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ENVESTRA LIMITED - SPAUSNET - MULTINET

Review of Gas Access Arrangement for Victoria - Benchmarking Final Report

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SYNOPSIS

This report benchmarks the performance of the Victorian gas distributors Envestra, MultiNet and SP AusNet against other large Australian gas distributors. Comparisons are made at a high level (Key Performance Indicators) and at a low level (Unit Rates).

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PROJECT 307/09210 - REVIEW OF GAS ACCESS ARRANGEMENT FOR VICTORIA -

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1. EXECUTIVE SUMMARY

1.1 Introduction

Benchmarking is a tool commonly used to support the reasonableness of expenditure forecasts, by comparing key parameters of the subject business with other like businesses.

No two organisations are the same, with many of the differences impacting on the requirements for expenditure, so comparisons need to be approached with a great deal of caution.

1.2 Approach

The benchmarking was carried out at two levels:

- high level key performance indicators (KPIs); and
- low level unit rates (Capex).

WorleyParsons sourced the data for this benchmarking study primarily from Access Arrangement Draft and Final Determinations, Access Arrangement Information provided by distributors and consultants' reports. All costs quoted in this report have been converted to real 1 July 2006 dollars in accordance with the requirements of the Essential Services Commission Victoria.

In order to allow better comparisons, two components of Opex have been excluded from the benchmarks – Unaccounted For Gas (UAFG) and Full Retail Contestability (FRC).

1.3 High-Level Benchmarks

Across the range of indicators, the three Victorian distributors have similar values and consistently take a similar position together relative to the interstate distributors.

Based on the relative position of the three Victorian distributors over the range of indicators, WorleyParsons concludes that the levels of Capex and Opex by the three Victorian distributors over the period 2002-2006 are reasonable. It should be noted that the expenditure levels for the interstate distributors are those determined by the relevant jurisdictional regulators to be reasonable.

1.4 Low Level Benchmarks

WorleyParsons draws the following conclusions:

- WorleyParsons considers that the costs for Envestra Victoria and SP AusNet for a domestic meter change are reasonable. The unit costs provided by Multinet vary widely over the period, and would need further investigation and analysis.
- WorleyParsons does not have sufficient information to be able to comment on the costs for industrial and commercial periodic meter changes for the three Victorian distributors.
- The three Victorian distributors have similar mains renewal unit costs which are consistent with those of the two Queensland distributors.



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- For general mains for new customers, WorleyParsons does not have sufficient information to be able to comment on the costs for the three Victorian distributors.
- For domestic customers, the three Victorian distributors have lower costs than the other distributors. As the installation of a new domestic meter is a relatively standard activity, WorleyParsons concludes that the costs for the three Victorian distributors are reasonable.
- For the three Victorian distributors, WorleyParsons does not have sufficient information to be able to comment on the costs for meters for new industrial and commercial customers, but notes that these costs are not easily benchmarked due to the wide-varying nature of such costs.
- The costs for Envestra Vic and SP AusNet domestic services appear to be reasonable. The cost for domestic customers for MultiNet appears to be on the high side, which may be attributable to its high proportion of in-fill and multiple occupancy sites.
- For the three Victorian distributors, WorleyParsons does not have sufficient information to be able to comment on the costs for services for new industrial and commercial customers.



2. INTRODUCTION

2.1 Purpose of Benchmarking

Benchmarking is carried out to compare the level of costs for the subject business with those of similar businesses elsewhere in order to determine on an informed basis whether the costs are reasonable.

2.2 Comparability

Clearly no two distributors are the same – they will have differences in network size, physical operating environment, climate, customer density, geographic considerations etc. Many of these differences will impact on the requirements for expenditure so comparisons need to be approached with a great deal of caution. Two main approaches are generally adopted to address this issue:

- Normalise the data to enable more meaningful comparisons; and
- Identify similar organisations to benchmark against.

Ideally, the use of both approaches should be used in order to provide the most meaningful benchmarks.

Issues associated with the effective application of benchmarking include:

- The suitability of normalisation parameters is largely a matter of judgement (i.e. the choice of normalisation parameters and the extent to which they provide a meaningful comparison);
- The identification of similar organisations is also largely a matter of judgement (differences will still exist, which need to be understood and considered);
- The data available is usually outdated; and
- It is difficult to obtain consistent data (the available data is generally not well defined).

Notwithstanding these issues, benchmarking remains a useful tool in assessing the performance of an organization.



3. SCOPE & METHODOLOGY

3.1 Scope

The benchmarking was carried out at two levels:

- high level key performance indicators (KPIs); and
- low level unit rates (Capex).

In its approach to benchmarking, WorleyParsons considered a range of indicators that might be applicable and narrowed this down to those indicators most likely to provide a useful comparison for the purposes of the Access Arrangement. Where appropriate, the data has been normalised.

3.2 Methodology

The approach and methodology for this review was as follows:

- Review of publicly available information – information was obtained from Access Arrangements Draft and Final Determinations, consultants' reports, information provided by gas distributors and published on regulators' websites.
- Review of data provided by the three Victorian gas distributors.
- Application of general industry knowledge – WorleyParsons knowledge and experience in the gas and electricity industries was applied in analysing the information obtained.
- Discussions with the distributors – significant issues identified in the earlier stages of the review were discussed with relevant managers within the distributors to ensure that WorleyParsons correctly understood the issues and to gain further insights into the businesses.
- Preparation of report – the findings, analysis and conclusions arising from the four preceding stages were collated and integrated into this draft report.

3.3 Reference Year & Inflation Factors

All costs quoted in this report have been converted to real 1 July 2006 dollars in accordance with the data templates issued by the Essential Services Commission Victoria. Historical inflation factors, used to convert nominal dollars and real dollars based on other dates, are also in accordance with these data templates.

3.4 Cost Exclusions

In order to allow better comparisons, two components of Opex have been excluded from the benchmarks – Unaccounted For Gas (UAFG), and Full Retail Contestability (FRC). For example, in Victoria UAFG is not included in the distributor's costs as a different mechanism is in place to account for UAFG. The extent of implementation of retail contestability and the treatment of related costs differs across States.



3.5 Data Sources

For interstate distributors, WorleyParsons sourced the data for this benchmarking study primarily from Access Arrangements Draft and Final Determinations, Access Arrangements Information provided by distributors and consultants' reports, as published on regulators' websites. Some additional information was obtained from distributors' websites. For the three Victorian distributors, WorleyParsons applied data provided by each of the distributors in November 2006, with some data updated in March 2007.

Much of the interstate data relates to the amounts allowed by regulators in their Determinations, rather than actual spending or forecasts made by distributors. As regulatory determinations often themselves draw upon regulatory decisions in other jurisdictions, there is a tendency for "regulation to feed off regulation". This has inherent risks, as actual expenditures can vary from the allowed expenditures for a range of valid reasons.

Gas distributors included in the benchmarking study are shown in the following table:

Table 3-1: Gas Distributors by Jurisdiction

JURISDICTION	GAS DISTRIBUTOR
Victoria	Envestra
	MultiNet
	SP AusNet
Australian Capital Territory	ActewAGL
New South Wales	AGL Gas Networks
Queensland	Envestra
	Allgas
Western Australia	AlintaGas Networks
South Australia	Envestra

The timing of the various Determinations is important, as more recent decisions have greater relevance. The timing and status of Gas Access Arrangements Determinations are shown in the following table:

Table 3-2: Timing & Status of Decisions

JURISDICTION	DATE	STATUS
Queensland	May 2006	Final
South Australia	June 2006	Final
Victoria	October 2002	Final
Australian Capital Territory	October 2004	Final
New South Wales	April 2005	Final
Western Australia	July 2005	Final



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3.6 Treatment of Data

The available data has been presented in either calendar year or financial year format, depending on the jurisdiction. To convert the calendar year data to financial year one would need to rely on the assumption that half of the expenditure for the calendar year in question would fall in the last half of the preceding financial year and half in the first half of the next financial year – this would reduce the validity of the data. Further, this approach would result in the loss of one year's data (i.e. five years of calendar year data would be converted to four years of financial year data). For these reasons, WorleyParsons has adopted the normal approach of using a mixture of calendar year and financial year data, but noting which is which.



4. HIGH LEVEL KEY PERFORMANCE INDICATORS

In the following sections, the gas distributors are identified by the following abbreviations:

AC	ActewAGL, ACT
AN	AGL Gas Networks, NSW
AQ	Allgas, Queensland
AW	AlintaGas Networks, WA
EQ	Envestra, Queensland
ES	Envestra, South Australia
EV	Envestra, Victoria
MV	MultiNet Gas, Victoria
SV	SPI Networks (Gas), Victoria

In the following section, graphs have been included showing performance indicators over time for all of the distributors. For further clarity, these have been included in Appendix 2 showing only the three Victorian distributors.

