16 Alternatives in the electricity sector in Latin America

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On the night of 10 October 2009, while most Mexicans celebrated the qualification of their national football team to the World Cup 2010, police troops seised the premises of the state-owned electricity company *Luz y Fuerza del Centro* (LyFC, Central Region Light and Power), which served more than 6 million users in the capital city and adjacent municipalities. Such action followed a decree of liquidation signed by Mexican President Felipe Calderón that referred to the company's allegedly proven history of financial and operational inefficiency. A larger public enterprise, the *Comisión Federal de Electricidad* (CFE, Federal Electric Commission) took over the services until then provided by LyFC. The mighty *Sindicato Mexicano de Electricistas* (SME, Mexican Electrical Workers' Union) perceived the closure of the company as a virtual declaration of war against unionised labour, since approximately 45 000 employees would be fired. Thousands of SME members, backed by other workers, students, peasants, progressive intellectuals, and a wide range of social and political activists, marched in the streets to express their anger. The mobilisation continued for several weeks, and included a huge demonstration on 11 November 2009 that virtually paralyzed traffic in downtown Mexico City. The government was forced to rule out privatisation, but many social sectors believed that the closure of such a big company constituted a major step towards the full liberalisation of the electricity sector, which most Mexicans see as a symbol of national pride worth defending.

Half a year later, on 1 May 2010, Bolivian President Evo Morales sent army troops to nationalise four electricity companies, including a subsidiary of the French transnational corporation GDF Suez, reaffirming the trend in that country towards greater state control over the economy. In previous years, Morales had also commemorated the International Workers' Day by nationalising other companies controlled by foreign investors. "We are fulfilling the people's vociferous demand to recover and nationalise natural resources and basic services. We are here to nationalize all the hydroelectric plants that were previously owned by the state, in accordance with the new Bolivian constitution. Basic services cannot be a private business. We are recovering the energy, the light, for all Bolivians," the President proclaimed

in Cochabamba, announcing that the state had regained control of 80% of electricity generation and that his aim was to achieve in the near future the complete nationalisation of the power sector (*Brecha* 2010, 23).

These two stories portray the core tensions and the social, economic, and political forces that have shaped the electricity sector in Latin America. During the past three decades, mainstream policy officials, business executives, consultants, and conservative researchers have been excessively optimistic about the potential impacts of market-oriented reforms in the sector. Many scholars considered privatisation and deregulation to be the best and/or only means to increase efficiency of public services and promote economic and social development. But rather than regional convergence towards open markets, we see in Latin America a diverse mix of institutional arrangements, including the revival of state ownership and other emerging alternatives to marketisation. Beginning in the 1980s, all Latin American countries implemented profound policy reforms in the electricity sector, which resulted in diverse models for market liberalisation and institutional restructuring. The tide began to change in the late 1990s with the regional expansion of several left-of-centre governments, which meant strengthening state ownership and even the renationalisation of power utilities (Barrett et al., 2008).

The purpose of this chapter is to contribute relevant information and analysis to ongoing national, regional, and global debates on reforms in the electricity sector in Latin America. We begin with an overview of the sector, followed by a summary of the types and trends of "alternatives to privatisation" found in the region based on the same conceptual and methodological framework employed in the other studies presented in this book, including an analysis of their successes and failures. The concluding section summarises the key findings and recommendations of the study.

This "mapping exercise" required surveying a wide range of organisational arrangements defined in the taxonomy originally outlined for the project (see Chapter 2, this volume, for more detail), which included different kinds of organisations with varying characteristics and service objectives. In practice, the most important type of alternative found in the region was the public enterprise (PE), which is sometimes also referred to as government controlled enterprise (GCE), state-owned enterprise, parastatals, public companies or public corporations. The electricity sector in Latin America includes various forms of PEs, with much heterogeneity in terms of inclusion in the broader ownership and managerial structures and diverse degrees of financial and administrative autonomy, as we shall see below.

The survey also covered non-profit and non-governmental service delivery arrangements, including both siseable cooperatives and small-scale generation and distribution units such as microdams and wind turbines run by local communities and user cooperatives across the region. Although they comply with some of the criteria used to identify "alternatives", such small-scale private service providers are not very significant in Latin America. They might constitute an appropriate solution in remote and isolated areas,

but they provide only a tiny fraction of the power consumed in the region. For the global South as a whole, between 10 and 50 million people were served by approximately 7 000 small-scale service providers, including both for- and non-profit (Kariuki and Schwartz 2005). The vast majority of those arrangements (85%) were located in Asia; less than 500 small-scale initiatives of this kind were found in Africa, the Middle East, and Latin America. Moreover, although larger cooperatives are strong players in the electricity market of some countries – in Costa Rica, for instance, the *cooperativas eléctricas* cover the needs of more than 12% of the population, and in Argentina a significant share of the distribution is also controlled by cooperatives (Zilocchi 1998) – in general they tend to operate as any other profit-seeking private company. From an idealistic perspective, user cooperatives might represent a valuable alternative to privatisation, being a legitimate self-management or co-management option that guarantees coverage, participation, equity, and social control over the production and management of vital public services; however, the empirical evidence that supports such a view is weak.

The information and analysis presented in this paper derive from a combination of different sources and research methods, comprising (i) the author's own fieldwork in the region; (ii) a comprehensive desktop review of academic, technical and journalistic publications, and internal documents, including corporate Websites; and (iii) detailed surveys conducted by local researchers based in the Southern Cone, the Andean region, and Central America.[1] The study relied on an extensive review of over 30 electricity companies in different national, regional, and municipal settings.

Despite the efforts undertaken to cover as wide a range of service providers as possible, and in as much depth as possible, the methodology faced clear limitations. Latin America is a vast and highly heterogeneous region. Drawing meaningful conclusions based on a comparative appraisal of the many and diverse experiences that have evolved in the region is not an easy task. The institutional schemes, the managerial processes, and the social, economic and political actors engaged in the development of the electricity sector are many, and therefore it has been very difficult to document subtle features that often are key determinants of the categorisation of an experience as an "alternative". But such is the nature of exploratory research of this type. It is hoped that future detailed case studies based on this initial mapping exercise will be able to provide more fine-grained insights.

ELECTRICITY SERVICES IN THE LATIN AMERICAN REGION

Energy, and electricity in particular, is a crucial component of social and economic development. As stated in a recent report published by the World Health Organization (WHO) and the United Nations Development Programme (UNDP):

> lack of access to modern energy services dramatically affects health, limits opportunities and widens the gap between the haves and have-nots. The vulnerability of the poor is only worsened with recent challenges from climate change, a global financial crisis, and volatile energy prices. (Neira and Vandeweerd 2009, i)

Electricity, in particular, is and has been of critical importance to economic and social development across the global South. However, as acknowledged in a study published by the Economic Commission for Latin America and the Caribbean (ECLAC), UNDP, and the Club de Madrid, there has been little research "on the linkage between access to energy services and attainment of national goals for development, poverty reduction and environmental protection" (Bárcena et al., 2009, 5).

At present, the overall access to electricity in Latin America – where several countries have reached almost universal coverage – seems less problematic than in other parts of the world, as Figure 16.1 shows. Nevertheless, a closer look at the region reveals deeper problems:

> [D]espite the high rates of urbanization in Latin America and the Caribbean, almost 30 million people still do not have electricity, of whom 21.4 million (73 percent) are poor. The lack of electrical services is directly related to poverty: it is estimated that, of the total poor in the region (200 million), about 10 percent have no electrical services and this figure rises to 30 percent in the case of the absolute poor...Efficient and effective access to energy services is a vital requirement for attainment of the Millennium Development Goals, which in turn are intrinsically linked to the enhancement of human rights and of democracy. (Bárcena et al., 2009, 7)

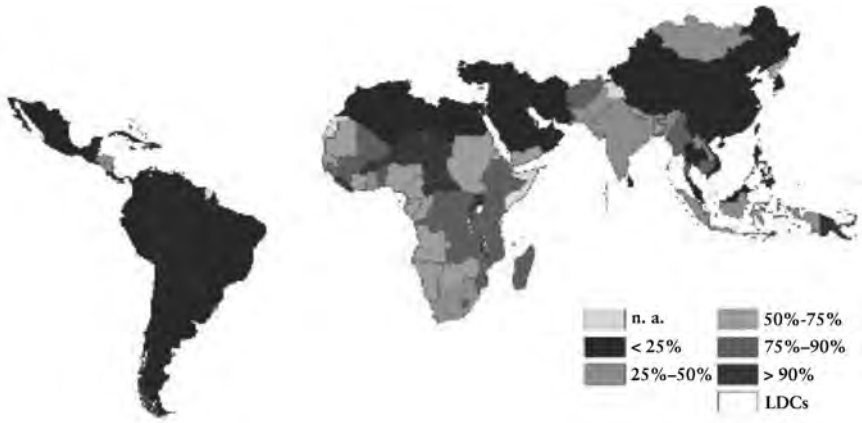

Figure 16.1 Share of population without access to electricity in the global South.
Source: International Energy Agency, (2009).

