostering and protecting the rights of all stakeholders in the market, improving the private investment climate, and minimizing risks. One of the purposes of such a regulatory agency is to ensure free access to networks remaining under monopoly control.
- 1.17 In line with this approach, the Bank sought to deploy the institutional strategy outlined in the basic conditions. This strategy evolved into a blueprint for both governments and electricity companies, with the consequent *conditionalities* constituting a public policy mandate whose success and application, as recognized in the PUP, hinged on a steadfast, long-term commitment on the part of the public authorities. The absence of such a commitment would make it difficult to access Bank funds.

II. CHANGES IN THE ELECTRICITY SECTOR

2.1 The changes in the region's electricity sector were the result of a process involving a number of stakeholders and agencies, as well as the Bank. This process proceeded at very different rates and entailed widely varying challenges and achievements in each of the countries in the region. This chapter describes the changes that have occurred in the sector in recent years, in terms of both its institutional structure and the variables associated with fulfilling the sector-specific development objectives set forth in the PUP. An effort will also be made to determine the correlation between the two.

A. Diverse institutional arrangements

2.2 Fifteen years into the effort to overhaul the electricity sector, the industry employs a wide range of institutional arrangements to deliver electricity. Some countries in the region have a vertically integrated electricity industry in which State-owned enterprises play a large role under a monopolistic regime, while in others the reform model has engendered a vertically disintegrated sector with a high and varied degree of private participation, governed, on the one hand, by competition in the wholesale market and, on the other, by the regulation of sector activities. Between these two extremes are countries that are midway along in this transition, many of

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The specific role played by the Bank in the Latin American electricity sector's reform process will be discussed in the following chapter. The changes discussed in this chapter are the result of the countries' reform programs, but no attempt will be made here to identify the forces that led to the specific changes.

- which are having serious difficulty in either moving ahead with their reforms or reversing the reform process.
- 2.3 In order to analyze these changes, OVE developed a reform index to measure the changes made in terms of the reform model's basic postulates. Its findings are set out in Table 2.1. Of the 19 countries that were analyzed, 11 pursued electricity-sector reforms in line with the PUP, albeit to different degrees. The countries with reforms in place, listed in order from the most to the least comprehensive reforms, are: Argentina, Bolivia, Peru, Panama, Chile, El Salvador, Colombia, Guatemala, the Dominican Republic, Brazil, and Nicaragua. The countries that did not adopt the reform model or that have made only tenuous progress are: Honduras, Ecuador, Guyana, Venezuela, Costa Rica, Mexico, Paraguay, and Uruguay.

The English-speaking countries of the Caribbean (Bahamas, Barbados, Jamaica, and Trinidad and Tobago) and Belize were not included in this analysis because their electricity sectors have different types of institutional arrangements and organizational structures. In most cases they are vertically integrated, private monopolies in which, with the exception of Jamaica, the Bank has had very little involvement.

Table 2.1. Reform indicators for Latin American countries¹⁰

Country	Law	Regulator	Restructuring	Private generation	Private transmission	Private distribution	Market competition	Standardized reform indicator (0.1)
Argentina	4	4	4	4	2	4	4	1.00
Bolivia	4	3	4	4	4	4	4	0.97
Peru	4	3	4	4	2	4	4	0.94
Panama	4	3	4	4	1	4	4	0.92
Chile	4	3	3	4	4	4	4	0.91
El Salvador	4	4	3	3	1	4	4	0.89
Colombia	4	3	2	3	2	4	4	0.78
Guatemala	4	2	3	3	1	4	4	0.77
Dom. Rep.	4	3	3	4	1	3	3	0.75
Brazil	4	3	3	2	2	4	3	0.73
Nicaragua	4	3	2	4	1	4	3	0.72
Honduras	3	2	2	3	1	1	2	0.39
Ecuador	3	1	2	1	1	2	2	0.30
Guyana	3	3	1	1	1	1	1	0.25
Venezuela	3	1	1	2	2	3	1	0.23
Costa Rica	1	2	1	2	1	2	2	0.20
Mexico	1	2	1	2	1	1	1	0.09
Paraguay	1	1	1	1	1	1	1	0.00
Uruguay	1	1	1	1	1	1	1	0.00

Source: Index calculated by OVE (see Annex 2 for details)

B. Sustainability of the reforms

- 2.4 Sector reforms of the magnitude of those proposed for the electricity industry must be allowed to mature for a fairly substantial period of time before an accurate evaluation of their sustainability can be performed. Preliminary information indicates, however, that the problems encountered in implementing the reform model in many countries of the region started to become apparent in 2000. Due to the lack of political consensus (which the PUP identifies as one of the necessary conditions for reform), the general public's increasingly negative view of privatizations and concessions, and private investors' waning interest, some of the ground gained in introducing the reform model has now been lost, and progress in this respect has stalled in countries that were in the initial stages of reform.
- 2.5 In early reformers where the process has been intensive, including Brazil, problems that have arisen along the way have been dealt with by adapting the model's defining variables and, in particular, the nature and regulation of the wholesale

See Annex 2 for a detailed description of the changes that occurred in each of the countries and the methodology used to calculate the reform indicator, which reflects data up to 2002.

- market. In many other countries, however, tensions within the sector have not dissipated, and clear signs of "reform fatigue" are becoming evident.
- 2.6 Other countries tried to or actually did launch a reform process but it failed to gather enough momentum to implement a new service delivery model (*countries without reforms*). There were a number of contributing factors, including the lack of consensus that this model was the sector's best option, the involvement of monopolistic (except in the case of Ecuador) integrated public enterprises, and insufficient competition in the electricity market.

Signs that the reform may have run its course

In Argentina, which has pioneered the reform process, this model has not yet shaken off the effects of the severe political, economic, and social crisis that hit the country early in the decade. Since 2001, the rate schedule has been frozen, and disputes between private companies and the State have pushed the country to the brink of a supply crisis owing to investment shortfalls. In Colombia, the lack of participation by private investors and the high level of perceived regulatory risk have triggered a resurgence in investment by municipal enterprises. This has reinforced their dominant position in the market and cast further doubt on the future of privatization.

Clear signs of failure have appeared in the Dominican Republic, Guyana, and Nicaragua. High network losses, rising prices for residential users, and the limited number of operators in the market have led to a strong rejection of the process by the public. As a result, some privatized companies have reverted to State control, and, in some cases, signed contracts have been cancelled.