4.1 Network Characteristics

Key network characteristics based on 2006 data are shown in the following table:

Table 4-1: Key Network Characteristics

	Envestra VIC EV	Multinet VIC MV	SP AusNet VIC SV	AGLGN NSW AN	Envestra SA ES	ActewAGL ACT AC	Alinta WA AW	Envestra QLD EQ	Allgas QLD* AQ
Customer numbers									
Volume customers	498,630	643,352	522,245		363,595	103,573	552,487	71,244	68,910
Demand customers	229	271	76		151	39	120	63	113
Total customers	498,859	643,623	522,321	998,495	363,746	103,612	552,607	71,307	69,023
Consumption									
Volume customers TJ	33,732	46,728	41,800	34,107	10,911	6,310	13,340	1,914	2,983
Demand customers TJ	20,908	13,411	31,896	65,000	26,144	6	17,462	3,224	7,355
Total	54,640	60,139	73,696	99,107	37,055	6,316	30,802	5,138	10,338
Length of mains km	8,857	9,423	9,126	23,108	7,203	3,769	11,320	2,172	2,302
% CI mains	17	18	8	5	23			21	13
Customers/km	56.3	68.3	57.2	43.2	50.5	27.5	48.8	32.8	30.0
Consumption/km (TJ/km)	6.2	6.4	8.1	4.3	5.1	1.7	2.7	2.4	4.5
Volume customer consumption/km	3.8	5.0	4.6	1.5	1.5	1.7	1.2	0.9	1.3
Consumption/customer (GJ/Cust)	109.52985	93.438239	141.092672	99.256381	101.87054	60.9545999	55.7394315	72.054637	149.77616

* Based on 06/07 Forecasts

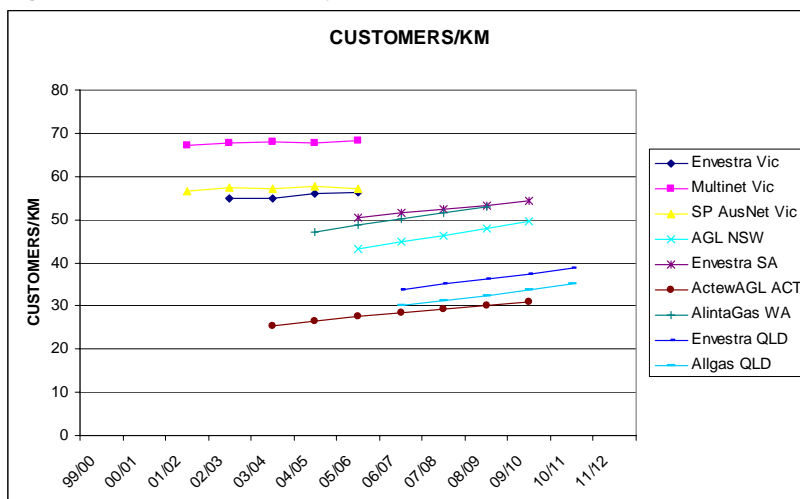
4.1.1 Customer Density

A key network characteristic is customer density (measured by customers per km of mains), as it has an impact on both Capex and Opex – higher customer density should result in more efficient Opex (with lower unit costs) and reduced Capex (through lower unit costs).



Customer density over time is shown in the following figure (it should be noted that the ratios for all inter-state distributors are based on a constant length of mains, as the annual increase in length is not known – this will have the effect of showing an increasing trend over time for the non-Victorian distributors).

Figure 4-1: Customer Density

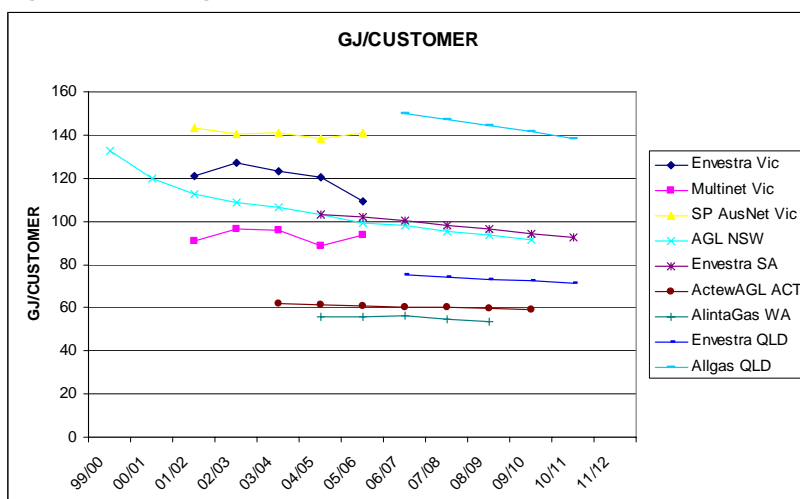


It can be seen that the Victorian distributors are at the high end of the range.

4.1.2 Average Consumption

The average consumption (measured by average GJ/customer) over time is shown in the following figure:

Figure 4-2: Average Consumption



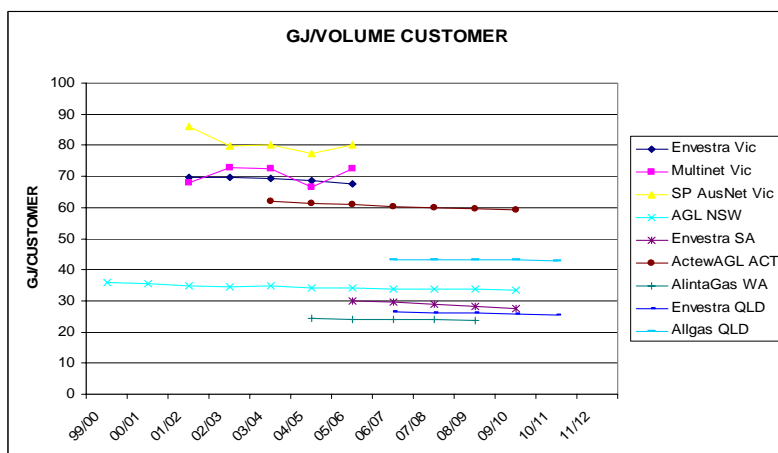
It can be seen that SP AusNet and Allgas have the highest levels of consumption per customer. Average consumption is very network-specific, depending on factors such as the mix of industrial / residential customers and the climate (which affects heating loads).



One way to normalise this network characteristic is to exclude the large (contract demand) customers, and make comparisons relating to the consumption of volume customers. This provides a better basis for benchmarked comparisons, as a key driver of Opex is the number of customers and most of the Capex for large customer works is funded by the large customers concerned.

Due to inconsistencies in the detailed data, it has not been possible to exclude the large customers from the customer numbers in every case. This will, however, make very little difference to the result, as the number of large customers is very small in comparison with the total number of customers.

Figure 4-3: Average Consumption (Volume Customers)

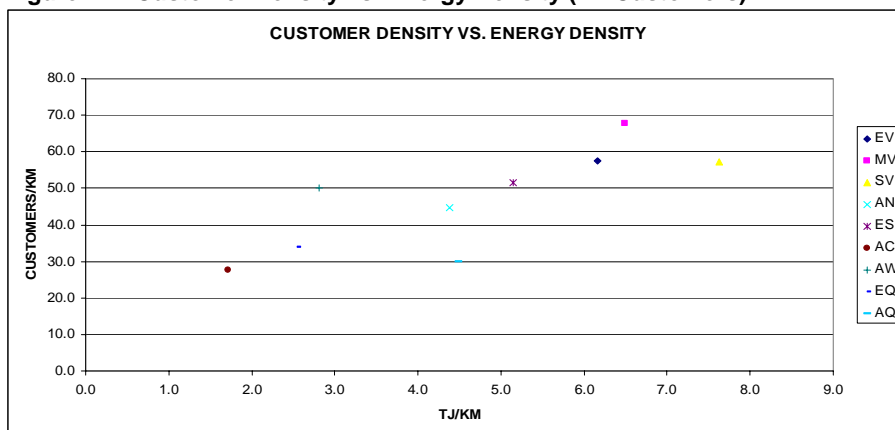


It can be seen that the three Victorian distributors have the highest average consumption levels. Higher average consumption levels can be expected to result in marginally lower Opex/GJ.

4.1.3 Customer Density vs. Energy Density

Customer density versus energy density is shown in the following chart:

Figure 4-4: Customer Density vs. Energy Density (All Customers)



It can be seen that there is a significant relationship between customer density and energy density, with higher customer densities associated with higher energy densities. This suggests the use of customer density and energy density as normalisation factors. The three Victorian distributors have relatively high customer densities and high energy densities.