According to the most up-to-date official statistics by the Latin American Energy Organisation (OLADE 2008), electricity accounted for 23% of the total energy consumed in the region in the year 2007, of which 56.7% was generated by hydroelectric power and 39.7% by thermoelectric facilities. Nuclear generation, being restricted to Argentina, Brazil, and Mexico, contributed 2.4% of the total supply, while the combined energy produced by geothermal, solar, and wind plants only reached 1.1%. However, while Brazil, Venezuela, and Peru are among the 10 countries in the world considered to have high levels of water resources, the installed hydroelectric capacity constitutes only 19.9% of the generating potential of the region, and the nine countries with higher consumption concentrate 95.6% of the hydroelectric generation across the region. The hydroelectric potential effectively used is only 5.2% in Peru and 40.1% in Venezuela. On the other hand, the rate of consumption of electricity in the region increases at around 4.0% per year, which means it doubles every 17 years (Goldemberg 2009). Table 16.1 presents a more detailed description of the electricity sector in 19 Latin American countries.

In institutional terms, the profile of the electricity sector has changed radically in Latin America in the past two decades. All countries in the region carried out profound reforms throughout the 1990s, adopting diverse institutional formats with a wide range of options as regards the degree of market openness and the promotion of private investment. The haste led in some cases to processes of privatisation without having established a consistent regulatory framework prior to the sale of state-owned companies.

The pioneer of neoliberal reform in the region was Chile. The government launched a wave of privatisation of public services in 1982, in the context of a brutal military dictatorship led by General Augusto Pinochet. Following the fundamentalist free-market principles advocated by a group of young economists trained in the US, the so-called Chicago Boys (Valdes 2008), Chile became the first country in the region to deregulate the power sector, soon followed by a group of neighbouring countries that between 1992 and 1996 implemented a similar model. Among them, the most radical case was Argentina, which privatised public services on a massive scale.

Brazil, Latin America's largest country, followed a different path. Around 1995, encouraged by the World Bank, the government "began efforts to try to impose a near exact copy of the 1990 British privatisation/liberalisation reforms to its electricity sector" (Thomas 2009b, 4), but a few years later the process concluded with the state still being the main actor, after the leftist *Partido dos Trabalhadores* (PT, Workers Party, led by Luis Inácio Lula da Silva) acceded to national office in 2003. The current picture of the Brazilian power sector is one of a mixed public-private ownership system in which the state dominates electricity generation (being responsible for 85% of the total), while the private sector dominates distribution (80% of the national market) and transmission is relatively equally divided (17 of the 26 operating companies are private, but the public ones are larger). A recent

Table 16.1 Overview of the Electricity Sector in Latin American Countries, Year 2007

Country	Population (million)	Installed capacity			National annual consumption	Per capita residential consumption	Electricity coverage	Degree of privatization		
		Total	Hydro	Thermal				Generation	Transmission	Distribution
Argentina	39.0	28.1 GW	35%	61%	122.9 TWh	749.3 kWh	95.0%			
Bolivia	9.6	1.5 GW	32%	68%	5.3 TWh	177.5 kWh	69.0%			
Brazil	190.1	101.0 GW	76%	22%	486.0 TWh	472.5 kWh	97.9%			
Chile	16.4	15.9 GW	34%	66%	60.1 TWh	536.1 kWh	99.0%			
Colombia	46.8	13.7 GW	62%	34%	53.7 TWh	382.0 kWh	94.0%			
Costa Rica	4.4	2.1 GW	67%	21%	9.2 TWh	733.9 kWh	98.6%			
Cuba	11.4	5.4 GW	1%	99%	17.6 TWh	547.8 kWh	95.5%			
Dominican R.	9.8	5.5 GW	8%	92%	14.8 TWh	447.7 kWh	95.7%			
Ecuador	13.4	4.5 GW	46%	54%	18.2 TWh	301.7 kWh	90.2%			
El Salvador	7.0	1.4 GW	34%	51%	5.6 TWh	223.1 kWh	95.5%			
Guatemala	13.0	2.1 GW	36%	62%	8.6 TWh	174.8 kWh	84.7%			
Honduras	7.5	1.6 GW	32%	68%	6.3 TWh	287.5 kWh	67.0%			
México	107.5	49.9 GW	23%	72%	231.4 TWh	430.6 kWh	96.0%			
Nicaragua	5.6	0.8 GW	12%	77%	3.3 TWh	123.0 kWh	69.2%			
Panama	3.3	1.5 GW	58%	42%	6.4 TWh	478.3 kWh	83.0%			
Paraguay	6.4	8.1 GW	100%	0%	8.6 TWh	547.7 kWh	93.2%			
Peru	28.3	7.0 GW	46%	54%	29.9 TWh	229.3 kWh	78.1%			
Uruguay	3.5	2.2 GW	69%	31%	9.22 TWh	875.2 kWh	99.0%			
Venezuela	27.0	22.5 GW	65%	35%	110.1 TWh	741.4 kWh	97.0%			

Source: Author's elaboration, based on data published by (OLADE 2008), national regulators, and electricity companies.

References

Fully owned or managed by the state

Fully privatized

appraisal of the Brazilian power sector highlights the importance of public planning as a key component of the so-called New Model: [2]

> Power planners in Brazil have made a measured return from market to plan. Replacing a strategy of comprehensive deregulation where control and oversight are automated through the market, the New Model uses markets not in an integrated and interlinked manner, but in discretely delineated areas to achieve targets established by a coordinated planning exercise. It is the plan that links the various elements of the power sector together as opposed to the market, which was supposed to do so under the earlier policy. Its origin can be traced to Brazil's early successful experiments with state-led electric power development. (Tankha 2010, 193)

In terms of expansion of supply, Latin American countries attracted a significant amount of private investment until about 2000. One type of business that flourished in several places was small, independent producers with the ability to sell electricity to large customers, both public and private, mainly based on thermal generation. As the process of liberalisation deepened, the number of major foreign investors in the region has been reduced to a handful of European and US corporations, predominantly Spanish firms, which have located in several countries in the region simultaneously (Hall 2007, Rozas Balbontín 2009, Thomas 2009a, Wilde-Ramsing and Steinweg 2010).

After more than two decades of market-driven reforms, previous promoters of the free-market approach have already acknowledged that privatisation has become out of favour or that previous reforms in this direction were too flawed (Andrés et al., 2007). This is consistent with global trends: a comparative study published almost a decade ago had already stated that "while most technical assessments classify privatisation as a success, it remains widely and increasingly unpopular, largely because of the perception that it is fundamentally unfair, both in conception and execution" (Birdsall and Nellis 2002, 1). By then, the interests of major transnational corporations in the power sector had already weakened, and several private investors had withdrawn from Latin America and other regions of the global South (Hall et al., 2009).

ALTERNATIVES TO MARKETISATION IN THE ELECTRICITY SECTOR

Notwithstanding these concerns, and despite obvious limitations of the free-market paradigm in the wake of the global financial and economic crises since 2008, the hegemonic position amongst mainstream analysts of public services reform is still that public ownership and management of

services constitutes the wrong approach for promoting economic and social development. They point to a number of reasons, including the failure of governments to infuse public enterprises with a strong developmental mission, equating the state with inefficiency, corruption, cronyism, clientelism, and other vices. As one of the most influential theorists in the field has put it, "The inherent limitations of state ownership render public enterprises ineffective" (Rondinelli 2008, 22).

Faced with such arguments, Latin American defenders of the public sector could retort today, reaffirming physicist Galileo Galilei's response to the orthodox church doctrine of his time about his theory that the earth revolves around the sun: *Eppur si muove!* (And yet it moves). The empirical evidence portrayed in Table 16.1 shows that those countries in which electricity remained totally or mostly in the hands of the state have today equal or higher rates of coverage than those that opted for privatisation. This does not mean to deny the many and profound problems of Latin American public enterprises, but we return to this later in the chapter.

Enthusiasm for market reforms and greater private participation in the electricity sector has receded across the region during the past decade, but there are several Latin American countries in which PEs were never privatised and/or the transfer of assets to private owners has been negligible, and others in which market-driven reforms have been reversed. The next section runs through the origin and evolution of the region's PEs, reviews the current governance arrangements of the public sector, and assesses the performance of the state in terms of service delivery.