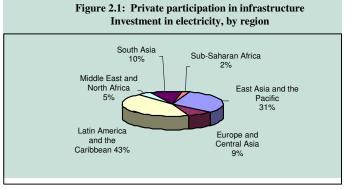
- 2.7 The sociopolitical sustainability of the reforms has been further jeopardized by the fact that the risks associated with the necessary degree of flexibility, sequencing, and graduality were underestimated. In many cases, the terms and conditions of multilateral organizations' adjustment loans in the sector were not consistent the reform process's complexity or the required sequencing of reform measures. In addition, the Bank tried to move privatization processes forward in tandem with, or even prior to, the creation of regulatory authorities. In such cases, demands were made upon these newly created regulatory agencies before they had been outfitted with the human and technical resources they needed to do their job, and they were not given enough time to develop those resources. This was the case everywhere but Chile, which was the only country in the region that properly sequenced its reform measures.
- 2.8 In other cases, the financial and economic profitability of private enterprise has hinged upon steep rate hikes and on the dismantling of subsidies and fraudulent demand-side practices. In these instances, the pace of reform did not allow for the graduality required to mitigate the political risk posed by such measures. The general public came to associate the entry of private operators with price increases. This sparked a politically based rejection of the process that continues to undermine the sustainability and progress of reforms.

C. Progress toward the development objectives for the sector

2.9 The Bank has neither the systematic database nor the indicators it needs to measure progress toward the sector development objectives set out in the PUP. Nor has it substantiated the accuracy of the PUP's basic hypothesis, which states that fulfillment of the basic conditions will ensure achievement of the objectives. Because this information is lacking, the evaluation was based on the available statistical data for selected sector indicators that were used as proxies for gauging progress toward fulfillment of the PUP development objectives. ¹¹

1. Long-term sustainability of services

2.10 Experience shows that the region has been highly successful at attracting private investment flows but less so at long-term ensuring their sustainability. Between 1990 2005, Latin America received 43% of total private investment flows into electricity sector, making it the world leader in this type of operation. Inflows of private



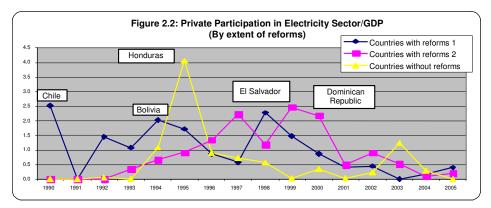
Source: Private Participation in Infrastructure Database (PPI Database-World Bank)

capital climbed steadily from 1990 until peaking in 1997. The total investment between 1990 and 2005 was US\$102.436 billion, 45% of which was in the form of payments made by purchasers of government assets, while the other 55% went to finance private-sector investments in the electricity industry.

2.11 The countries that had the greatest success in bringing in private capital were the ones that followed the PUP guidelines when they reformed their electricity sectors. These flows were frontloaded in the reform process. Privatization proceeds played a decisive role in mitigating the fiscal crisis in the smaller economies, where, during some years, their peak levels came to represent a hefty percentage of gross domestic product (GDP). By way of example, in 1995, Honduras's private inflows amounted to 7% of GDP and Bolivia's to 4%. Such flows represented 5% of El Salvador's GDP in 1998, and 5% and 6% of GDP in Panama and the Dominican Republic, respectively, in 1999.

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Annex 3 – Situation in the Electricity Industry and Historical Trends in Sector Indicators (1990-2003) includes specific information on each country. These are proxy indicators, and their validity is subject to the limitations inherent in such instruments. They are, nonetheless, the best available means of gauging progress toward the PUP development objectives.



Source: OVE calculations based on the PPI Project

Database, World Bank.

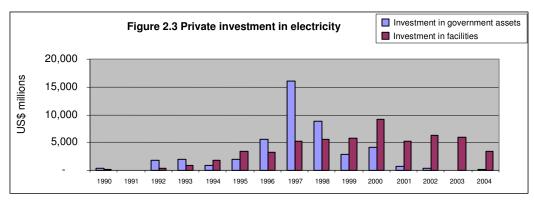
2.12 Private investment inflows also enabled countries that had moved forward with their reforms to expand their electricity generating capacity at a rate (5%) that outstripped the increase in electricity consumption (4%). This made it possible for them to eliminate the energy deficit that had existed at the start of the reform process and build up reserve capacity. In the faster reformers, the growth rate in capacity averaged 5% and the increase in consumption averaged 3%, with Panama, Bolivia, and El Salvador boasting the highest growth rates. By contrast, these growth rates were about equal (around 2%, on average) in countries that did not undertake reforms, which means that they continued to have difficulties in keeping pace with demand (see Table 3.1 and Figures 3.3 and 3.4 in Annex 3).

2.13 In 1999, investor appetite for a larger share of Latin America's electricity market began to shrink rapidly. As of 2000, direct private financing for the industry also began to trend downward.¹³ As private-sector participation in the process tapered off, one of the main driving forces behind the reform effort lost steam, diminishing the feasibility of creating a competitive market in the electricity sector.

In the other countries that carried out reforms, the average pace of growth was even higher (8% for capacity and 3% for consumption). The Dominican Republic, Guatemala, and Nicaragua posted the highest growth rates.

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Another sign of the slackening pace of private participation is the increase in the electricity sector's cancellations and projects "in distress", which now represent 15% of the total resources invested in Latin America and the Caribbean. See the PPI Database.



Source: PPI Project Database, World Bank.

- 2.14 It is still too early to draw any conclusions as to the extent or duration of private investors' withdrawal from the region's electricity sector. What is certain is that rekindling private investors' interest will require a major effort to evaluate the private sector's and the governments' actual risks, capacities, and limitations, and the search for opportunities for collaboration between the two will play a crucial role in this undertaking.
- 2.15 The level of investment required in the sector during the next 10 years has been estimated at US\$70 billion for South America alone¹⁴ and could be as much as US\$100 billion for the region as a whole.¹⁵ Given these investment requirements and the stagnation of private participation, public enterprises can be expected to continue to reposition themselves as investors within the sector, augmenting existing asymmetries in the countries' electricity markets and hampering the recovery of private flows. This situation marks a major turning point for the PUP and reflects a conflict between the Bank's interests and the countries' need to reactivate investment in the sector under the "constraints" associated with the PUP.