4.1.4 Key Performance Indicators

The regulatory period applicable to each distributor is shown in the following table:

Table 4-2: Regulatory Periods

DISTRIBUTOR	REGULATORY PERIOD
Envestra Vic	2003-2008
MultiNet Vic	2003-2008
SP AusNet Vic	2003-2008
AGLGN NSW	2005/06-2009/10
Envestra SA	2006/07-2010/11
ActewAGL ACT	2005/06-2009/10
Alinta WA	2005-2009
Envestra QLD	2006/07-2010/11
Allgas QLD	2006/07-2010/11

The following table shows the high level Key Performance Indicators averaged over the relevant regulatory periods for the interstate distributors, and averaged over the period 2002-2006 for the Victorian distributors:



Table 4-3: Key Performance Indicators (Averaged Over the Relevant Regulatory Periods)

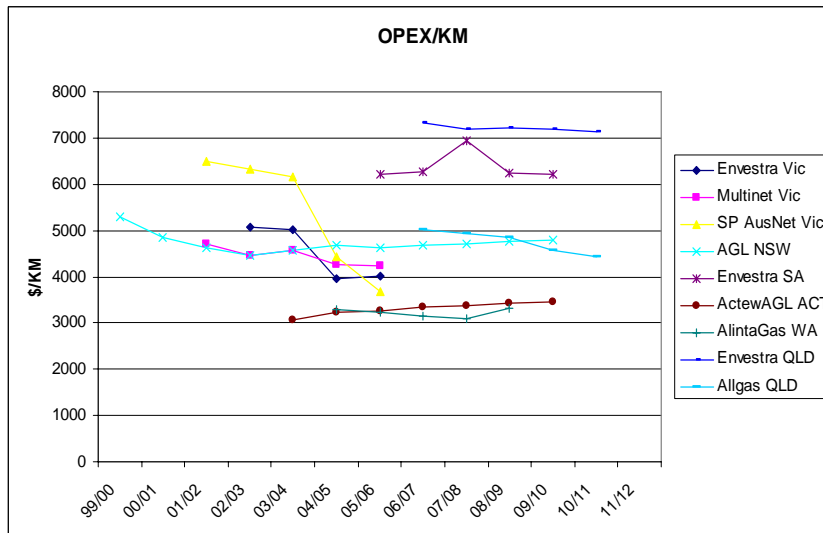
	Envestra VIC	Multinet VIC	SP AusNet VIC	AGLGN NSW	Envestra SA	ActewAGL ACT	Alinta WA	Envestra QLD	Allgas QLD
Opex\$/km	4,595	4,450	5,418	4,710	6,372	3,373	3,220	7,211	4,758
Opex\$/customer	87	66	95	102	120	116	64	199	148
Opex as % of RAB	5.2	4.5	5.4	5.0	5.5	4.8	5.3	6.2	3.1
Opex\$/GJ	0.72	0.71	0.67	1.06	1.24	1.92	1.17	2.72	1.02
Opex \$/GJ (<10TJ customers)	1.26	0.93	1.17	3.01	4.24	1.92	2.67	7.66	3.42
Capex \$/km	4,406	4,113	4,008	4,543	7,012	2,464	2,683	6,394	11,806
Capex as % of RAB	5.1	4.1	4.0	4.8	6.1	3.5	4.4	5.5	7.7
Capex \$/customer	85	61	70	99	131	85	54	177	365
Capex \$/GJ	0.71	0.66	0.50	1.03	1.37	1.41	0.97	2.41	2.53
Capex \$/GJ (<10TJ customers)	1.23	0.87	0.87	2.92	4.66	1.41	2.23	6.79	8.46
Opex as % of revenue	33.1	29.3	0.0	31.9	32.0	32.7	31.5	40.1	25.3
(Capex +Opex) \$/km	9,001	8,563	9,426	9,253	13,384	5,837	5,903	13,605	16,564



4.1.5 Opex/km

This is a measure commonly used by regulators to gauge the relative efficiency of distributors. The Opex/km over time is shown in the following figure:

Figure 4-5: Opex/km

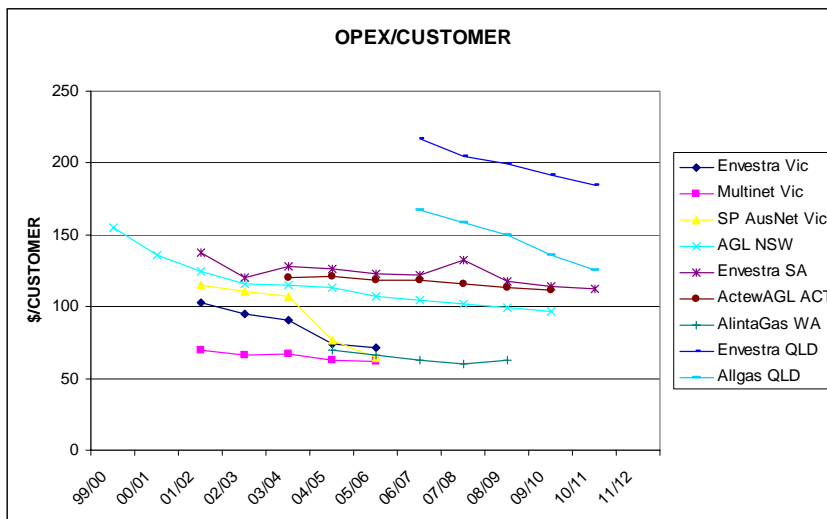


It can be seen that with the exception of Envestra Queensland and Envestra SA, the gas distributors have a similar level of Opex/km of mains.

4.1.6 Opex/Customer

This is another measure commonly applied by regulators to assess relative efficiency. The Opex/customer over time is shown in the following figure:

Figure 4-6: Opex/Customer



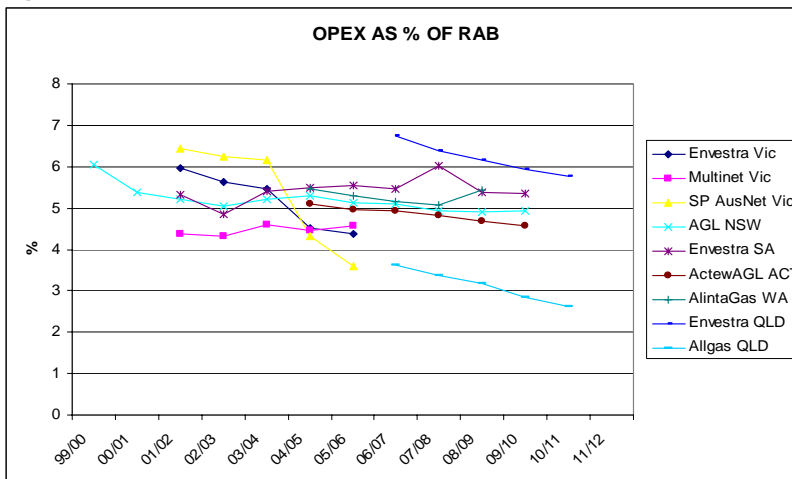
It can be seen that the three Victorian distributors have very similar levels of Opex/customer, which are lower than all other distributors with the exception of AlintaGas.



4.1.7 Opex as Percentage of Regulated Asset Base

Expressing expenditure as a proportion of the Regulated Asset Base (RAB) is a commonly used tool to normalise data between distributors, on the basis that the more assets there are in the network (and hence higher RAB), the greater the need for both Opex and Capex. Opex as a percentage of RAB over time is shown in the following figure:

Figure 4-7: Opex/RAB

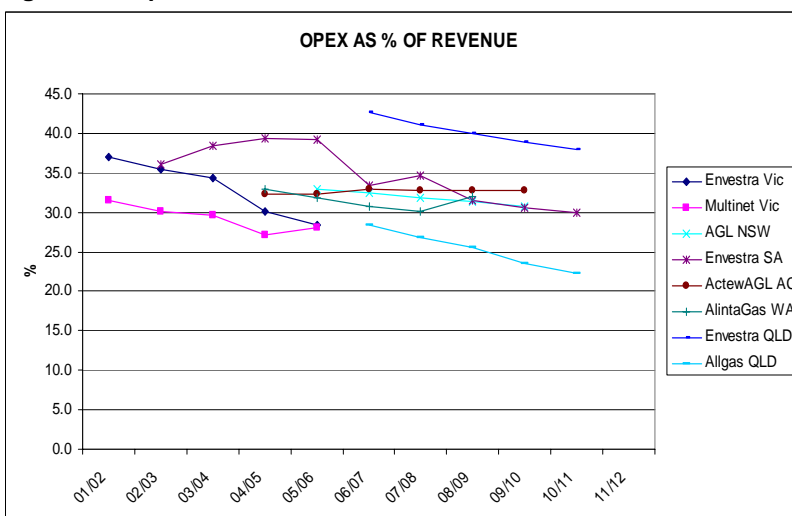


It can be seen that Opex as a percentage of RAB for the three Victorian distributors is consistent with that of the other distributors with the exception of Allgas which has the lowest values.

4.1.8 Opex as a Percentage of Revenue

Opex as a percentage of revenue over time is shown in the following figure:

Figure 4-8: Opex/Revenue



Historical revenue data was not available for SP AusNet. It can be seen that Opex as a percentage of revenue for Envestra Vic and Multinet is consistent with that of the other distributors, with the two Victorian distributors being at the bottom of the range.



