

# WEEKLY MARKET ANALYSIS



AUSTRALIAN ENERGY  
REGULATOR

27 July – 2 August 2008

## Summary

Spot prices for the week on the mainland averaged between \$36/MWh in Queensland and \$41/MWh in South Australia. This was despite new record demands in New South Wales and the NEM on Monday as a result of cold weather. The average spot price in Tasmania was \$52/MWh.

In the financial markets, base contract prices remained steady compared to the previous week. Cap contract prices increased in all regions except South Australia.

## Spot market prices

Figure 1 sets out the volume weighted average price for this week and the financial year to date across the NEM. It compares these prices with price outcomes from the previous week and year to date respectively.

**Figure 1: Volume weighted average spot price by region (\$/MWh)**

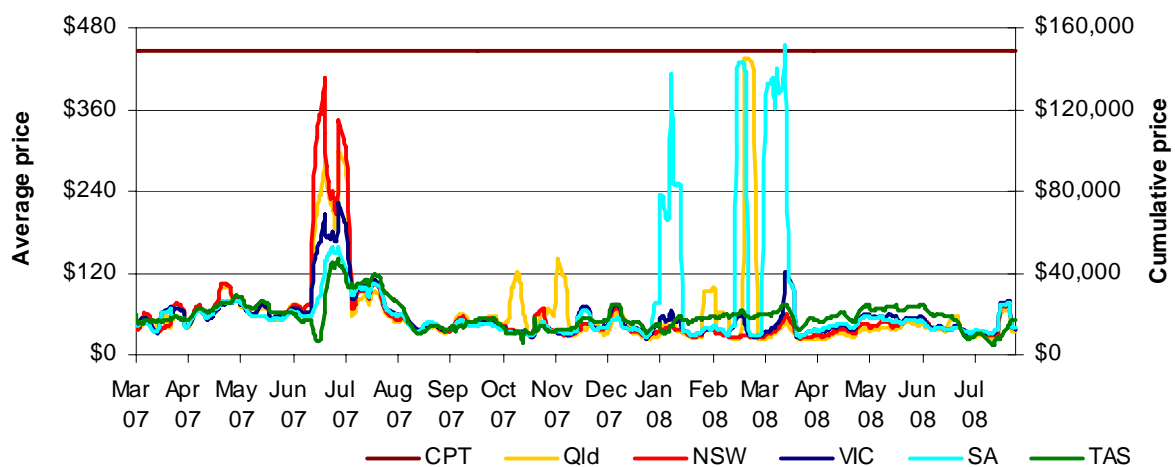
	Qld	NSW	VIC	SA	Tas
Ave price for 27 July – 2 August	36	39	39	41	52
Financial year to 2 August	39	44	45	47	32
% change from previous week*	-50%	-51%	-53%	-52%	50%
% change from year to date**	-47%	-46%	-48%	-47%	-68%

\*The percentage change between last week's average spot price and the average price for the previous week.

\*\*The percentage change between the average spot price for the current financial year to date and the average spot price over the similar period for the previous financial year

The AER provides further information if the spot price exceeds three times the weekly average. Details of these events are attached in Appendix A. Longer term market trends are attached in Appendix B. Figure 2 shows the seven day rolling cumulative price for each region together with the CPT (and the equivalent seven day time-weighted average price) for the last 15 months.

**Figure 2: Seven day rolling cumulative price and CPT**



## Financial markets

Figures 3 to 10 show futures contract<sup>1</sup> prices traded on the Sydney Futures Exchange as at close of trade on Monday 4 August. Figure 3 shows the financial year base futures contract prices for the current year, the following two years, and the three year average. Also shown are percentage changes compared to a week earlier.

**Figure 3: Base financial year futures contract prices (\$/MWh)**

	QLD		NSW		VIC		SA	
Financial 2008-09	48	3%	46	0%	48	0%	54	0%
Financial 2009-10	53	0%	49	0%	62	0%	54	0%
Financial 2010-11	46	0%	45	0%	54	0%	42	2%
Three year average	49	1%	47	0%	55	0%	50	2%

Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 4 shows the \$300 cap contract price for the first quarter of 2009 and the 2009 calendar year and the change from the previous week.

