

12 Strengthening Electricity Sector Governance to Promote Probity

“Today there is a good understanding that past approaches to ... reform will not work. The record has been poor. Part of the reason for this failure is that efforts were inordinately focused on changing the utility by strengthening its management and its processes, but without making commensurate advances on the governance framework or the institutional environment within which the utility operates. In the end, utility managers respond according to the wishes of important external stakeholders, most notably national government, municipal officials, community leaders and lenders. Misdirected incentives on their part will have direct consequences for the internal incentive systems of utility managers and their staff.”³⁵

Ultimately, arrangements for electricity service provision are almost always under government control. Probity will only develop and grow when decision-makers within those control systems want to promote probity, rather than benefit from corruption. Unfortunately, in many developing countries today, the opposite is true. Public decision-makers have an interest in continuing corruption, while those who suffer from corruption lack the power or organization to change the system.

This section looks at how governance in the electricity sector works. It briefly explains how a healthy governance system should work to sustain a virtuous cycle of increasing probity, and considers the governance dysfunctions that allow corruption to flourish (Section 12.1). Having analyzed the ways in which governance fails, the section goes on to look at ways to make governance work better. These ways are divided into two categories: those aimed at empowering citizens (Section 12.2) and those aimed at helping government and citizens to hold providers accountable (Section 12.3).

Governance arrangements are highly situation specific. What works in one place will not necessarily work in another. Section 13 provides some insights into how to tailor the general recommendations to specific situations.

Finally, Section 13.2 emphasizes a systems-thinking approach to governance. Good governance is a complicated interlocking system. Multiple elements need to function together. Sadly, fixing one broken element will not necessarily make the system work if another element remains missing. As with an electricity system where the turbine has gone and the transformer is burnt out, fixing one problem without fixing the other will not restore the service. In the same way, putting in place one element of governance—such as report cards to provide citizens with information—without the other supporting elements, may do no good. Fully understanding how to improve governance to promote probity requires deep analysis of complex and situation-specific human systems.

12.1 How Governance Works—or Doesn’t

Section 2 of this sourcebook presents a framework that highlights the ways in which poor governance creates opportunities for corruption, and good governance helps to reduce

³⁵ Baïette, Kingdom, and van Ginneken (2006) “Characteristics of Well-Performing Public Water Utilities” Water Supply and Sanitation Working Notes No.9, Washington, DC: The World Bank

corruption. It highlights the essential problems of governance in electricity as stemming from the economies of scale and natural monopoly characteristics of the sector.

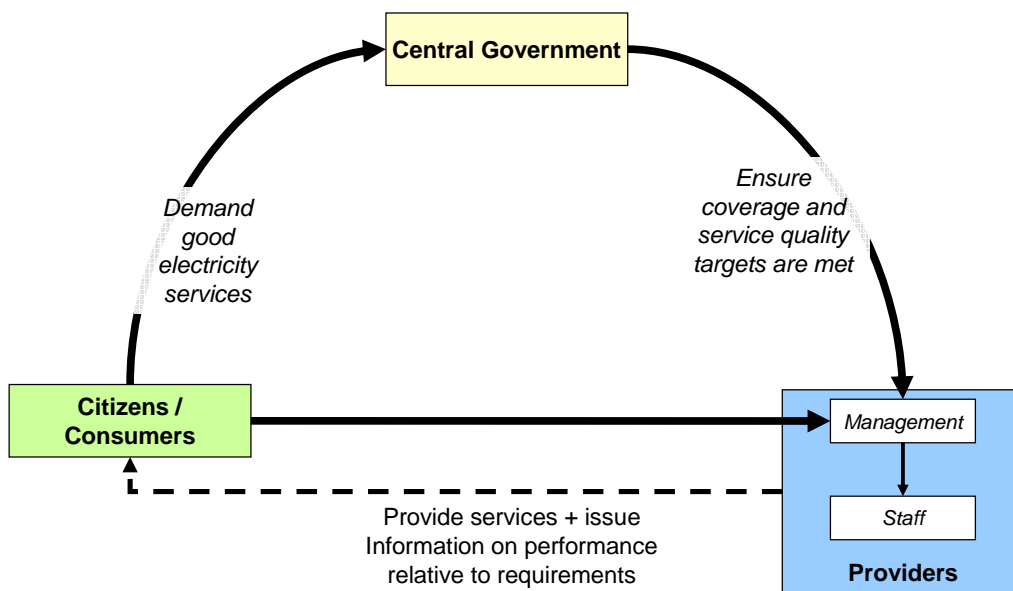
The fact that electricity is a service with monopolistic characteristics and great social importance is at the heart of governance problems in the sector. In markets for normal goods and services, competition makes providers directly accountable directly to customers

The direct route of accountability works less well in electricity. Citizens turn to government to make the electricity providers do what the citizens want—the long route of accountability.

Summarizing that discussion, a generic governance system for the electricity sector is illustrated in Figure 12.1. This models governance as a cycle of accountability, in which:

- **Citizens** (including consumers) demand good electricity services from their local and central governments
- **Local and central governments** try to make sure that all citizens receive services, and that electricity service providers—whether public or private—deliver a good service and are responsive to consumers
- **Providers** deliver services to consumers, who judge that service against their initial expectations and demands, and (if they are unsatisfied) respond by registering complaints with the provider and government.

Figure 12.1: The Governance System: a Cycle of Accountability



Source: Derived from World Development Report 2004

Next, we explain each aspect of the cycle in more detail, explaining how it affects electricity sector probity, and where that aspect of the cycle is further addressed in this section.

Citizen or consumer demand

Citizen or consumer demand is primarily for good service at reasonable cost. This translates to a demand for probity, since, in general corrupt systems are inefficient, and deliver inadequate service, or excessive cost, or both. In countries where citizens believe the electricity sector is corrupt, they may also demand probity directly, both because they have a preference for probity (they think corruption is inherently wrong) and because they understand that this leads to a better quality and cost of service, by stopping sector resources being diverted to private ends. Ways to inform and empower citizens in their demands are discussed in Section 12.2

Government responses to citizen demand

For citizens' demands to translate into changes by government, government decision makers need to be rewarded for delivering what citizens want, and punished for not doing so (see Box 12.1 below for an example of an inadequate accountability relationship between citizens and government). The pay-off to decision makers for giving citizens what they want must be greater than the benefits from corruption. One system for doing this will be political competition, where those decision-makers that fail to serve the public interest lose their position (and in so doing also lose the corrupt benefits of office).

Once governments are motivated to deliver the electricity services citizens want, governments need to make the electricity service provider perform the way government wants it to. This is difficult. Many governments own their electricity providers, and yet Presidents and Ministers find it difficult to get the provider to deliver a good service at reasonable price. Section 12.3 discusses the techniques governments can use to become increasingly successful in holding providers accountable for good performance.

Box 12.1: The Pamaran Experience in Indonesia

Civil society and public interest in electricity sector issues has often been prompted by controversies around major infrastructure projects. Yet electricity governance assessments suggest that despite these controversies, there is limited space to protect the rights of people affected by electricity infrastructure projects. The Pamaran PLTCU Natural Gas Plant in Bali highlights the inadequacies of these systems. The plant was expected to have damaging effects on local aquatic tourism. In addition, it did not comply with official guidelines for development in the region, and project-affected households were not consulted in the initial project development and impact assessments. In fact, construction began without local authorities even issuing a permit for the project.

The environmental impacts of the Pamaran Plant—in an area renowned for its attractions as a tourist destination—attracted a great deal of concern from local communities and business representatives who were concerned about the effect on tourism. A Peoples Coalition for the Pamaran Problem was established to coordinate public input and file complaints about the project. The coalition included local community associations such as the Indonesia Hotel and Restaurant Association and the Darma Samudra Fishermen's Association, as well as national NGOs such as the Working Group on Power Sector Restructuring. In the Pamaran case study, the Government's Directorate General of Electricity and Energy utilization insisted that authority for the project lay with the local government. The Directorate only took on the role of facilitator between civil society and local authorities rather than creating avenues or mechanisms to uphold the rights of project-affected people. Local authorities refused to recognize that project-affected people had any standing to raise claims against the plant.

12.2 Empowering Citizens

Citizen demand for good service is an important factor in ensuring that providers deliver good electricity services. However, for citizens to make their demands clear and effective, they need both information on which to base their demands, and an ability to influence the government and providers. Ways to increase citizens' information and influence are outlined below. These methods, and other complementary or alternative approaches, are described in more detail in the sources listed in Source List 12.1.

12.2.1 Information

To demand (and receive) good electricity services, citizens need information on what level of service they are actually getting, and what level of service they could reasonably expect.

Methods for increasing information on current levels of service above and beyond information gained from individual household experience or casual neighborhood discussions include:

- **Requiring providers to issue regulatory-type reports** of performance against standards. To ensure this information is meaningful to consumers, and is issued regularly, regulators should ideally issue templates and guidance on standard avenues for information reporting (for example, via media that consumers can readily access), and enforce compliance with reporting requirements. Although this increases the regulatory burden for both regulators and providers, it is a relatively low-cost means for increasing information to consumers. Consumers can assist in monitoring provider compliance with reporting requirements, using complaint mechanisms to report non-compliance
- **Using report cards, surveys or consumer meetings** to gather a wide range of consumer feedback on performance—these options are effective where providers are reluctant to issue information or where consumers need some guidance in interpreting performance data, or where sharing customer experiences can usefully supplement performance reporting by the utility
- **Establishing rules** for providing consumers with information on request, ideally via a dedicated consumer services department. For example, in Malaysia most electricity utilities have now established “Consumer Welfare Desks”, which handle customer complaints. As with the regulatory reports described above, such rules would require regulators to issue clear guidelines on the type of information to be provided to consumers, and the timeliness with which it is to be provided. Issuing information on request is likely to be less effective in increasing consumer information than issuing reports in readily accessible media. However, this weakness could be addressed by ensuring that other groups that may report on the public's behalf (such as journalists or NGOs) can access performance information.

Where the established rules and reporting requirements aren't followed, the regulator (or alternative enforcement agency—in some cases, the Ombudsman, as described in Box 12.2 below)—needs to intervene and impose penalties for non-compliance.

Box 12.2: Possible Roles for Ombudsmen in Ensuring Consumer Rights

“Ombudsmen can ... be involved in the complaint resolution process. This is for example the case in several Latin American countries (Peru, Argentina and El Salvador) and in Macedonia, where the jurisdiction of Ombudsmen has started to extend to infrastructure industries. For instance, in Macedonia, the Ombudsman recently ruled against the practice of random customer disconnection from electricity supply in areas where the billing system does not enable service providers to detect delinquent customers. Ombudsmen have also been established in Australia with the specific remit of solving disputes between consumers and electricity businesses.”

Source: Muzzini, E. (2005) “Consumer Participation in Infrastructure Regulation: Evidence from the East Asia and Pacific Region”. World Bank Working Paper No. 66.

Methods for increasing information on the level of service that citizens could expect include:

- **Issuing comparative information** on cost and quality of service providers in other towns and countries—this information could be regularly compiled and issued by a regulatory agency or government department, ideally based on a set of pre-agreed and consistent cross-utility indicators. Box 12.3 provides an example of such an approach in New Zealand

Box 12.3: Information Disclosure in Distribution Companies

Under the Commerce Act 1986, the New Zealand Commerce Commission (the country's economic and competition regulator) administers an information disclosure regime for electricity line businesses. The aim of the regime is to inform the public about matters relating to the supply of electricity network services. In particular, the regime allows the public to better understand the relative performance of different line businesses and the changes in performance over time.