4.1.9 Opex/GJ

Opex/GJ delivered is a KPI that is often applied in benchmarking studies; however, WorleyParsons considers that such a measure does little to assist in assessing relative efficiencies between distributors in different geographic regions. This is because a gas distributor has little influence over the volume of gas delivered (volumes are affected by factors such as temperature, level of gas penetration, mix of customer types etc.) and Opex does not vary significantly with changes in consumption. Nevertheless, WorleyParsons has included Opex/GJ over time and Opex/GJ (Volume Customers) in the following figures for completeness:

Figure 4-9: Opex/GJ

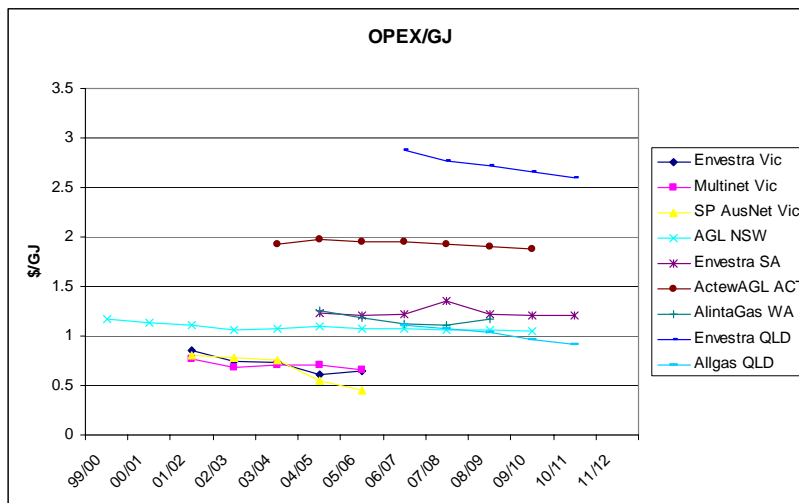
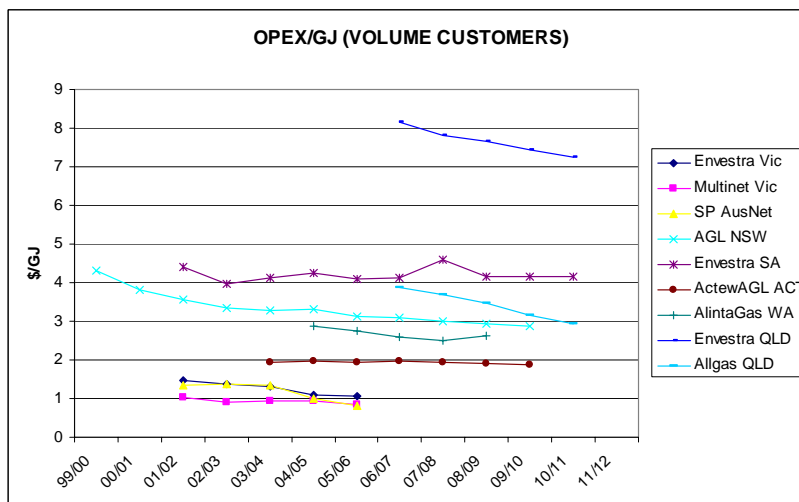


Figure 4-10: Opex/GJ Volume Customers



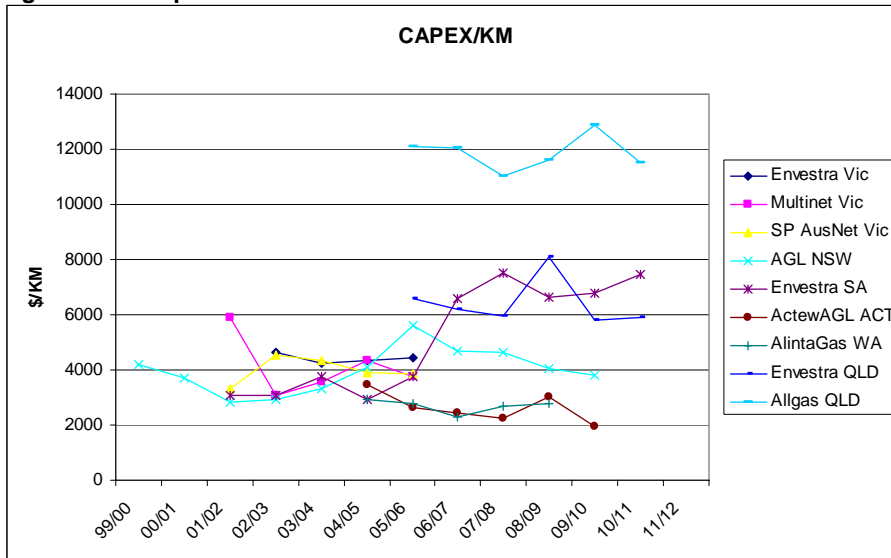
It can be seen that the three Victorian distributors have very similar levels of Opex/Volume customer (this is to be expected as they are operating under similar conditions) which are significantly lower than other distributors.



4.1.10 Capex/km

This is another commonly used measure and Capex/km over time is shown in the following figure:

Figure 4-11: Capex/km

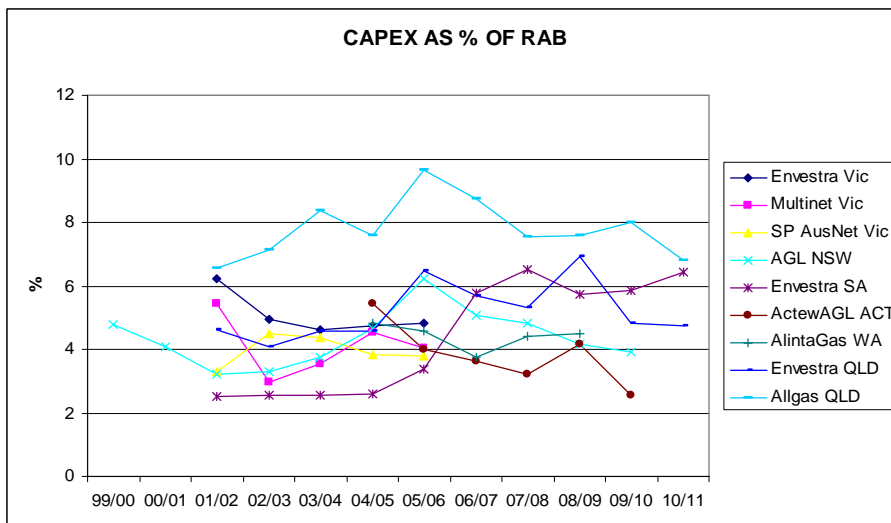


It can be seen that the three Victorian distributors have levels of Capex/km that are in line with other distributors over the same period, with the exception of Allgas which is much higher.

4.1.11 Capex as Percentage of Regulated Asset Base

This is another commonly used measure and Capex as a percentage of RAB over time is shown in the following figure:

Figure 4-12: Capex/RAB



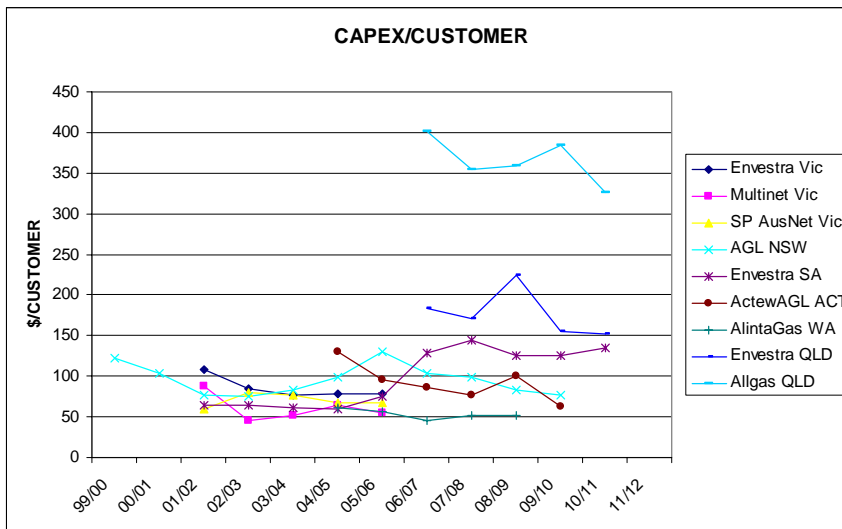
It can be seen that the three Victorian distributors are towards the low end of the range by the end of the period.



4.1.12 Capex/Customer

This is another standard measure and Capex/customer over time is shown in the following figure:

Figure 4-13: Capex/Customer



It can be seen that the three Victorian distributors are towards the bottom of the range, with Multinet being at or near the bottom for the period.

