

APPENDIX

COUNTRY PROFILES

This Appendix describes the process of restructuring and the practices that have been implemented to promote private sector investment and competition in four countries:

- Philippines
- Malaysia
- Argentina
- Victoria, Australia

These countries were chosen because they are representative of those that have fully unbundled their power sectors (Victoria and Argentina) and those that have only partially done so (the Philippines and Malaysia). Moreover, all of these countries provide examples of some best practices and second-best practices that can be instructive to the Asian Development Bank (ADB) developing member countries (DMC5).

In addition, there are ways to gauge the progress of different countries towards a fully restructured power sector, even if it is difficult to precisely measure it. Figure Al .1 demonstrates the different levels of progress in power sector restructuring in various countries, and provides an indication, though imprecise, of the country's progress towards a competitive market. First, the vertical axis shows the present degree of private sector ownership *allowed* in the country. This is an indication of the government's *willingness* to utilize private sector investment, even if full privatization has not yet been realized.

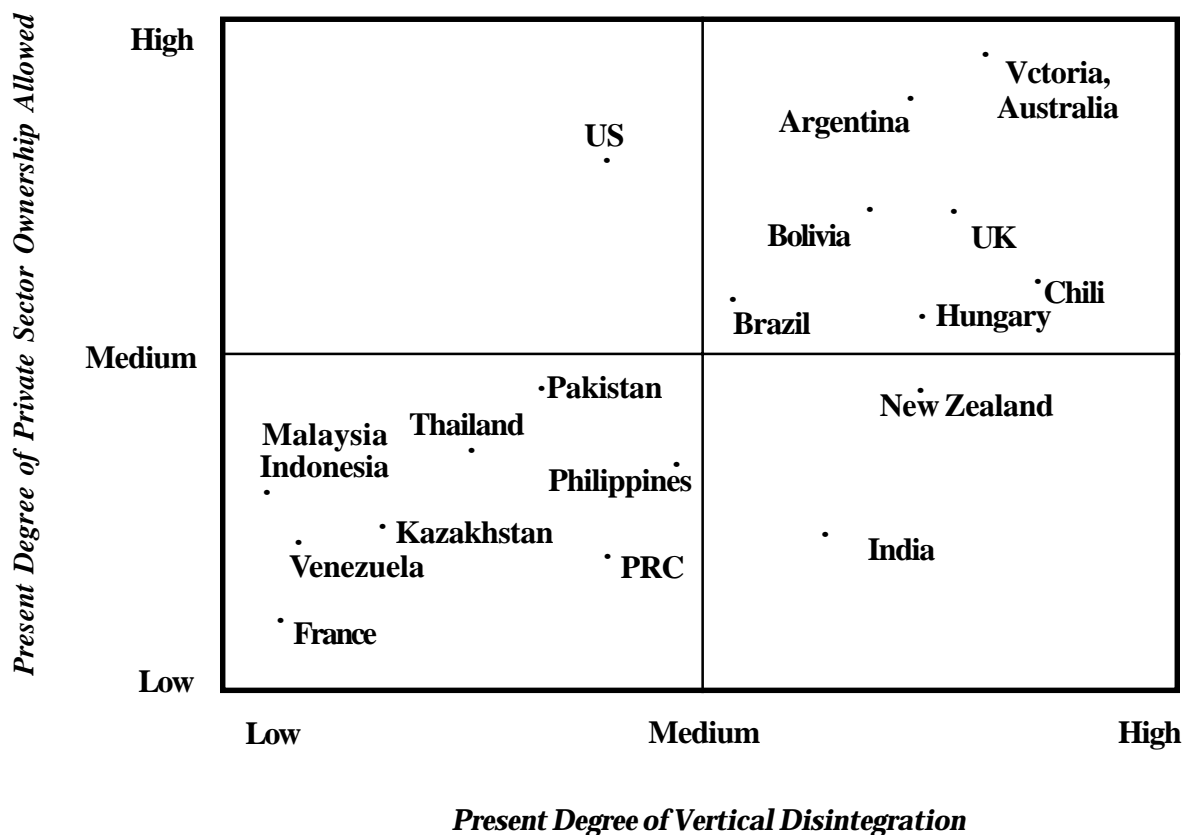
For example, the government in Argentina has made a policy decision to divest much of the generation, transmission and distribution (T&D) segments of the power sector, and has already sold much of it, so Argentina is placed high on the chart by this measure. Indonesia, which has to date allowed private sector participation (PSP) in the generation sector only, is ranked towards the lower end of the scale, and France, which is completely bundled, is at the bottom.