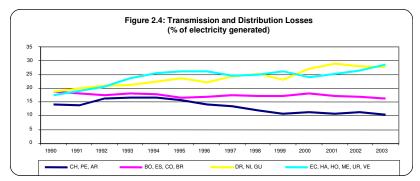
2. Economic efficiency and quality of services

2.16 The region has not reduced its level of energy losses since approval of the PUP. The reforms pursued by the sector in keeping with the basic conditions have not resulted in any substantial improvement in its operational efficiency as measured by the level of network energy losses. In fact, in 2003 the number of countries with losses of over 20% climbed to nine, from seven at the time of the diagnostic assessment for the PUP (1992).

See South America Reform Lessons. Twenty Years of Restructuring and Reform in Argentina, Brazil and Chile. (2005), page 50.

OVE calculations based on installed capacity in the other countries.

2.17 The figures indicate that during 1992-2003, only three of the eleven reformer countries (Chile, Peru, and Argentina) made a substantial improvement in the sector's operational efficiency. In another five (Bolivia, El Salvador, Panama, Colombia, and Brazil), efficiency levels held fairly constant, and in the rest (Nicaragua, Guatemala, and the Dominican Republic), losses increased considerably (see Table 3.5 in Annex 3). Inefficiency was an equally serious problem in countries that did not undertake reforms, except in the case of Costa Rica, which continues to keep losses low (7%), and Mexico, where indices remain moderate.



Source: OVE calculations based on World Development Indicators, World Bank.

2.18 OVE did not have access to information to evaluate changes in service quality. A World Bank enterprise survey¹⁶ does, however, indicate that, with the exception of Chile, the quality of the region's electricity services is low as measured by the "delay in obtaining an electrical connection" and "number of electrical outages" (see Table 3.4 in Annex 3).

a. Rates¹⁸

2.19 The discretion associated with price formation in the electricity sector has continued to be a root cause of the regional electric power industry's problems. With few exceptions, the authorities have continued to control electricity rates to varying degrees as they strive to meet the requirements of their governments'

http://espanol.enterprisesurveys.org/ This site provides data on the investment climate in 71 countries obtained from surveys of nearly 40,000 companies. The enterprise surveys measure business firms' perceptions of the investment climate.

The actual average delay, in days, that firms experience when obtaining an electrical connection (measured from the day the establishment applied to the day they received the service or approval).

Price formation in the electricity sector is complex and is influenced by factors both inside and outside the sector. As will be discussed later on, in the case of electric power, price formation is strongly influenced by the prices, costs, and risks associated with the relevant primary sources. It is therefore difficult to arrive at conclusive determinations as to how much of the changes that have occurred are attributable to the dynamics of the reform process and how much is due to the economics of primary energy sources.

- political agendas and deal with the population's limited payment capacity within the framework of a process that, in many cases, has entailed dismantling subsidies and raising outdated prices.
- 2.20 In fact, residential rate hikes have gone hand in hand with the reform process and, in some countries (Argentina, Peru), have been a prerequisite for the entry of private investors. In other cases (Colombia, Panama), it has proved difficult to dismantle existing subsidies and, where they have been eliminated, social pressure has obliged the authorities to create new price intervention mechanisms. In Argentina, outlays of nearly US\$700 million have been required over the last four years to stabilize residential consumer prices. ¹⁹ In the Dominican Republic and Nicaragua, price intervention and fraud have been the main reasons for the reversal of the privatization process.
- 2.21 In Central America (with the exception of Panama and Costa Rica), end-prices for consumers have risen. Costa Rica is the only country where price increases have been below the inflation rate. El Salvador has posted the highest annual increases, followed by Guatemala, Nicaragua, and Honduras. The gap in rates between the other Central American countries (except Panama) and Costa Rica has been widening. Regardless of the economic rationale for rate hikes and reductions in subsidies, the end result was that they fueled the public's rejection of the reform process.

3. Access to electricity services

- 2.22 The number of people without electricity fell by over 50% between 1990 and 2003 (from 82 million to 44 million). While electricity coverage is nearly universal in urban areas, it is less than 50% in rural zones. The countries that made the biggest coverage gains, as measured by the additional portion of the population being provided with service, were Guatemala (a reformer), which boosted coverage from 44% to 86%, and Paraguay (a non-reformer), where coverage expanded from 46% to 82%. Bolivia, El Salvador, Panama, and Peru—all of which are far along in their reform processes—continued to exhibit high levels of exclusion (see Tables 3.5 and 3.6 and Figure 3.5 in Annex 3).
- 2.23 Information on the impact of reforms on access to electricity in poor countries is very sparse in the literature and virtually absent in IDB- and World Bank-funded projects. According to a report published by the World Bank's evaluation department, a number of studies have found that in cases where rates were raised to

Citation from the text of the 2007 national budget: "The Budget includes \$700 million to curb electricity hikes." (29 September 2006). *Clarín*.

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Due to its dollarized economy, Panama had the highest prices in the region when the reform process began. Since then, prices have come into line with price levels in other countries (ECLAC, 2003).

cover costs, low-income households were adversely affected, at least in the short run.²¹

4. Environmental considerations

2.24 OVE was unable to locate any systematic information on the environmental impacts of reforms in the sector. The literature on the subject²² does, however, refer to some reform-related factors that have had an environmental impact. In particular, the market structure called for by the reforms has given preference to the use of thermal technologies, which are less capital intensive but use high-cost raw material inputs. This works to the detriment of capital-intensive initiatives affording long-term returns, which include renewable energy sources.

III. BANK ACTION IN THE ELECTRICITY SECTOR

3.1 In 1990, the Bank began to made sweeping changes in the nature and scale of its activities in the electricity sector. First, it shifted its focus toward new types of lending instruments designed to support structural changes in the countries, in which electricity-sector reforms figure as an important component. Second, it drastically reduced the number of investment loans made to public power companies and replaced them with direct loans to the private sector. In the late 1990s, however, there began to be signs that the usefulness of both of these types of loan operations was coming to an end, the pace of the Bank's work in the region's electricity sector started to slacken, and clear signs that the reforms proposed under the PUP were no longer consistent with the Bank's and countries' needs and interests with regard to financing for the electricity sector began to emerge (see Annex 4: The Bank's portfolio in the electricity sector, 1990-2005.)

Trends in the sector's financial flows A.