Information disclosed includes:

- Compliance statements demonstrating performance against an acceptable price path set by the Commission. Businesses not complying with the price path may be investigated and placed under price control
- Standardized financial and efficiency performance measures set by the Commission, including:
 - Return on investment
 - Return on equity
 - Direct operating costs per kilometer of line
 - Indirect operating costs per consumer
 - Load factor
 - Loss ratio
 - Capacity utilization
 - Reliability performance, including number and duration of interruptions (total, per

customer and per 100km of line), and time taken to restore power

Reliability targets for the current and future years

The information disclosed goes some way towards addressing the information asymmetry that is always present between a regulator and a regulated business. Also, the Commission issues summaries and assessments of the disclosed information, which help consumers better understand the information disclosed. Since many New Zealand line businesses are consumer-owned (governed by trusts elected by consumers) the disclosed information allows consumers to assess the performance of their elected trust and vote accordingly.

Source: New Zealand Commerce Commission

- **Enabling consumer participation in (or at least exposure to) regulatory-style decision-making**, in which options for improving service and reducing costs are debated in an open meeting. Such meetings are generally held at the time of a tariff review or during a local service planning process. In addition, consumers may be regularly invited to provide feedback to the regulator on service levels and regulatory performance, as in Karnataka (see Box 12.4 and Box 12.5 below)

Box 12.4: Engaging Consumers in Regulatory Decision-making in Karnataka

The Karnataka Electricity Regulatory Commission (KERC) was concerned that without adequate, informed participation by consumers, there would be no effective counterbalance to the lobbying of the local power companies. With assistance from PPIAF, they investigated how a consumer network in Karnataka could be developed as an aid to effective regulation, and prepared an action plan for integrating consumers into the regulatory process.

The KERC met with consumer groups to look at the options available, and to jointly decide on an approach. Following these discussions, The *Electricity Consumers' Network* (ECON) was formed with assistance from KERC and consists of members representing consumers, farmers, and other stakeholders. ECON is composed of nine main non-governmental organizations (but continues to attract new members). It is based on the premise that safeguarding consumer interests as well as equitable pricing and service delivery are more easily achieved by a small group of committed, knowledgeable consumers networking with expert organizations and individuals in the energy sector. As part of its consumer service activities, the KERC's office of consumer advocacy and ECON regularly conduct a survey of electricity consumers and their perceptions about the quality of service and other related matters.

Sources: McCotter, B. (2005) "Best Practices in Consumer Services: A Comparative Study, United States Agency International Development

Public-Private Infrastructure Advisory Facility (2003) "Consumer Advocacy Unit of Karnataka Electricity Regulator Commission, India, Washington, DC: PPIAF

Box 12.5: Citizen Participation Creates a New Clean Energy Model in the Negros Province of the Philippines

In 2002, the Governor of Negros Occidental province and the Secretary of the Department of Energy (DOE) in the Philippines committed to a 100 percent renewable

energy target for Negros province. The announcement came after eight years of heated debate about whether to build coal-fired power plants in Negros or to prioritize renewable energy solutions to the province's energy needs.

Civil Society Provided New Research and Analysis to Inform Decision-Making

When the Central Negros Electric Cooperative (Ceneco) announced its intention to build a 50-Megawatt coal-fired power plant in Negros Province in 1997, a process of public consultation prior to starting construction was initiated. The plant was contracted to the Edison Global company, in collaboration with the Central Negros Power Corporation and two other multinationals, Ogden Energy and Asea Brown Bover. Independent research and engagement by civil society organizations with support from technical experts found that the power plant was to be constructed on a river delta and that the coal ash and effluents were likely to disrupt the water system and impact fishermen in particular. The plant was also expected to have serious negative impacts on local health, particularly since there were no plans to manage the dumping of fly ash from the plant. Pulupandan had been the site of a highly polluting alcohol plant for many years, and residents were very concerned about a new facility that would have additional environmental health impacts.

Citizen Organization and Public Participation through Formal and Informal Systems Drew Attention to Problems and Conflicts

The project met with widespread public opposition. In Pulupandan, a small group of women began mobilizing the town's residents to question the construction of the coal-fired power plant, drawing more and more volunteers and eventually organizing itself as a formal NGO. Despite alleged attempts by some project developer representatives and government authorities to prevent their participation in consultations, the group prepared educational materials about the project and mobilized residents to participate in discussions about the need for the plant. They submitted a formal critique of the project to the Department of the Environment and Natural Resources (DENR), documenting the project developers' failures to comply with the conditions upon which an Environmental Compliance Certificate (ECC) should be issued. The DENR eventually responded by revoking the ECC for the project.

Civil Society and Official Sector Actors Designed Innovative Clean Energy Solutions to Electricity Supply Challenges

Rather than simply opposing the construction of new coal-fired power capacity, civil society and local government authorities were able to work together to consider the downsides of coal power and the advantages of developing new renewable energy projects such as wind, solar, small hydro, and modern biomass under this new local policy framework. Organizations including the Philippines Rural Reconstruction Movement, Preferred Energy, the International Institute for Energy Conservation, World Wildlife Fund, and Greenpeace worked with DOE and local Negros government officials to develop a detailed alternative energy plan for Negros Province, with an emphasis on off-grid clean energy options for isolated communities. They also set up a new program to execute this integrated plan, the Green Independent Power Producers Program (GRIPP), which partners with private sector actors to develop new clean energy projects. Ceneco and GRIPP are working together to develop a wind farm in Pulupandan on the same land that would have been the site of the coal plant. In addition, GRIPP is working with the First Famers Holdings sugar mill in Talisay city to set up a 30MW biomass cogeneration plant. The DOE has declared Negros a model for 100 percent clean energy-based

development in the Philippines. Under its Renewable Energy Framework, the DOE is promoting the GRIPP program as a model for encouraging greater private sector participation in the development of renewable energy resources, energy efficiency initiatives, and strategic integrated public-private energy planning.

Source: Nakhooda, S. *et al* (2007) *Empowering People: A Governance Analysis of Electricity*, World Resources Institute, page 28

- **Building capacity among journalists.** Journalists need to be free to report, able to understand the issues, and be given access to information. Although practitioners may have little power to influence the freedom of investigation and reporting, they can aim to provide training for journalists, NGOs and other interested parties on the prevailing service requirements and performance, standard service requirements and performance in comparator countries, and the reasons why providers may be failing to meet performance requirements.

12.2.2 How citizens can influence providers and government

Accountability will be increased if citizens can form groups to discuss and express their views, and if they have channels to influence sector decision-making. In a well-functioning governance system, many of these channels may be direct to the provider—in good governance systems, provider managers are motivated to listen to citizens and try to do what they want.

Unfortunately in most developing countries, provider managers are not motivated to do what citizens want, or are unable to do what citizens want because of lack of funds, or other constraints imposed on them by government. In these cases, citizen participation must be directed at influencing government, so a critical link in making governance in the electricity sector work are the mechanisms that make government responsive to citizens.

Overall, government-level accountability systems are beyond the scope of this Sourcebook, but regarding electricity sector-specific issues, measures that could increase the responsiveness of electricity sector decision-makers to citizens include:

- Provision of information (discussed in the previous section)
- Allowing competition—while electricity is generally considered a natural monopoly, where a government owned utility is doing a poor job, there may be scope for other providers to fill the supply gap (see Box 12.6)

Box 12.6: Alternative Providers Fill the Supply Gap and Improve Accountability to Consumers in Cambodia

The 1993 elections marked Cambodia's return to democracy and relative peace. Decades of conflict and neglect had shattered the country's infrastructure, but the new government lacked the resources to thoroughly rebuild. High prices and lack of involvement of larger utilities in most rural areas paved the way for small private providers.

An estimated 600 to 1,000 small electricity private providers sprang up mostly between 1993 and 1997 to distribute electricity in the countryside. These enterprises now serve about half of all households that receive electricity.

Most of the small providers are sole proprietorships. The typical entrepreneur has a high-

school education and a few have additional technical training. The providers have an average of 200 clients, of which households make up 94 percent. Most customers are billed from meter readings and pay monthly, but customers are responsible for purchasing electric meters. Electricity services are provided for about 4 hours per day on average. The estimated average cost of producing 1 kWh is around US\$0.34, of which 85 percent is for fuel. The average price for 1 kWh is roughly US\$0.51.

In a situation where there is considerable corruption in the power utilities, and rural development agencies, these small providers offer a valuable service, and are directly accountable to customers. Because the providers operate without a clear national-level regulatory and legal framework, they must rely on informal contracts with their customers, and face the reality that if the customers don't like their service, they may switch to another provider. In such a case the entrepreneur may not recover the original investment. Accordingly, the small providers have strong incentives to offer competitive prices for quality services, and to respond quickly to consumer feedback and demand.

Source: Mukami Kariuhi and Jordan Schwartz, World Bank, "Small-Scale Private Service Providers of Water Supply and Electricity" World Bank Policy Research Working Paper 3727, 2005

- Helping politicians to see that the projects and reforms proposed can be to their benefit.

Other forms of participation include:

- Involvement through surveys and focus groups for planning investments and setting service standards
- Consultation over options
- Involvement in supervision (for community-level projects—see discussion in Sections 10.2.3 and 10.3.1).

12.3 Holding Providers Accountable

The way in which governments hold providers accountable in the electricity sector depends a lot on sector structure. However, despite the emphasis on introduction of competition electricity sectors over the last two decades, the majority of electricity providers in developing countries remain natural monopolies. Therefore in this section we focus on ways to hold natural monopoly providers accountable. The tools discussed in this section will apply to:

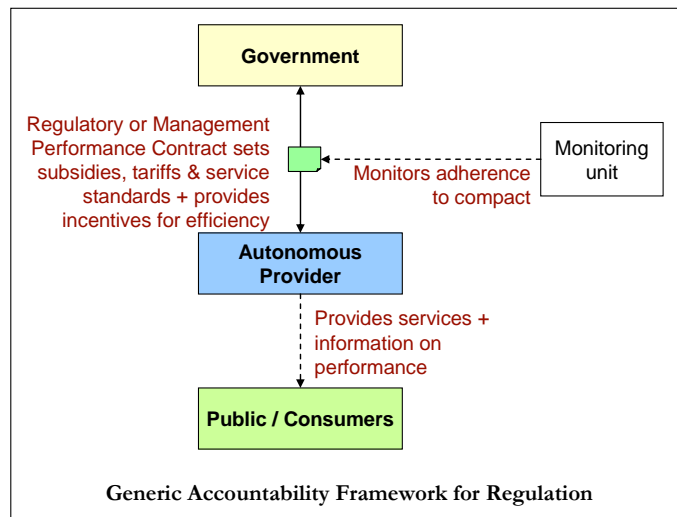
- Vertically integrated utilities
- National transmission or generation and transmission companies
- Distribution companies.

The main situations in which these tools will not apply are: generation and competitive retail supply in competitive power markets; and contracts with independent power providers, especially where there is a single buyer. Accountability mechanisms for these situations are discussed in section 12.3.4.

The main elements of a system to hold monopoly providers accountable would generally include the following:

- A **“regulatory”** or **“performance” compact**—that is, a clear written understanding as to what service the provider is expected to provide; and the resources the provider may reasonably use in providing those services (usually a mix of tariffs and subsidies)
- A **provider with sufficient autonomy and incentives** to achieve the results for which it is being held accountable
- A **trustworthy monitoring unit** to monitor the provider’s performance against the compact
- A **merit-based system** that rewards the provider managers for performing well against the contract, and punishes them for performing badly
- A **means of providing information** on provider performance to both the government and consumers.