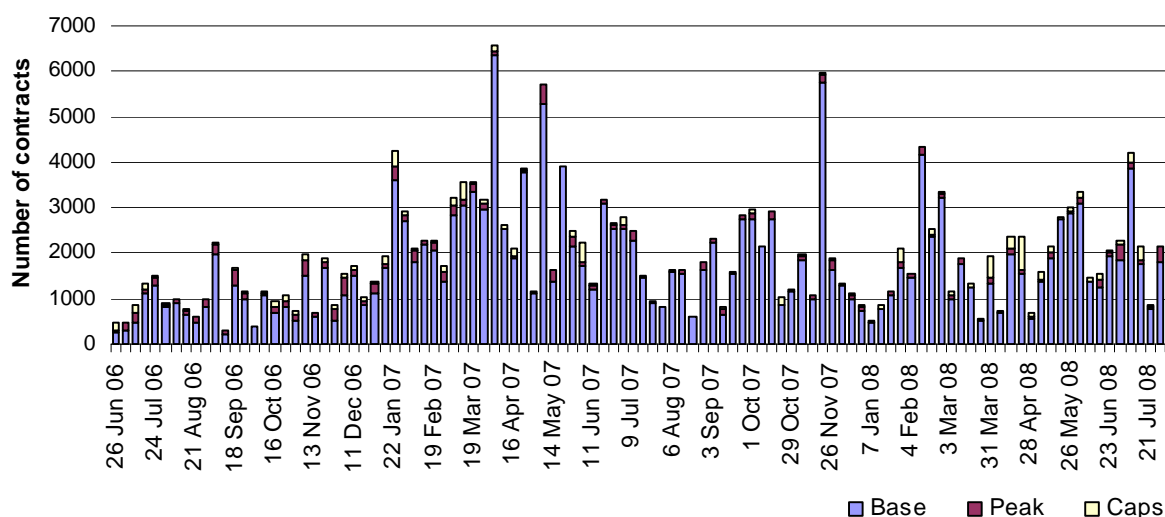
**Figure 4: \$300 cap contract prices (\$/MWh)**

	QLD		NSW		VIC		SA	
Q1 2009 price	41	7%	23	5%	24	5%	65	0%
Calendar 2009	16	4%	11	5%	11	3%	21	-1%

Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 5 shows the weekly trading volumes for base, peak and cap contracts, the date represents the end of the trading week.

**Figure 5: Number of exchange traded contracts per week**

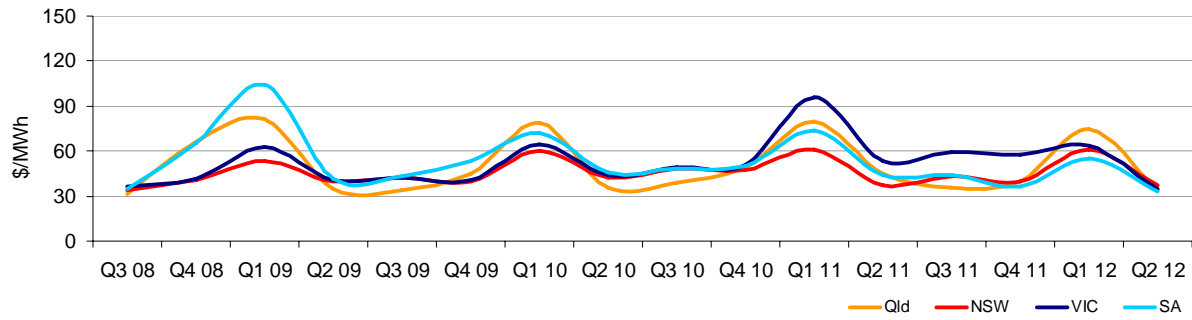


Source: d-cyphaTrade www.d-cyphatrade.com.au

<sup>1</sup> Futures contracts on the SFE are listed by d-cyphaTrade (www.d-cyphatrade.com.au). A futures contract is typically for one MW of electrical energy per hour based on a fixed load profile. A base load profile is defined as the base load period from midnight to midnight Monday to Sunday over the duration of the contract quarter. A peak load profile is defined as the peak-period from 7 am to 10 pm Monday to Friday (excluding Public holidays) over the duration of the contract quarter.