3.2 In 1982-1986, the Bank lending in the electricity sector reached its peak (25%, on average). This increased activity was largely driven by investments in the hydroelectric plants being built in the region in response to the rise in oil prices in the 1970s. By 1991-1996, however, this figure had fallen to 7% of total approved loan. The introduction of the new policy in 1997 did not reverse this downward trend. By 1997-2004, direct loans for the electricity sector accounted for barely

A field study conducted in Guatemala concludes that the low-cost rates introduced following the privatization of electricity distribution companies failed to reach poor households and that access to modern public services is still very uneven. The likelihood that a household in the richest 20% of the population will have an electrical connection is twice as high as for those in the poorest 20%. Power for Development (2003). A report of the Operations Evaluation Department (OED) of the World

²² See Dubash, Navroz. K. (Ed.). Power Politics: Equity and Environment in Electricity Reform. (2002). World Resources Institute.

5% of the Bank's business, and in 2002-2004 operations in the sector were almost negligible (2%).²³

40% 35% 30% 25% 20% 15% 10% 5%

Figure 3.1 Approvals in the Electricity Sector as a Percentage of Total Approvals

Source: OVE calculations on the basis of the IDB Data Analyzer.

3.3 As the Bank's business with the public sector diminished, its work with the private sector came to the fore (see Figure 3.2), and although these activities did not offset the decline in operations, they did channel a substantial amount of resources to the electricity sector. Albeit on an incipient and short-run basis, the underlying principles of the reform model thus came to be reflected in the trend seen in Bank approvals for operations via its public- and private-sector windows. From 2000 on, however, the substitution of private-sector operations for public-sector business began to taper off. The slowing pace of this process in recent years and the resurgence of public-sector operations heralds an increase in the tensions associated with the application of the PUP.

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This same trend was seen in the World Bank's activities. The operations of the Andean Development Corporation remained steady at around US\$200 million per year, which would seem to indicate that it did not take over any business from the other two banks.

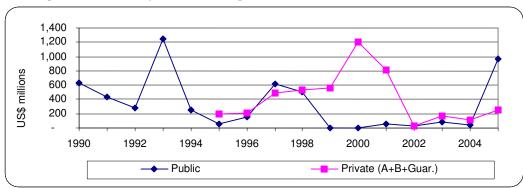


Figure 3.2: Electricity-Sector Lending Trends in the Public and Private Sectors

Source: OVE calculations on the basis of the IDB Data Analyzer and PRISYS.

B. Support for introduction of the reform model

- In addition to its investment loan operations, in 1990 the Bank began to deploy an array of instruments to support reform in the electricity sector. Between 1990 and 2005, the Bank approved a total of fifteen sector or hybrid loans²⁴ and five reimbursable technical-cooperation operations (TCs) tied to investment loans, to help fulfill the basic conditions of the PUP in the region. In addition, 36 nonreimbursable TCs, most of which drew on MIF resources, were approved. The chief aim of these operations was to support the creation and institutional strengthening of regulatory agencies and bolster privatization efforts.²⁵ In 1990-2005, the Bank also implemented approximately 47 nonlending products and events. The vast majority of these outputs took the form of studies, publications, and events aimed at analyzing, discussing, and disseminating the new electricity service delivery paradigm (see Tables 4.2-4.9 in Annex 4).
- 3.5 The Bank's efforts to support the implementation of the reform model in the region through TCs and nonlending activities were most vigorous during the second half of the 1990s. In 2000, these efforts began to flag and, the policy's express

Unlike the World Bank, the IDB does not have a classification system that makes it possible to pinpoint which projects and resources in sector operations (policy-based loans) focused on the electricity sector. To determine how many projects supported the reform process, all sector operations approved in 1990-2005 that had been classified under "Reform and Modernization of the State" were reviewed to identify those that explicitly included electricity-sector reforms.

In fact, 40% (US\$12.1 million) of MIF resources approved for the sector in 1990-2005 was used to assist with the institutional strengthening of public utility regulatory authorities (including energy, water, and telecommunications); in some cases, these operations also included components for strengthening complementary entities, such as environmental or consumer protection commissions. Only one operation was devoted entirely to promoting consumer participation in the privatization of public utilities. Another 20% (US\$5.9 million) was used to establish a specific regulatory framework for the electricity sector. A further 30% (US\$8.1 million) was aimed at supporting reforms in public electricity utilities and their preparation for privatization or concession. The remaining US\$2.4 million was used to train regulators (see Table 4.13).

- acknowledgement of the need to provide long-term support notwithstanding, the Bank cut back on its direct support for institution-strengthening in the sector.
- In order to assess the efficiency of Bank support for reforms in the countries' electricity sectors, OVE constructed an intensity index to measure the Bank's efforts in each country based on the number of sector loans and TCs approved and executed in 1990-2005 (see Table 4.10 and Annex 4 for the methodology used to calculate the index). The Bank was particularly active in support of fulfillment of the basic conditions in Panama, Guyana, Nicaragua, Colombia, Venezuela, Uruguay, and the Dominican Republic.
- 3.7 The poor performance of the policy-based loan (PBL) and TC portfolio in the electricity sector, however, points to the Bank's relative lack of success in moving the sector's reform process forward. Of all executed PBLs involving electricity-sector reforms, only 40% were reported to have yielded very satisfactory results in terms of the fulfillment of their conditionalities, and over 70% experienced delays of two years or longer²⁶ (see Table 4.11 in Annex 4). The results for TCs were also quite modest. The information provided in the Project Performance Monitoring Report and OVE evaluation²⁷ indicates that 44% of these TCs were rated as being marginally unsatisfactory or unsatisfactory (see Tables 4.13 and 4.14 in Annex 4).

The contractual duration of these operations' execution averaged three years.

Evaluation of MIF Projects: Support of Private Participation in Infrastructure (document MIF/GN-78-9). (2003).

Number of operations Intervention Reform index Country Reimbursable Nonreimbursable index PBL **MIF** TC TC Guyana 3 4 7 0.25 4.8 Panama 6 3 0.92 3 4.5 3.9 Nicaragua 3 8 0.72 Venezuela 3 5 2 3.1 0.23 Colombia 4 2.9 0.78 3 Uruguay 1 0.00 8 2.9 Dom. Rep. 3 6 2.7 0.75 2 Honduras 2 3 2.5 0.39 Argentina 3 3 1.00 2.4 Brazil 3 5 2.4 0.73 Costa Rica 2.3 0.20 1 6 3 2 Guatemala 0.77 2.1 El Salvador 1 5 1.8 0.89 Bolivia 3 1.5 0.97 Chile 3 0.91 1.1 Paraguay 3 0.9 0.00 Ecuador 3 0.6 0.30 Mexico 0.0 0.09 0.0 0.94 Peru

Table 3.1: Intervention index and sector reforms

3.8 A comparison of the intensity index of Bank action with the countries' reform index (see Chapter 3, paragraph 2.3) shows that all the countries except Panama in which the Bank was the most active either achieved no more than average progress or did not implement reforms. In short, the sector reform effort was very inefficient in such countries as Venezuela and Uruguay and achieved only average levels of success in Colombia, Nicaragua, the Dominican Republic, and Guyana.