4.1.13 Capex/GJ Delivered

Capex/GJ delivered is another high level KPI that is often applied. As with Opex/GJ discussed in Section 4.1.9, WorleyParsons considers that such a measure does little to assist in assessing relative efficiencies between distributors; nevertheless, Capex/GJ and Capex/GJ (Volume Customers) have been included for completeness in the following figures:

Figure 4-14: Capex/GJ Delivered

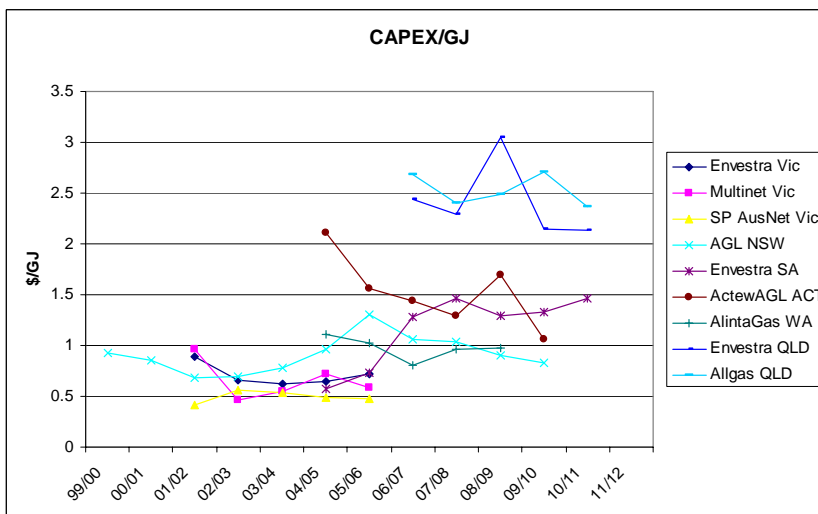
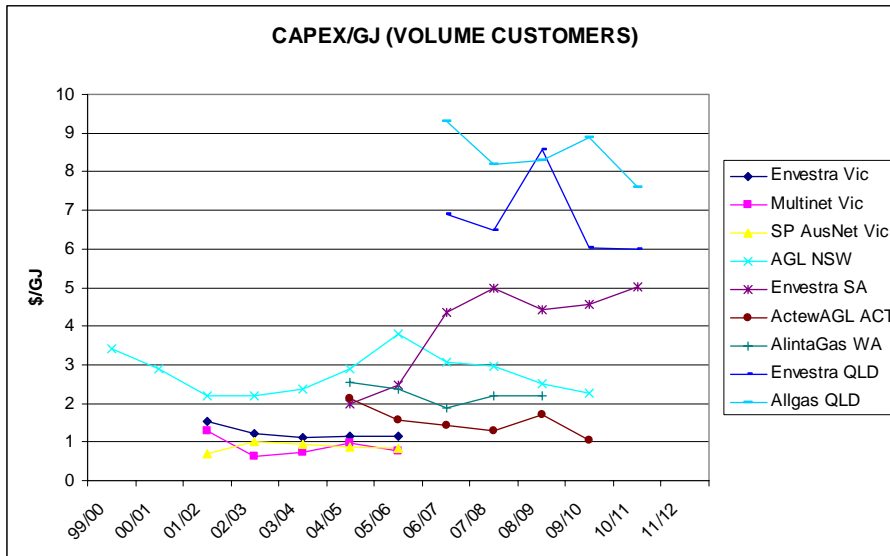




Figure 4-15: Capex/GJ (Volume Customers)

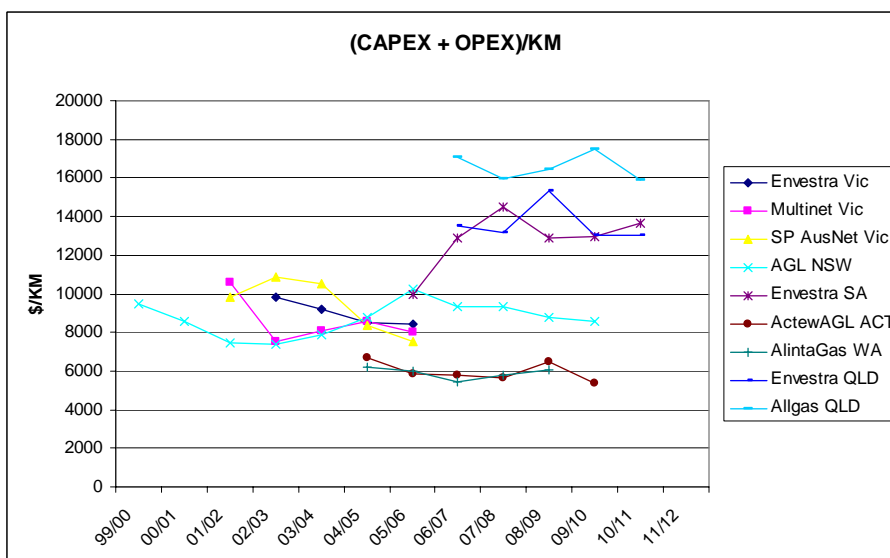


It can be seen that the three Victorian distributors are at the bottom of the range.

4.1.14 Total Expenditure/km

As there are often trade-offs between Capex and Opex (e.g. a decision not to spend Capex to replace CI mains will result in higher Opex), it is useful to present total expenditure (i.e. Capex plus Opex) per km. Total expenditure/km over time is shown in the following figure:

Figure 4-16: Total \$/km



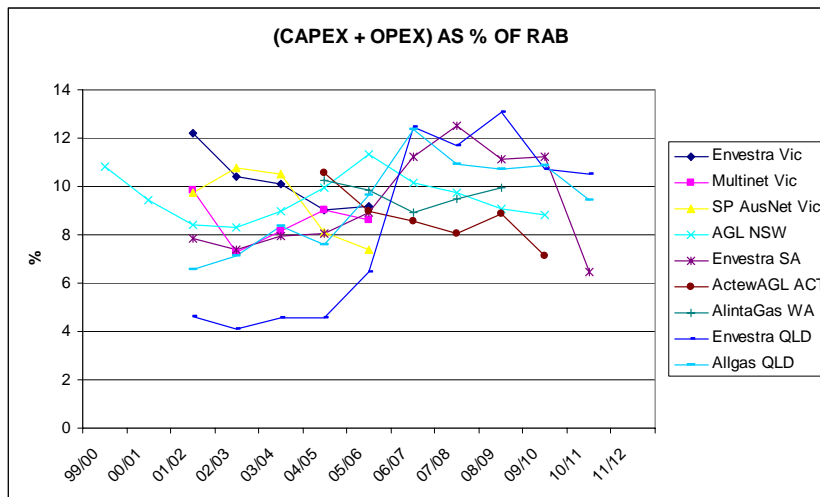
It can be seen that the three Victorian distributors are towards the lower end of the range.



4.1.15 Total Expenditure as % of RAB

Expressing total expenditure as a percentage of RAB is a commonly used normalisation technique. There are trade-offs between Capex and Opex and use of the RAB takes into account the relative size of the networks. The distributors' relative positions are shown in the following figure:

Figure 4-17: Total Expenditure as a % of RAB

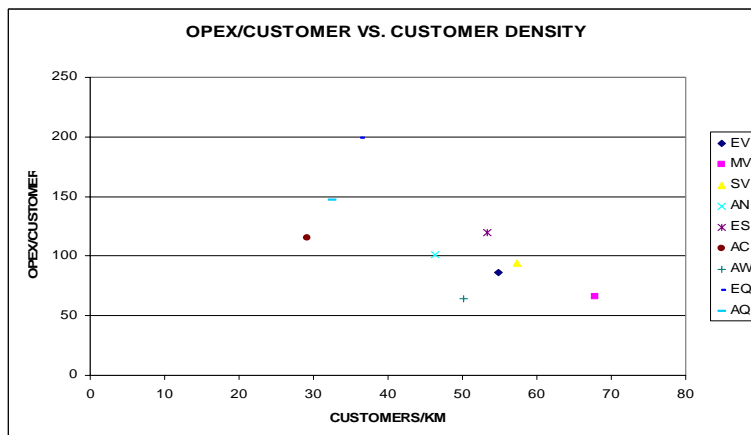


It can be seen that, with the exception of Envestra Queensland, the distributors have similar levels of total expenditure as a percentage of RAB and that the Victorian distributors are in the middle of the range.

4.1.16 Opex per Customer Versus Customer Density

It can be expected that the level of Opex per customer will decrease with increasing customer density, as there are less assets to operate and maintain. Opex per customer versus customer density is shown in the following figure:

Figure 4-18: Opex/Customer Versus Customer Density



It can be seen that the Opex per customer for the three Victorian distributors is consistent with their customer density.