ORIGIN AND EVOLUTION OF PUBLIC ENTERPRISES IN THE POWER SECTOR

Across Latin America, in the first half of the 20th century, electricity was mainly a for-profit endeavour. Prior to the 1930s, the private sector was the first, and in many places the only, entity responsible for generation, transmission, and distribution of electric power. Electricity generation had a fast and selective growth, to the point where, by the mid-1920s, Argentina, Chile, and Brazil were global leaders in penetration rates. Chile, in particular, had the second highest per capita power consumption in the world, behind France. Service provision, however, was concentrated in urban and affluent areas, since commercial operators were not interested in expanding the grids to rural and/or unprofitable localities (Millán 2006).

Between the 1930s and the 1960s, the failure of the market approach pushed Latin American governments towards the nationalisation of private companies, in particular in those countries governed by charismatic nationalist leaders, such as Getulio Vargas in Brazil (1930–1945 and 1951–1954), Lázaro Cárdenas in Mexico (1934–1940), and Juan Domingo Perón in Argentina (1946–1955). In Brazil, the state challenged the predominantly

foreign control, which was not meeting the electricity needs of the poorer, suburban, and rural sectors of the population. In 1934, the *Varguista* government passed legislation that required government authorisation to run all hydropower plants and imposed tighter controls over the private sector, including a tariff freeze and the cancellation of new licences to foreign-owned firms during World War II (Marques 1997, Baer and McDonald 1998). In Mexico, two foreign conglomerates controlled a substantial share of the electricity sector. In 1936, a major strike organised by the SME triggered government intervention, in line with Cárdenas's policy of cooperation between labour and the state, setting the political context for the creation, in 1937, of the Federal Electric Commission, which in the following years would become the country's second most powerful enterprise (Reséndiz Núñez 1994). In Argentina, between 1910 and 1930, three companies owned by foreign investors were accountable for 74% of national power generation capacity (Lanciotti 2008). The private sector continued to be the main actor until 1943, when the Argentine government created a regulatory agency and began to exert pressure towards nationalisation. Such trends gathered speed and political support after 1946 under a *Peronista* government that promoted a more proactive role of the state in the electricity sector, within a much broader nationalist and welfarist agenda.

In the post-war period, most Latin American governments launched ambitious state-driven programmes aimed at expanding the electricity sector, as a way to promote economic growth and respond to the growing social needs of the population. In Brazil, the government promoted a national electrification plan and created new PEs for its implementation in the northeast and southeast regions. Regional (state-level) authorities were also allowed to create their own electricity companies, with financial support from the National Economic and Social Development Bank (BNDES). As a result, the share of the private sector in generation dropped from 82% in 1952 to 34% in 1962.

South America's largest electricity company, the *Centrais Elétricas Brasileiras S.A.* (Eletrobras, Brazilian Electric Power Corporation) was founded in 1962, followed by the nationalisation in 1964 and 1979 of the two biggest companies that had remained in private hands (Hamaguchi 2002). In Mexico, the government gained control in 1960 of the two large private corporations that were still active. The Mexican decree of nationalisation was based on three premises: (i) the state's goal to secure harmonious national development, guaranteeing its benefits to all citizens; (ii) a coherent public response to the growing demand for electricity; and (iii) the state's responsibility for the provision of electric power "for the benefit of society, not for private interest" (Rodríguez 1994, 28).

Throughout the 1960s, the installed capacity grew substantially in most countries of the region, averaging 12% annually, which meant doubling in size every six years. Such growth was enthusiastically supported by international financial organisations such as the Inter-American Development Bank (IDB) and the World Bank, which financed large hydropower plants

and new transmission lines that expanded the coverage and contributed to the higher economic efficiency of state-owned electricity companies (Millán 2006). Across the region, the state began to assume even bigger responsibilities. In Brazil, for instance, under the developmentalist administration of Juscelino Kubitschek, a quarter of all federal investments were directed towards the power sector, laying the foundation for a sustained cycle of growth during which the sector expanded at an annual rate of almost 10% over the following 10 years (Dias Leite 2007). Throughout the region, Latin American countries joined the global "Keynesian consensus", with governments taking a primordial role in the promotion of national economic growth, supporting industrial development and the expansion of social welfare programmes.

By the 1970s, the profile of the Latin American electricity sector was constituted by a diversity of institutional arrangements. In several countries the chosen public alternative had been the development of vertically integrated national enterprises, as exemplified by the *Instituto Costarricense de Electricidad* (ICE, Costa Rican Electricity Institute), the Uruguayan *Administración Nacional de Usinas y Trasmisiones Eléctricas* (UTE, National Electric Utilities Administration), and the Paraguayan *Administración Nacional de Electricidad* (ANDE, National Electricity Administration), among several other cases already mentioned. In Brazil, diverse public bodies became shareholders of Eletrobras, which developed as a massive federal holding company with large generation and transmission enterprises as subsidiaries: *Companhia Hidro Elétrica de São Francisco* (Chesf), *Furnas Centrais Elétricas* (Furnas), *Centrais Elétricas do Norte do Brasil* (Eletronorte), and *Empresa Transmissora de Energia Elétrica do Sul do Brasil* (Eletrosul). Moreover, Eletrobras was made accountable for many responsibilities usually assigned in other countries to the Ministry of Energy, such as strategic planning and research in the field of electric power, energy efficiency programmes, and financial support to other PEs.

In some countries, powerful regional and municipal power utilities had also emerged as important players. Three subnational PEs in particular are often referred to as good examples of the capacities of the subnational state as an efficient entrepreneur in the electricity sector: in Brazil, the *Companhia Paranaense de Energia* (COPEL, Energy Company of Parana) and the *Companhia Energetica de Minas Gerais* (CEMIG, Energy Company of Minas Gerais), both owned by regional authorities; and in Colombia, the *Empresas Públicas de Medellín* (EPM, Public Enterprises Conglomerate of Medellín), owned by a municipal authority. Brazil has a strong tradition of subnational PEs in the electricity sector as well. The majority of the distribution companies, with the exception of the enterprises that served the cities of Rio de Janeiro, Espírito Santo, and Brasilia, were owned by regional authorities. Besides COPEL of Parana, the largest state companies – in São Paulo, Minas Gerais, Rio Grande do Sul, and Rio de Janeiro – were in full or in part also vertically integrated.

In Colombia, by the turn of the century, when other countries had already completed the cycle of privatisation, the state was still in control of over 60% of generation, 100% of transmission, and 60% of distribution. Two municipal companies, the already-mentioned EPM and the *Empresa de Energía Eléctrica de Bogotá* (EEEB, Electric Public Enterprise of Bogotá), have been generating and distributing around 40% of the country's electric power for several decades. The public system also included regional companies, owned by the national state, including the *Instituto Colombiano de Energía Eléctrica* (ICEL), the *Corporación Eléctrica de la Costa Atlántica* (CORELCA), the *Corporación Regional del Valle del Cauca* (CVC), and *Interconexión Eléctrica S.A.* (ISA, Electric Interconnections Ltd). The latter, a national enterprise jointly owned by the municipal and regional companies mentioned above, evolved as the owner of the interconnecting grid and generated a big portion of the power consumed in Colombia.

Besides national, regional and municipal PEs, the public power sector in Latin America is also composed of three binational entities that were established to operate very large hydroelectric projects in neighbouring rivers: Itaipú (jointly built by Brazil and Paraguay with a generating capacity of 12 500 MW, this was for many years the world's largest hydropower project), Yaciretá (Argentina–Paraguay), and Salto Grande (Argentina–Uruguay). These initiatives evolved in the 1970s in the context of agreements between repressive military regimes. The construction of Salto Grande and Yaciretá relied on strong financial support from multilateral development banks. Despite its tainted origin, Salto Grande is generally perceived as a successful project that delivered its anticipated developmental objectives. In the other two cases, the evaluation is much more negative, since the projects were constructed with many delays and with heavy additional and unaccounted costs. The case of Itaipú is often also mentioned in political debates as an example of Brazil's "sub-imperialist" identity, based on the abusive share of revenues that overwhelmingly benefit the Brazilian interests to the detriment of Paraguay, the weaker partner.