C. Loan operations and the PUP

3.9 Approved loan operations differed in their approach to the PUP's application based on whether they were targeting the public or private sector. A large percentage of public-sector operations were aimed either at supporting the expansion of electricity markets by providing financing for transmission networks or at introducing, consolidating, and developing the reform model's conditions as a vehicle for achieving the PUP's stated objectives. On the other hand, since private-sector operations to expand installed capacity provide greater scope for action by private stakeholders, these actions were regarded as supporting, by definition, deployment of the reform model.

1. Public-sector loans

3.10 In terms of the portfolio's distribution, of the total loans approved for the public sector (16 loans totaling US\$2.2 billion), seven operations in four locations

(Venezuela, Colombia, Brazil, and Central America) accounted for 86% of the resources allocated to the sector, while 57% of the total was used to finance just four projects: the Central American Electric Interconnection System (SIEPAC) (CA-0035),²⁸ Brazil's North-South Electric Power Interconnection Project (BR-0275), Colombia's Porce III Hydroelectric Power Plant Project (CO-L1005), and Venezuela's Tocoma Hydroelectric Power Plant Project (VE-L1003). These last two projects were the driving force behind a recovery in Bank business in the sector in 2005, despite the fact that they do run counter to the PUP in some areas.

- 3.11 The development objectives of investment operations in the public electricity sector are aligned with the PUP objectives. Four of the ten approved investment operations were devoted to expanding transmission capacity (BR-0275, CA-0035, GU-0171, PN-0061)²⁹ as a means of increasing the system's stability, upgrading service, and broadening domestic markets by interconnecting them with other countries, particularly in Central America. Another four were aimed at expanding rural coverage (BO-0224, CH-0174, GY-0065 and HO-0224), and the other two were designed to increase generating capacity (CO-L1005 and VE-L1003).
- 3.12 The investment portfolio is small and fairly new in terms of the feasibility of conducting a careful assessment of its effectiveness and impact. In particular, the disbursement levels of the four operations serving rural areas, which are directly related to efforts to combat poverty and social exclusion, are as yet quite low. The Bank's most sustained investment effort has dealt with projects to expand Central America's electricity market (Secretariat for Central American Economic Integration (SIECA), Central American Electric Interconnection System (SIEPAC)), but disbursement levels are quite low in this case as well. Integration has proven to be a long, complex process requiring institutional alignments in the countries involved. It has been further hindered by differing levels of acceptance and the varying pace of reform in the individual Central American countries. 30
- 3.13 OVE evaluated the portfolio's consistency as measured by the effect of approved projects on the sector's reform process and, in particular, by how these investments influenced the strategy for creating a competitive electricity market. Based on these criteria, eight of the ten operations approved for the public sector were found to be consistent with the PUP model (see Table 5.1 in Annex 5).
- 3.14 Of the operations that were in line with the reform model, four were projects to expand transmission networks and four were aimed at providing service to rural or

In addition, the hybrid loan for Nicaragua (NI-0069) included funds for expanding the transmission network.

This loan includes the first version of project CA-0007 and the related reimbursable TC.

Although the Bank's support for this initiative dates back to the 1980s, the loan was approved over eight years ago, has very low disbursement levels, and has been reformulated several times. Many years after approval of the loan, negotiations were finally completed in July 2006, and construction of the transmission line began.

other unserved areas. The first four provided financing for the transmission lines needed to create a Central American energy market (CA-0035, PN-0061, GU-0171) and to integrate South America's two largest markets (Argentina and Brazil) (BR-0275). Although the four operations focusing on unserved areas are not an integral part of national electricity markets, they do incorporate components of the new institutional arrangements. The projects for Honduras, Chile, and Bolivia, in particular, provide incentives as a way of encouraging small-scale private operators to become involved in service delivery for rural areas (HO-0224, CH-0174, BO-0224, GY-0065).

- 3.15 Finally, the two power-generation projects (VE-L1003 and CO-L1005) approved in 2005 were found to be inconsistent with PUP postulates because they reinforce the public sector's dominant role, thereby creating additional rigidities that could interfere with the reform model. Construction of the Porce III plant in Colombia was found to be relevant insofar as it helps to meet the country's need for an expansion in supply. However, the operation fortifies the integrated municipal company's dominant position, which makes it more difficult to bring in private operators and strengthen competition.³¹
- 3.16 The situation with respect to the Tocoma project and its associated TCs is different in nature. In this case, Management recognized that the basic conditions had not been fulfilled and requested a waiver for the operation's approval. This operation not only reinforces the generation and transmission company's (EDELCA) dominant role, but also moves the sector away from the reform model.

2. Operations with the private sector

- 3.17 In terms of the areas of concentration of Bank operations, the portfolio distribution in the private sector is similar to that in the public sector. The Bank approved a total of 30 projects for US\$1.6 billion (80% for the expansion of generating capacity and 20% for transmission); three countries (Brazil, the Dominican Republic, and Mexico) accounted for 80% of these resources and 70% of the operations.³²
- 3.18 When measured in terms of their impact on the reform process, private-sector operations are less consistent with the basic conditions of the PUP. Of the Private Sector Department's 30 approved projects, 14 (nearly 50%) may add to the challenges involved in implementing the reform model, 10 can be regarded as having a neutral effect because their impact on the model will be determined by actions beyond the scope of the project, and only 6 (20%) will actually contribute to the establishment and consolidation of the model (see Table 5.2 in Annex 5).

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OVE evaluability note.

Brazil alone accounted for half of this activity in terms of both the funds approved (52%) and the number of operations involved (47%).

