

# **Privatising Victoria's Electricity Distribution**

**by  
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## ***The Impetus for the Electricity Reform Program***

In 1992 the then opposition Liberal National Coalition declared in its Energy Policy that “a Coalition Government will implement structural changes in the energy industry necessary to promote economic prosperity and job opportunities for more Victorians”. This foreshadowed the eventual de-integration and privatisation of the State Electricity Commission of Victoria (SECV).

The publicly owned vertically integrated monopoly utility, SECV was not generating the maximum benefits for its citizens or customers. In particular a number of weaknesses had emerged such as poor capital investment decisions, over capitalisation of assets, low levels of plant availability and inefficient work practices.

In its final few years up to 1992, the State Labor Government had taken (or acquiesced in the SECV taking) energetic steps to reduce over-manning but the SECV continued to operate with excessive costs and poor performance.

In the late 1980's and early 1990's there were a number of reports dissecting the SECV performance by such as the Industry Commission, the Tasman Institute, the Business Council, and Public bodies Review Committee of the Victorian Parliament. In addition there were clear trends overseas towards privatisation and the introduction of deregulation and market solutions to what was hitherto activities undertaken by public owned enterprise. 1991 also saw the first moves to define and establish a national grid following the Special Premiers Conference of that year.

In response to these reports and trends the industry itself expended considerable effort in pursuing greater efficiency. Outsourcing, transfer pricing, downsizing, internal power pool arrangements all played their part, but whilst these efforts were dramatic in themselves they were being undertaken within the constraints of an integrated monopolistic industry structure.

October 1992 saw the election of the first Kennett Liberal National coalition Government. It immediately set about pursuing its reform agenda.

## ***The New Government's Groundwork For Reform***

The new Government had a strong philosophical belief in the beneficial effects that capital markets could bring to a business as well as being attracted to the idea of transferring risk to private equity. However the Government was equally conscious of getting the structure of the market right first. All the experience and advice pointed to the need to spend careful

attention to establishing a viable competitive and regulatory framework, which preserved efficiency incentives rather than necessarily maximising sale proceeds. This lesson seemed best exemplified by the structural weaknesses in the UK wholesale generation market, which ensured that the two dominant suppliers were able to operate so that prices remained high. Privatisation was therefore seen as the last rather than the first step in the reform process.

The program for reform would be by any measure a challenging task which would not only need to consider the almost infinite array of structural, ownership and market options but the timing and sequencing of such changes whilst ensuring that the industry “kept the lights on”. Importantly, the reform process faced considerable hostility from the unions, the Labor opposition and much of the media.

The first 12 months of the Government saw many of the options being canvassed, particularly through a team of external consultants. The consultants’ report recommended various options for horizontal and vertical integration. These options included separation or integration of mines with generators, disaggregation of generation down to individual power stations or portfolios, the choice of wholesale electricity market models, eg spot pool versus contract market and the degree of integration between the transmission sector and system/market operation.

In August 1993 the Government announced that it intended using the State Owned Enterprises Act to create three new “commercial” business out of the SECV to undertake generation, transmission and distribution/retail. A Project Manager, by Dr Peter Troughton was appointed within the Office of State Owned Enterprises of Treasury to direct the implementation and ongoing reform policy for the industry.

The Government did not pursue two of the most contentious recommendations from the consultants namely the creation of two generation entities overseeing a portfolio of generation plant and secondly a power pool consisting of both an energy and capacity market.

In October 1994 the industry was again restructured largely into its final form. National Electricity (Transmission) was disaggregated into a non-commercial body VPX responsible for system operation and control, transmission planning and market operations; and PNV responsible for transmission assets, maintenance and operations. Five DB’s were created and Generation Victoria disaggregated down to four individual base load power stations (including Loy Yang B then under construction), one portfolio of hydro plant and one of intermediate and peaking gas plant. During 1995-1997 all of these businesses, except the gas portfolio were privatised. Proceeds amounted to \$24B, some \$13B in excess of the SECV’s book value of assets recorded in 1993.

### ***The Distribution Sector***

By comparison with the transmission and generation sectors the structural and market issues surrounding distribution were perceived as far less problematic from a technical perspective. This made distribution potentially the easiest of the three sectors to privatise. However,

distribution contains considerable practical and political difficulties and sensitivities. Distribution is closest in proximity to customers thereby presenting the greatest challenges in terms of transitional arrangements and potential trade-offs for prices and competition, service delivery and structural change.