Figure 6 shows the prices for base contracts for each quarter for the next four years.

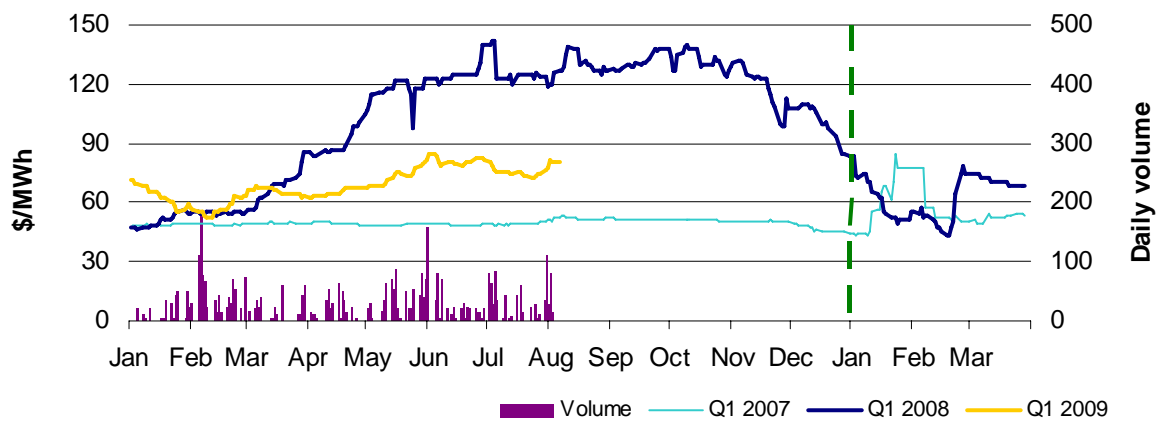
**Figure 6: Quarterly base future prices 2008 - 2012**



Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

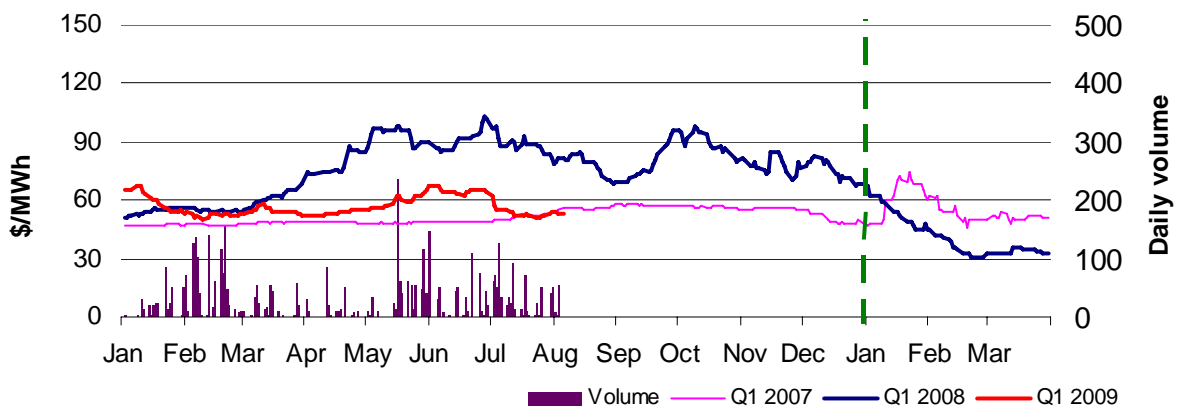
Figures 7-10 compares for each region the closing daily base contract price for the first quarter of 2007, 2008 and 2009. Also shown is the daily volume of Q1 09 base contracts traded. The vertical dashed line signifies the start of the Q1 period.