4.2 Conclusions

Across the range of indicators, the three Victorian distributors have similar values and together take a similar position relative to the interstate distributors. The position of the three Victorian distributors relative to the interstate distributors is summarised in the following table:

Table 4-4: Relative Position of Victorian Distributors

INDICATOR	RELATIVE POSITION
Opex\$/km	Towards the lower end of the range by the end of the period
Opex\$/customer	Low end of the range
Opex as % of RAB	Low end of the range
Opex \$/GJ (Volume customers)	Lowest by far
Capex \$/km	Towards the low end of the range
Capex as % of RAB	Towards the lower end of the range by the end of the period
Capex \$/customer	Low end of the range
Capex \$/GJ (Volume customers)	Lowest
Opex as % of revenue	Low end of the range (no data for SP AusNet)
(Capex +Opex) \$/km	Towards the low end of the range

Based on the relative position of the three Victorian distributors over the range of indicators, WorleyParsons concludes that the levels of Capex and Opex by the three Victorian distributors over the period 2002-2006 are reasonable. It should be noted that the expenditure levels for the interstate distributors are those determined by the relevant jurisdictional regulators to be reasonable.



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5. LOW LEVEL BENCHMARKS

5.1 Data Availability

Comparative unit rates are shown in the following table (the costs for the Victorian distributors are averaged over the period 2002-2006 and the costs for interstate distributors are averaged over the relevant regulatory period). It can be seen that there is little comparative information available in the public arena at this level. Some further information regarding individual distributors is available and discussed later in this section of the report.



Table 5-1: Low Level Benchmarks

	ENVESTRA VIC	MULTINET VIC	SP AUSNET VIC	AGLGN NSW	ENVESTRA SA	ACTEWAGL ACT	ENVESTRA QLD	ALLGAS QLD
STAY IN BUSINESS								
Periodical Meter Change Domestic \$/unit Total	121	81	106	141	102	160	133	109-140
Periodical Meter Change I&C \$/unit Total	2,342	347	2,315	1,794	1,351	2,588	705	430-630
Mains Replacements total cost/m	117	133	109	78	65		99	129
GROWTH								
Cost per new residential customer								
Mains	506	178	967			663		
Services	667	935	599			679		810
Meters/regulators	168	154	146	185		185	180*	190
Total per customer	1,341	1,268	1,712	1,340		1,535		
Cost per new I&C customer								
Mains	550	1,033	3,623		2,891	1,730		
Services	2,580	0	2,546		1,132	1,179		
Meters/regulators	2,098	1,928	4,669		2,474	2,540		
Total per customer	5,228	2,961	10,837		6,497	5,448	6,293	14,000

* This excludes an additional \$60 that Envestra was allowed for provision of the meter box and costs due to remote locations

It can be seen that there is a wide variation in the unit costs for meter changes for industrial/commercial customers and for connecting a new industrial/commercial customer. These costs are very dependant on the mix of types of industrial/commercial customers, so comparisons at the level of total costs for industrial/commercial customers are of limited value. Although residential customer costs are also subject to dependence on the mix of customer types (e.g. new estates and existing homes), there is less variation and some useful conclusions can be drawn from the comparisons.



5.2 Stay in Business

5.2.1 Meter Change - Domestic

The comparative data is shown in the following table:

Table 5-2: Meter Change - Domestic

DISTRIBUTOR	EV	MV	SV	AN	ES	AC	EQ	AQ
Cost \$/Unit	121	81	106	141	102	160	133	109-140

WorleyParsons considers that the costs for the Envestra Victoria and SP AusNet for a domestic meter change are reasonable. The unit costs provided by Multinet vary widely over the period, ranging from \$45 to \$133. Such a wide variation would need further investigation and analysis, but may be due to variations in the mix between new and refurbished meters.

5.2.2 Meter Change - Industrial/Commercial

The available comparative data is shown in the following table:

Table 5-3: Meter Change – Industrial/Commercial

DISTRIBUTOR	EV	MV	SV	AN	ES	AC	EQ	AQ
Cost \$/Unit	2,342	347	2,315	1,794	1,351	2,588	705	430-630

It can be seen that there are wide fluctuations in cost, which could be due to valid reasons associated with differing types of industrial/commercial installations. Again, Multinet’s unit costs are low, ranging from \$52 to \$1,351. WorleyParsons is not able to assess the efficiency of the three Victorian distributors; this would require further information and analysis.

5.2.3 Mains Renewal

The available comparative data is shown in the following table:

Table 5-4: Mains Renewal

DISTRIBUTOR	EV	MV	SV	AN	ES	EQ	AQ
Cost \$/Unit	117	133	109	78	65	99	129

The unit cost for mains renewal can vary widely from year to year and between distributors, depending on the nature of the renewals program (e.g. renewals in the CBD and inner urban areas are far more expensive than rural or outer urban areas, due to traffic densities, re-instatement costs, congestion with other services etc.). The three Victorian distributors have similar unit costs which are consistent with those of the two Queensland distributors.



5.3 Growth

5.3.1 General Mains

The available comparative data is shown in the following table:

Table 5-5: General Mains

DISTRIBUTOR	EV	MV	SV	ES	AC
Cost per New Domestic Customer	506	178	967		663
Cost per New I/C Customer	550	1,033	3,623	2,891	1,730

It can be seen that there is a very wide variation in the costs for mains for a new domestic customer and a similar variation in the cost for a new industrial/commercial customer. These costs are affected by factors such as the mix of new premises, existing premises and multi-user premises. The costs for MultiNet are much lower than for the other distributors for domestic customers. MultiNet’s lower domestic mains cost per connection may be attributable to most of its new connections being in in-fill areas where there is a far lower requirement for new mains when compared to green-field sites. There is insufficient information to be able comment on the costs for the three Victorian distributors.

5.3.2 Meters/Regulators

The available comparative data is shown in the following table:

Table 5-6: Meters/Regulators

DISTRIBUTOR	EV	MV	SV	AN	ES	AC	EQ	AQ
Cost per New Domestic Customer	168	154	146	185		185	180	190
Cost per New I/C Customer	2,098	1,928	4,669		2,474	2,540		

It can be seen that for domestic customers, the three Victorian distributors have lower costs than the other distributors. As the installation of a new domestic meter is a relatively standard activity, WorleyParsons concludes that the costs for the three Victorian distributors are reasonable.

Variation in the meter cost for industrial and commercial customers is to be expected, as it is highly dependant on the types of meters required, the costs of which vary widely. There is insufficient information to comment on the costs for the three Victorian distributors.



5.3.3 Services

The available comparative data is shown in the following table:

Table 5-7: Services

DISTRIBUTOR	EV	MV	SV	ES	AC	AQ
Cost per New Domestic Customer	667	935	599		679	810
Cost per New I/C Customer	2,580	*	2,546	1,132	1,179	

* Included in General Mains

The costs for Envestra Vic and SP AusNet domestic services appear to be reasonable. The cost for domestic customers for MultiNet appears to be on the high side, which may be attributable to its high proportion of in-fill and multiple occupancy sites. MultiNet has advised that it does not separately record the services cost for industrial and commercial customers. As in the discussion for mains and meters, there is insufficient information to comment on the costs for industrial and commercial services.

5.3.4 Total Cost per New Customer

The available comparative data for the total of mains, services and meters is shown in the following table:

Table 5-8: Total Cost per New Customer

DISTRIBUTOR	EV	MV	SV	AN	ES	AC	EQ	AQ
Cost per New Domestic Customer	1,341	1,268	1,712	1,340		1,535		
Cost per New I/C Customer	5,228	2,961	10,837		6,497	5,448	6,293	14,000

Costs per new domestic customer, for the five distributors for which data is available, fall in the range \$1,268 (Multinet) to \$1,712 (SP AusNet). The higher costs for SP AusNet are due to relatively high mains costs. The costs for industrial/commercial customers are very network-specific, and further information and analysis would be required to make meaningful comparisons for this class of customers.

5.4 Conclusions

Based on the foregoing comparisons, WorleyParsons draws the following conclusions:

- WorleyParsons considers that the costs for Envestra Victoria and SP AusNet for a domestic meter change are reasonable. The unit costs provided by Multinet vary widely over the period, and would need further investigation and analysis.
- WorleyParsons does not have sufficient information to be able to comment on the costs for industrial and commercial periodic meter changes for the three Victorian distributors.
- The three Victorian distributors have similar mains renewal unit costs which are consistent with those of the two Queensland distributors.



- For general mains for new customers, WorleyParsons does not have sufficient information to be able to comment on the costs for the three Victorian distributors.
- For domestic customers, the three Victorian distributors have lower costs than the other distributors. As the installation of a new domestic meter is a relatively standard activity, WorleyParsons concludes that the costs for the three Victorian distributors are reasonable.
- For the three Victorian distributors, WorleyParsons does not have sufficient information to be able to comment on the costs for meters for new industrial and commercial customers, but notes that these costs are not easily benchmarked due to the wide-varying nature of such costs.
- The costs for Envestra Vic and SP AusNet domestic services appear to be reasonable. The cost for domestic customers for MultiNet appears to be on the high side, which may be attributable to its high proportion of in-fill and multiple occupancy sites.
- For the three Victorian distributors, WorleyParsons does not have sufficient information to be able to comment on the costs for services for new industrial and commercial customers.