CURRENT OWNERSHIP AND MANAGERIAL PROFILES

In terms of ownership, three scenarios coexist in the region:

- *Exclusive state ownership.* As noted above, this was the situation in most countries of the region before market-driven reforms. At present, only two countries – Paraguay and Venezuela – are included in this category. Bolivia is expected to join this group in the future, after the government announced in May 2010 the forthcoming full renationalisation of the electricity sector.
- *Mixed property.* Private investors can be shareholders of companies partially owned by the state. It also refers to diverse forms of private-public

partnerships and the existence of independent power producers that sell electricity to the state or to large industrial consumers.
- *Private property.* This category refers to those countries in which the electricity system is predominantly privately owned. In this case, two options are possible: the first refers to vertical segmentation, with mandatory separation of generation, transmission, and distribution (unbundling), while the second allows the possibility of vertical integration.

In terms of electricity sector management, there are four distinct situations:

- *Monopolistic control.* Before liberalisation, most countries of the region based the delivery of electricity services on a single state-owned company. The power sector was considered a "natural monopoly", as the functioning of one entity as owner and operator of services in one area made economic sense, whether property was public or private. At present, there are only two Latin American countries in which private companies are *not* part of the system.
- *Single buyer.* This is a situation that applies to many countries in the region where the state remains the main player, which has allowed the incorporation of private actors through a limited opening. It has occurred predominantly in generation.
- *Integration.* This situation implies a distinct division of roles between the state and private companies. The latter plan and implement their activities according to their own rationality. The state plays mainly the role of regulator, taking the main decisions concerning investments, tariffs, and the overall development of the sector. Competition in each subsector is open to both public and private companies. This situation, therefore, does not imply vertical or horizontal disintegration. Competition in each subsector is open to public, private or mixed-property companies. However, in practice, competition is very often limited by concession contracts and by the strict demarcation of market shares by geographic areas or types of customers.
- *Open market.* The idea of a natural monopoly remains in place only for transmission and distribution of electricity, where open competition seems unfeasible or inappropriate. In systems large enough to allow and ensure full competition, several players are allowed to compete in the segments of generation and marketing.

Table 16.2 presents the diversity of ownership and managerial schemes in the region in 2007, after Venezuela nationalised its power sector.

The current institutional framework of the power sector is constantly challenged by social discontent in many Latin American countries. Many plans for further privatisation had to be cancelled due to violent riots, as happened in Peru in 2000, while annual surveys show that public support for privatisation has remained low, falling from 48% to 22% between 1998

Table 16.2 Latin American and Caribbean electricity system structures, 2007

Ownership options						
	Private property	Vertical segmentation				Argentina Bolivia Guatemala Panama
		Vertical integration allowed				Chile El Salvador Peru Dominican Republic
	Mixed property			Brazil Ecuador Honduras Jamaica Mexico Trinidad and Tobago	Costa Rica Grenada Guyana Uruguay Cuba	Colombia Nicaragua
	Exclusive state property		Venezuela	Suriname	Paraguay Venezuela	
			a. Monopolistic control	b. Single buyer	c. Integration	d. Open market
	Managerial options					

Source: Author's elaboration, adapted from Poveda (2004)

and 2003, reaching 33% in 2009 (Corporación Latinobarómetro 2009). Based on the analysis of the same data, Checchi et al. argue that "less dogmatism and more realism is needed" in the region; "after all, in the EU as in the US, public ownership in water and energy industries and progressive tariff cross-subsidies are widespread" (2009, 348).

APPRAISAL OF ALTERNATIVES TO PRIVATISATION

As national economies around the world strive to respond to the global crisis, states are back on the political agenda, and "it is widely accepted that they have no option but to rescue the market from itself" (Ramesh and Araral 2010, 1). It might be argued that this is exactly what states do in capitalist economies all the time, in a cyclical way. In several Latin American countries, however, the trend towards stronger and/or more dynamic states is not just a momentary phenomenon. Thus, this is a very timely moment to assess the alternative potential of PEs. This section provides a general appraisal of Latin American PEs in the power sector, based on some of the indicators of "success" used for this research. As already noted, the lack of detailed or disaggregated data pertaining to certain variables has prevented an in-depth analysis of all the criteria suggested by the research project's conceptual framework, but the summary below offers indications of general trends and will hopefully provoke further case study investigations.

Equity

Compared with Africa and Asia, the situation with electricity provision in Latin America is less dire, as many countries – particularly those that retained public ownership and management of utilities – have reached almost universal coverage. Moreover, those systems that were marketised had the advantage of "inheriting" well-developed public electrical systems, with accessibility levels well above 70% to begin with. As a result, electricity costs have been relatively low, with one study concluding that "only" about 20% of the region's households would have to pay more than 5% of household income for water or electricity if tariffs were set at cost recovery levels (Foster and Yepes 2006) – not ideal, but much better than Asia and Africa. However, the same report warned that reaching full cost-recovery would generate, in the poorer countries, a real affordability problem for around half of the population.

By definition, privatisation requires making the private sector profitable, so in some countries that implemented market-friendly reforms, tariffs increased based on the justification that they were below the cost of service provision. Public enterprises were not compelled to seek profits, but price inequality for residential and industrial consumption is a reality in several Latin American countries, with (low-income) citizens subsidising big

business. In 2009, several months before the closure of LyFC, the Mexican Electrical Workers' Union had presented a proposal to the federal government calling for the elimination of the so-called high domestic consumption rate and the creation of a "social rate", as well as an increase in the industrial tariff. In the words of a union leader interviewed by the author in November 2009:

> The President has forgotten that CFE and LyFC were established as public enterprises and therefore should not be run as private companies. They should never have profit as their top institutional priority. The Mexican people should not have to choose whether to eat or to pay the electricity bill. For us, it was unacceptable that tariffs averaged 99 cents per kWh for industrial consumers while the average for household consumers was 2.5 pesos per kWh [two-and-a-half times higher]. Last January [2009], the government approved a 20% reduction in the industrial rate, arguing that it was needed to support the national production in times of crisis. When he ordered the liquidation of LyFC, 70% of the company's revenues came from the industrial sector, and they were approximately 40 000 consumers. But LyFC had more than 6 million domestic users. We proposed a social tariff and the elimination of the high consumption domestic rate, because we knew that the industrial consumers could effortlessly pay twice or more what they were paying.

As a whole, Latin America has a long and ample tradition of social tariffs (Foster and Yepes 2006) that continues to evolve today. As this chapter was being written, several PEs were developing new schemes to subsidise power consumption by the poor. The Uruguayan company UTE, for instance, announced in July 2010 the introduction of a new tariff category expected to benefit low-consuming residential users. In a country of little more than 3 million inhabitants, around 150 000 users could benefit from the new social tariff. According to the chair of the board of directors of the Uruguayan company:

> UTE is willing to participate in the social policies implemented by the Ministry of Social Development (Mides). Historically, UTE has contributed in terms of developing the power sector and securing access to electricity to every citizen, reaching in particular those in greater need. In fact, tariffs have been designed as a form of redistribution of wealth. The previous government had launched a special tariff that targeted households with low consumption, which had great results, and now we are fulfilling that objective and therefore they pay very little for electricity. Our technical team is working on new social programmes. That is something we have always done, but now we put greater emphasis on the social. (Matos 2010, 3)

Efficiency

Efficiency, or rather its absence, has been one of the main excuses used by advocates of the market to legitimise their offensive against PEs. In truth, many public electricity utilities had real troubles with poor collection of revenues, financial and technical losses, obsolete and decaying networks, and high costs of operation. The real or assumed governmental inefficiency during the fiscal crises of the 1970s and 1980s became the ideal argument used by the promoters of privatisation against public ownership across the region. In this respect, Colombia constitutes an interesting case: on the one hand, the state-owned system succeeded in expanding national access to electrical services, but by 1990 it was responsible for 30% of the country's foreign debt. However, not every Colombian PE performed the same way: the municipal utility EPM managed to expand its services while keeping healthy financial balances; it did not request constant cash transfers from the national government and is even today highlighted as one of the best examples of efficient public management (Millán 2006).

Based on the availability of published academic and journalistic literature, it would seem that efficient Latin American PEs nowadays constitute a very small group. Efficiency was an issue that the Mexican government pointed at in 2009 to justify its liquidation of LyFC, the case highlighted at the beginning of this chapter. A press clip from that period summarises the main allegations:

> The company was obsolete and ineffective, largely because it was almost totally controlled by a very strong workers' union, which had steadily gained power, prerogatives and absurd privileges, which meant that until its bankruptcy the company had lived out of governmental subsidies. The inhabitants of Mexico City, a metropolitan area of more than 20 million people, suffered from a bad electrical service: constant blackouts triggered by almost any cause, frequent voltage irregularities which hurt appliances, improper charges for energy consumption, old transmission posts at a high risk of falling, poles and repair materials abandoned in the streets and medians, slow repairs and consideration of complaints, bureaucracy, mistreatment and abuse of clients and awful customer service. (Bastidas Colinas 2009, 20)

There are multiple indicators that show that management and service provision were indeed decaying long before LyFC was liquidated, in a way that resembled the reality of many Latin American utilities in previous decades. Nonetheless, from the perspective of the unionised workers and other critics (e.g. Sheinbaum Pardo 2009), the arguments given by the conservative government are flawed. Because the national electricity system is interconnected and LyFC had been denied enough resources to build new

generating plants, it was forced to buy power from CFE; as a result, LyFC generated less than 10% of the energy it transmitted and distributed. But despite being a public company, the energy received from CFE was bought at the same rate that the Federal Electricity Commission applied to any other buyer, public or private, even with some penalties. Moreover, the delayed introduction of automation systems would explain much of LyFC's inefficiency and bad service provision. Funding was very much required for the modernisation and expansion of facilities, and the same applies today to the larger Mexican company CFE.