**Figure 7: Queensland Q1 2007, 2008 and 2009**



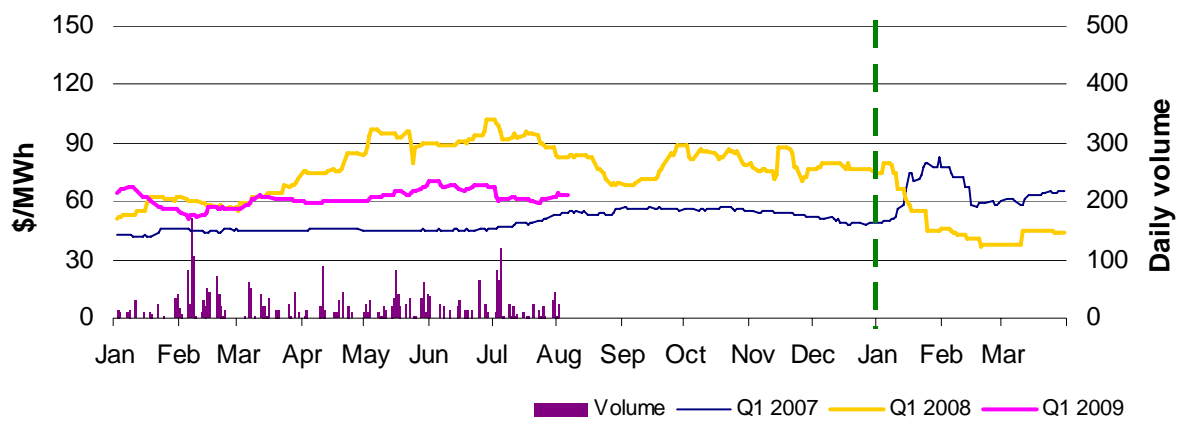
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 8: New South Wales Q1 2007, 2008 and 2009**



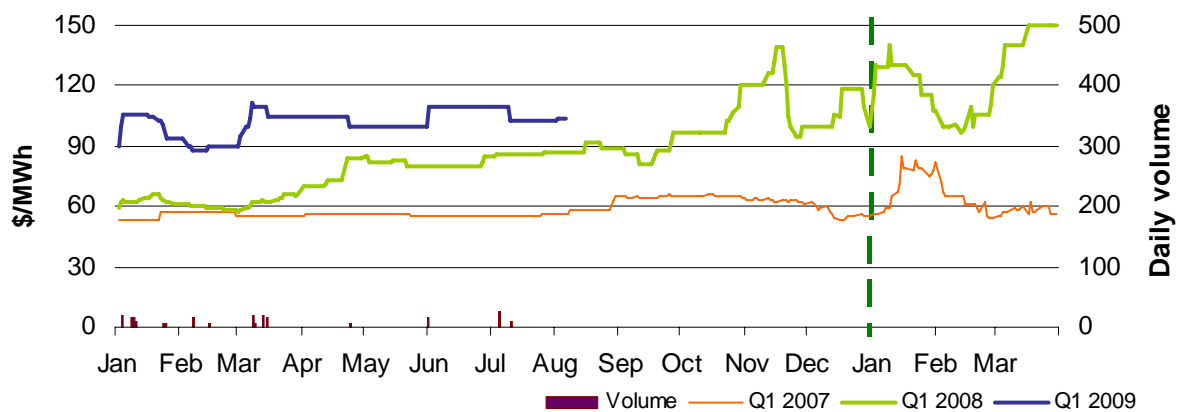
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 9: Victoria Q1 2007, 2008 and 2009**



Source: d-cyphaTrade www.d-cyphatrade.com.au

**Figure 10: South Australia Q1 2007, 2008 and 2009**



Source: d-cyphaTrade www.d-cyphatrade.com.au

### Spot market forecasting variations

The AER is required by the National Electricity Rules to determine whether there is a significant variation between the forecast spot price published by NEMMCO and the actual spot price and state why the AER considers that the significant price variation occurred. It is not unusual for there to be significant variations as demand forecasts vary and as participants react to changing market conditions. There were 117 trading intervals where actual prices significantly varied from forecasts<sup>2</sup> throughout the week. This compares to the weekly average in 2007 of 125 counts. Reasons for these variances are summarised in Figure 11<sup>3</sup>.