Table 3.1: Private-sector operations by category

Category	Operations	Number			
Consistent	AES Parana (AR-0200)	6			
	Cana Brava Hydroelectric Power Project (BR-0304)				
	Enersur Power Project (PE-0102)				
	Chorrera Power Project (PN-0136)				
	Argentina-Brazil Interconnection (RG-0054)				
	Tipitapa 50 Mw Power Plant (NI-0103)				
Neutral	eutral VBC Energy Partial Risk Guarantee (BR-0346)				
	Light - Electricity Services (Guarantee) (BR-0350)				
	Novatrans Energy (BR-0398)				
	Bandeirante Investment Program (BR-0401)				
	Cemat Investment Program (BR-L1040)				
	Celpa Capital Investment Program (BR-L1042)				
	Ede Sur Ede Norte Power Plant (DR-0137)				
	Capital Expenditures Electricity Distribution (GU-0151)				
	Redesur Transmission Line (PE-0210)				
Inconsistent	Uruguaina Generation Plan (BR-0257)	14			
	Ita Hydroelectric Power Project (BR-0271)				
	Dona Francisca Power Plant (BR-0315)				
	North Energy (BR-0316)				
	Termobahia Co-Generation Plan (BR-0354)				
	Termopernambuco Power Project (BR-0361)				
	Campos Novos Hydroelectric Power (BR-0370)				
	Miravalles III (CR-0115)				
	San Pedro de Macoris Power Plant (DR-0133)				
	Thermoelectrica del Golfo, S.A. de C.V. (ME-0218)				
	Hermosillo Power Generation Plant (ME-0220)				
	Bajio Power Plant (ME-0225)				
	Vitro Cogeneration Project (ME-0228)				
	Monterrey III Power Project (ME-0229)				
Total		30			

Source: OVE evaluation

- 3.19 The six projects that were classified as "consistent" and found to be supporting the model were implemented in countries that were far along in terms of meeting the basic conditions. Five of these operations expanded generating capacity in ways that helped increase competition and the number of operators in the market (AR-0200, BR-0304, NI-0103, PE-0102 and PN-0136). The sixth is an interconnection project for Argentina and Brazil (RG-0054) that paves the way for the expansion of both countries' electricity markets and for increased competition.
- 3.20 Another 10 operations aimed at expanding the capacity of individual countries' transmission and distribution networks appear to have been moving in the same direction as the changes called for by the reform model. Certainly, expanded network capacity increases the viability of exchanges and improves service quality. These investments' ultimate impact on the PUP model is regarded as "neutral",

- however, because their impact on the model will be determined by decisions and variables external to the project.
- 3.21 Finally, 14 projects were categorized as "inconsistent" because they incorporate or reinforce constraints on the development of a competitive electricity market by more closely integrating electricity producers and distributors or strengthening dominant operators' positions.^{33 34}

IV. BANK ACTION IN THE SECTOR: LESSONS AND CHALLENGES

4.1 The literature reveals significant and growing concern about the difficulty of adapting the reform model to the specific situations of some countries as a means of achieving the sector's development objectives, particularly those relating to equity and universal access. It is difficult to determine how many of the reform's successes or failures can be attributed to actions taken by the Bank or other multilateral agencies and how many can be attributed to decisions made by the countries themselves. The statements made in this chapter are based on the region's nearly 15 years of experience with the reform process, but no attempt is made to make such a determination, which would, in any case, be futile. OVE has, however, drawn some specific lessons from experiences in countries where the Bank has been most active and where the process has been subject to significant risks. It has also analyzed Management's responses to the challenges that have arisen and has evaluated their relevance and appropriateness in relation to the problems faced by the sector.

A. Lessons learned from experience

- 4.2 Experience has demonstrated the difficulty of bringing about institutional change in this sector and of fulfilling conditions that were originally regarded as basic in nature. When the PUP was approved, its relevance appeared to be solidly based on the changes taking place in the sector, but 15 years of reform efforts attest to the difficulties involved not only in bringing such changes about but, even more importantly, in sustaining them over time. Many shortcomings have to do with a miscalculation of the demands that the new model's adoption would place on the electric power industry and the institutional environment.
- 4.3 This evaluation's findings indicate that the Bank misjudged the risks and constraints faced by the countries in adopting these reforms and therefore failed to design processes that took them into account. Many of the problems that have been encountered have stemmed from incorrect assessments in three areas: the countries'

Of the 14 projects, 12 were approved in Brazil and Mexico, which attests to the active negotiations pursued by these two countries and their high degree of technical and strategic self-reliance.

OVE has evaluated the effectiveness of the portfolio of the Private Sector Department. Its findings are presented in *Evaluation of the Bank's Direct Private Sector Lending Program 1995-2003* (document RE-303).

- institutional capital, the size and depth of their electricity markets, and private investors' risk capacity.³⁵
- 4.4 First, the reform model turned out to be very demanding given the level of institutional development required for its effective, efficient implementation and the region's institutional weaknesses. Some of the main factors hindering the model's implementation have been a lack of skilled human resources to perform regulatory duties and of the information and tools needed by regulatory agencies to overcome information asymmetries between them and the individuals and organizations they regulate as a basis for sound decision-making. Shortcomings were found to exist in virtually all regulatory bodies and were particularly serious in countries whose institutional structures are less well developed (El Salvador, Guyana, Guatemala, and the Dominican Republic) (see Annex 6).
- 4.5 Second, the electric power industry in the region, and particularly in some countries, has certain characteristics that make it difficult to create a competitive market with sufficient depth to ensure service delivery over the long term and to achieve a level of efficiency that can be passed on to users. More specifically, the Bank did not correctly weigh the risks involved in forming a competitive regime in fairly small electricity markets where business ownership is highly concentrated and the population has a weak payment culture.
- 4.6 Lastly, the political and regulatory risks encountered in many countries of the region have proven to be very high relative to the risk propensity exhibited by private investors in the sector. As described in Chapter III, for reasons that have been discussed at length by experts in recent years, beginning in 1998, private investors' appetite for a share of Latin America's electricity market began to shrink rapidly. Two factors appear to have been at the root of this trend. In addition,

Annex 6 includes a detailed analysis of the lessons learned in these areas during the region's reform process. Appendix 6-1 provides an overview of the main flaws pinpointed by Management, which are addressed in the *Guidelines for the Application of the Public Utilities Policy to the Energy Sector* (March 2005), IDB. Appendix 6-2 cites a number of reference documents on this subject that have recently been issued by the main international agencies.

See, in particular: Report on Economic and Social Progress in Latin America, (2001), IDB, and Private Sector Development In the Electric Power Sector. A Joint Review of the World Bank Group's Assistance in the 1990s. (2003).