The horizontal axis reflects the present degree of vertical dis-integration or unbundling. As discussed elsewhere in this report, unbundling is one of the key practices or precursors leading to the potential for investment and competition in the power sector. Those countries in which the segments of generation, transmission, and distribution have been separated into different organizations are ranked higher on the scale than those that have not been unbundled.

For example, Chile and the United Kingdom have completely separated the various industry segments; while in the People's Republic of China (PRC), most of the provincial utilities are fully integrated, except for some national power plants, so PRC is further to the left on this scale. Similarly, in Pakistan, even though one of the two major state electrical companies is being sold to investors, most segments of the power industry have not yet been unbundled and so the power sector remains a largely vertically integrated one.

While the measurements along these axes are judgmental, it is in general true that the further a country is located towards the upper right hand corner of the chart, the more unbundled and potentially competitive is the country's power market.

Figure A1.1: Status of International Power Restructuring



A. Philippines

The Philippines is an example of a number of best practices in encouraging private sector investment — more than for most developing countries. At the same time, the picture is clouded by a number of questionable policies and practices that threaten to obviate the numerous strides that the Philippines has made since initiating its Independent Power Producer (IPP) program early this decade. This is a perilous time for the cause of promoting competition in the power sector in the Philippines.

1. Private Sector Investment

By any measure, the Philippines has been successful in attracting private sector investment into the generation part of the power sector, as IPPs now account for 27 percent of installed capacity, and have been financed using a broad combination of equity, bank financing, and bonds:

- To date, eleven IPPs totaling 2,700 megawatt (MW) are on-line, and eight projects totaling 1,800 MW have been awarded to private firms under leases and rehabilitation contracts.

- Six projects totaling 1,800 MW are awarded, including the 1,200 MW Ilijan project; Korean Electric Power Company was third-lowest bidder, but won since it requested only a partial government guarantee.
- The Philippine National Oil Company planned to sell 60 percent of its 1,445 MW of geothermal projects, but this sale was postponed in the third quarter of 1997.
- Plans to sell 6,060 MW of generation now owned by National Power Corporation (NPC) were progressing, but the impetus for the sale requires the passage of legislation (see below). However, several hydro plants (e.g., Bakun) have recently been sold to private investors.
- ADB and World Bank are no longer providing financing for power generation projects because supplies are adequate, and the private sector is strong enough to provide alternate sources of funding.
- In the long term, the Department of Energy (DOE) estimated last fall that 79,160 MW will be needed between 2005 and 2025 and will be available to the private sector (this forecast is being revised downward in light of the Asian financial crisis).

However, nearly all of the contracts to date (except the small diesel projects whose prices are tied to NPC's) guarantee the price and the sale of power from a single seller to a single buyer over a long period (at least 10 years), especially those signed during the energy crisis of the early 1990s. Though these projects constitute real private investment, and they have mobilized capital and efficient power plants that might have been difficult for the public sector to provide, this form of contract cannot be considered competitive. Wholesale prices for power from these IPPs, while they have come down over time, are generally not at the level that would likely be achieved in a fully competitive market, with a wholesale power exchange (PX), and they expose the government to foreign exchange risk. Developers have been competing for projects, but not yet for the market. The Philippines needs to move away from the long-term power purchase agreement (PPA) model of attracting investment in the power sector to realize further gains.

As part of its reform efforts, the Government is no longer signing rehabilitate-operate-lease, rehabilitate-operate-maintain, or build-operate-transfer (BOT) contracts. However, the BOT framework is still available for development of hydro projects and large thermal projects. Moreover, the Government is no longer granting early completion bonuses. Developers are accepting increased risk as the Department of Finance is reducing the Government's role in providing guarantees.