The basic regulatory structure that results from the elements set out above is illustrated in the figure to the right. However, various sector structures can display these features, if properly designed. For example, the “monitoring unit” may be an independent regulator, a semi-autonomous contracted monitoring unit, or a government department. The following sections discuss each of the elements of this accountability framework (with the exception of providing information, which was discussed above in section 12.2.1) identifying various options. Section 13 provides advice on how to implement recommended options in more challenging situations where government capacity may be limited.



12.3.1 A compact on service targets and allowed resources

This section sets out why setting service targets and the resources available to achieve them, in a written compact, helps in promoting accountability and reducing corruption. It reviews how this can be done in practice in a variety of situations.

The benefits of a compact for both private and public providers

Practitioners have long recognized the benefits of developing a (regulatory) compact that defines service standards and tariffs or other resources for private providers. With private providers, the need to specify required service standards and allowed tariffs and subsidies is clear—without such a compact, government and the citizenry have little control over the services provided, or the tariffs charged. Box 12.7 provides an example of a classic and well-defined regulatory compact governing the Philippines national transmission grid operator, which is under preparation to be managed by a private firm under a concession contract.

Box 12.7: Philippines Transco Concession Contract

The Power Sector Assets & Liabilities Management Corporation (PSALM) officially launched the privatization of TRANSCO the week of 28 May 2006. In December 2007, TRANSCO was privatized through a 25 year concession contract, with the option of a further 25 year extension. The transmission company operates under detailed rules that set out the services it can provide, and the tariffs (wheeling rates) it can charge. The wheeling rates are outlined, in detail, in the Philippine Electricity Industry Guidelines on the Methodology for Setting Transmission Wheeling Rates from 2003 to around 2027. These guidelines set out:

- The methodology to be used in setting the maximum transmission wheeling rates that may be charged for the provision of Regulated Transmission Services by the Regulated Entity
- The pricing principles with which the ERC must comply for the purposes of regulating the maximum transmission wheeling rates that may be charged for the provision of Regulated Transmission Services by the Regulated Entity during subsequent regulatory periods
- The annual rate verification and adjustment process which the ERC must undertake in relation to the maximum transmission wheeling rates that may be charged for the provision of Regulated Transmission Service by the Regulated Entity during a Regulatory Period
- The regulatory processes and timelines to which both the Regulated Entity and the ERC must adhere in order for the methodology established by these Guidelines to be administered and applied in a timely manner, and
- The performance indicators, performance targets, and reporting arrangements with which the Regulated Entity must comply during later regulatory periods, and which the ERC must monitor, in order to ensure the effective and efficient delivery of Regulated Transmission Services to consumers.

These clear rules provide a foundation for effective regulatory monitoring of the private firm that won the concession contract—a consortium comprising local firms Monte Oro Grid Resources Corp. and Calaca High Power Corp and China’s State Grid Corp.

Sources: PSALM (2006) “*TRANSCO Privatization*”, Presentation to the Joint Congressional Power Commission (“PowerCom”) 25 May 2006

Republic of the Philippines Energy Regulatory Commission (2003) “*Guidelines on the Methodology for Setting Transmission Wheeling Rates from 2003 to around 2027*”

With publicly-owned providers the benefit of setting service standards and allowed resources is at first less clear—after all, the government, by virtue of its ownership and control rights over the provider, can at any time direct that provider to provide certain services, or reduce tariffs. However, the importance of clear service standards and tariff or subsidy rules becomes clearer in the context of provider accountability—the government needs to be sure that the managers of its provider can be held accountable for meeting a clear set of targets.

In short, when the government owns the provider, it must address a management problem. This problem is equivalent to the regulatory problem that the government would need to address under private provision.

The solution to the public-provider management problem is very similar to the solution to the private-provider regulatory problem. As with regulation, management accountability demands that provider managers have clear results they are supposed to achieve, and clearly

defined and adequate resources with which to achieve them. Box 12.8 shows how an overhaul of corporate structure and the introduction of a management contract in South Africa helped to improve the performance of Eskom, its vertically integrated electricity provider.

Box 12.8: Shareholder Performance Contract in South Africa Improves Eskom Performance

Eskom, in South Africa, is a public electricity utility that has been corporatized and, until very recently, successfully held accountable through a performance contract.

Prior to corporatization, the management of Eskom was not fully accountable, and could plan and finance excessive generation capacity. Poor and costly investment decisions were made.

In response, the government decided to overhaul Eskom's management. The utility management was held accountable through a shareholder performance contract with the Ministry of Public Enterprises (the government shareholder). Under the terms of the contract, Eskom operates according to commercial imperatives. It is regulated by an independent regulator, which reports via the Ministry of Minerals and Energy to Parliament and is ultimately responsible for consumer protection. Social programs, such as electrification, are overseen by the Ministry of Minerals and Energy, rather than the shareholding Ministry. In this way, there is a tension between the utility managers, which have incentives to maximize financial return, and the regulator, which is charged with improving efficiencies and lowering costs whilst ensuring financial sustainability.

Following the introduction of the contract, Eskom increased its productivity, and the government no longer needed to guarantee its loans. The company began to make a positive return on its assets, and has improved reliability and quality of supply.

However, in the latter parts of 2007, South Africa began experiencing widespread rolling blackouts as supply fell behind demand. The resulting rolling black-outs have been attributed to poor planning, and poor regulatory decisions based on strong political influence.

Source: Eberhard, A. (2004) *The Political Economy of Power Sector Reform in South Africa*, Stanford: Stanford University Program on Energy and Sustainable Development

The advantages of a regulatory or management performance compact with defined service standards and defined resources are that:

- The compact makes it clear what the provider is supposed to achieve in the way of services, and so allows the government to tell whether or not the provider is performing well
- By specifying a reasonable level of resources that can be used in delivering the required services, the compact becomes a key part in a system for promoting efficiency. Coupled with adequate management incentives, the drive to increase efficiency can lead the provider management to clamp down on the wastefulness of corruption
- The compact can be made public, and the terms of the contract can be debated. This allows citizens to assess whether the government is doing a good job in setting

targets for the sectors, and also to judge whether the provider is performing as intended.

How then can government move towards such compacts where they do not exist already?

Establishing a regulatory or management performance compact

The general process for developing an effective regulatory or management performance compact involves three steps:

1. **Defining the problems and objectives in the sector.** If a government doesn't start with a clear idea of what problems it needs to solve in the electricity sector it will struggle to develop an effective solution. This may seem obvious, but surprisingly often governments don't identify sector problems and associated objectives at all, or don't identify the objectives clearly (or in a way that enables them to assess how well government policies and regulation meets those objectives).

Generally, each sector objective would respond to a major sector problem. For example, if inadequate access to services is an important problem, a clear objective might be to increase access to services. If non-continuous or erratic supply is an important problem, an objective might be to improve service reliability. If ongoing government support to prop up a poorly performing public utility is an important (fiscal) problem, the objective could be to improve the utility's operating efficiency.

When identifying sector problems and setting sector objectives, the government may need to prioritise some objectives over others. This may involve policy trade-offs. For example, government may want to improve the quality of service provision, while keeping tariffs low. The government will need to decide whether to compromise one of these objectives in favour of the other, or to provide additional financial support (in the form of subsidies) to ensure that both its service and affordability objectives are achieved

2. **Defining the specific monitoring functions needed to achieve these objectives.** The monitoring functions should help to ensure that the provider is able to, and has incentives to, operate in a way that is conducive to meeting sector objectives. For public providers, the monitoring functions are similar to good provider management controls such as target-setting, budget allocation, and appraisal against the service standard and budget goals. For private providers, target setting and appraisal is also important, but the budget monitoring functions may focus more on budget control via controls on tariff levels that ensure the full recovery of efficient costs through consumer tariffs, or a combination of tariffs and government subsidies
3. **Deciding which legal instruments are best suited to embody the monitoring rules and which organizations are best suited to perform the monitoring functions.** The government could choose one of several instruments (such as a statute or executive prerogative) to appoint a monitoring unit (such as a ministry or Public Utilities Commission), which would be empowered to issue subsidy, tariff, or service standard rules through a suitable investment (such as an

order or contract). Contracts have the advantage that they cannot be changed without the provider's consent. As Besant-Jones notes:

The rules that best answer the main concerns of the foreign investors may not require a complex regulatory framework in the host country. If the principal requirements of investors are clarity of rules and predictability of results with government commitment and assured payback, they may be satisfied with the establishment of clear contracts, rather than complex regulations.³⁶

Where the provider is public the choice of instrument will depend in part on whether the government is taking a “regulatory” or a “managerial” approach to accountability. A “regulatory” approach would treat the provider as being quite independent from the government, and therefore regulate it much as if it were a private provider. This is the approach taken by governments in Australia and New Zealand toward the distribution and transmission companies they own. In contrast, a more managerial approach might see the compact embodied in a Memorandum of Understanding or an essentially non-enforceable agreement between government and the utility. Another approach with promise would be to put the agreement in the employment contract with the utility managers.

12.3.2 A provider with incentives and autonomy

The typical institutional environment has not provided the correct incentives and governance for providers of power services to meet consumer demands efficiently. Most state-owned power utilities in developing countries have operated under highly distorted economic incentives and governance for utility managers, employees, and customers, which have undermined service provision and revenue control. Governments have controlled their utilities closely through key appointments, tariff setting, investment approvals and financing, employment conditions and bureaucratic processes. Some governments have even caused their utilities to involuntarily support their fiscal budgets when their departments and agencies do not pay their electricity bills. This has usually led to operational inefficiency, limited access to electricity, financial loss and the need for public subsidy by these utilities, often in an environment of widespread corruption. High levels of nontechnical power losses (such as theft) from state owned power utilities in many developing countries also reflect a failure of governance.³⁷

This section considers why an adequate level of provider autonomy is important for improving governance and reducing corruption, and how such autonomy can be achieved in practice. It then considers the equally important point of the incentives the provider's management have to perform and deliver against the regulatory compact.

Provider autonomy

If the people managing the provider do not have reasonable freedom to manage, they cannot be held accountable for the provider's performance. Adequate autonomy involves the ability to decide on how the utility will achieve its objectives, to ensure that revenues are directed

³⁶ Besant-Jones (2006) “Reforming Power Utilities in Developing Countries: What Have We Learned?”, Energy and Mining Sector Board Discussion Paper No. 19, Washington, DC: The World Bank

³⁷ Besant-Jones (2006) “Reforming Power Utilities in Developing Countries: What Have We Learned?”, Energy and Mining Sector Board Discussion Paper No. 19, Washington, DC: The World Bank

towards their intended uses, to hire and fire staff, to set salaries and offer performance incentives, to disconnect both public and private non-payers, to reinvest revenues into system improvement and expansion, and so forth.

There are many possible constraints on provider autonomy. Often the provider's autonomy in practice is lower than its autonomy "on paper". Legislation that decrees the provider to be autonomous can help, but may not be sufficient for ensuring that provider management is truly empowered to make key decisions. Factors that may limit a provider's **effective** autonomy include reliance on government for financing, unclear regulatory rules or policy settings that force the provider to turn to the regulator or government for decisions on many issues, and—perhaps most commonly—a culture of deference of the provider Board and management to their political masters.

Possible ways of increasing provider autonomy to overcome these constraints include:

- Corporatization
- Mixed ownership (see Box 12.9)
- Privatization to create an Investor-owned Company
- Cooperative Ownership.