Many multinational corporations that moved into Latin America beginning in 1990 have now left. Even more are trying to withdraw from these markets, while those that are staying are not increasing their investments. This is partly due to opposition in Latin America to privatization of the energy sector and partly to political and economic factors that limit profitability. Yet another factor is the weak economic position of corporations, particularly U.S. electricity companies (in the wake of the price-fixing episode in California and Enron's accounting fraud scandal). This multinational withdrawal from the electricity (and water) sectors of developing countries was prompted by the fact that earnings have not been high enough to offset the political and currency risks. See: Hall, David. *Electricity in Latin America*. (July 2004). Public Services International Research Unit, University of Greenwich.

[&]quot;After growing rapidly in the early 1990s, private interest in the power sector waned in the aftermath of the 1997 Asian financial crisis. A 2002 World Bank survey revealed that private power investors

the relatively lower-risk markets (in terms of size and the population's willingness to pay) had already been privatized, and new areas of business were not very profitable when measured against investors' perceived risks. There was also a growing aversion in the region to private participation and, in particular, to the entry of private agents into public utilities.

4.7 In addition, the electricity industry must deal with constraints deriving from the various production functions, each of which is associated with a primary energy source (natural gas, petroleum fuels, coal, hydraulic, wind, geothermal, or nuclear energy), particular economic pattern, and specific risks.³⁹ The need to adapt to each of those function's natural and economic cycles heightens price volatility and works against the stability of reforms.⁴⁰ Although these factors do not actually block the formation of an electricity market, they distance it from the commodity-market model with which it was originally associated⁴¹ and require a more intensive level of management and organization, thereby making regulatory tasks more complicated (see the following table).

are retreating from developing countries, and medium-term prospects are discouraging: 'of 50 firms surveyed, 52 percent are retreating, and only 3 firms continue to be interested.' In the distribution business, interest is the lowest where the need is the greatest. Reigniting private sector interest in developing country power sectors is a difficult task." *Private Sector Development In the Electric Power Sector. A Joint Review of the World Bank Group's Assistance in the 1990s.* (2003). World Bank.

For example, weather-related risks in the case of hydroelectricity, political risks in the hydrocarbons industry, and technological risks in the case of new energy sources.

Financial products (hedges) that lock in prices have been devised to dampen volatility but, given the size of the market, it is difficult to make extensive use of these instruments.

Guidelines on the Application of the Public Utilities Policy to the Energy Sector. (2005). IDB. Page 12.

Complex Issues Associated with the Electricity Industry's Various Production Functions

The differences between the generation of hydropower and thermal energy have been at the heart of many recent crises in the sector. For example, the substantial price volatility associated with the seasonality of demand and weather-related risks of hydropower generation has obliged Brazil and Colombia to make major changes in their market model. Meanwhile, rising oil prices and perceptions about natural gas shortages or availability have influenced the electricity market and prompted energy policy to place greater priority on ensuring a guaranteed supply.

The appearance of new sources of financing and the greater emphasis that Costa Rica is placing on energy independence sets it apart from the other Central American countries in terms of the approach being taken to deal with spiraling oil prices. Oil-based electricity generation amounts to 72%, 55%, 48%, and 45% of total installed capacity in Nicaragua, Honduras, El Salvador, and Panama. By contrast, the Costa Rican electricity sector relies on petroleum for only 22% of its energy, thanks to the geothermal and hydroelectric investments made by ICE (a public corporation) with support from the IDB and the Prototype Carbon Fund. This enables the country to keep its electricity prices low and even sell energy to neighboring nations.

The complex implications of the risks associated with the oil industry's political cycles are compounded by issues relating to the long-term reliability of supply. As in the case of natural gas in the Southern Cone, these issues have sometimes given rise to a great deal of instability in the region's electricity market. For example, the reduction of the flow of natural gas from Argentina has prompted Chile to place priority on diversifying its primary energy sources, and in response to the need for fuel from more distant sources, it is now making the infrastructure investments required for it to receive liquefied gas from Asia. In order to attract investment funds for these new primary supply sources, Chilean regulatory authorities are modifying their price schedules and regulations on competition, which some critics regard as undue intervention on the part of the State.

B. The Bank's response to recent developments

- 4.8 In response to the challenges posed by implementation of the PUP, Management has approved the *Guidelines for the Application of the Public Utilities Policy to the Energy Sector* and has drawn up a proposal for modifying the energy policy and even the PUP itself. Management has devised these tools in an effort to make the PUP more flexible and take greater account of the specific characteristics of the sector and relevant countries by tailoring the model to the situation in each country.
- 4.9 The Guidelines for the Application of the Public Utilities Policy (OP-708) to the Energy Sector were approved in March 2005 and provide operational standards to guide application of the PUP in the electricity sector. The guidelines are based on 10 year of experience in applying the PUP. They identify problems and conflicts that have arisen in the region during the implementation of each of the basic conditions and help guide the analyses and decisions of the technical teams that design and negotiate projects and other sector operations. Without having gauged the feasibility of achieving the PUP's development objectives, the guidelines are, once again, based on the unproven hypothesis that fulfillment of the basic conditions will lead to the attainment of the PUP development objectives. At no time do they explore the difficulties of doing so, to say nothing of proposing corrective measures for overcoming them.
- 4.10 Management's recommendations regarding application of the PUP are unlikely to have any practical implications in terms of project preparation. First, the guidelines

provide an approach for analyzing each of the basic conditions, and the choices that Bank officials have to make in each country. In many cases, this approach may lead them to make decisions that run counter to the mandatory fulfillment of the basic conditions as called for in the PUP. Second, these recommendations are made individually (for each of the basic conditions) and do not clearly reflect the need for consistency among all the various decisions and for their proper sequencing. Consequently, there is no explicit recognition of the possibility that support may be given for types of institutional arrangements that differ significantly from the reform model's original postulates.