2. Regulatory and Legislative Issues

In the regulatory arena, Philippines has arguably one of the better regulatory and political systems for promoting a viable power sector that involves the private sector of any developing country in Asia. While not perfect, the Energy Regulatory Board (ERB), DOE, and the legislature have successfully fostered investment in the power sector by utilizing some very good practices. For example, together they have:

- Passed legislation (E.O. 215) authorizing investment in the power sector; and developed detailed regulations to implement this commitment.

- Overseen solicitations for developing new power plants, and rehabilitating existing ones; and reviewed and approved the RFP results.
- Regulated the wholesale rates of NPC and the IPPs, and the retail rates of 119 cooperatives, and about a dozen private and municipal utilities using cost-of-service principles.
- Required NPC to file rates for providing open access to the transmission system.
- Sponsored several studies to design the ideal structure of the power industry.
- Reduced or removed many wholesale and retail rate subsidies and cross-subsidies (though they still exist), giving the Philippines the highest power rates in Asia next to Japan's, and sending fairly realistic price signals to those involved in the market.
- Through "anti-pilferage" legislation, established stringent standards for distribution losses that mandate a declining level of losses through the year 2000. These standards are different for private companies and for cooperatives (standards are more strict for private companies). If losses are above these levels, then the utilities are not allowed to collect those amounts in rates. This same legislation establishes high fines for those caught stealing power.
- Established stringent technical and financial operations standards for distribution companies that can be used to score the utility on an objective scale.
- Fostered the growth of over 70 economic zones (Philippine Economic Zone Authorities), some of which utilize several hundred megawatts, which can compete with NPC generation and local distribution companies to serve the customers within specific areas.

At the same time, investors in the Philippines have complained about changes in the Government's policy regarding investment. The Government has, on several occasions, been accused of changing its decision on contract awards after the announcement of the winning bid. The court system offers no relief from this confusion, and has often interfered in business and economic decisions.

The major challenge now facing the Philippines is to make its power system a competitive one, at both the generation and distribution levels, and the major vehicle to initiate this process has been the "omnibus" electric power bills drafted in both houses of Congress. If passed, these bills would take a long step towards creating wholesale competition (retail competition would come later). While the House and Senate's approaches are not identical, in general they each would:

- open power generation (both existing and new) to be purchased by the private sector, and in particular, facilitate the sale of all of NPC's generating assets;
- make distributors responsible for their own power supplies and for resource planning;
- centralize transmission functions into an independent National Transmission Company;
- provide for open access to the transmission system;

- provide for the transfer of NPC's directly-served customers to the distributors, along with the sub-transmission equipment necessary to serve them;
- clarify the role of the DOE and ERB, and transfer the franchise authority for the cooperatives to the ERB from the National Electrification Administration;
- establish and fund a Small Power Utilities Group to deal with customers that are uneconomic to serve and to expand the level of electrification.

Unfortunately, this bill has languished for several years due to the inability of different players to agree, and now that a new president (President Estrada) was elected in May 1998, the fate of this legislation is unclear. The process is bogged down, positions have become entrenched, and strong political leadership is required to shake free this legislation and move forward.

3. Competition

There are some structural impediments to competition in the Philippines. For example, a provision of the Philippine constitution prohibits foreign ownership of more than 40 percent in strategic assets, including power distribution. This provision should be either revised or modified to allow operational control with fewer than 50 percent of the ownership to encourage foreign investment and improve the management of the distribution system. Second, the large number of inefficient cooperative utilities should be consolidated through techniques such as the enforcement of strict performance standards for distribution companies that have been approved by the DOE, and enforcement of the legal limits for acceptable distribution losses.

It is worth mentioning that much of the Philippines distribution system is already private, and some firms are already acting in a competitive manner. For example, the largest distribution utility, Manila Electric Company (MERALCO), accounts for roughly two thirds of the country's electricity supply, and is privately-controlled. MERALCO is quite profitable and has a superb credit rating that is limited only by the Philippines' sovereign rating. Most IPPs would like to sell to MERALCO who can afford to pick and choose. They have instituted a cost control and efficiency program designed to push responsibility for profits and responsiveness to customers down to the lowest possible levels. Within a few years, this major utility could be well on its way to achieving world-class status.