Box 12.9: Advantages and Disadvantages of Mixed Ownership

The sale of minority shareholdings to nonstrategic investors by governments can produce short-term gains, but pose long-term problems. Many countries (such as Egypt, Russia, Ukraine, and Vietnam) have sold minority shareholdings to local investors and granted or sold on preferential terms shares to power company employees and through local stock exchange. These sales can raise funds for government budgets—although usually not large sums—as well as raise employee morale and help nascent stock markets. When combined with minority share privatization, however, they might give control of the company in unintended ways (employees often quickly sell their shares to investors seeking controlling interests in power companies). They tend to be unattractive to serious investors, since groups with minority blocking rights can always hinder whatever the strategic investor wants to carry out (as happened in Ukraine).

Source: Besant-Jones, J. (2006) *“Reforming Power Markets in Developing Countries: What Have We Learned?”* Energy and Mining Sector Board Discussion Paper No 19, Washington, DC: The World Bank, page 51

Box 12.10 describes an example of community participation leading to better governance.

Box 12.10: Community Participation and Good Governance

Sagar Island in the Sunderbans in India is supplied with electricity generated by solar panels provided by the West Bengal Renewable Energy Development Authority for the use of the community. A typical unit serves about 120 to 150 households grouped in a cluster. A local committee oversees all operations, including delivery of bills, collection from consumers, and monitoring the system. Consumers pay more than twice the amount mainlanders pay the state-owned utility for electricity. The supply is restricted to a few hours in the evening. Consumption is limited to about 7–10 kilowatt hours a month, and overdrawals are blocked by miniature circuit breakers installed in homes. Theft is almost nonexistent and defaults very few, thanks to enormous peer pressure and self-monitoring by the user-group.

Source: Gulati, M. and Rao M.Y. “Corruption in the Electricity Sector: A Pervasive Scourge” in Campos, J. and Pradhan, S. (2007) *The Many Faces of Corruption: Tackling Vulnerabilities at the Sector Level*, Washington, DC: The World Bank, page 129

The possible uses of each ownership form are discussed in more detail below.

Table 12.1: Types of Ownership and Corporate Form

	Ministry or Department	Statutory Body (or Parastatal)	State-owned Company	Mixed-ownership Company	Investor-owned Company	Co-operative Company
Legal Foundation	Normally an executive order	A statute	A memorandum and articles of association (registered under a Companies Act or the like)	A memorandum and articles of association (registered under a Companies Act or the like)	A memorandum and articles of association (registered under a Companies Act or the like)	Incorporated under a general Cooperatives Act, in most cases. May also be incorporated under companies law but with special articles of association, or may be a company governed by a consumer trust.
Status as Legal Entry	Normally unincorporated (thus does not have a legal personality separate from that of the government)	Either incorporated or unincorporated	Incorporated (thus has own legal personality)	Incorporated (thus has own legal personality)	Incorporated (thus has own legal personality)	Incorporated
Basis of Ownership	Notionally, owned by the government as creator	Notionally, owned by the government as creator	Owned by the government as creator and shareholder	Some shares owned by government, other shares by private investor	All shares owned by private investor	Owned by its customers
Legal Framework	Operating under public law	Operating under public law (in many cases)	Operating under private law	Operating under private law	Operating under private law	Operating under private law

Corporatizing electricity service providers

“Corporatization” is commonly recommended as a way to increase autonomy and professionalism in an electricity provider. Corporatization sometimes refers to the creation of an electricity provider that is a corporate entity (whether a state-owned company or a statutory corporation) as opposed to a provider that is part of a government department or municipal government. Other times the word is used strictly to refer to the transformation of a public-provider into a company incorporated under normal company law (with a legal identity that is separate from the government), but in which all the shares are owned by the government.

Corporatized providers will have different performance incentives in different market contexts. For example, the corporatized providers may be in competition with private providers, as in New Zealand (where three corporatized providers compete with private providers in the generation and retail markets) and the Philippines (where a corporatized generation company competes with private generators). In these contexts, the providers face clear market-based signals on how well they are performing on cost and quality parameters.

Provided management remuneration is linked to market performance, such competition can create incentives for management to improve profitability. Such incentives tend to be heightened where the corporate governance structure is modeled on private-sector practices, in line with market competitors, rather than public-sector norms. For example, in New Zealand the State-Owned Enterprises Act gives government-owned businesses the objective of being “as profitable and efficient as comparable businesses not owned by the Crown”. Although other objectives (such as being a “good employer”) may weaken the corporatized companies’ accountability for being profitable, having a clearly profit-driven mandate helps create incentives for improved governance and performance.

Besant-Jones summarizes the importance of an able and independent Board of Directors for a corporatized electricity utility.

The appointment of an independent and competent Board of Directors is critical for combating political and bureaucratic interference in the management of a power utility. The board should consist of outside professionals of high standing and other knowledgeable eminent persons, rather than the typical practice of limiting board membership to a few civil servants and utility executives. Experience in Lithuania shows the healthy impact this policy has on the corporate governance of the utility. If improving performance with the existing set of managers or the Board proves to be difficult, the alternatives of using management contracts or cooperation with or franchising from western utility groups could be considered as an interim measure.³⁸

Box 12.11 below compares and contrasts four examples of corporatization in different market contexts and with different corporate governance structures.

Box 12.11: Contrasting Forms of Corporatization

A review of four cases of corporatization—in Mexico, New Zealand, the Philippines, and

³⁸ Besant-Jones, J. (2006) “Reforming Power Markets in Developing Countries: What Have We Learned?” Energy and Mining Sector Board Discussion Paper No. 19, Washington, DC: The World Bank

South Africa—found that country governments had taken quite different approaches to reforming the electricity sector and improving provider governance. Overall, the New Zealand case of corporatization appeared the most successful, although each country had achieved some performance improvements through their respective reforms.

Some of the more successful practices derived the cases were:

- Subjecting the utilities to company law and other laws that apply to private-sector companies—in order to bring to bear new rules governing the relationship between the utilities and the government as their owner
- Legislating for additional constraints on the relationship between the government, as owner, and utilities—to address the special problems afflicting the governance of state-owned utilities (such as the weak influence of the utilities’ ultimate beneficial owners, citizens, over the proximate owner, the government)
- Requiring additional public reporting by the utilities—for example, of directions given to the utility by politicians and of the utility’s policies toward theft and corruption by employees
- Taking further steps to instil a commercial culture in the utilities, such as appointing independent directors from successful businesses
- Requiring electricity companies to borrow from private lenders without the benefit of a government guarantee, to bring to bear the benefits of scrutiny by lenders and credit-rating agencies
- Listing a minority of the companies’ shares, to create market information on commercial performance, allow equity-linked compensation, and create monitoring by other shareholders
- Strengthening more transparent and efficient means of redistributing resources, such as direct subsidies to electricity customers
- Reducing the conflict of interest it faces as policymaker and owner, by separating responsibility within government for policy and ownership—for example, making the former the job of the minister of energy and the latter the job of the minister of finance.

Source: Irwin, T. and Yamamoto, C. (2004) *“Some Options for Improving the Governance of State-Owned Electricity Utilities”* Energy and Mining Sector Board Discussion Paper No. 11, Washington, DC: The World Bank

Although a corporation’s board may have representation from senior government officials, it is a distinct legal entity that operates more like a private business. Its finances are isolated from the general government budget and may be externally audited. The benefits of this model are that it can introduce autonomy and commercial discipline to the utility, decreasing political interference and petty corruption and leading to considerably better performance in terms of coverage and quality. A comparison of a corporatized electricity utility and a departmental water provider operating in the same city highlight some of the benefits (see Box 12.12 below).

Box 12.12: Corporatized Electricity Provider Out-performs Municipal Water (Hydraulic Engineer’s) Department in Mumbai

The Municipal Corporation for Greater Mumbai owns both the water and electricity service providers for the city. The electricity provider—the Brihanmumbai Electric Supply & Transport Undertaking, or BEST (a corporatized entity or undertaking)—has performed

far better than the water provider—the Hydraulic Engineer’s Department (A municipal government department). Many sector practitioners believe this difference in performance is due to BEST’s corporate structure, which affords managers more autonomy and gives them incentives and resources to improve performance.

In the Hydraulic Engineer’s Department, managers have little delegated authority. For example, the Municipal Commissioner may only authorise expenditure of up to 1 million rupees (approximately US\$25,000), while the chief hydraulic engineer may only authorise expenditure of up to 10,000 rupees (approximately US\$250). An assistant ward engineer has authority for expenditures of only 250 rupees (approximately US\$6). Obviously, these amounts are inadequate for covering all but minor repair works. All other expenditure—often for routine purposes—must be approved by the Municipal Standing Committee, which is alleged to regularly demand a set percentage of any supply contracts. The bureaucratic approval and procurement procedures mean it takes a long time to buy anything, and all repairs and rehabilitation works are slowed down. In addition, there is a lack of preventative maintenance, and staff lack important safety equipment.

System performance suffers as a result of management inefficiency and the lack of resources. The average supply duration throughout the city is only 4 to 5 hours per day, pressure is low, and the quality of the water delivered is very poor during monsoons when flooding routinely occurs. If the system were supplying water continuously, approximately 50 percent would be lost through both technical and commercial losses.

In contract, BEST has performed well. Its distribution losses are limited to 12–15 percent in total, of which only three percent is attributable to commercial losses. Reliability of supply is good, and the company has seen a steady growth in total sales over recent years.

BEST was originally established as a tram and electricity generation company, but began supplying electricity services in 1905. Its ownership was taken over by the Municipal Corporation in 1947, but the company was maintained as an autonomous corporate entity.

The company is headed by a general manager, who reports to the BEST committee (a governing board, comprising 17 Municipal Corporators, which holds the utility accountable for meeting technical and financial performance objectives). The BEST enjoys a high degree of autonomy. The Municipal Corporation approves the company’s yearly budget and permits increases in tariffs when required.

Source: www.bestundertaking.com and Castalia communication with Municipal Corporation staff

In practice, corporatization is often imperfect—politicians may still intervene in utility affairs or act to restrict tariff revenues, such that the utility is unable to meet all service coverage goals. There may also be internal resistance to the institutional changes involved in adopting the corporate model, or a lack of capacity to properly implement the required changes. Practitioners need to be aware of such constraints. As noted by Shirley (1998):

*“[p]rivatization and corporatization have similar political costs and tend to succeed or fail together. Where reform was politically desirable, politically feasible, and credible, countries privatized and corporatized successfully.”*³⁹

³⁹ Shirley, Mary. 1998. “Bureaucrats in business: the roles of privatization versus corporatization in state-owned enterprise reform.” *World Development* 27(1):115.

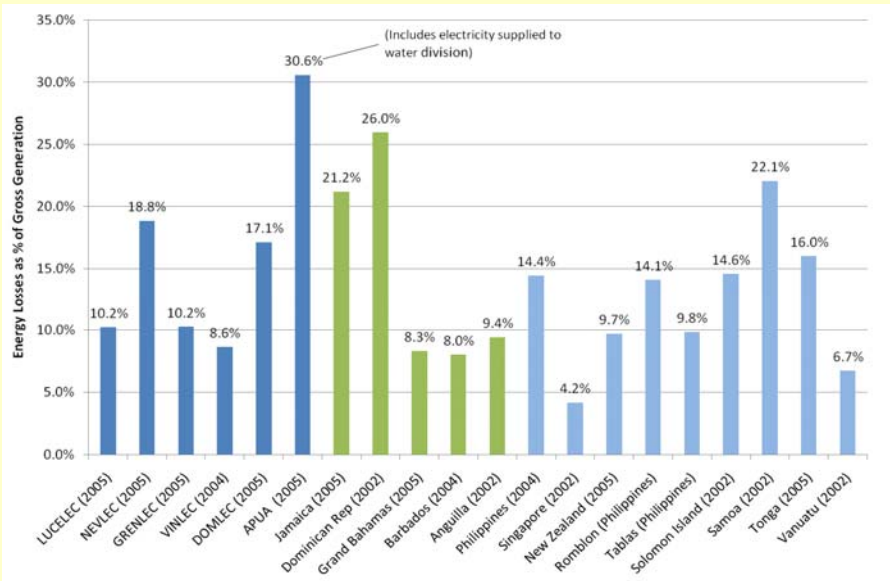
Mixed ownership

A mixed-ownership company has some shares owned by the government and some by private investors. Diversifying ownership in this way can reduce the risk of capture by political or interest groups. Because political capture generally directs resources away from their most efficient use (by, for example, favoring investments in a particular community in return for bribes or political favors), reducing capture through mixed ownership can improve utility performance. A good example of the link between mixed ownership and utility performance can be seen in the Caribbean (see Box 12.13 below).