Distribution/retailing was encumbered with two particular “realities”. The first was a set of existing retail prices containing a complex array of cross subsidies including inter and intra class distortions and most significantly a uniform urban/rural tariff structure. The second, was the fact that distribution and retailing was not undertaken solely by the SECV. Eleven Municipal Electricity Undertakings (MEUs) operating under Orders in Council that pre-dated the establishment of the SECV in 1921 served the densely populated inner suburbs of Melbourne. The MEU’s represented approximately 10% of total distribution assets and served on average 23,000 customers. Both the pricing and MEU issues would present significant political and practical challenges in introducing retail competition.

### ***The Distribution Sector’s Reform Options***

#### **Structural Issues**

Against this backdrop a series of structural options and public policy alternatives needed to be assessed by Government. These were:

- whether the retail functions would be integrated or separated from the distribution wires functions;
- whether sub-transmission would form part of the distribution business or the transmission business;
- whether construction activities would be split out from the DB’s; the manner, sequence and timing of retail competition;
- the nature framework for regulation especially economic regulation;
- whether the distribution businesses would have an obligation to supply;
- the responsibility for metering; and
- the size, number and borders of the potential future Distribution Businesses.

As with most other reform matters the policy makers were faced with having to balance a range of objectives including the long term objectives of competition, business viability, operational efficiency and the immediate trade-offs between sale proceeds and lower prices. Unlike the current experience in gas it was the Victorian Government that had the sole responsibility for achieving the appropriate balance for taxpayers, consumers and future private owners. This balance is currently being reassessed by the current Regulator General as part of the first distribution price reset.

The history of the policy debates and the solutions chosen is as much a story about process, project management and political decision making as about a strategy to solve simultaneously a set of reform equations. Getting a strategic direction set, focusing on the major issues and harnessing the industry to solve much of the detail proved to be very effective in maintaining the reform momentum. However, because of the dimensions of the reform options there was

immense difficulty in providing an answer to the bottom line question, “What would the impact of all these potential changes have on end prices to consumers”?

During the latter half of 1994 decisions on this taken by Government laying down a specific franchise tariff path (Maximum Uniform Tariffs “MUT’s”) to contestability. This was to be contrasted to the UK approach of regulating or subjecting to competition the major elements of electricity prices rather than regulating the ultimate franchise tariff.

The Victorian approach was designed to deliver guaranteed real price reductions, unwind at an approximate level the larger known inter class cross subsidies (eg commercial to large business) retain the rural urban uniformity and provide some certainty as to prices until customers were contestable.

The final residual, which could be left “floating” till the last moment, was franchise fees. For the three urban businesses these fees, payable to the Government for the life of the franchise, ie 2001, represented the annual economic rent generated by the MUT revenues less energy purchases (covered by vesting contracts with generators), network fees (consisting of transmission and distribution both separately regulated) and retail costs and an allowed 2% gross margin.

Whilst price certainty was an essential political requirement its level was as equally important, particularly given the historic uniform or equalised tariff structure between urban and rural areas of Victoria. Politicians in rural seats needed to be assured that competition would benefit all Victorians. This issue featured prominently in the debates on DB size and borders. Ultimately a solution was found in a combination of financial engineering, with accountancy costs transferred between urban and rural DBs and within the DB structures themselves through a uniform tariff structure. However, although shuffling paper values of assets can operate effectively where services are not contestable, once competitors can offer the service, prices have to track the true costs.

Debates about the DB’s focused on three dimensions, size (customer numbers) borders and functional make-up (mostly whether retail should be included). It was generally acknowledged that the economies of scope were not significant in distribution, but the optimal range of customers served included the IC’s estimate of 300,000-400,000 the ESI Reform Consultants 400,000-500,000 and the SEC’s view that 600,000 was the minimum efficient scale of DB compared to the average UK REC of 2.1M customers. In the event, the creation and successful operations of Solaris and Citipower, both of which had less than 250,000 customers, demonstrated that the importance of scale economies was overstated.