Currently, on the generation side, there is not a competitive market, in the absence of a PX and open access to the transmission system, and there are severe constraints in moving power between the three major areas of the country (Luzon, Visayas, and Mindanao) which multilateral agencies are working to alleviate. NPC continues to have an inherent conflict due to its joint ownership of most of the installed generation and all transmission. The Asian crisis has increased the cost of power from existing IPPs, and this situation will get worse as more plants that have been financed on international markets come on line in the next few years.

In terms of power supply, Philippines is in a favorable situation, at least on Luzon – existing and planned capacity should produce a surplus of power by 2001 or 2002. The 3,000 MW that the government has guaranteed to purchase from gas fields offshore of the island of Palawan has locked in this excess supply situation, unless some other plants are delayed. However, the combination of long-term IPP contracts that are difficult to unwind, and the lack of legislation that would help foster restructuring and a competitive wholesale market will likely deny the Philippines the benefits of competition for the next few years.

B. Malaysia

Malaysia is a relatively small country (less than 20 million people) but with a considerable amount of investment in the power sector. There are several practices in Malaysia that can provide an example to others, though Malaysia may not have realized its full potential with regard to private sector investment or competition.

1. Private Sector Investment

There have been a number of IPPs financed and constructed in Malaysia in the 1990s - nine plants totaling over 4,300 MW are now operating under long term (21 year) contracts, and six projects representing over 5,300 MW are under development. To date, all of the projects have been developed by Malaysian firms, and those projects have been distributed between companies with different ethnic backgrounds. ADB was involved with the first IPP, the 1,200 MW YTL Power International Bhd. (YTL) project, but their share was bought out early in the life of the project.

Most of these projects have been 100 percent funded using Malaysian financing, including the Employees Provident Fund, a US\$34 billion pension fund to which all working Malaysians must contribute. Employees must contribute 10 percent of their salaries, and employers must match this with at least another 12 percent. A guideline for the Employees Provident Fund Employees Provident Fund's operation is that 70 percent of its investments be in government-backed securities, though this has become more difficult as privatization has proceeded in Malaysia, and the government has issued fewer public bonds. In a very real sense, this domestic source of funding has been a highly positive aspect of IPP development in Malaysia. It has eliminated any crisis with regard to making payments in foreign currency, such as has afflicted IPPs in Indonesia, Pakistan, and Philippines since the Asian financial crisis started last year. It has also stimulated the growth of domestic capital markets, and there are several viable domestic banking groups there.

In the distribution area, all load is served by Tenaga National Berhad (TN B), except for 11 licenses that have been issued to firms to serve specific areas that have a total load of more than 600 MW, including the 440 MW Nur Distribution and the 60 MW Wirazone complex at the Kuala Lumpur City Center. These licensees are permitted to offer or contract for a full range of utility services, including water, district cooling, Internet access, telecom and others to serve the area's occupants. The regulator requires that their price be no higher than the price for equivalent service outside of the zone. Some of these areas have raised prices above TNB's by providing additional services, and others have installed cogeneration plants to ensure reliability and serve part of the load.

These areas provide real competition, in that TNB does not derive the same level of revenues from these customers as if they served them directly, so they provide an incentive for TNB to improve its operations so that it can serve these customers in the future. On the other hand, it appears that the licensees have signed contracts with these customers to provide electric power for a long period, so it is not clear that these areas are conducive to the emergence of a competitive market at the retail level. There is also ongoing discussion about TNB taking over the Sabah Electricity Board. There is no private sector investment in the transmission system, except through the 25 percent of TNB that is publicly traded on the stock market.

It appears that there has been little competition in the award of these contracts for investment. There were no formal RFPs issued to determine which company would receive the award, nor were criteria for the award clearly laid out. There is therefore a question about whether foreign companies would have been able to offer better pricing or other benefits compared to the domestic investors, or whether they would have been good teaming partners.