Box 12.13: Mixed Ownership Results in Good Performance for Electric Utilities in the Eastern Caribbean

A benchmarking study of the performance of electric utilities in the Eastern Caribbean found that the extent of private ownership is a critical variable for utility performance, governance, and regulatory design. The utilities with some private ownership—DOMLEC, GRENLEC, and LUCELEC—generally performed better than the government owned utilities—APUA, NEVLEC, and VINLEC. The figure below shows systems losses in the six utilities (the Eastern Caribbean utilities are the first six on the left).

System Losses



Source: Castalia (2007) *"The Feasibility of Regional Cooperation in Regulation of the Electricity Sector of the Eastern Caribbean States"*, Final Report to the World Bank, Volume II

Mixed ownership also seems to have helped to improve governance in Russia's power system, as Box 12.14 describes.

Box 12.14: Investors Create Pressure to Adopt Good Corporate Governance

The Unified Energy System or RAO UES, is Russia's largest electricity company. The company owns the high-voltage transmission grid and 33 percent of power plant supply

needs, and it has stakes in regional distribution companies. The state owns about 53 percent in RAO UES, and the other 47 percent is held by minority shareholders.

At the beginning of 2000, the management of RAO UES proposed a complicated and nontransparent restructuring plan. The rationale for the restructuring was that efficiency and competitiveness needed to be improved. The plan involved the creation of a multitude of generation, transmission, and sales companies (totaling about 1,000 enterprises) under a general oversight company.

Many shareholders were concerned with the plan, particularly because the proposed two-tiered structure would put the asset reallocation process beyond the control of shareholders and the boards of directors (which might have led to nontransparent deals with local industry and regional governments) and because the RAO UES assets that were put up for sale were priced very low. These aspects of the plan created a suspicion of corruption and asset stripping. The markets reacted very negatively to the upcoming changes in the company, and from April until December 2000, the share price went down by 62 percent. Institutional investors expressed their serious concern in a letter addressed to President Putin. Independent directors at RAO UES managed to block the restructuring plan's progress and banned all asset transactions until proper approval of the restructuring plan had been given.

Eventually, the government announced the cancellation of the original restructuring plan and set up a commission, including minority shareholders, to devise a new plan. The government agreed at the negotiations with minority shareholders to make changes in the charter of the company to present asset sales, and to appoint international experts to advise on good corporate governance practice for the utility.

The experts devised a new, more transparent restructuring plan and assembled a deal with the shareholders, which was approved. The competence of the boards was broadened significantly through amendments to the charter. The list of deals requiring shareholder approval was extended, as was the list of corporate events subject to obligatory disclosure to shareholders. A reforming committee was created by the RAO UES Board of Directors, and chaired by an independent director. The management announced the creation of a methodological base and arrangements for regular audits of finances and operations of subsidiaries and independent companies. This restructuring was seen as a good use of corporate governance principles to reduce opportunities for corruption.

Source: "Corporate Governance: An Antidote to Corruption" (2002) *Records of the 10th International Anti-Corruption Conference*, Center for International Private Enterprise.

Privatization to create an investor-owned company

Having the utility owned or operated by a private party is the best way to ensure its autonomy. However, the very strength of the autonomy of a private operator necessitates equally strong regulatory or contractual arrangements to guarantee the provider's accountability. A survey of over 1,200 electricity utilities found strong evidence that private participation is effective in improving utility performance (see Box 12.15 below).⁴⁰ However, private participation contracts can be costly and difficult to design and tender, and may not be supported by the government or public.

⁴⁰ Gassner, K. Popov, A. and Pushak, N. (2007) "An Empirical Assessment of Private Sector Participation in Electricity and Water Distribution in Developing and Transition Countries"

Box 12.15: Private Power Operators Saved Governments from Providing Heavy Operating Subsidies

Where private operators took over retail supply, they also drastically reduced payment delays, theft, and unpaid bills (from 30 percent to 12 percent in Buenos Aires, and about the same in Côte d’Ivoire, where assets were not sold but just leased). A lot of the gains that eliminated or reduced the need for subsidies stemmed from better asset management. Typically, in the reformed Latin American power sectors, over a five-year period plant availability increased by 10 percent to 40 percent, the number of customers per employee also decreased by 50 percent, and power outage indicators decreased by more than half. The table below summarizes other performance improvements.

Improvement of Privatized South American Distribution Companies

Item	Peru Luz del Sur	Argentina EDESUR	Argentina EDENOR	Chile Chilectra
Year Privatized	1994	1992	1992	1987
Change in energy sales (%)	+19	+79	+82	+26
Change in energy losses (%)	-50	-68	-63	-70
Change in number of employees (%)	-43	-60	-63	-9
Change in customer per employee (%)	+135	+180	+215	+37
Change in net receivables (days)	-27	-38	—	-68
Change in provisions for bad debts (% of sales)	-65	-35	—	-88

Source: Besant-Jones, J. (2006) *“Reforming Power Utilities in Developing Countries: What Have We Learned?”* Energy and Mining Sector Board Discussion Paper No. 19, Washington, DC: The World Bank, page 34.

Cooperative ownership

Giving citizens ownership of the utility, by structuring it as a cooperative, can create an effective governance structure for the electricity sector, even when such structures are rare elsewhere in the sector or in government. An effective cooperative governance structure means that the electricity provider management is answerable to representatives of customers, as the example of Bangladesh in Box 12.16 below shows.

Box 12.16: Rural Electric Cooperatives in Bangladesh

In 1977, the Rural Electrification Board (REB) was established in Bangladesh, shortly after the Constitution declared rural electrification a “fundamental principle of state policy”. The first *Polli Bidyut Samities* (PBS), or rural electricity cooperative, was established in 1980 in a village in Dhaka. Today, there are 67 PBS in operation, serving 39,684 villages.

The REB is funded by the Government, and provides finances to PBS (as well as technical assistance in development, operation, and maintenance). Each PBS is an autonomous organization. They are overseen by a Board elected by members of the cooperative. Consumers are welcome to participate in the decision-making processes and attend the Annual General Meeting. The REB makes its funding conditional upon each PBS’s performance and has the right to dismiss incompetent or corrupt managers.

The PBSs have proven to be an effective corporate form. Collectively, they are now the largest “agency” in Bangladesh’s power sector, serving about 25 million rural people throughout the country. A quarter of the PBS are profitable, and another half operate on a break-even basis.

Sources: Barkat, A. (not dated) “Rural electric cooperatives in Bangladesh”, United Nations Economic and Social Commission for Asia and the Pacific; and Gulati, M. and Rao M.Y. “Corruption in the Electricity Sector: A Pervasive Scourge” in Campos, J. and Pradhan, S. (2007) *The Many Faces of Corruption: Tackling Vulnerabilities at the Sector Level*, Washington, DC: The World Bank, page 145

Cooperatives have often worked best for simple systems and small service areas. In such areas, consumers can be more directly represented on the provider board, and the board does not need to be large or have a high degree of technical capacity to effectively operate the system. Co-operative performance may be improved through partnerships with more experienced or technically-skilled counterparts. For larger, more complex providers co-operative ownership models are at greater risk from lack of board competence or cohesion. The mixed performance of electricity cooperatives in the Philippines illustrates some of the challenges in the model, as well as desirability of a carefully structured governance arrangement, rather than a simple “majority rule” system.

Provider incentives

Provider incentives to perform well and reduce corruption vary according to provider ownership and management: they are inherently higher for private providers, and lower for public providers.

Privately-owned utilities have “built in” incentives for reducing corruption and poor governance risks—in private utilities, the management team is accountable to the board, which demands profit maximization. In turn, the management team holds other utility staff accountable for limiting costs and achieving required performance standards. This gives the private utility a strong system of incentives to apply effective corporate governance and management controls, which help reduce corruption. The same incentives apply under concession contracts—the private operator is held accountable through the terms of the contract, and has incentives to prevent cost escalation through corruption.

Accordingly, introducing private ownership or operation to a utility can be an effective way to improve performance and probity, as illustrated in Box 12.17 below.

Box 12.17: Outcomes of Power Sector Privatization in Chile and Argentina

In Chile, in the aftermath of privatization power suppliers increased their capacity substantially by more than doubling annual generation from 1990 to 1998. Privatization also increased the productivity of utilities by cutting energy losses by more than half to 8.3 percent in 1997, by doubling labor productivity in distribution, and by tripling energy generation per worker in the largest generating company. Although privatized companies became substantially more efficient, these gains were only transferred to customers in areas under competition. In the main market, the regulated wholesale price of electrical energy fell by 37 percent, and technological change rendered uneconomical a large fraction of existing thermoelectric plants. In contrast, the final price to customers did not fall to reflect the huge productivity gains that were achieved after privatization, since between 1987 and 1998 the regulated price to consumers fell by only 17 percent. This situation led to spectacular increases in the profit rates of distribution companies: the rate of return of the largest distributor rose from 10.4 percent to 35 percent in this period, which is striking considering the low market risks carried by distribution monopolies (Fischer and Serra 2000).

In the case of Argentina, wholesale power prices and unserved demand dropped substantially following market reform. The average energy spot price dropped steadily from around US\$45 per MWh in 1992—the first year of operation—to US\$25 per MWh by 1998 under intense competition among the privatized generators. Retail power prices did not decline as much, however, because contracts between distributors and generators concluded before the parties were privatized. Electricity prices for industrial users declined more than prices for residential users. Similar price trends occurred in other South American countries (Bolivia, Colombia, Peru) that followed the same reform model as Argentina, with wholesale prices dropping by more than retail prices.

Source: Besant-Jones, J. (2006) *“Reforming Power Markets in Developing Countries: What Have We Learned?”* Energy and Mining Sector Board Discussion Paper No 19, Washington, DC: The World Bank, page 32.

Management contracts, however, present a different story. In management contracts, the private operator supplies management services to the utility, but has no ownership stake. Because they have little to lose from the utility’s poor performance (depending on how the management fee is structured), the private management team has few incentives to minimize losses due to corruption or inefficiency. As a result, the incentives to reduce corruption under a management contract will be similar to those for a public utility. Box 12.18 below describes some experiences with management contracts.

Box 12.18: Experience with Management Contracts

The major difficulty with management contracts has been demarcation of responsibilities between owner and manager, and the need for the full support of owners and employees for the arrangement. Experience during the 1990s in the power sectors of developing countries with management contracts and affermage concessions were generally disappointing. Much of this experience was obtained in Sub-Saharan Africa (in Benin, the Democratic Republic of Congo, Ghana, Mali, Rwanda, Senegal, Sierra Leone and Zimbabwe). The contracted service providers invested little risk capital because they faced little incentive to do so under the small performance-related components in their contracts. Similar experience was obtained elsewhere (Bolivia, Lao PDR). Côte d’Ivoire was a notable

success with a 15-year operating concession starting in 1990 that resulted in substantially improved technical and financial performance and service quality which attracted the first IPPs to the region. These improvements could not be sustained, however, once the political and economic conditions in Côte d'Ivoire deteriorated substantially after 2000.