- 4.11 The initial PUP policy statement, which requires fulfillment of the basic conditions and characterizes any other situation as a departure from the PUP, has probably discouraged efforts to seek out alternative service delivery models. OVE has found that, despite the early (*Report on Economic and Social Progress in Latin America*, 2001) and thorough (*Guidelines*, 2005) identification of the reform model's shortcomings, the Bank has not equipped itself with the tools it needs to resolve the PUP's mounting internal contradictions and address the countries' and its own financing requirements. In fact, as mentioned earlier, operations in the sector have been declining since 2000, and those projects that have boosted the level of activity have done so by obtaining PUP waivers.
- 4.12 The Sustainable Development Department recently submitted a proposal for a PUP review to the Programming Committee of Management. This proposal, which was not approved, was aimed at making the policy more flexible and recognizing the differences existing among the various sectors it covers. However, the proposed changes were formal in nature and would not have resolved the growing difficulties encountered in applying the PUP, given the scale of the problems in the sector and its deteriorating situation. 43
- 4.13 Lastly, for nearly four years, Management has been submitting proposals to the Board of Executive Directors to review the energy policy approved in 2000 (OP-733)⁴⁴ with a view to its adaptation to the new institutional environment. However, efforts to build a consensus for the approval of a new policy have thus far been unsuccessful. The reasons for this appear to be similar to those that have interfered with approval of the proposal to modify the PUP. The challenges posed by application of the reform model and the fulfillment of its objectives have raised

Programming Committee of Management. Minutes of the 23 May 2006 meeting. CPA/06/8.

Specifically, the proposed changes were as follows: (i) The basic conditions would cease to be mandatory and would instead be seen as elements without which it would be difficult to achieve the stated objectives; (ii) The separation of roles would no longer be seen as making the most important contribution toward achieving the objectives, but would instead take the form of a recommendation based on experience; (iii) A number of warnings or alerts would be included regarding the possibility of making the market competitive and of locking in incentives to ensure service delivery over the long term; and (iv) Recommendations concerning the elimination of cross-subsidies would be modified to require justification of such subsidies.

Energy Policy. (document GN-2299-8). (September 2004).

doubts about its validity, but have not resulted in any substantive proposal that can be regarded as offering greater consistency and efficiency.

V. CONCLUSIONS

- 5.1 The evidence compiled in the course of this evaluation demonstrates that adoption of the basic conditions has not necessarily resulted in the fulfillment of the PUP development objectives. Countries that launched reforms early on, possess greater institutional capacity, and have the ability to develop deeper electricity markets have been more successful. However, the model's strengths have not been apparent in the rest of the countries that have undertaken reforms, and even where a significant level of private generating capacity has been added, tensions in the sector have in some cases grown worse. In many countries, efficiency in the sector has deteriorated and the prices charged to residential consumers have risen. On the other hand, with few exceptions, the situation in non-reforming countries' electricity industries has remained critical as a consequence of interventionist measures in rate-setting and subsidies and an inability to generate the necessary investment flows.
- 5.2 Generally speaking, the reforms have been successful in attracting private investment and boosting generating capacity and energy supplies. Results have been mixed, however, in terms of the sector's efficiency and service sustainability. And the reforms have failed to meet social demands and, in general, trigger an increase in efficiency capable of producing gains that could then be passed on to all members of society and, in particular, its lowest-income groups. Furthermore, there is no evidence that the reform model has been effective in serving broader social purposes, such as environmental protection.
- 5.3 When the PUP was approved, its relevance appeared to be solidly based on the changes taking place in the sector, but constraints associated with the nature of the electricity sector as such and the specific institutional situation in some countries have posed considerable challenges for implementation and sustainability of the reform model. In addition, developing the institutional arrangements set out in the policy has turned out to be a long, drawn-out process calling for sustained support and political commitment over the long term. This has proven difficult to achieve, not only in the countries, but also in the Bank itself.
- 5.4 This evaluation has determined that the Bank did not correctly weigh the relevant challenges and risks of implementing the reform model in each country. As a result, it failed to carry forward a gradual process of change that properly sequenced and paced the institutional development process called for by the model. The rush to secure financial resources, driven by the crisis in the sector and the dynamics of adjustment loans, led the countries and the Bank to underestimate the risks associated with the necessary flexibility, graduality, and sociopolitical sustainability of these measures and militated against the PUP's relevance and effectiveness in finding long-run solutions to the sector's problems.

- 5.5 The relative lack of success in achieving the sector's development objectives, particularly those relating to service accessibility and equity, and the flaws and challenges involved in the reform model's application have sparked an adverse reaction in many countries and increased the risks associated with the entry of private operators. This type of reaction could prompt a misguided return to past models and thwart the creation of more efficient and effective models based on the valuable experience gained by the region in this area.
- 5.6 The ideology guiding the reforms of the 1990s, which was based on free market principles and downsizing of the State, led to a strictly limited interpretation of the PUP that called for a very restrictive and virtually undifferentiated implementation of the reform model. This approach is now being supplanted by a more pragmatic one encompassing various options for electric power service delivery. Rather than focusing on the tools to be used, this new approach places more emphasis on stability, adaptability, consistency, the quality of implementation, and the economic and social effectiveness of public policies.⁴⁵ The importance of the process used to formulate and implement a policy and the policy's alignment with the relevant sector's and society's possibilities and limitations are becoming increasingly evident.
- 5.7 There is a high degree of correlation between such factors as the extent of public functions' separation and independence, the levels of public and private participation in service delivery and their diversity and methods, the design of accessibility mechanisms and subsidies, the formulation and implementation of market rules, and the industry's functional structure, and decisions about what is possible or feasible to achieve in any one of these areas determine what can be done in the rest. The task at hand, therefore, is to seek out consistent, stable service delivery models that include sufficient incentives for refinement or adaptation over the long term and demonstrate efficiency in achieving long-term goals.
- 5.8 OVE's experience indicates that the success and sustainability of reforms has largely been determined by the sector's ability to promote competition (based on market size and the number of differentiated agents) and its level of institutional development (complementary regulatory institutions, the availability of specialized resources, and social consensus concerning the key reform issues). The design of sector policies should thus be approached on the basis of these two groups of factors.
- 5.9 A variety of different types of institutional arrangements in various stages of development coexist in the region, and the Bank should have enough flexibility and technical capacity to work within all of those frameworks without cleaving to preestablished mandates. It would therefore be well advised to equip itself with specialized human resources that enable it to partner with the countries and provide them with advisory assistance throughout the lengthy social process entailed in putting these reforms in place.

The Politics of Policies. Economic and Social Progress in Latin America. (2006). IDB.

5.10 The *realignment* process being pursued by the Bank and the New Lending Framework afford a significant opportunity at the management and operational levels to adapt the Bank's tools and capacities to the demands of system-wide intervention in this sector in each country. The Bank can take advantage of this juncture in the reform process by continuing to take a comprehensive approach to the issues at hand. Priority should be given to institutional matters and the sector's development objectives, but care should also be taken to ensure that intervention models are properly adapted to conditions in the industry and the institutional development of each country or area.