It also appears that these practices have resulted in prices that are high and profits that are large for the initial IPPs. Prices have not been officially disclosed, but have been reported to be as high as 15-16 cents per kWh (the IPP price may include required transmission and other non-generation items), compared to a wholesale generation cost of about eight cents per kWh from TNB. In response, the government has not tried to renegotiate the pricing in the IPP contracts (these costs are still passed through to TNB and to customers). However, it has recently required all IPPs and TNB to contribute one percent of their revenues to an Electricity Trust Fund that is used for electrification, power sector research and development, training and education, and consulting studies in renewable energy.

Furthermore, the development of IPPs in Malaysia was to some extent to send a signal to TNB, the fully-integrated national utility, which was blamed for two severe power outages in 1992 and 1995. Now, a TNB subsidiary is developing the 2,000 MW Janamanjung project, as one official told us, because it is "TNB's turn". While called an IPP, it is difficult to make a sale from an affiliate to a parent company truly "independent." TNB also owns a minority share (generally 10 to 15 percent) of several IPPs. If Malaysia is to proceed from a period of investment to one of competition, as mentioned by several officials, it will have to take a close look at whether these types of policies, and some described below, are conducive to the emergence of competition.

On the other hand, one major benefit of Malaysia's approach is that it has fostered the development of several companies, e.g., YTL and Malakoff, that are now able to pursue project development in the region, as players in the world IPP industry. These companies have attracted international attention, as evidenced by the fact that National Power of UK recently made a bid to acquire 30 percent of Malakoff. If the approval of this deal eventuates, then this will be a milestone in the privatization process in Malaysia.

2. Legislative and Regulatory Framework

There is a functioning regulatory presence in Malaysia through the Director General of Electricity and Gas Supply that is part of the Ministry of Energy, Telecommunications and Post. Tariffs in Malaysia are not subsidized, and are set using a formula that takes efficiency into account. The Director General issues IPP and distribution licenses, and its budget is provided by the Treasury, and must be rejustified each year. The regulator has developed and promulgated a series of 15 performance standards for TNB, which are used to monitor performance, though not to penalize the company if they are not met. In addition, the Economic Planning Unit sets overall investment priorities and determines which projects will move forward. The Economic Planning Unit gets high marks, and economic policy appears to be well coordinated with policy in the power sector.

Malaysia discourages foreign control of its domestic resources, and arguably, foreign investment. For example, foreigners are prohibited from owning more than 30 percent in strategic sectors, including power, though this can be revised to 49 percent on a case-by-case basis. This limits the extent to which the international private sector would have an interest in investing in Malaysia, and potentially reduces the benefits that can flow to Malaysia. There are currently

some IPP projects under development where Malaysia is indicating that this limitation may be flexible.

The government issued a Privatization Masterplan in 1991 that provides strong political and philosophical support for PSP, including the preparation of a Privatization Action Plan that must be updated each year. However, this document also echoes the restrictions mentioned above when it states in Paragraph 53 that “Foreign participation in a privatized entity is limited to a maximum of 25 percent of its share capital.” To deal with the labor issue, this document encourages that employees be given the opportunity to own shares through Employee Share Ownership Programs and Management Buy-Outs and Management-Employee Buy-Outs as stated in Paragraph 56.

3. Competition

There is little effective wholesale or retail competition in Malaysia at this point, except for the distribution licensees mentioned above, and there are no specific commitments to putting real competition in place, though officials did mention the year 2000 as a goal for the emergence of a market. There have been several studies carried out by TNB and by consultants to identify the approach and the model for industry restructuring that might make sense, including a complete unbundling of the power sector and a single buyer model for wholesale competition, but these steps have not been taken. TNB reports that the next IPP contracts that are signed will recognize the potential for industry restructuring in their pricing and offtake provisions.

C. Argentina

Argentina has implemented several best practices in its efforts to increase private investment in infrastructure and to increase economic efficiency in the power sector. These goals have largely been achieved through a successful restructuring and privatization process begun in 1992.