6. GLOSSARY

CI	Cast Iron
ECG	Energy Consulting Group
ERA	Economic Regulation Authority
ESCOSA	Essential Services Commission of South Australia
ESCV	Essential Services Commission Victoria
GJ	giga joule
FRC	Full Retail Contestability
ICRC	Independent Competition and Regulatory Commission
I&C	Industrial and Commercial
IPART	Independent Pricing and Regulatory Tribunal
KPI	Key Performance Indicator
MMA	McLennan Magasanik Associates
OEAM	Origin Energy Asset management
PB	Parsons Brinckerhoff
RAB	Regulatory Asset Base
SAIPAR	South Australian Independent Pricing and Access Regulator
QCA	Queensland Competition Authority
TJ	tera joule
UAFG	Unaccounted for Gas



7. APPENDICES

7.1 Documents Accessed

ICRC – Draft Decision Review of Access Arrangement, July 2004

ICRC – Final Decision Review of Access Arrangement, October 2004

ActewAGL – Access Arrangement Information, December 2003

ActewAGL – Access Arrangement Information, November 2004

MMA – Review of Expenditure, Demand Forecasts & Cost Attribution for ActewAGL Gas Distribution Network in the ACT, Queanbeyan & Yarrowlunla, 28 June 2004

IPART – Revised Access Arrangement for AGL Gas Networks Draft Decision, December 2004

ECG – Review of AGL GN Gas Access Arrangement, August 2004

PB – Review of AGL Gas Networks Operating Expenditure, December 2004

ECG – Review of AGL GN Gas Access Arrangement Supplementary Report, October 2004

AGL GN – Access Arrangement Information, December 2003

ERA – Final Decision on the Proposed Revisions to the Access Arrangements for the Mid-West and South-West Gas Distribution Systems, 12 July 2005

AlintaGas Networks – Access Arrangement information, 21 March 2005

AlintaGas Networks – Amended Access Arrangement information, 29 July 2006

QCA Final Decision Revised Access Arrangements for Gas Distribution Networks – Allgas Energy May 2006

QCA Final Decision Revised Access Arrangements for Gas Distribution Networks–Envestra May 06

MMA Final Report to QCA Update Demand Forecasts for Envestra 10 April 2006

MMA Final Report to QCA Update Demand Forecasts for Allgas 10 April 2006

ECG Envestra Pty Ltd Capital & Operating Expenditure Review for QCA 10 April 2006

ECG Allgas Energy Pty Ltd Capital & Operating Expenditure Review for QCA 19 April 2006

Allgas Energy AAI 7 June 2006

Envestra Amended AAI for Envestra's Queensland Network 5 June 2006

ESCOSA Final Decision Proposed Revisions to the Access Arrangements for the South Australian Gas Distribution System June 2006

Envestra AAI for Envestra's South Australian Network September 2005

ECG Envestra Ltd Capital & Operating Expenditure Review for ESCOSA 26 March 2006



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MMA Stage 2 Report to ESCOSA – Demand Forecasts for the Envestra Gas Distribution Network in South Australia 21 March 2006



7.2 Performance Indicators for Victorian Distributors

Figure 7-1: Customer Density (Victoria)

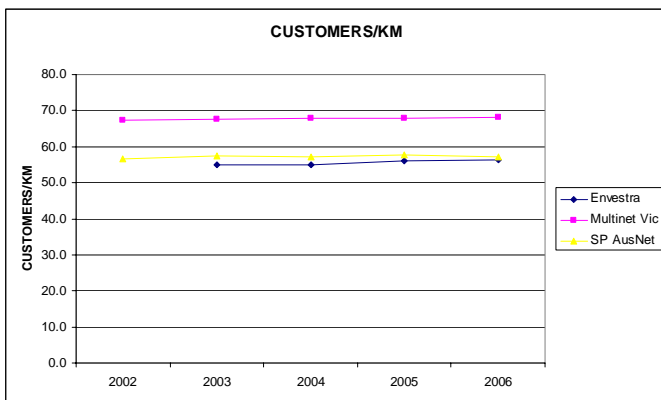


Figure 7-2: Average Consumption (Victoria)

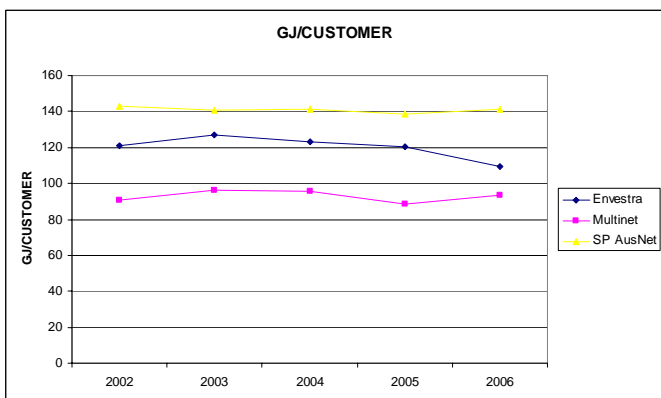


Figure 7-3: Average Consumption - Volume Customers (Victoria)

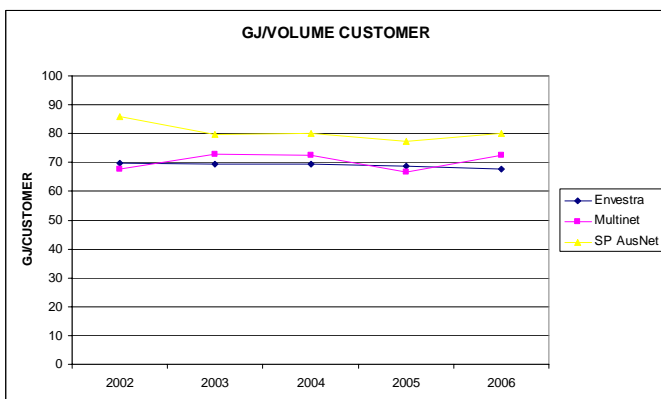




Figure 7-4: Opex/km (Victoria)

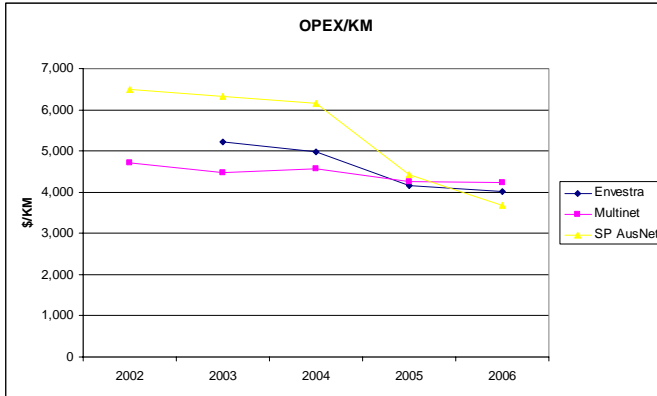


Figure 7-5: Opex/Customer (Victoria)

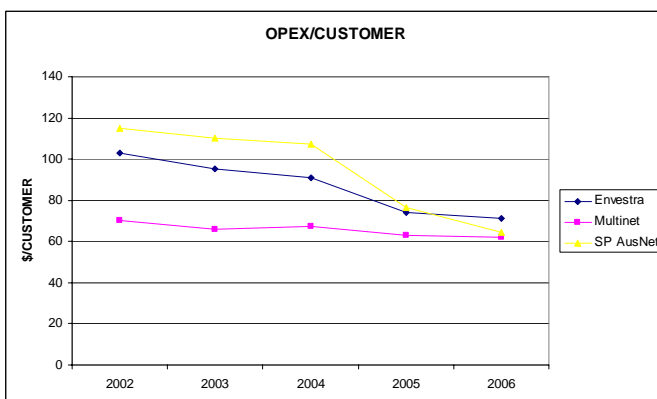


Figure 7-6: Opex as % of RAB (Victoria)

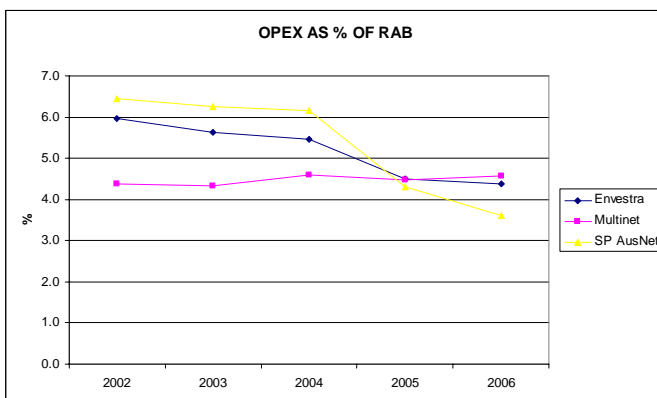




Figure 7-7: Opex as % of Revenue (Victoria)