**Figure 11: Reasons for variations between forecast and actual prices**

	Availability	Demand	Network	Combination
Price is higher than forecast	1%	53%	0%	1%
Price is lower than forecast	39%	6%	0%	2%

<sup>2</sup> A trading interval is counted as having a variation if the actual price differs significantly from the forecast price either four or twelve hours ahead.

<sup>3</sup> The table summarises (as a percentage) the number of times when the actual price differs significantly from the forecast price four or twelve hours ahead and the major reason for that variation. The reasons are classified as availability (which means that there is a change in the total quantity or price offered for generation), demand forecast inaccuracy, changes to network capability or as a combination of factors (when there is not one dominant reason). An instance where both twelve and four hour ahead forecasts differ significantly from the actual price will be counted as two variations.

## Demand and bidding patterns

The AER reviews demand, network limitations and generator bidding as part of its market monitoring to better understand the drivers behind price variations. Figure 12 shows changes to the offer price and available capacity of generation in each region for the on-peak periods only<sup>4</sup>. For example, in Queensland 262 MW less capacity was offered at prices less than \$20/MWh this week compared to the previous week. Also included is the change in average demand during peak periods for comparison.

**Figure 12: Changes in available generation compared to the previous week during peak times**

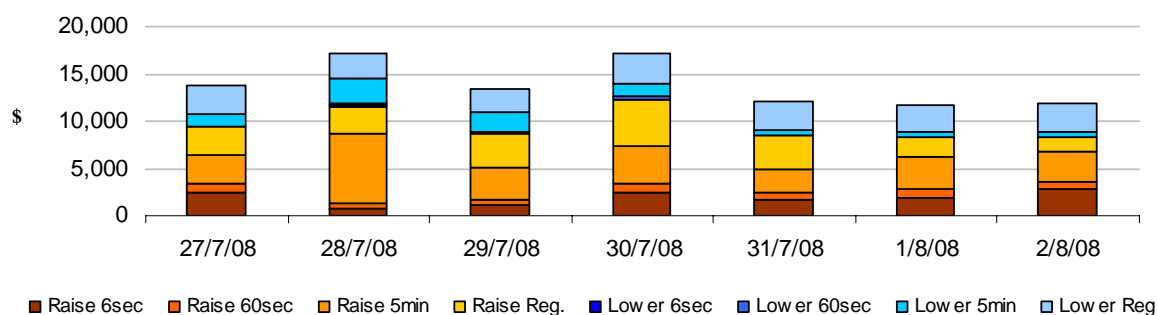
\$/MWh	<20	Between 20 and 50	Total availability	Change in average demand
Queensland	-262	39	-349	22
New South Wales	-204	48	-19	72
Victoria	521	-119	576	-44
South Australia	102	-28	70	-31
Tasmania	-214	59	-47	-61
Total	-58	-1	230	-41

## Ancillary services market

The total cost of ancillary services on the mainland for the week was \$65 000 or 0.04 per cent of turnover in the energy market. The total cost of ancillary services in Tasmania for the week was \$32 000 or 0.3 per cent of the turnover in the Tasmanian energy market.

Figure 13 shows the daily breakdown of cost for each frequency control ancillary service.

**Figure 13: Daily frequency control ancillary service cost**



## Australian Energy Regulator August 2008

<sup>4</sup> Peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

# Appendix A:

## Detailed Market Analysis

27 July – 2 August 2008

**National:** Spot prices within the national market are regularly aligned with conditions in one region reflected across all others. There were six occasions where the price generally aligned across all mainland regions and the prices were greater than three times the weekly average price. In the following table the New South Wales spot price has been used as a proxy national price under these conditions as New South Wales is located in the centre of the NEM.