1. Private Sector Investment

A program of economy-wide reform preceded restructuring in the power sector. The broader economic reforms began in 1989 with the passage of the Economic Emergency Law which introduced fiscal and monetary restraint. The Convertibility Law of 1991 indexed the peso to the US dollar in order to introduce a measure of stability to the currency. However, this also limited changes in monetary supply, curtailing the government’s spending and necessitating an alternate form of financing to meet the government deficit. In this context, privatization of federal electric utilities was adopted in order to stop federal spending on inefficient enterprises and also to provide a source of revenue to the Treasury.

In addition to broad economic reform, the necessary legal and regulatory framework for electricity sector restructuring was put in place prior to restructuring and privatization. Attempts were also made to eliminate subsidies and cross subsidies in anticipation of the restructuring process. The Electricity Law was passed in 1992, and the same year the Ente Nacional Regulador de la Electricidad (ENRE), the national electricity regulatory body, was established. ENRE’s purview includes approving expansion of transmission and generation capacity, establishing service standards for distribution companies, and determining the maximum price for T&D services.

The Argentine government also made a concerted effort to attract foreign private investment. In 1992 the Bilateral Investment Treaty was signed with the United States (US), giving US companies the privilege to invest in Argentine enterprises under terms no less favorable than those applied to domestic companies. By 1993, Decree 1853 had removed all remaining restrictions on foreign investment, allowing investors to own as much as 100 percent of privatized entities. In addition, full repatriation of profits was allowed.

Roughly 10,000 MW of Argentina's total installed capacity of 18,300 MW has been sold, leaving about ten power generators under the ownership of federal or provincial governments. Similarly, over 90 percent of Argentina's transmitted power is carried by private entities. Of the six transmission entities, over half have been at least partially privatized, including the primary transmission company, Transener, which was privatized in 1993. Argentina's four large federal electricity companies were also unbundled and a 51 percent share of each of the three resulting federal distribution companies was sold to private investors.

Argentina is also moving ahead with plans to privatize its two nuclear stations, one of which is still under construction. Because the plants were restructured by Argentine Executive Order into one state-owned company, the two plants will be privatized together, which may complicate the transactions. For example, the investor will face higher risk and higher investment spending will be required. There is also the problem of allocating risks associated with the operation and decommissioning of the plants. Furthermore, proposed legislation to privatize the nuclear facilities requires the bidder to have US\$80 million of insurance for nuclear accidents.

2. Competition

Argentina conducted the restructuring process in a way which would facilitate competition in the electricity sector. For example, assets were unbundled through a process which separated the functions of vertically integrated federal electricity utilities prior to their sale. Transmission was separated from distribution, and the wires were separated from the retail function. In addition, cross ownership restrictions were implemented. Generators were legally restricted to a market share of 10 percent or less of the national electricity sales volume. Generating companies were not allowed to own a majority share in any transmission facilities.

The wholesale market was created to establish a competitive market for generation with merit order dispatch such that the lowest cost generator is dispatched first. One entity, Compañía Administradora del Mercado Mayorista Eléctrico, S.A. (CAMMESA), is responsible for dispatch and for settlements. CAMMESA is a non-profit, independent organization. Though it is owned by the government and the power generation companies, it is governed by a board composed of two representatives each from: the generating companies; the national government/Secretariat of Energy; the distribution companies; the transmission companies; and large users. Competition is encouraged by open access to the wholesale market that is guaranteed by law.

Argentina has sold the majority of its transmission assets to private companies. Transener, the privately-owned company which owns and operates the high voltage network, carries as much as 90 percent of Argentina's transmitted power. Open access to transmission assets is also mandated, and owners of transmission assets do not buy or sell electricity, so their revenues come exclusively from regulated prices that they charge. Transmission prices include incentives to increase efficiency through price cap regulation and prices also take distance into account. The market itself is based on a geographic point, and purchases/sales of power are made based on the market price and the geographical distance between the market and the

purchase/sale point, or the “node”. The quality of the link between the market and the node is also incorporated in the node price, or price at the purchase/sale point. In addition, capacity payments provide incentives to limit congestion and keep lines available.