Source: Besant-Jones, J. (2006) "*Reforming Power Markets in Developing Countries: What Have We Learned?*" Energy and Mining Sector Board Discussion Paper No. 19, Washington, DC: The World Bank, page 46

One option for improving incentives is to structure the management fee so that it gives the management team more performance risk. For example, if the contract includes a bonus payment based on achieving reductions of technical losses, this may encourage the private operator to put procedures in place to reduce this form of corruption in the area of connections and commercial operations. As this example indicates, shifting risk to the private operator to increase its incentives is likely to mean paying more, either in the form of bonuses or a higher (but contingent) management fee. However, this additional cost may well be outweighed by the benefits of reducing corruption and inefficiency.

In public utilities, employees' incentives are not directly aligned with the incentives of the company owners. To address such problems, effective utility managers put in place management controls that effectively detect and penalize behavior that harms the utility's performance, and that reward behavior that benefits the utility's performance.

The best approach for improving employee performance and probity in public providers may be to offer some kind of performance pay. This pay may be offered through a well-structured management contract, as in Uganda, or through an alternative or less formal mechanism. For example, in New Zealand the managers of state-owned enterprises, including electricity companies, are paid in accordance with the company's level of profits. A strictly-enforced regulatory regime helps to ensure that any profit increases in the enterprises come from efficiency gains, rather than tariff hikes or drops in service quality.

A similar approach could be to reward utility management for achieving certain service levels. This could be particularly effective where existing service are poor, and where marked service improvements are needed over a set period.

A further option could be to offer other forms of performance-based recognition in place of, or alongside, performance-based pay. For example, benchmarking utilities against others in the country or region may lead to competition to be the best performer, creating incentives for staff to improve probity and efficiency. Similarly, initiating peer review of utility operations or performance levels may lead to reputational pressure to improve.

12.3.3 A trustworthy oversight body

If a provider is to be held accountable for performance, someone needs to monitor that performance. The government has several options to choose from here.

Independent regulatory agencies have been established in many countries. Box 12.19 below describes what is often considered to be best practice in design of a regulatory agency.

Box 12.19: Regulatory Options for Accountability

Separation of regulatory and commercial functions and ensuring independence and

accountability of regulatory institutions should be key elements of any anti-corruption strategy.

Independent Regulatory Regime

Creation of an effective regulatory regime that is independent of the government calls for a major shift in the attitude of the governments that have always wielded a great deal of control over the entire sector either directly or through the utilities they own. The following list enumerates the important features of an independent regulatory regime.

- The regime should be established by law (not by executive decree), with the role of the regulators, the mode of their appointment, service conditions, powers, immunities, and responsibilities defined in law and implemented in a transparent manner.
- The regulatory budget should be independent, and funding should be secure.
- All regulatory procedures (on licensing, tariff setting, grievance redressal, and the like) should be well defined and widely publicized, and the scope of government intervention in regulatory processes should be clearly specified by law.
- All regulatory decisions should be thoroughly explained and made after a transparent and participative process that is open to all stakeholders. Decisions should be subject to appeal before an appellate forum.
- Decisions should be legally enforceable, and penalties should be set for noncompliance with regulatory orders.
- Information on the regulatory regime should be made available to civil society in an easy-to-understand format.
- The rights and obligations of the utility as well as those of the consumers should be clearly spelled out, given wide publicity, rigorously monitored, and firmly enforced.
- Regulatory decisions should be predictable and timely.
- Regulators should be held accountable for their actions, and mechanisms for appealing regulatory decisions should be established.

It needs to be emphasized that the creation of an independent regulatory regime by itself will not have any significant impact on corruption. Several other conditions need to be fulfilled before the regulator can be effective. For example, the government must choose the right persons as regulators, give them sufficient financial autonomy to do their work, and demonstrate a willingness to uphold regulatory decisions even when they are politically inconvenient.

Source: Gulati, M. and Rao M.Y. "Corruption in the Electricity Sector: A Pervasive Scourge" in Campos, J. and Pradhan, S. (2007) *The Many Faces of Corruption: Tackling Vulnerabilities at the Sector Level*, Washington, DC: The World Bank, page 132

Other options include a ministry that monitors and enforces a concession contract. Some countries are adopting intermediate models, as Box 12.20 describes for Vanuatu.

Box 12.20: An Oversight Body in Vanuatu

In Vanuatu electricity services in urban areas are provided by UNELCO—a private firm that is part of the Suez group—under a concession contract with the government. The contract sets the rules for service coverage, tariffs and services standards. For many years the concession contract was enforced by staff of a designated ministry, and more recently by an 'Energy Unit' whose main focus was rural electrification. The Vanuatu government became concerned that the Unit lacked the specialized expertise necessary to monitor and enforce performance under the concession contract. The Government is now creating a

special regulatory agency that it hopes will be more effective. However, unlike a traditional regulator in the British or American model, this agency's powers will be largely limited to enforcing the contract.

Government-owned providers can be monitored in a variety of ways. One option is independent regulation of public providers. This can provide checks and balances. For example, in Belize the government-owned power utility is regulated by a Public Utilities Commission, while in Trinidad the state-owned power utility is regulated by the Regulated Industries Commission. Box 14.4 gives an example of how independent regulatory scrutiny of public utilities can improve decision-making.

Another is for the Board of a public utility to monitor the management team. The publicly appointed board could, for example, put the utility management team on a performance contract, and use this contract to incentivize improved performance in the public utility.

Whatever option is chosen should be robust to the inherent problems of performance based management in the public sector, such as the difficulties governments may have in rewarding or sanctioning public sector employees, and the challenges in creating truly arms-length relationships between two public sector entities—the provider, and the body monitoring the provider's performance.

12.3.4 Disaggregation and competition to promote accountability

As discussed in Section 8, many countries have introduced competition into their electricity markets in an effort to improve performance. Such pro-competition reforms are based on the insight that while transmission and distribution are natural monopolies, generation is potentially competitive. This section looks at the relationship between competition in the electricity market, governance, and corruption, by

- Describing common models for introducing competition into the power market
- Discussing the potential for competition to increase probity and governance
- Outlining the additional risks for probity and governance that competitive market reforms can create, and how these risks can be mitigated.

Common models for competition in electricity

There are many ways to introduce competition into electricity markets, but they can be distilled into two main types:

- **Single buyer models.** A government-owned entity (for example, the national transmission company) sources new generating capacity to meet the nation's needs by soliciting offers from independent power providers
- **Wholesale market models.** Multiple profit-motivated generators compete with each other to sell power to distributors and large customers, with trades taking place in a specially designed 'electricity wholesale market' which works a bit like a stock-exchange for power. Power is usually traded in real time, and there are usually also longer-term contracts that help the generators and buyers manage the risk of short-term price fluctuations. Because transactions in the wholesale market determine plant dispatch, which must happen in real time (since electricity can't be stored), these markets are usually highly complicated and closely interlinked

with the systems operation function (that is, the central entity that tells power plants how much to generate when, and cuts off load in the event that demand for power exceeds the amount capable of being physically generated at any time).

These types are explained in more detail—and contrasted with non-competitive models—in Section 8. A good introduction to the types of power markets, and when to use which type in developing countries, is Besant-Jones (2006), especially sections three and five. This and other references are in the Source List at the end of this chapter.

The good governance rationale for competition in electricity

Competition can help overcome one of the biggest governance problems in the electricity sector, namely the difficulty in really assessing the performance of generation plant operators.

Where there is a monopoly generator (such as a traditional vertically-integrated utility), outsiders cannot tell whether generation is being done efficiently. Generating power is a highly technical and complicated job, with many local idiosyncrasies that can make reasonable costs differ from place to place. As a result, regulators, governments and the public may observe that the cost of generation is high, but will find it hard to tell whether that is because the utility managers have made bad or corrupt choices—bought the wrong kind of equipment, paid too much for fuel, and so on—or because of factors outside management control. Managers will always be able to advance reasons for high costs or poor performance, whether it be that lack of fuel handling facilities mean they are at the mercy of one supplier, or failure of government to approve finance for generation in time has meant that they always need to build the plant that can be ready most quickly, instead of planning ahead and choosing the least cost technology. In many cases these excuses are valid, while in other cases they cover up corruption.

Asking multiple independent firms to compete to supply power goes a long way to resolving these questions, by creating competition. If one firm offers to supply power at a lower price than another firm, it generally shows that the lower-priced firm has a management team that has done a better job of overcoming the local problems and making the right choices on technology, fuel supply, and so on. Outsiders no longer need to evaluate complex arguments and excuses—they simply observe who offers the lowest price, and choose that supplier. This can be a powerful way to discourage corruption, since corrupt suppliers will generally have higher costs than non-corrupt suppliers (in order to cover the costs of the kickbacks), and so in a competition, corrupt suppliers will lose, and non-corrupt suppliers will be chosen.

Single buyer model

The simplest way to get competition in generation is to procure energy and capacity under competitively bid long-term power purchase agreements. This is the single buyer model.

An effective single buyer can promote good governance in the generation sector by

- Developing an effective least cost expansion plan for generation and associated transmission
- Procuring generation capacity in line with the least cost plan, and following the recommendations for procuring power under power purchase agreements

- Ensuring that the single buyer is itself well governed, using the techniques of provider autonomy and accountability.

The Achilles heel of using a single buyer to improve governance in the electricity sector is the governance of the single buyer itself. While some single buyers such as EGAT in Thailand have developed a reputation for probity and efficient processes, the inherent problems of governance in government agencies can also apply to single buyers, as Box 12.21 illustrates.

Box 12.21: The Role of the Single Buyer Model in Eastern European Power Markets

Russia and Ukraine have operated their wholesale electricity markets on a modified single buyer basis.⁴¹ Under this basis, no direct contractual link exists between the generators and distributors. Generators sell electricity at regulated prices, and the wholesale market entity supplies distribution utilities at the pooled average wholesale market prices.

This kind of arrangement lends itself to abuses. When supply is less than demand in the market, the wholesale market entity can be pressured by government to allocate power to favored large users and distributors, instead of following the agreed algorithm. Likewise, when the demand is below available supply, the wholesale market entity can be pressured to allocate demand to favored generators, such as the coal-fired plants (to appease the strong mining lobby). It can also be pressured to allocate demand among all generators to ensure that every plant is kept working and employment in the plants is sustained, so that uncompetitive plants are not faced with bankruptcy. These practices distort least-cost dispatch by partial loading of the thermal plants that reduces efficiency and increases fuel consumption.

Further, in an environment of extensive nonpayment, where the wholesale market is unable to collect dues from the distribution utilities and settle the dues of the generating companies, it has linked distributors to generators arbitrarily for purposes of payment. Such arbitrariness can lead to corrupt practices. Instead, direct bilateral contracting and settlement should be allowed between the distribution utilities and the generators.

Source: Besant-Jones (2006) “*Reforming Power Markets in Developing Countries: What Have We Learned?*” Energy and Mining Sector Board Discussion Paper No. 19, Washington, DC: The World Bank

Competitive wholesale markets

Competitive wholesale markets have the advantage of cutting out a government procurement agency—the single buyer—and replacing it with direct transactions between generators and large customers and distributors. As Box 12.22 illustrates, the strict rules of an organized wholesale power market can increase probity in transactions between generators and distributors.