Beyond the recent debate about the performance record of Mexican power utilities, a broader regional and historical perspective shows that the ideological assumption about the alleged "inherent limitations" of state ownership has been invalidated by plenty of data from across Latin America. Historical analysis of the evolution of the power sector in Brazil, for instance, shows that PEs were able to evolve as highly successful companies, as a classic study on entrepreneurship in the public sector illustrates (Tendler 1968). State-owned electric companies, particularly in the area of generation, were able for many years to maintain a high degree of technical excellence. In a similar vein, more recent studies (Dubrovsky and Ruchansky 2010, Tankha 2010) maintain that PEs continue to be well managed under state ownership. The success of state-driven power development in Brazil and other countries can be explained by a combination of technical and political factors. More than in other areas of public service provision, the electricity sector demands enormous investments that imply substantial coordination not only among the three subsectors (generation, transmission, and distribution) but also among diverse political, social, and economic actors, and therefore the matter of long-term technical planning becomes essential.

Previous studies have also highlighted the importance of decentralisation and even competition among PEs (Tendler 1968). In Brazil there was a combination of centralised planning and decentralised operation, with several nationally and regionally owned PEs competing to build power generation plants across the country. "Rival" public utilities would compete eagerly to push their own projects in search of federal financing. Tankha has observed that this rivalry somehow replicated the dynamics of the private sector (competition *for* the market) in a healthy way. It stimulated higher efficiency of the public sector, even though there was no competition *in* the market. Some PEs performed poorly, but in general the power sector managed to overcome many of the shortcomings that neoliberal critics attribute to state ownership and management, such as irresponsible financial administration, "because the existence of multiple companies owned by the states as well as the federal government meant that as they competed, the stronger companies distinguished themselves and the federal and state governments eventually subsumed the weaker companies into them"

(Tankha 2010, 184). Such "competitive spirit", which at its extreme can become a clear sign of "corporatisation" and can dangerously undermine the public ethos, can in certain contexts become a force towards a progressive reform of the public sector.

Quality

A real problem in the power sector of many Latin American countries has been the quality of supply. Market reform was supposed to be the solution, but the evidence from within and outside the region, with dramatic blackouts in quite different places around the world, demonstrates that in many cases privatisation was not the best response (Chavez 2002, Bouille and Wamunkoya 2003). Meanwhile, in countries where the state remained as the only or main provider of electrical services, such as Costa Rica or Uruguay, blackouts are currently unheard of or limited to extreme situations caused by adverse weather conditions.

Nevertheless, quality of supply is today also a very present concern in other countries that have resisted or even reversed privatisation. Cuba is one of those countries that had succeeded in previous decades in reaching practically universal coverage of electricity services, but its power sector almost collapsed between 2005 and 2006. The breakdown of utilities managed by the national state company *Unión Eléctrica* caused a series of blackouts lasting up to 18 hours a day. In response, the government launched, at the beginning of 2006, the so-called energy revolution, a programme that combined energy efficiency projects, tariff increases, and the deployment of small power generator units throughout the country. At present, Cuba has overcome the worst of the power crisis, but the electricity sector is still characterised by an obsolete infrastructure, inadequate levels of energy efficiency, losses of about 30% in transmission and distribution, and a heavy reliance on fossil fuels for power generation, including a strong dependence on Venezuelan oil contributions (Belt 2009).

During the past three years, a number of other Latin American countries experienced similar disruptions in the provision of electric power. Venezuela, where the electricity sector was fully nationalised in 2007, has been the most problematic case. Throughout 2009 and 2010, the country suffered a deep power crisis, with continuous blackouts across the national grid. The main cause of the crisis has been the over-dependence on hydro capacity – despite being one of the world's largest oil exporters – which left the country almost paralyzed when a prolonged drought associated with a *La Niña* oscillation (a periodic disturbance of climate patterns that occurs across the tropical Pacific Ocean on average every five years) left the country's main dam dangerously close to the critical point where water cannot feed its turbines. Electricity supply in Venezuela relies on the Guri hydro plant, which, with an installed capacity of more than 10 GW, supplies more than half of the country's production. Some local experts interviewed by the author in March

2010 criticised the poor governmental response and lack of long-term planning. According to one of them: "The drought is real, but the true problem has been the government not being ready for it. Over the past decade or so, there has not been enough investment in the national power system. The dam levels will sooner or later return to normal, but the infrastructure of transmission and the distribution networks are already overloaded."

From another perspective, it may be argued that the response to the Venezuelan crisis would have been much worse if the power sector had been privatised, considering the performance of private utilities when they had to face equivalent meteorological disruptions in other countries of the region. From the perspective of the *Corporación Eléctrica Nacional* (CORPOELEC, National Electric Corporation, the holding company that currently integrates all Venezuelan power utilities since the conclusion of the process of nationalisation in 2007), the government is doing all it can to ensure that Venezuela does not suffer a similar crisis in the future. According to company officials interviewed for this research, public investments in the power system will reach US$18.5 billion over the next eight years.

Citizens' participation

Latin America is awash with academic studies about "participation", based on the diversity, strength, and originality of its citizens' engagement in policy planning and implementation, particularly at the local level. Some of the most creative and radical innovations in citizen participation that originated in the region are now being replicated around the world, with *orçamento participativo* (participatory budgeting) being perhaps the most celebrated (Goldfrank 2007). Yet, participation in the electricity sector is practically non-existent, with the only exception being Venezuela.

Participation can have very different meanings, of course. According to Goetz and Gaventa (2001), the concept refers to three different modalities: consultation, representation, and influence, with varying degrees of engagement allowed to citizens. Consultation implies opening channels for the transfer of information and dialogue; representation involves institutionalising regular engagement of certain sectors of the population in decision making; influence means enabling citizens to have a substantial impact on policy design and/or the implementation of service delivery. Across the Latin American power sector, the most citizens can expect is consultation; regulatory frameworks in several countries stipulate that all or some decisions taken by the regulatory body or by public or private utilities should be made public and consulted on with representatives of the users (or "consumers") of the service.

The case of Venezuela is different, rooted in the notion of *poder popular* (people's power), a key component of the Bolivarian Revolution launched by President Hugo Chávez in 1999. Several years before Chávez came to power, a series of community-driven initiatives aimed at expanding social control over the provision of urban services were already developing in the

country. One experience of citizen organisation that had emerged before the "official" launch of the revolution was the *Mesas Técnicas de Agua* (MTAs, Grassroots Technical Water Committees), currently being expanded from water to the telecommunications and electricity sectors. The MTAs are in charge of elaborating a diagnosis of their own neighbourhood's problems in terms of access to water and other public services, as well as being co-responsible for developing viable solutions, in partnership with local or national government. The Caracas water utility *Hidrocapital* was the first to institutionalise such a citizen-centred approach, but since 2007, other PEs have promoted their own versions of participatory democracy; Cantv launched the *Mesas Técnicas de Telecomunicaciones*, and the Ministry of Energy launched the *Mesas Técnicas de Energía,* currently promoted by CORPOELEC and with specific responsibilities focused on the planning and development of electric power projects at the grassroots level.