The auction process for federal enterprises was competitive and transparent, and bidders were prequalified prior to the bidding. Then a “two-envelope” process was used in which the technical bids were considered first, followed by financial bids. In order to advance the government’s goal of improved efficiency and service, bidders were required to submit with their bids the minimum level of service standards they would commit to meet. The criteria for selecting the winning bid thus became the highest price for the concession, plus the lowest price for the minimum level of service to be provided.

The use of experienced investment bankers also ensured the timeliness and transparency of the process. Concise, relevant information was supplied to the market through well-timed public announcements. The review periods were sufficient, and the necessary flexibility was allowed. In general, the process was well managed and competitive. In one auction for three separate enterprises, flexible bidding allowed investors to bid on more than one enterprise. In this way, the government was better able to maximize its revenues.

3. Issues Yet to be Addressed

Argentina’s federalist form of government, in which much autonomy is granted to the states, has provided a complicated context for restructuring and privatization. While the privatization of federal electric utilities has been largely successful, privatization at the provincial level has not proceeded as well. Delays in provincial sales have been due to concerns over unemployment and conflicts at the provincial level. In addition, in several cases there have been conflicts between the agendas of the national and state governments that have delayed transactions.

Argentina has also faced a severe unemployment problem as a result of increased productivity, leading individual electricity companies to reduce employment by as much as 40 percent. The country responded in 1994 by signing an agreement to restrain unemployment and to create training programs for redundant workers. The federal government, business organizations, and labor unions signed the agreement.

D. State of Victoria, Australia

Restructuring and privatization of the power sector in Victoria is notable for its success. This success may be attributable to the pace and transparency of the privatization process, but it is also due to the larger national context in which the reforms in Victoria have taken place.

The impetus for reform at the federal level was the need to increase efficiency in the nation’s economy. The dialogue between the federal government and the states began in 1990 with the appointment by the Commonwealth of the Industry Commission, which was tasked with recommending efficiency improvements in the economy as a whole and in the electric sector specifically. The Commission’s recommendations for the power sector included: (i) unbundling functions; (ii) introducing competition into generation; (iii) combining state-owned transmission assets into one national grid; (iv) implementing cost reflective tariffs; and (v) eliminating cross subsidies from urban to rural users.

Six months later the National Grid Management Council was established as an intergovernmental body to develop a National Electricity Code. In 1991 an agreement was reached between the state and territorial governments to introduce a competitive electricity market in the southern and eastern regions of the country. In that context, when the National Grid Management Council prepared a draft of the National Electricity Market (NEM) report in 1994, all the state governments approved the recommendations made in the draft.

In this way, the national concern for increased efficiency led to the creation of a national framework which guided reforms at the state level. Indeed, the national framework is ambitious: to transform the electric industry, previously entirely state run, into a nationally coordinated system with the introduction of a fully competitive market by 2001. Initially, the NEM will include Victoria, New South Wales, South Australia, Queensland, and the Australian Capital Territory.

The agreement between states at the federal level has been critical in facilitating reforms within the states as well. The timetable for implementation of the NEM has influenced the timing of state reforms, and the government's commitment to sector restructuring and competition has been reflected in the states. In particular, the aggressive reforms in Victoria have been carried out within this national context, and have provided a blueprint of how the NEM will work in practice.

1. Investment

The restructuring and privatization of Victoria's power sector was characterized by careful preparation for privatization and a well-run auction process that attracted strong, competitive companies into the market.

Restructuring began in 1994 with the establishment of the Office of the Regulator General and the unbundling of the State Electricity Commission. Generating facilities were further divided into five companies, the 29 distribution companies were restructured into five, and high voltage transmission assets were separated from the dispatch function. The Victoria Power Exchange (VPX) was established to operate and administer the market for spot trading of electricity, to control generation dispatch, and to operate the transmission system. VPX is a non-profit, government-owned organization, and its costs are passed through to the distribution companies. Decisions regarding transmission capacity expansion are taken by VPX, which then holds a competitive auction for the contract. This system prevents the private transmission owner from advocating system expansion to increase its own profitability. Transmission prices are cost reflective and include efficiency incentives.