### Monday, 28 July

<b>6:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	140.88	92.40	49.85
Demand (MW)	33 843	32 454	31 252
Available capacity (MW)	38 710	38 799	39 131
<b>6:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	181.94	100.00	87.11
Demand (MW)	34 422	32 795	31 975
Available capacity (MW)	38 722	38 793	39 140
<b>7:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	173.70	118.66	75.01
Demand (MW)	34 318	33 147	31 893
Available capacity (MW)	38 732	38 801	39 147
<b>7:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	126.33	90.19	58.24
Demand (MW)	33 783	32 675	31 516
Available capacity (MW)	38 696	38 799	39 096
<b>8:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	107.95	87.72	49.04
Demand (MW)	33 131	32 197	31 062
Available capacity (MW)	38 546	38 611	38 907

Conditions at the time saw demand up to 1600 MW higher than forecast four hours ahead. New record demands of 14 287 MW in New South Wales and 34 422 MW across the NEM occurred at 6.30 pm driven by the extremely cold conditions. The maximum capital city temperatures recorded on that day ranged from 9.9 degrees in Hobart to 14.4 degrees in Brisbane.

At 4.36 pm CS Energy rebid 208 MW of capacity at Swanbank E from prices below zero to above \$7000/MWh. The reason given was “Portfolio optimisation”.

At 6.28 pm Stanwell rebid 210 MW of capacity at Gladstone and Stanwell from prices below \$140/MWh to above \$220/MWh. The reason given was “Material change in market conditions::change MW distrib”.

There was no other significant rebidding.

# Appendix B: Detailed NEM Price and Demand Trends



**Table 1: Financial year to date spot market volume weighted average price**

Financial year	QLD	NSW	VIC	SA	TAS
2008-09 (\$/MWh) YTD	39	43	45	47	32
2007-08 (\$/MWh) YTD	73	81	87	89	100
Change	-47%	-47%	-48%	-47%	-68%
2007-08 (\$/MWh)	58	44	51	101	57

**Table 2: NEM turnover**

Financial year	NEM Turnover* (\$, billion)	Energy (TWh)
2008-09 YTD	\$0.9	21
2007-08	\$11.1	208
2006-07	\$12.7	206
Change (2006-07 to 2007-08)	-12%	0.8%

\* estimated value

**Table 3: Recent monthly and quarterly spot market volume weighted average price and turnover**

Volume weighted average (\$/MWh)	QLD	NSW	SNOWY	VIC	SA	TAS	Turnover (\$, billion)
Mar-08	31	37	29	65	325	57	1.12
Apr-08	29	34	28	41	44	56	0.60
May-08	41	47	36	56	53	68	0.87
Jun-08	43	44	28	44	42	57	0.77
Jul-08	39	44	-	45	47	32	0.86
Q2 2007	119	146	-	99	83	74	3.26
Q2 2008	38	42	-	47	46	61	3.36
Change	-68%	-71%	-	-52%	-44%	-18%	

**Table 4: ASX energy futures contract prices at 4 August**

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2009								
Price on 28 Jul (\$/MW)	35	46	41	57	42	56	42	62
Price on 04 Aug (\$/MW)	35	46	40	57	41	56	42	62
Open interest on 04 Aug	2207	144	2075	166	1566	439	145	0
Traded in the last week (MW)	234	0	117	20	75	5	0	0
Traded since 1 Jan 08	4156	312	4543	188	2927	630	205	0
Settled price for Q1 08(\$/MW)	68	97	32	42	43	65	152	322

**Table 5: Changes to availability of low priced generation capacity offered to the market**

Comparison:	QLD	NSW	SNOWY*	VIC	SA	TAS	NEM
May 08 with May 07							
MW Priced <\$20	526	570	-74	-84	0	-71	866
MW Priced \$20 to \$50	89	277	419	-62	-42	25	707
June 08 with June 07							
MW Priced <\$20	307	376	-25	-58	-70	-405	125
MW Priced \$20 to \$50	302	438	299	104	44	95	1284
July 08 with July 07							
MW Priced <\$20	486	904	-	36	46	541	2013
MW Priced \$20 to \$50	408	-744	-	292	166	119	242

\*For comparative purposes Snowy generation for July 2007 and 2008 has been incorporated into New South Wales and Victoria