Nevertheless, despite having access to substantial financial resources and real political influence, the future of the *mesas técnicas* should not be taken for granted. In an article which is both supportive and critical of this process, López Maya argues the following:

> To expand and deepen experiences such as this one [in the water sector], which provides management skills and power to poor communities, has been a challenge to both authorities and neighbours committed to develop these innovations. The difficult socioeconomic conditions that affect poor people constitute a serious obstacle to the right and duty of participation. Many people, especially women, cannot participate because they face a double shift at work: in the workplace and at home. Sometimes people cannot or do not want to participate in community work because it is unpaid. Crime and violence are also a limiting factor, because the most convenient time for meetings is the evening, too dangerous...Another big problem is the constant uncertainty of Chávez's policies, where the removal of the official in charge usually means a stop in the transfer of resources or a full change of plans... Finally, this type of innovation, if it is not developed within a more comprehensive programme aimed at improving the unplanned urban spaces where today nearly half of the families in Venezuela live, runs the risk of being useless...But nevertheless, the MTA is an innovation in the right direction. When its members are interviewed, most women respond that this experience changed their lives...They have learned a set of skills and assumed a set of responsibilities that have allowed them to grow both as persons and as citizens. (2009, 119)

Workers' engagement

Workers' direct engagement in the development of the electricity sector in Latin America goes a long way back. One of the region's most interesting and radical experiences developed in Argentina, where for almost three

years, until the military coup of March 1976, a local section of the *Sindicato de Luz y Fuerza* (Light and Power Workers' Union) exerted worker control over the *Servicios Eléctricos del Gran Buenos Aires* (SEGBA, Greater Buenos Aires Power Company), a large public corporation that provided energy services to the capital city and the surrounding metropolitan area. The union's management and administration of SEGBA "represented the apogee of influence for the light and power workers in Argentina" and "also symbolised the emergence of electric power workers generally as key players in Latin American post-war industrial economies" (Brennan 1995, 39).

Another country in which the unions historically had significant political weight is Mexico. Electrification developed earlier, faster, and deeper in this country than in the rest of the region, giving its electricity workers a great influence, despite their relatively small numbers. Mexican electricity workers had an active role in labour politics during the revolution (between 1910 and 1920) and were responsible for organising in 1916 the country's first general strike.

At the wider regional level, however, labour's participation in the management and administration of the electricity sector has been a recurrent and mostly unfulfilled demand of unions for many decades. Nevertheless, the strategic importance of electricity gave the power sector workers greater leverage in collective bargaining than other trade unions. After nationalisation, when wages began to be negotiated in the framework of the national public budgets, electricity workers were less prone than other segments of the working class to strike over wages. Throughout the second half of the last century, the employees of public utilities became some of the best-paid workers in the region. In Mexico, for instance, due to the institutionalised nature of collective bargaining in the sector and the favourable treatment awarded by the state, relations between the CFE and its labour force remained relatively peaceful. Furthermore, despite its privileged status, the Mexican electricity workers' unions remained relatively free of corruption and nepotism. In Mexico and in other Latin American countries, much of the mobilisation of workers was focused on questions of labour-state relations, as Brennan notes:

> Disputes over models of economic development and how to resolve the specific problems of the electric power industry were subsumed into political categories for the labour activists who led the reform movements. From the perspective of Mexican light and power workers, deepening nationalization and resolving the industry's problems first required consolidating their unions into a single industrial union and democratizing the Mexican labour movement. (1995, 59)

More recently, events in the Mexican electricity sector constitute a window into contemporary debates about the role and influence of unions within PEs across the region. The liquidated company LyFC was constantly criticised by conservative analysts for being less efficient than its bigger sister, CFE, due to the excessive power of the former's union, which allegedly derived from inflated salaries that prevented the company from using the

budget it received for investments. The union retorted that only 35%–37% of LyFC's annual revenues were used to cover labour costs, including salary, benefits, and pensions. One SME leader interviewed for this study in November 2009 argued:

> LyFC was not performing well, but it was a profitable enterprise, and any accusation that the company's problems were caused by the collective labour agreement or the result of workers' actions is a fallacy. The company began to malfunction when it was denied the budget that was needed for physical investment, meaning the modernization, maintenance or replacement of equipment, transmission and distribution lines, circuit breakers and transformers. The deterioration of the physical investment was the federal government's fault, not a problem caused by us, the workers.

The Mexican union also contends that under the framework of the LyFC labour agreement the workers had pushed to reform work processes at all levels and areas of LyFC's operations, seeking to provide better service to the population, but the workers' perspectives were not considered in the official plans to modernise and restructure the sector. Vested interests, corporatism, and corruption have been identified by other studies as real problems of the Mexican labour movement (De la Garza Toledo 2003), but they are not even remotely the main causes of the financial and operation problems of state-owned public utilities, at least in this case.

In some countries, the traditional amicable relationship between the state and the power sector workers has been radically affected by the corporatisation of PEs. One of the clearest examples of such trend is Colombia, where an investigation into the impacts of commercialisation of public services found that:

> [in the 1990s] the specific articulation between the trade unions and the managerial units of public enterprises broke down when *mercantilización* [marketisation] became the new axis of public policy in the sector. The relationship moved from a situation of relative cooperation, or at least of pragmatic agreements between the managers and the unions, to a situation of open confrontation. The workers' unions radicalized their political positions, expelling the centrist tendencies from the leadership and waving new oppositional flags against the process of commercialization of public services. (Varela Barrios 2008, 76)

Sustainability

In terms of environmental sustainability, the track record of PEs is not necessarily better than that of private companies. Most Latin American governments have declared their commitment to the development of

renewable energy, often in the context of rural electrification programmes implemented with financial support from the IDB, the World Bank, and other multilateral financial institutions. In practice, however, the real process of supporting decentralised power generation is evolving in a piecemeal fashion, without a long-term strategy or integral vision. Several PEs have plans to develop their own projects in wind, solar, geothermal, and other areas of renewable energy, but in general the "greening" of the power sector is becoming a new golden opportunity for private capital, with the rapid expansion of public-private partnerships (PPPs), which we have excluded from our definition of "alternatives to privatisation". The national state-owned energy corporation *Energía Argentina Sociedad Anónima* (ENARSA), for instance, announced in May 2009 the launch of a tender for 500 MW of new wind capacity, and new plans for the construction of private wind farms were publicised by Spanish investors in June 2010 (while they put pressure on the government to increase power tariffs in order to guarantee a return on their investment).

If the expansion of renewable energy is to be taken seriously by the governments of the region, the issue of financing its development will have to be discussed and properly planned. Solar projects, for instance, can be cleaner than other forms of generation, but they are still too costly to be deployed on a mass scale. The technology is not fully advanced and is being developed outside the region, and for at least some years the electricity generated from solar plants will predictably be much more expensive. A positive sign is the proactive role that some municipal governments have begun to play; for instance, in São Paulo (Brazil), it is now compulsory for every official building in the city to mount solar panels. The Brazilian government, for its part, is also contributing to the expansion of the solar alternative by mandating the installation of solar power collectors in new federal housing programmes.

Other renewable options, such as microhydro projects, are much less likely to develop in the near future on a large scale. Microhydro initiatives generally require additional and expensive transmission lines and substations, which often make projects unfeasible from a financial point of view. It is not clear how to promote the expansion of microhydro generation in Latin America without seeking funding from the very questionable "clean development mechanism" scheme, a market-driven component of the Kyoto Protocol based on the trading of carbon emission rights (see Gilbertson and Reyes 2009) or other dubious funders.

Across the region, there is growing awareness that wind and solar projects are far more environmentally friendly than coal, oil, natural gas, or nuclear plants (GTZ 2007). Wind and photovoltaic generation do not require water, have very low emissions, and do not create long-term waste. Nevertheless, attempts to develop green energy projects are rapidly becoming the target of widespread opposition. On the Chilean side of the Patagonia, for example, the indigenous Mapuche nation has strongly resisted

Trayenko (a subsidiary of Norway's SN Power) and Endesa Chile's plans to develop hydro and geothermal projects on its ancestral land, with support from local environmental organisations. Similarly, the Mexican unit of *ACCIONA Energía* (a Spanish firm) plans to build three wind farms in the southern state of Oaxaca, but local farmers and indigenous communities are very reluctant to lease their land. Local communities are not opposed to renewable energy, per se; they are afraid of the negative externalities of such projects, including possible displacement. If renewable energy is to become a real priority for Latin American PEs – quite a remote prospect at present – most likely it will not be a smooth ride, and they might encounter the same hostility that many private companies across the region are already facing today, unless proper consultation and/or inclusion of local communities in planning and implementation takes place.

And although hydropower is generally seen as "renewable", an ominous environmental and social threat on the horizon is a possible return to the era of massive hydro, with a series of projects in various stages of development once again being enthusiastically supported by governments and public electric utilities. These sorts of mega-projects are strongly resisted by a wide range of civic organisations such as the Movement of People Affected by Dams (MAB), the Brazilian Network for Environmental Justice (REBRIP), and the Sustainable Southern Cone Programme, which have extensively documented the destruction of environmental systems, the loss of cultural heritage, and the displacement and impoverishment of communities (Larraín and Haedo 2008). In Brazil, the government has approved the construction of the mammoth 11.3 GW Belo Monte hydro plant, to be built on the Xingu River, in the Amazonian state of Para. Eletrobras will hold a 15% stake in the consortium that will construct and operate the dam, which consists of 18 Brazilian and foreign partners, public and private. In Colombia, the public corporation ISAGEN has already begun the construction of the 820 MW Sogamoso dam, which is expected to become operational by December 2013, while the municipally owned utility EPM recently signed an agreement with the agency for local development promotion of the department of Antioquia (IDEA) to build the 2.4 GW HidroItuango project, set to be online in 2018.