The existence of 18 SECV customer service groups facilitated the analysis by allowing a building block approach to be used in analysing the various options.

In terms of DB make-up two broad options were identified. First were a number of similar “pie-slice” distribution businesses. As well as allowing for better comparability in size, customer types, load profiles these businesses would minimise (internalise) the need for equalisation payments, if cross subsidies and uniform pricing were to continue. The second

option would be to create similar metropolitan distribution businesses and multiple rural businesses, ie doughnut rings. Although recognising the significant differences in supply economics this solution would expose most directly the requirement for cross subsidies.

Ultimately neither design option was pursued. Instead a mixed option was created largely as a result of having to integrate the MEU's as discrete building blocks (for financial and legal reasons) and achieving a balance of customers, growth opportunities and more general financial viability objectives. In the end the decision was taken to create 5 DB's. Two rural DB's were established taking in fringes of the metropolitan area as well as the substantial growth corridors to the northwest and south east of Melbourne. The two rural areas would be constituted entirely of former SECV customer service businesses. Three urban businesses were created. Apart from CitiPower, the CBD and inner suburbs distributor, Solaris (now AGL) and particularly United Energy would also be responsible for distributing to semi urban/rural areas. Five MEU's were combined with one CSB to create Solaris. Two MEU's were combined with three CSB's to create United Energy and finally four MEU's were combined with one CSB to create CitiPower.

The businesses themselves are outlined in the following chart.

## DISTRIBUTION COMPANIES - A SNAPSHOT

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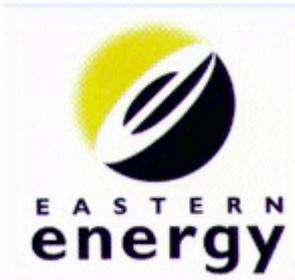
**United Energy** The company's distribution network covers approximately 1,450 square kilometres in the south-eastern suburbs of the Melbourne metropolitan area, extending to the semi-rural and coastal resort area. This region accounts for 26 per cent of Victoria's population. The company distributes power to 520 000 customers, including 474 000 residential customers.



**Solaris** The company distributes electricity to the north-western suburbs of Melbourne. Its distribution network covers an area of approximately 956 square kilometres. The franchise area covers over 232 500 customer sites.



**CitiPower** The company's distribution area is the smallest of the 5 distributors, covering approximately 157 square kilometres. The area includes the central activities district and the densely populated inner suburbs of Melbourne. Citipower has the highest market share in the commercial sector, with 34 per cent of total commercial sales in Victoria.



**Eastern Energy** The company is a rural-based distribution business comprising 80,000 square kilometres from the -Eastern Melbourne metropolitan area to the east coast and the Victoria/New South Wales border to the north. Eastern Energy currently services around 471 000 customer sites, including 40 000 residential customers.



**Powercor** The company is geographically the largest distribution business in Victoria. Its distribution area covers approximately 150 000 square kilometres in central and western Victoria and accounts for over on third of Victoria's population. The company distributes power to over 537 100 customer sites, including 446 000 residential customers.

The most significant functional issue that policy makers were required to address at the distribution level was whether the retail function should be integrated with the natural monopoly wires function. Policy makers and the original reform architects had grappled with issue for some time. The key uncertainty related to the unknown level of risk that the retailers would be exposed to and whether a retailing company would in fact be “privatisable”. Other issues were whether a combined entity would represent a barrier to entry for other retailers or whether breaking the entity would create operational difficulties with respect to such things as supply restoration, connection and public lighting.

The Government decided that the DB's would combine the functions of retailing and wires distribution. Financially the businesses would be strengthened by the low risk regulated cash flows of the wires businesses. Ring fencing of accounts would be put in place, although this was somewhat redundant due to the decision to establish a pre-determined MUT price path. In any event commercial drivers and the form of regulation would minimise any tendency to cross-subsidise retail and distribution.

Experience to date has borne this fact out as the combination of retail and distribution has not become a barrier to entry and there has been no evidence of internal cross subsidisation to win customers in the competitive retail market. This is not to say that at future distribution resets cost allocation issues will not feature, particularly if the methodology adopted by the Regulator-General is derived from cost of service principles.