Box 12.22: OPCOM Power Exchange Improving Governance of Public Utilities in Romania

⁴¹ In the case of the Ukraine, the modified single buyer model was introduced after the failure of the wholesale market described in Box 13.2 (in next section)

The Power Exchange operated by OPCOM, the electricity market operator in Romania, provides a benchmark for the regional electricity market in Southeast Europe. In addition, it provides a tool to improve governance of public sector generators and to address “second-generation” issues in power sector reform emerging from market liberalization.

In the late 1990s, the Romanian power sector was restructured through unbundling of the vertically integrated power company RENEL into separate generation, transmission, and distribution companies. An independent power sector regulator, ANRE, was established in 1998. Distribution has been organized into eight regional companies. Transelectrica is in charge of transmission and system operations, and its fully owned subsidiary OPCOM is the electricity market operator. As of 2006, five of the eight electricity distribution companies have been privatized and the remaining three were expected to be offered for sale in 2007.

Market liberalization started in 2000 and has now reached 83 percent, with all but residential consumers now having the freedom to choose their electricity supplier. Within the liberalized market, eligible consumers and suppliers are free to enter into bilateral contracts for the supply of electricity. In July 2005, OPCOM launched a day-ahead market based on demand and supply side bids, followed by centralized auction of bilateral contracts in December 2005.

The government, ANRE, and the electricity companies addressed a number of major issues through the reform process. But market liberalization raised a new issue about the way public sector generators executed bilateral contracts. Prices in some of the bilateral contracts were allegedly set below true market value, and corruption was alleged in the case of bilateral contracts with some government-owned generation companies. In response, the top managers of two companies were dismissed and the government required public sector generators to use OPCOM’s competitive auction for bilateral contracts. OPCOM’s Power Exchange thus not only facilitates electricity trading but also provides a tool to improve governance of public sector generators.

Source: Gulati, M. and Rao M.Y. “Corruption in the Electricity Sector: A Pervasive Scourge” in Campos, J. and Pradhan, S. (2007) *The Many Faces of Corruption: Tackling Vulnerabilities at the Sector Level*, Washington, DC: The World Bank, page 132

A further advantage of competitive wholesale markets is that—if they work well—they can greatly reduce the need for government planning in power generation. Reducing the role of the public sector will generally reduce the scope for corruption, since corruption only occurs where government funds or discretionary decisions are in play.

The advantages of competition in increasing efficiency (and by implication reducing corruption) have been confirmed by econometric studies, including Zhang, Parker and Kirkpatrick (2002) that “introducing competition is effective in improving performance ... [by bringing] about favorable results for service penetration, capacity expansion, labor efficiency, and prices to industrial users”.⁴²

Governance risks in competitive wholesale markets, and how to mitigate them

Despite their advantages, competitive wholesale markets bring a number of risks. Chief among them are:

⁴² Besant-Jones, J. (2006) *Reforming Power Markets in Developing Countries: What Have We Learned?*, Energy and Mining Sector Board Discussion Paper No. 19, Washington, DC: The World Bank

- **Failure to implement the market.** Competitive markets in power are technical and demanding. Market transactions replace the command and control systems that previously managed the complex and interlinked decisions required to keep a power system operating. All participants in the market must be financially viable and commercially competent if the market is to work, as the failure of Ukraine's attempt to create a UK-style power pool illustrates (see Box 13.2). A comprehensive review of power market reforms set out the conditions which should apply before attempting to create a competitive wholesale market
- **Problems in long-term contracting.** As outlined in Section 8, many competitive market designs involve transparent and efficient spot markets, but these need to be complemented with longer term contract markets (sometimes known as hedge-markets). The longer-term contract markets are often murky, non-transparent and illiquid, creating opportunities for corruption in cases where one of the parties to the contract is publicly owned
- **Failure of the market to deliver policy objectives.** Wholesale markets may work well for a while, but then fail to deliver the public policy outcomes intended. For example, the wholesale market in California was expected to deliver secure electricity supplies at lower prices. Instead, prices spiked and physical shortages of power led to power cuts (see Box 8.4). The resulting crisis involved the State of California in large and unorthodox financial transactions that increased opportunities for corruption. Similarly, after low hydro-inflows led to power-rationing in New Zealand, the government lost faith in that country's energy-only wholesale power market to deliver the necessary security of supply. An Electricity Commission was rapidly created and made subject to Ministerial control. The Commission then negotiated a 'reserve energy contract' with Contact Energy, a private power utility. The sense of urgency and crisis was used to justify a non-competitive, non-transparent deal. While New Zealand is generally ranked as one of the least corrupt countries in the world, transactions of this type increase the risk of corruption in any power sector.

The lesson seems to be that while competitive market models have the potential to improve governance, they are also high risk, in that their complexity and unpredictability may lead to failures and crises that in fact worsen governance in the sector, at least for a time.

Source List 12.1: Reforming Electricity Sector Governance to Promote Probity

Source	Description
<i>Improving Governance and Increasing Probity Overall</i>	
<p>Barkat, A. (not dated) <u><i>"Rural electric cooperatives in Bangladesh"</i></u>, United Nations Economic and Social Commission for Asia and the Pacific</p>	<p>This paper reports on Bangladesh's experience with rural electric cooperatives (summarized in Box 12.16).⁶¹</p>
<p>Besant-Jones, J. (2006) <u><i>"Reforming Power Markets in Developing Countries: What Have We Learned?"</i></u> Energy and Mining Sector Board Discussion Paper No. 19, Washington, DC: The World Bank</p>	<p>This paper focuses on disaggregation, privatization, and competition in reforming power markets in the developing world. It usefully summarizes over 240 references. Section 4 focuses on enterprise restructuring and corporate governance, Section 5 on market structure and governance, and Section 6 on the regulation of power markets.⁶²</p>
<p>Gulati, M. and Rao M.Y. "Corruption in the Electricity Sector: A Pervasive Scourge" in Campos, J. and Pradhan, S. (2007) <i>The Many Faces of Corruption: Tackling Vulnerabilities at the Sector Level</i>", Washington, DC: The World Bank, page 132</p>	<p>Beginning on page 134 of this chapter in <i>The Many Faces of Corruption</i>, the authors discuss methods for combating corruption, and in particular, how to tackle the damaging acceptance of corruption as a way of doing business.</p>

Source	Description
<p>Irwin, T. and Yamamoto, C. (2004) <i>“Some Options for Improving the Governance of State-Owned Electricity Utilities”</i> Energy and Mining Sector Board Discussion Paper No 11, Washington, DC: The World Bank</p>	<p>Although privatization was a favored means of improving utility performance for many years, many governments in developing countries are now choosing not to privatize their electricity utilities. This is in part because privatization is often controversial, and in part because large international firms are increasingly viewing electricity utilities in developing countries as risky investments, making successful privatization difficult. Accordingly, this paper reviews alternative options that governments have for improving the performance of state-owned utilities. It outlines general changes in corporate governance that are necessary for performance improvement, and discusses why such changes can be difficult to achieve. The paper examines practice in four countries in which the government is a major owner of electricity companies—Mexico, New Zealand, the Philippines, and South Africa—and reviews some of the available empirical evidence on the success of reforms in various countries.</p>
<p>McCotter, B. (2005) <i>“Best Practices in Consumer Services”</i>, USAID</p>	<p>This paper, prepared for the USAID, is a best practice guide on consumer services, based around three cases studies:</p> <ul style="list-style-type: none"> ▪ The Commission for Energy Regulation of Ireland ▪ Karnataka Energy Regulatory Commission, India ▪ Office of Utility Regulators of Jamaica.
<p>Shah (2006) <i>Local Governance in Developing Countries</i>, Washington, DC: The World Bank</p>	<p>Chapter 1 provides an excellent description of how decentralized democratic accountability mechanisms should work in municipal services, using a sophisticated governance and accountability framework similar to that developed in this Sourcebook.</p>
<p><i>“Public and Private Sector Roles in the Supply of Electricity Services”</i> (not dated) World Bank</p>	<p>This note provides operational guidance specifically aimed at World Bank staff, but is applicable by a range of sector practitioners. The note discusses various private sector participation and private-public partnership options that can be used to successfully improve electricity sector performance, comparing the country contexts and reform objectives to which each option would be best suited</p>
<p>World Development Report 2004: Making Services Work for Poor People, Washington, DC: The World Bank</p>	<p>Chapter 5 of this World Development Report—“Citizens and Politicians”—is a good overview of government accountability to citizens for providing public services.⁶³</p>
<p><i>Empowering Citizens</i></p>	

Source	Description
<p>Muzzini, E. “Consumer participation in Infrastructure regulation: Evidence from the East Asia and Pacific Region”, Washington, DC: World Bank Working Paper No. 66</p>	<p>Reviews infrastructure regulation in the East-Asia Pacific region to determine if the current institutional arrangements enable effective consumer participation, whether regulators are effective in engaging consumers, whether consumers and other stakeholders are regularly engaged in (and relied on) for the regulatory process, and whether the poor are given a voice. Uses data collected from a survey of regulators to conclude that consumer participation is well-established in the region, but mostly involves informing consumers, rather than actively involving them in decisions. Recommends further regulatory development to increase consumer participation.</p>
<p>Nakhooda, S. et al (2007) <u>“Empowering People: A Governance Analysis of Electricity”</u>World Resources Institute</p>	<p>This report is based on an Electricity Governance Initiative assessment in Asia. It argues that greater attention should be paid to institutions, processes, and actors that determine how decisions are made.⁶⁴</p>
<p>Palast, G., Oppenheim, J. and MacGregor, T. (2003) “Democracy and Regulation: How the Public can Govern Essential Services”, London: Pluto Press</p>	<p>This book, based on work for the United Nations International Labor Office, is a basic guide to how public services are regulated in the United States. Since Americans pay surprisingly little for high quality services, this book explains how decisions are made by public debate in a public forum, investment and profits of private companies are capped, and utilities are forced to reduce prices for the poor, fund environmental investment, and open themselves to financial inspection.</p>
<p><u>“Social Accountability Sourcebook”</u> (2005) The World Bank</p>	<p>Increasing community awareness and political motivation can work to strengthen governance systems at both a system-wide and local level. This can be achieved by increasing the demand for accountability and probity and a community’s responsiveness to information on whether or not these demands are being met. The Social Accountability Sourcebook provides a conceptual chapter about social accountability, describes the most frequently used social accountability tools approaches (such as participatory budgeting and citizens report cards), presents a series of case studies in different regions, and a list of materials for further learning.⁶⁵</p>
<p><i>Ways of holding providers accountable</i></p>	

Source	Description
<p>Andres, L., Guasch, J., and Azumendi, S. (2008) <u><i>“Regulatory Governance and Sector Performance: Methodology and Evaluation for Electricity Distribution in Latin America”</i></u>; Policy Research Working Paper 4494, Washington, DC: The World Bank</p>	<p>This paper explores the relationships between regulatory governance and sector performance. It uses the World Bank Performance Database—which contains detailed annual data for 250 private and public electricity companies in Latin America and the Caribbean—and the Electricity Regulatory Governance Database—which contains data on aspects of governance of utilities in the same region. The findings of this study suggest that the very existence of a regulatory agency has a big impact on a utilities performance, and that the governance of the regulatory agencies is also key to good performance of utilities.⁶⁶</p>
<p>Argawal, M. <i>et al</i> (2003) <u><i>“The Delhi Electricity Discom Privatizations: Some Observations and Recommendations for Future Privatizations in India and Elsewhere”</i></u>; Energy and Mining Sector Board Discussion Paper Series No. 8, Washington, DC: The World Bank</p>	<p>In July 2002, the Government of New Delhi, India, privatized the distribution operations of the metropolitan electricity utility. This paper discusses how the privatization was carried out, and comments on some of the key features of the bidding process. For example, bidders had to propose a performance improvement trajectory for the first five years of operations, which increased transparency in the transaction and set a clear benchmark against which consumers and the government could hold the utility accountable. The paper describes the regulatory context for the transaction, and contrasts it with the experience in Orissa, which was less successful.⁶⁷</p>
<p>Bakovic, T., Tenenbaum, B. and Woolf, F. <u><i>“Regulation by Contract: A New Way to Privatize Electricity Distribution?”</i></u> Working Paper No 14, Washington, DC: The World Bank</p>	<p>This paper examines if regulation by contract (or a combination of regulation by contract and regulatory independence) provides a better regulatory framework for developing countries that want to privatize all or some of their distribution system.⁶⁸ Specifically, it:</p> <ul style="list-style-type: none"> ▪ Describes how regulation by contract has been carried out in developing countries ▪ Analyzes how these regulatory contracts have been able (or not) to handle specific critical issues ▪ Describes the strengths and weaknesses of various forms of dealing with disputes, and ▪ Compares recent experiences in Latin America and India.