PX prices are set on a half-hourly basis using bids submitted on a day-ahead basis by generators. Prices paid to generators are based on the actual demand served in each half hour, such that the price generators receive for power produced in any half hour is determined by the actual quantity of power dispatched in that half hour. Because prices are set in real time, it is not known whether supply will meet demand. If demand is greater than supply, the price is set equal to the value of lost load, which is set by the regulator at a certain price per MWh.

Privatization of the assets began in 1995, earning Victoria nearly A\$16 billion. The privatizations were carried out through public auctions, and no restrictions were placed on foreign investors. The bidding for all assets has been spirited and quite competitive, and staggered auctions were held for generation and distribution through 1997. The first entities to be sold were distribution companies, because a higher price could be expected from these lower risk entities,

whereas investors in generation are facing market risk in a fully competitive market. Most of the assets were privatized in a period of only 18 months, and in all cases a premium over the minimum price set by the government was paid for the shares, sometimes a substantial one.

One of the more creative deals that was signed was one in which Mission Energy acquired 51 percent of the 1,000 MW coal-fired Loy Yang B plant, with a contract for the sale of the power from the plant that was contingent on the emergence of a competitive wholesale market. Then, when such a market was implemented in 1997, the state essentially gave Mission the remaining 49 percent in exchange for the investor's agreement to give up its contract and compete on the competitive market. This is one way to deal with the issue of long-term contracts with IPPs that may not be consistent with a competitive market.

In Victoria, most of the assets of the power sector, including transmission, were sold to the private sector - about 3,000 MW still remain to be sold. In all, thousands of megawatts of generation have been sold throughout Victoria, New South Wales, and Queensland. The next step is the privatization of the assets in New South Wales, including over 16,200 MW of generation, six distribution companies, and Transgrid, but there is strong political resistance from unions and the Labor Party, though the state government favors such sales. The competition from efficient privately-owned generators in Victoria is pushing such reforms, since the generators in NSW are finding it hard to compete in the wholesale market with their state-owned plants.

2. Competition

The privatization process has been conducive to fostering competition in the power sector. For example, the effective restructuring process and transparent privatization process attracted strong bidders who are now running competitive enterprises. Competition has also led to a wholesale price decrease of six percent, as well as an improvement in the quality of service to customers.

The restructuring process also promoted incentives to increase efficiency and competition. The CPI-X regulation which is in place encourages efficiency gains, and the regulator sets and enforces performance standards for the distribution companies. The distribution companies retained monopoly rights to serve the customers in their service areas, but retail competition began to be introduced beginning with large customers in 1996, and will increase such that all customers will have a choice of supplier by the target date of January 2001.

The cost of serving rural customers in Victoria is still subsidized, however, so tariffs are not entirely cost reflective. During the current tariff order, which runs from 1995 to 2000, rural users are subsidized by urban users. When the government initially divided Victoria into five areas, three were predominately rural and two were mainly urban. The rural areas had much higher asset values than the urban areas, so the difference was subtracted from the rural areas and added to the asset value of the urban areas, equalizing the current replacement value of the assets. This adjustment allowed all five areas to have similar tariffs across customer classes.

Under the current tariff order, these tariffs can be rebalanced annually, but are subject to a rebalancing constraint such that the tariffs cannot exceed a certain level. The cross subsidies have been made transparent and are being very slowly unwound during the current tariff order, and the next price review in 2000 may lay the groundwork for increases. A factor contributing to

pressure to unwind these cross subsidies is the over-recovery from urban users, which may prove difficult to maintain in the long term.

Reforms in Victoria have provided a testing ground for the national reforms that are in progress. When the NEM is instituted in Australia, it will be based on the same principles of ownership and functional divisions that are currently operating in Victoria, and will be overseen by the NEM Management Company. Currently, the NEM Management Company is administering limited joint operations of VPX and the NSW pool, allowing them to import lower cost generation from each other. In this way generators in both states are already competing directly with one another. When the NEM is fully operational, the VPX and the NSW pool will cease to operate separately. There will also be increased interstate trading of generation, and non-discriminatory access will be ensured for new industry participants in both generation and marketing.