Another important driver for Government combining retail and distribution was the fear that a single poles and wires company would in time become "regulatory dependent". Although considered a natural monopoly subject to regulation, there was a strong feeling that the wires business needed to be subjected to commercial disciplines and incentivised to focus on customer value and benefits by operating, albeit indirectly, in a competitive market.

Clearly a DB which wanted to retain customer loyalty in its retail market would also ensure that reliability and service were also promoted. The same outcome was seen to be less certainly achieved by "contract" between a wires business and a retail business or a wires business and a regulator. A further reason for integrating the two functions was the desire to incentivise the whole entity to responsibly grow load through long-term economic development. Splitting the functions would reduce the marketing synergies available to the DB's.

In any event it was felt that it should be the market and competition which should drive the optimal structure, indeed if there was in fact one. This same argument also drove recommendations not to break out the construction activities from the DB's and create a services company that would be privatised.

### Transition to Full Competition

To achieve an orderly transition to a fully competitive electricity market, the Victorian Government set in place a timetable for competition:-

- Customers with demand above 5 MW (about 47) were given choice in December 1994,
- customers with demand above 1 MW in July 1995 (about 330)
- in July 1996, choice was extended to customers consuming over 750 MWh of electricity each year (approximately 2,000).
- from 1 July 1998, choice was extended to customers consuming more than 160 MWh/yr (approximately 8,000+ customers)
- finally, from January 2001, all Victoria's electricity customers, including domestic customers, will be able to choose their electricity retailer (approximately 2,000,000).

## Setting Prices

Although subsequent developments have tended to erode the certainty that poles and wires are a natural monopoly that cannot be duplicated, a key issue was and remains the regulatory approach for pricing of the “essential” facilities. The model preferred is based on the UK CPI-X model.

In this model the process of determining regulated revenues is separated from the task of converting the revenue entitlement into individual network tariffs. Regulated revenues would be based on the weighted average revenue yield approach, to be predicated on an assumed set of average price baskets. These in turn would assume a set of network cost drivers, ie the cost of distributing KWh’s at peak, off peak, high voltage, etc. Network revenues would therefore be 100% variable to network energy distributed.

At the DB level this variability would be muted due to the MUT’s. The net effect being that Network revenues would however be variable to the energy distributed to contestable customers served within the DB licensed area. Network tariffs applied to the franchise customers (as an internal charge) would simply be reflected in variations to the retail margin.

Overall network-regulated revenues would be based on an indexed rate of return model. Although ultimately expressed as an average price cap variable to load, the underlying revenue entitlement would be calculated as the revenue required to provide an acceptable return on an underlying rate base, and to account for the financing requirements of the 5 year projected capital program and O&M over the same period. X in this “CPI-X” model was, at least conceptually, a financially engineered residual, which smoothed the revenue requirements and equated the NPV of revenue to the cost requirements. In this regard, the first controls were predicated on cost of service principles which was the only viable option given the circumstances of having to initialise a regime with no existing reference price path.

Whether cost of service principles or true incentive regulation using US style price capping is appropriate for the ongoing regime, is a subject of considerable controversy and debate as part of the first distribution review currently being undertaken by the Office of the Regulator General.

Network tariff construction also followed the UK model, modified to ensure some but not total compatibility with the existing retail tariff structure. For example network tariffs to small residential customers would be entirely based on measured kWh together with a standing charge whereas demand metered customers would face a kWh, kW and standing charge tariff structure. Decisions were ultimately taken which also determined that the applicable tariffs would be uniform across the distribution entity. ie postage stamping. Price signals would come, not from the 40year annuitised asset (largely sunk) charge but the connection charge for new customers, which applied a uniform level of “tariff support” against the gross costs of connection. The net charge represented the economic signal of locating in either high or low cost areas.

The industry also explored other alternatives to distribution pricing which attempted to reflect either the location or physical attributes of the network, eg electrical zones as a basis of

pricing. As we will see the conundrum of distribution pricing would not be solved until the manner in which equalisation could be carried out was decided.

At the heart of the problem was the political pressure to maintain uniformity of prices but to do so in a way that enabled competition to be successfully implemented, even on a transitional basis. Cross subsidies would always be vulnerable to competition particularly at the retail level but also for distribution.