Another factor that might diminish the sustainability dimension of PEs is the recent revival of the nuclear option. Brazil, for instance, has announced that it will resume its atomic programme, after years of discontinuity, with plans (discussed in the media but unconfirmed by the government) to build up to eight nuclear plants in the coming two decades. Argentina has announced that it is analysing the possible expansion of its existing capacity, and Chile, Panama, Uruguay, and Venezuela are apparently mulling the possibilities. The region's growing fascination with nukes could even mean opening another door to the private sector, as privately managed small-scale nuclear plants able to supply electric power in remote regions are also being considered. So far, all nuclear generators in the region are owned

and managed by the state, but because of environmental, public safety, and social concerns they are *not* presented here as an "alternative".

Finally, a positive trend in a sustainable direction is the expansion of a series of governmental initiatives focused on a more rational and sustainable use of electric power, under the broad umbrella of energy efficiency programmes (CEPAL et al., 2009). The Ecuadorian government, for instance, is launching the *Plan de Acción de Energía Sostenible para Ecuador* (PAES, Sustainable Energy Action Plan), initially conceived as a way to offset a prolonged drought, consisting of several new measures to promote efficiency and increase supply, including renewed support for wind generation.

Public ethos

In an article focused on public-public partnerships (PuPs) in the water sector, Boag and McDonald (2010) discuss the meaning of the concept of "public" and present a series of concerns that are also very relevant for the analysis of current trends in the Latin American electricity sector. In particular, the article warns about the uncritical celebration of state (or "community") ownership without deeper discussion of how "public" entities are configured, the incentives and constraints that frame their operations, and the way they relate to larger public service objectives. In short, the authors refer to three concrete risks arising from corporatisation:

- the deterioration and replacement of traditional principles of the public sector, including the prioritisation of efficiency objectives ahead of equity and affordability;
- the introduction of market mechanisms and practices imported from the private sector, such as competitive bidding, cost-benefit analysis, tariff indexation, performance-targeted salaries, and demand-driven investments and the matching abandonment of principles of integrated planning, (cross)subsidisation, and supply-driven decision making;
- the change of managerial ethos, focusing on narrow and short-term financial gains and losses.

Looking at the current regional scenario, it is clear that corporatisation is indeed a fact that undermines the value of many of the public utilities mentioned in this chapter as "alternatives". The hegemonic rhetoric of the region's reformers since the mid-1990s, inspired by the experience of New Zealand and other countries that reformed their public services according to "new public management" (NPM) principles, has been that the more public companies are exposed to market governance, the less confusion and overlap there is between political and managerial responsibilities and tasks – hence, more efficiency and efficacy and less corruption and clientelism.

In practice, however, corporatisation has often undermined control and accountability, because redefined public companies have looser institutional affiliations with the government, the Parliament, and society at large. This affects even those PEs that have managed to place themselves on top in terms of efficiency and equity, such as UTE in Uruguay. In a recent newspaper interview, Eleuterio Fernández Huidobro, a leading figure of the Uruguayan left, a former guerrilla commander and a current national senator, declared the following:

> There are some companies that we believed were public enterprises, but which in fact had been privatized. We discovered that when we won the national government [in 2004]. For instance, UTE, the electric power company, is not being managed to serve the interests of the country; it is a public enterprise only in name, owned by its managers. (López San Miguel 2009, 7)

On the one hand, these declarations address a very valid and worrisome trend widespread throughout the region (i.e. the excessive "professionalisation" of public management, which leads to situations in which elected government officials and legislators exert little or no control over the managers of PEs). On the other hand, these concerns can be unfair and ungrounded, because (i) UTE's directors are indeed accountable to both the state and society and operate following the course of action established by the national government; and (ii) the Uruguayan people have mobilised on many occasions, via plebiscites and referendums, to defend the public nature of UTE and other PEs, expressing a strong identification and satisfaction with the country's state-owned companies (Oria Giordan 2006).

In the end, the characteristics and scope of corporatisation in the region depend on the specific history and political culture of each country. While some states with stronger political systems and democratic traditions – Uruguay and Costa Rica being the two clearest cases – have developed a certain style of public management that perceives public enterprises as important instruments for economic and social development, serving well-defined political goals, there are other countries in which the links between public companies and the broader institutional system are much weaker and the objectives of public utilities and other state-owned enterprises are less clear. With the rise of progressive national governments in Latin America, more countries are moving towards the first category, with the potential for previously decayed or corporatised public companies becoming real alternatives to market-driven provision of services, as components of a broader project towards national liberation and development.

A crucial question, therefore, in the current period of transition – and in some cases a transition to socialism (Raby 2006) – is whether the values and procedures associated with the old-style management of public companies match the objectives and values of the New Left governments. In Venezuela, for instance, the unions have strongly criticised the current

administration of CORPOELEC (electricity), Cantv (telecommunications), and other PEs for keeping the old bureaucratic structures and cultures of the previous era, including a large number of managerial cadres "inherited" from the private companies that were in control before the socialist government of Hugo Chávez nationalised them. Although some of these criticisms are sustained by empirical evidence, the most radical critics tend to forget that "Rome wasn't built in a day", and that it would be unthinkable to dismantle a whole corporate structure in a period of a few months (the process of nationalisation of the two mentioned Venezuelan companies was only completed in mid-2007, and internal changes are ongoing).

Some of the worst examples of corporatisation can be observed in Colombia. The national electric enterprise, ISA, followed by municipal utilities, promoted the so-called *proceso de democratización accionaria* (shareholder democratisation process), which enable private individuals to own part of the public company as any other business opportunity. Although the state remains the majority owner, the presidency of the board of directors is granted to minority owners. Advocates of corporatisation (Millán 2006) point to the fact that ISA has on several occasions been praised by Transparency International as an example of a transparent and honest corporation. They also celebrate that ISA has become one of the region's most prosperous enterprises in financial terms, including the expansion of its portfolio to Bolivia, Ecuador, and Peru, and its participation in SIEPAC, a business investment in Central America heavily criticised by civil society organisations.

Moreover, presenting PEs as a viable alternative to marketisation does not mean assuming that they are always corruption free. Even the best examples of efficient public management can be tainted; a political crisis erupted in Costa Rica in October 2004 when a former director of ICE appeared in the national press admitting that high officials of the company, as well as a former president of the country, had received a hefty bribe from the French transnational corporation Alcatel in 2001 (Artavia Araya 2008).

Nevertheless, the resilience of the *estado empresario* (entrepreneur state) is notable. In Mexico, notwithstanding several attempts aimed at liberalising the electricity sector, CFE and LyFC (until 2009) were icons of the "big state", inherited from the Mexican Revolution and acting as bulwarks against neoliberal legislation. In Uruguay, building upon the strong ideological legacy of the welfare state built by President José Batlle y Ordóñez in the early 20th century, direct democracy mechanisms have been used to reject privatisation of practically every PE. In Costa Rica, the institutions at the core of the public electricity system have proven remarkably resistant to change, to a great extent due to resistance from multiple sectors of society.

International cooperation and solidarity

Unlike the water sector in Latin America, where some promising PuPs have emerged in the region (see Chapter 15, this volume), there are many PuPs in the Latin American power sector where profit, not solidarity, seems to

be the main motivation. Regional integration is today a big challenge, particularly in the Mercosur region (the trade bloc set up by Argentina, Brazil, Uruguay, and Paraguay as founding members, and Bolivia, Chile, Colombia, Ecuador, and Peru as associate members, with the long-delayed full incorporation of Venezuela to be ratified by the Paraguayan Parliament). Binational intergovernmental agreements have already established strong links between several electricity PEs, but larger and deeper integration is increasingly seen as a way to prevent the frequent power shortages that affect most of the region. In this sense, two scenarios are foreseeable: (i) that private transnational power companies take the lead of this process, linking the different countries where they are currently doing business; and (ii) that the largest state-owned electricity companies expand to neighbouring countries and/or launch new forms of association with other PEs.