Source	Description
<p>Brown, A, Stern, J., Tenebaum, B. and Gencer, D. (2006) <i>Handbook for Evaluating Infrastructure Regulatory Systems</i>, Washington, DC: the World Bank</p>	<p>This book describes a framework for evaluating the performance of infrastructure regulators. The results of such evaluation should feedback into regulatory design, identifying lessons learned and a path for further regulatory reform. Many regulatory regimes do not achieve their original objectives; but, once they are in place, governments may be resistant to changing them. The handbook sets out “quick”, “mid-level” and “in-depth” evaluation strategies for governments and sector practitioners to use when assessing the effectiveness of regulatory regimes. It describes how different regulatory regimes can be more effective in different circumstances, and the role that “transitional” models can play in moving regulation from the current practice towards a more ideal model.</p>
<p>Eberhard, A. (2007) <i>“Infrastructure Regulation in Developing Countries: an Exploration of Hybrid and Transitional Models”</i> PPIAF Working Paper No. 4</p>	<p>This paper explores the various types of regulatory models that can be used to, amongst other things, hold service providers accountable. First, it explores the challenges involved in making service providers accountable in developing countries. It then describes a wide range of regulatory models—for instance, regulation by government, independent regulation, outsourcing regulatory functions, advisory regulators and expert panels, and other hybrid and transitional models—and what can be expected to be achieved by these.</p>
<p>Eberhard, A. (2006) <i>“The Independence and Accountability of Africa’s Infrastructure Regulators; Reassessing Regulatory Design and Performance”</i> University of Cape Town, South Africa</p>	<p>This paper reviews how effective the African Forum for Utility Regulators (AFUR) has been in its first five years of existence. It examines how the (relatively) new regulators in Africa have evolved, and the different types of regulatory models that have been adopted. Whilst the focus of this paper is mostly on creating a balance between independence and accountability for independent regulators, it also paper provides anecdotal evidence of what has worked and what hasn’t, including the options—other than independent regulators—that have been successful in improving provider accountability in the region.⁶⁹</p>
<p>Ehrhardt, D. and Oliver, C. (2007) <i>“Big Challenges, Small States”</i>, PPIAF Gridlines, Washington, DC</p>	<p>This Gridline discusses regulatory options to overcome infrastructure constraints on small islands. It discusses how small islands have used a wide spectrum of models for introducing private participation in infrastructure (including investor-owned utilities, joint ownership, concession, and BOT arrangements). It describes regulatory options available to countries with limited expertise and resources that can improve accountability to consumers.</p>

Source	Description
<p>Gassner, K, Popov, A. and Pushak, N. (2007) <i>“An Empirical Assessment of Private Sector Participation in Electricity and Water Distribution in Developing and Transition Countries”</i>, the World Bank</p>	<p>This paper analyzed 302 water and electricity utilities with private participation and 928 utilities without private participation in 71 developing and transition countries. It found that private participation increased the efficiency of the utility and describes some of the increases in autonomy and accountability.</p>
<p>Gilbert, R. (ed) (1996) <i>“International Comparisons of Electricity Regulation”</i>, Cambridge: Cambridge University Press</p>	<p>A comprehensive assembly of the historical, institutional, and economic forces affecting electricity regulation. Chapters cover case studies from England, Argentina, Brazil, Uruguay, Chile, Scandinavia, US, Japan, Germany, New Zealand, Canada, France, and Yugoslavia</p>
<p>Gulati, M. and Rao M.Y. (2007) <i>“Corruption in the Electricity Sector: A Pervasive Scourge”</i> in Campos, J. and Pradhan, S. (2007) <i>The Many Faces of Corruption: Tackling Vulnerabilities at the Sector Level”</i>, Washington, DC: The World Bank, page 152</p>	<p>Includes a detailed case study of the Bangladesh rural cooperatives outlined in Box 12.16 on page 183.</p>
<p>Kerf, M. (1998) <i>“Concessions for Infrastructure: A Guide to their Design and Award”</i>, Washington, DC: the World Bank</p>	<p>Typically, concession contracts are used to introduce private sector participation into infrastructure. This toolkit intends to help policymakers (and their advisors) better understand the many important and difficult issues relating to the design, award, implementation, monitoring, and financing of concessions. It explains the rationale behind concession contracts, compares different type of concession, and how these contracts can improve service provider accountability.⁷⁰</p>

Source	Description
<p>Laffont, J.(2005) <i>“Regulation and Development”</i> Cambridge: Cambridge University Press.</p>	<p>This book focuses on the constraints involved in regulating in less-developed countries, analyzing different approaches for overcoming these constraints. The author demonstrates the positive effects that privatization can have on service delivery, but cautions that governments in less-developed countries often have limited power to enforce contracts with private providers. The author proposes a formula for calculating optimal expenditure on strengthening regulatory enforcement. The book also covers optimal pathways for sector liberalization and regulatory development.</p>
<p>Nahkooda, S. <i>et al</i> (2007) <u>“Empowering People: A Governance Analysis of Electricity”</u>, World Resources Institute</p>	<p>This report is based on an Electricity Governance Initiative assessment in Asia. It argues that greater attention should be paid to institutions, processes, and actors that determine how decisions are made. Chapter 4 (beginning on page 43) discusses the regulatory process, and makes suggestions for balancing stakeholders and aligning interests.⁷¹</p>
<p>Prayas Energy Group (2002) <u>Assessment of Electricity Regulators in India</u></p>	<p>This paper is a detailed assessment of 13 electricity sector regulatory in India. It is based on detailed surveys and studies that evaluated the transparency, resources, and public participation in the Indian regulatory process.⁷²</p>
<p>Raab, J.(1994) <i>“Using Consensus Building to Improve Utility Regulation”</i> American Council for an Energy-Efficient Economy</p>	<p>This book outlines the change in thinking on utility regulation, in what it describes as “the decline of consensus”. It offers a structure for analyzing and evaluating the successes and failures of different regulatory traditions, through detailed analysis of four regulatory cases:</p> <ul style="list-style-type: none"> ▪ The Pilgrim nuclear power plant outage settlement ▪ The use of DSM collaborative ▪ The New Jersey resource bidding policy, and ▪ The formation of integrated resource management rules in Massachusetts.
<p>Shah, A. (ed.) (2007) <i>“Performance Accountability and Combating Corruption”</i> Washington, DC: the World Bank</p>	<p>Explanations of how to institutionalize performance-based accountability systems (especially where accountability systems are lacking). Topics covered include:</p> <ul style="list-style-type: none"> ▪ Designing and sequencing public management reforms ▪ Introducing e-government ▪ Setting goals linked to performance-based budgeting ▪ Engaging citizens to create a system of good governance. <p>It also analyzes different legal, policy and institutional frameworks for supporting accountability and combating corruption. Attention is focused on improved auditing as an important tool for detecting and deterring fraud. Throughout the book there are many boxes with useful case studies of rules or policies that have improved accountability and reduced corruption.</p>

Source	Description
<p>Shirley, M. (1998) <i>“Bureaucrats in Business: The Roles of Privatization versus Corporatization in State-Owned Enterprise Reform” World Development</i> 27(1):115.</p>	<p>This article draws from a sample of 12 developing countries that have improved the performance of their state-owned enterprises (SOEs). The article concludes that the best performance improvements occur when broader ownership and other sector reforms are rolled out alongside the SOE reforms. The article also notes that political commitment is a key factor behind the success of both privatization and corporatization.</p>
<p>Body of Knowledge on Utility Regulation, World Bank</p>	<p>This website was created and is maintained by the Public Private Infrastructure Advisory Facility, the World Bank, and the University of Florida’s Public Utility Research Center. It contains comprehensive information on utility regulation, including the principles, best practices, and case studies. The website is divided into eight sections: introduction, overview, general concepts, market structure, financial analysis, incentive regulation, tariff design, social and environmental quality, information issues, and regulatory processes. Each section has a narrative, a list of references, and a self-testing option.⁷³</p>
<p>World Bank (2002) <i>“Bureaucrats in Business: The Economics and Politics of Government Ownership”</i> A World Bank Policy Research Report, Washington, DC</p>	<p>This report examines the economic problems that arise when governments own and operate enterprises that could be managed by the private sector. It draws on a rich database and detailed country case studies to provide the most comprehensive assessment yet of a decade of divestiture and reform of state-owned enterprises. It evaluates the experiences of 12 countries, some of which have reformed successfully, and some which did not.</p>
<p><i>Competitive Reforms for Good Governance</i></p>	
<p>Barker, J., Tenenbaum, B. and Woolf, F. (1997) <i>“Governance and Regulation of Power Pools and System Operators: An International Comparison”</i>, Technical Paper No 382, Washington, DC: The World Bank</p>	<p>This document is a comparison of the governance and regulatory arrangements of four power pools (England and Wales, Victoria (Australia), Alberta (Canada), and Scandinavia). All have “new style” power pools intended to maximize competition in generation. It describes the regulatory framework needed to establish competitive markets by supporting competition and ensuring that the pool and grid operators have the necessary operational control and enforcement powers.</p>

Source	Description
<p>Besant-Jones, J. (2006) <i>“Reforming Power Markets in Developing Countries: What Have We Learned?”</i> Energy and Mining Sector Board Discussion Paper No 19, Washington, DC: The World Bank</p>	<p>A box on OGN’s Guidance on Power Market Structure (on page 59 of this document) provides guidance on creating competitive market structures and a box on OGN’s Guidance on Regulation of Power Markets (page 79) provides useful guidance on the design of regulatory frameworks for electricity.</p>
<p>Muller, M., Simpson, R. and van Ginneken, M. (2008) <i>Ways to Improve Water Services by Making Utilities More Accountable to their Users: A Review</i>, World Bank, Water Sector Board</p>	<p>Water and sanitation services in developing countries are mostly provided by poorly regulated municipally owned service providers. This paper attempts to review why users’ priorities and preferences are not taken into account, and to help those who work in an with water utilities, as well as organized user, regulators, and policymakers to improve the quality of service by making service providers more accountable to the people they serve. It provides many “tools for accountability” that are relevant to the electricity sector as well.</p>
<p>The Smartest Guys in the Room (documentary, 2005)</p>	<p>This 2005 documentary chronicles the fall of Enron, drawing on insider interviews. See Box 8.4 for more information on the California power crisis.</p>