The approach adopted involved the concept of a single “one off” revaluation adjustment to the businesses. The adjustment would be up in the case of the three urban businesses and down in the case of the two rural businesses. The cross subsidy would in effect be capitalised as a one time adjustment but enable over time (until the existing asset base was fully depreciated) distribution prices to gradually become cost reflective.

Whether the “one off adjustment” would, as the rural politicians expected, “last for decades” or be more rapidly washed away because of the potential for network competition is an issue currently being contemplated by the Office of the Regulator General. At the time of structuring the businesses for sale, there was little doubt that the underlying poles and wires businesses were anything other than natural monopolies. The relevance of competition was seen to be confined largely to new connections and potentially at the borders or for new sites. This natural monopoly notion was tested within two years by the proposal of one DB to install wires in the territory of another, an application that had not been fully adjudicated at the time of writing.

Having locked in the concept of an asset adjustment it was determined that the maximum differential should be set at 1.25¢ per kWh. The final pricing model contained a series of one off adjustments and cross subsidies. The DB’s would be free to unwind the inter-class cross subsidies, largely from small to large customers, who were the most susceptible to “contestable” price shock. The Tariff Order however limited the speed at which this could be done by capping any individual maximum increase to CPI +2%; an increase, which has generally been fully utilised by the DB’s since privatisation.

One cross subsidy could not be entirely removed however. The Victorian high voltage large “Tariff H” consumers had enjoyed the lowest prices in the country. These customers were given a special “safety net” deal. They could remain on their existing tariffs to 2001 with a once only irreversible opportunity during this period to move to a contestable tariff. In the event, low prices that followed the market opening meant that all these customers opted to leave the safety net.

At an aggregate level both financial “fixes” and the contractual fix were ultimately locked in through the Tariff Order, a subordinate legislative instrument applying largely to 2001 but in the case of the transmission cross subsidy, 25 years or 5 regulatory periods.

### ***The Privatisation Outcome***

By any standards the privatisation has been an immense success.

In terms of standards of service, regular reports by the Office of the Regulator-General have demonstrated that the private entities have improved performance in terms of reliability of supply and meeting customer demands for connections and response to problems.

All the DBs have considerably pruned and rationalised their workforce since privatization. Although over-manning in the industry as a whole was considerable prior to privatisation, the staffing of the DBs continued to be excessive.

Numbers have been reduced from about 6,000 at the time of the creation of the five corporatised DBs to rather less than half of this. One CBD distributor now employs only 40% of the staff it employed at the time of its sale, prior to which numbers had already been reduced. Its rule of thumb has been that the employment saving has yielded a 30% cost saving with about 70% of the jobs being essentially outsourced. Another Victorian business has outsourced much of its maintenance to an electrical contractor and made comparable savings.

With regard to the sale process itself, investors paid \$8.3B for the 5 distribution businesses with initial ODRC valuations of \$3.8B. The first business sold, United Energy, was acquired by a consortium headed by Utilicorp and has since been partially floated. Its sale price of \$1594 million was in excess of initial expectations but, at a PE Ratio of 10.9 on prospective 1996/97 earnings, it was acquired at a 20% discount on the average of the remaining businesses.

#### **Proceeds From the Sale of the Distribution Businesses**

	<b>United Energy</b>	<b>Solaris</b>	<b>Eastern</b>	<b>Powercor</b>	<b>Citipower</b>	<b>Total</b>
<b>Sale Proceeds</b>	\$ 1,594	\$ 943	\$ 2,060	\$ 2,128	\$ 1,545	\$ 8,270
<b>Franchise Fees</b>	\$ 275	\$ 137	\$ 47		\$ 173	\$ 632
<b>Total Proceeds</b>	\$ 1,869	\$ 1,080	\$ 2,107	\$ 2,128	\$ 1,718	\$ 8,902
<b>Proceeds in Excess of Book Value</b>	\$ 784	\$ 539	\$ 1,271	\$ 1,107	\$ 958	\$ 4,659
<b>1996/97 P:E Multiples</b>	10.9	14.7	13.6	12.3	13.7	

The Victorian Auditor General estimated the outcome in terms of savings to the State revenue at a net gain of \$317 million for 1997/98 after taking into consideration revenue foregone and debt savings. In addition, the reduction of State debt further enhanced State finances by contributing to an improved credit rating.