Eletrobras is actively looking for business opportunities in the region. It has announced a number of projects outside Brazil, particularly in Peru and Venezuela, and the Brazilian national development bank BNDES (one of its main shareholders) is already financing new power projects in other countries. The giant public company plans to follow the strategy previously implemented by Portuguese and Spanish corporations. President Lula has declared several times that he aspires to see Eletrobras become the Petrobras (the Brazilian state-owned energy entity, one of the world's 10 largest oil companies) of the electricity sector. The analogy openly challenges the "alternative" potential of Eletrobras, because Petrobras has been charged with behaving internationally like any other private transnational corporation, with profits being its main concern and little regard for social or environmental sustainability (León 2008).

Another clear example of the for-profit expansion of some state-owned companies across national borders is the participation of the strong Mexican (CFE), Colombian (ISA), and Costa Rican (ICE) PEs in the very controversial *Sistema de Interconexión Eléctrica de los Países de América Central* (SIEPAC, Central American Electrical Interconnection System). This is a business endeavour led by the Spanish transnational corporation Endesa in association with several public utilities, consisting of an electricity transmission network that will interconnect Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama (Martin 2010). The programme has been criticised by non-governmental organisations, which point the finger at the social, environmental, and political implications of a very costly initiative being pushed forward without real public consultation or debate.

Transferability

Previous studies about the evolution of the public sector in Latin America and elsewhere have tried to explain why some PEs are more efficient than others and have questioned the replicability of the most successful ones.

The factors that contribute to higher success might be mainly related to peculiar features of concrete localities, as argued by the "new comparative economics" approach. A study published some years ago (Djankov et al., 2003) focused on the impact of different institutional arrangements for social control of managerial practices and drew attention to the importance of local legal systems, institutional patterns and cultural characteristics, condensed into what the authors call – without proposing any tangible definition – "civic capital" and "institutional possibility frontier". The authors argue that "efficient institutional design depends on specific characteristics of countries and sectors, which can only be ascertained empirically" (2003, 604).

Following such an approach, it has been argued that those societies with more plentiful "civic capital" will be prone to stronger and more efficient PEs. In the context of the electricity sector, that would explain how the Antioquian society, in Colombia, favoured the development of EPM, while Costa Rica and Uruguay – two countries often referred to as Latin America's most democratic and institutionally robust – favoured the development of ICE and UTE, respectively. Without accepting the full and rather simplistic argumentation offered by the proponents of the "civic capital" idea,[3] our own research supports the proposition that the specific social, economic, and political context surrounding each experience has been a strong enabling factor in the development of robust and efficient PEs in the three concrete cases mentioned above. The experience of EPM, in particular, shows a combination of positive results produced by the synergy of the rent generated by hydropower resources and the human resources that have allowed it to be properly exploited and developed, as well as the strong citizens' control over the company's governance, which would prevent the opportunistic takeover of management by the political class. Similar favourable conditions can be also observed in at least two other successful experiences: the national public corporation ICE in Costa Rica and the regional company COPEL in the state of Parana, Brazil.

Another factor that should not be dismissed when the transferability of positive developments in the state-owned electricity sector is discussed is the profound national pride associated with some PEs. In Costa Rica, popular discontent blew up in the year 2000, including road blockades and large demonstrations throughout the country, in reaction to a legislative proposal that would have eventually privatised ICE (Hoffmann 2007, Frajman 2009). Similarly, Uruguay's relatively small size, the existence of a long and strong statist tradition, and the extended use of direct democracy mechanisms (referendums and plebiscites) to resolve conflicts on issues of fundamental importance for the country help explain the characteristics and rhythms of the unusually stubborn defence of UTE and other PEs (Bergara et al., 2006, Dubrovsky and Ruchansky 2010).

CONCLUSION

Although the most relevant alternative to market-driven provision of electricity in Latin America is the PE, none of them are "chemically pure" in terms of being acceptable alternatives to privatisation. Nonetheless, the region has a long and rich tradition of successful PEs, and despite pressures from neoliberal advocates to get rid of them, few countries have dismantled them completely, creating in many cases a grey area between companies still under tight public control and wholly privatised ones. Across Latin America, the crucial question is how governments and civil society can wield political control over public companies that are going through a process of corporatisation, transforming them into an effective tool for economic and social development in sustainable and equitable ways.

To try to answer this question it is necessary to note that a state apparatus is an intrinsically contradictory system, where different units not only seek to maximise a simple set of goals but are also required to compromise between conflicting objectives, interests, and values. This means that the managers of state-owned companies are permanently confronted by tensions and dilemmas to which there is no simple solution. Many public companies responsible for the provision of electricity services across the region are now highly corporatised, having adopted the core principles of new public management and other market-oriented ideas that make them hard to distinguish from private firms. Nevertheless, for as long as public entities remain under state ownership they are accountable to the government and society – at least in theory – and there are possibilities to reclaim them. There is an intrinsic connection between public ownership and the purpose of essential public services such as electricity, water, education, and health, which is broken when they are privatised.

As we have observed, many public companies have been operating under the continuous threat of privatisation and/or subject to the neglect of governments, political parties, and even trade unions, which have caused the deterioration or stagnation of service delivery. Faced with this situation, there is a clear need to concentrate on strengthening existing public entities, even those currently corporatised, by using whatever means available at practical and policy levels. This might involve further critical research, advocacy, and intellectual support to campaigns already initiated by labour and other social organisations. At the same time, it is necessary to work on creating awareness and changing the mindset of public managers, user organisations, trade unions, and other relevant stakeholders, seeking to make them more open to change their old approaches and think anew, beginning with the revival of the public service ethos and an increased role for workers in the day-to-day administration and long-term planning of the power sector.

Another kind of public service is in the making in Latin America. Unfortunately, change in the electricity sector is still not as obvious as in the water sector, but there are positive precedents and good prospects for future development. A new type of convergence between New Left governments, and the interests and proposals of social movements, community groups, and committed researchers has revealed that reclaiming the state is a very viable option in the region. Moreover, experiences such as participatory budgeting in Brazil, Uruguay, and other Latin American countries (Chavez 2004, Chavez and Goldfrank 2004, Goldfrank and Schrank 2009), the *mesas técnicas* of water, energy, and telecommunications in Venezuela, and several other innovations in public management based on citizens' participation have demonstrated that "people's knowledge" rooted in experience can be as important and needed as that of the "experts" in order to rebuild public services in the region. There is a critical mass of new and good ideas already available for public sector policy makers and administrators looking for democratic approaches to public management specific to the challenges of power provision, and which confronts the by now not-so-new NPM ideas.

If the processes of reconstruction and development in countries run by "New Left" or "progressive" forces evolve in a positive direction, the reorganisation of public companies in these and other countries of the region might also respond to external pressure, as has happened before. During the past two decades many Latin American countries embraced international norms and beliefs about how a public company should be organised and run, simply because these had become the hegemonic doctrine. Nowadays, another isomorphic trend is evolving in the region, and the expansion of progressive new models for public service management in countries governed by the New Left may lead to the extension of a counter-hegemonic ideological climate and create pressure towards similar reforms and deeper structural change across the region.

Not everything in the current situation of Latin American PEs is positive progressive, or constitutes a real alternative to marketisation. There is plenty of room for improvement and change, but the available options cannot mean swinging back the pendulum of history to the "golden age" of development of state-owned public utilities because the objective and subjective conditions that existed between the 1940s and 1970s no longer exist. Nevertheless, the experiences of several national and subnational companies from across the region demonstrate that PEs can certainly be a real and viable alternative to the privatisation of the power sector. Good or bad performance in provision of electrical services is very much related to the commitment of managers and workers and the resources that they can access to perform their tasks. Performance is not determined solely by the nature of ownership and management in terms of private versus public, as the neoliberals have argued for over three decades.

NOTES

1. The author benefited from the valuable assistance of four researchers working on public services reform in Latin America: Pablo Bertinat (Taller Ecologista, Argentina), who focused on the Southern Cone; Claudia Torelli (REDES, Uruguay, currently based at Tufts University in the US), who conducted research on Central America; Sara Forch (TNI, based in Barcelona), and Tatiana Roa (CENSAT Agua Viva, Colombia), who researched the Andean region.
2. The so-called New Model was designed by a working group created by the PT during the presidential campaign of 1992 to respond to the huge electricity crisis inherited from previous governments and to come up with innovative ideas. The group consisted of experts from the public electric utilities and academics based at public universities. The model proposes a new public-private mix. "If public sector utilities are significantly less efficient than private sector ones, they will not be able to match private sector offers without incurring losses. If the private sector bids too high, the public sector will be able to undercut them" (Tankha 2010, 192).
3. The notion of "civic capital" derives from the much used and abused concept of "social capital". For a comprehensive discussion of the ideological profile and shortcomings of the "social capital" approach, see Fine 2010.

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INTERVIEW

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