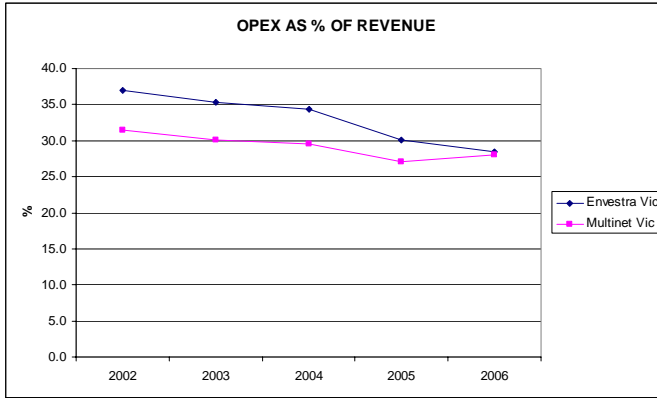


Figure 7-8: Opex/GJ (Victoria)

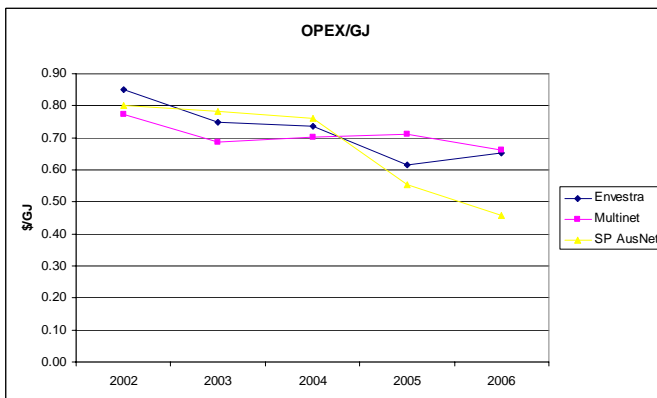


Figure 7-9: Opex/GJ - Volume Customers (Victoria)

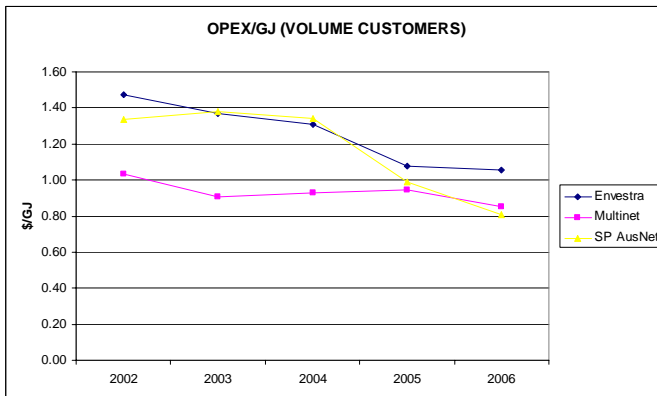




Figure 7-10: Capex/km (Victoria)

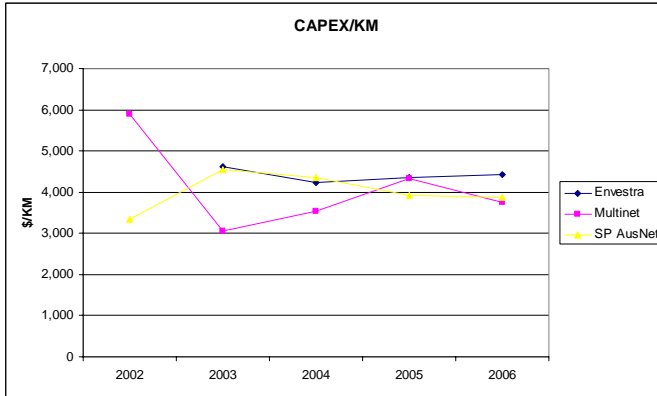


Figure 7-11: Capex as % of RAB (Victoria)

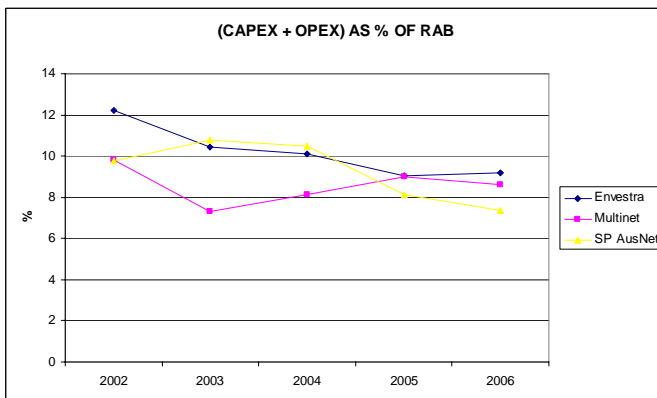


Figure 7-12: Capex/Customer (Victoria)

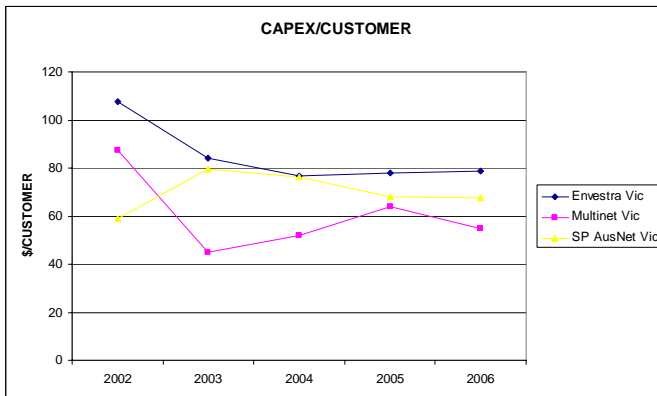




Figure 7-13: Capex/GJ (Victoria)

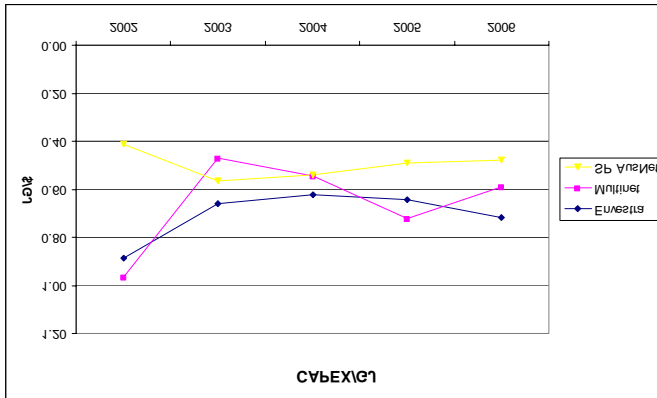


Figure 7-14: Capex//GJ - Volume Customers (Victoria)

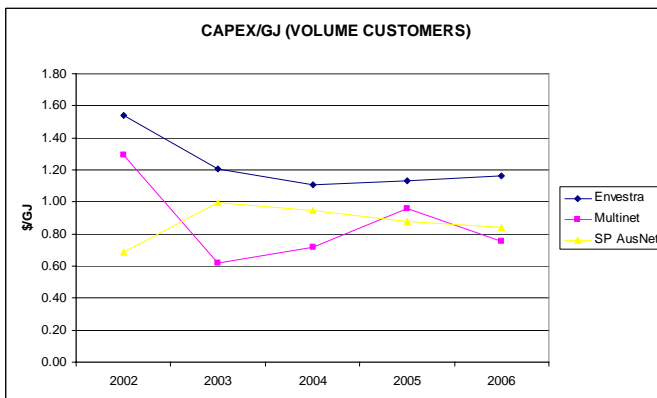


Figure 7-15: (Capex + Opex)/km (Victoria)

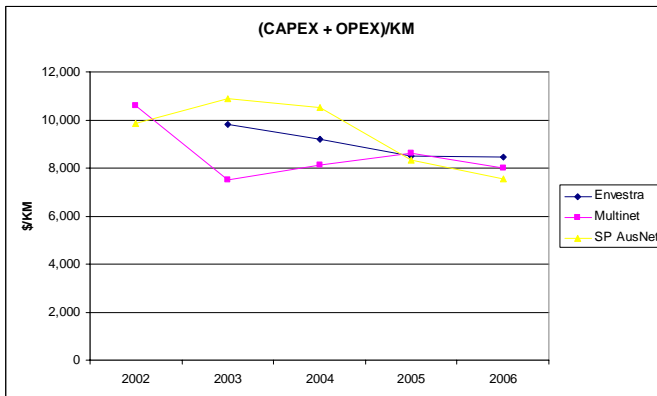




Figure 7-16: (Capex + Opex) as % of RAB (Victoria)

