Submission No 102

INQUIRY INTO THE CONTINUED PUBLIC OWNERSHIP OF SNOWY HYDRO LIMITED

Organisation: Snowy Hydro Limited

Name: Mr Terry Charlton

Position: Chief Executive Officer

Telephone:

Date Received: 4/07/2006

Theme:

Summary

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1. INTRODUCTION

1.1 Preliminary Submission

By agreement with the Committee, Snowy Hydro has submitted to the Committee this Preliminary Submission and will, after the conclusion of the public hearings, submit a Final Submission.

1.2 Structure of this Preliminary Submission

This Preliminary Submission has been structured around the Committee's Terms of Reference:

(1) Part One contains an outline of Snowy Hydro's corporate form and structure;

(2) Part Two contains an outline of the regulatory arrangements applicable to Snowy Hydro;

(3) Part Three describes the Snowy Scheme;

(4) Part Four describes the Snowy Hydro business;

(5) Part Five contains an outline of Snowy Hydro's strategy;

(6) Part Six describes how Snowy Hydro's strategy can be financed;

(7) Part Seven describes the water operations of the Snowy Scheme and the water regulatory regime;

(8) Part Eight addresses land related issues;

(9) Part Nine addresses heritage issues; and

(10) Part Ten refers to issues not covered in other Parts.

Also, annexed to this Preliminary Submission is a description of the operation of the National Electricity Market.

PART ONE: INTRODUCTION TO SNOWY HYDRO'S CORPORATE FORM AND STRUCTURE

2. SNOWY HYDRO'S CORPORATE FORM AND STRUCTURE

2.1 Corporate Form

Snowy Hydro Limited ("**Snowy Hydro**") is a company incorporated under the *Corporations Act 2001 (Cth)* ("**Corporations Act**"). It is a public company limited by shares.

As the shareholders in Snowy Hydro are three sovereign Governments, they chose to incorporate Snowy Hydro under the Corporations Act rather than any one of the Government business enterprise type legislative regimes that exist in (but only within) each of the three relevant jurisdictions.

As a company incorporated under the Corporations Act, Snowy Hydro is subject to all laws that apply to bodies corporate including in particular the Australian financial services regime under the Corporations Act and the *Trade Practices Act 1974 (Cth)*.

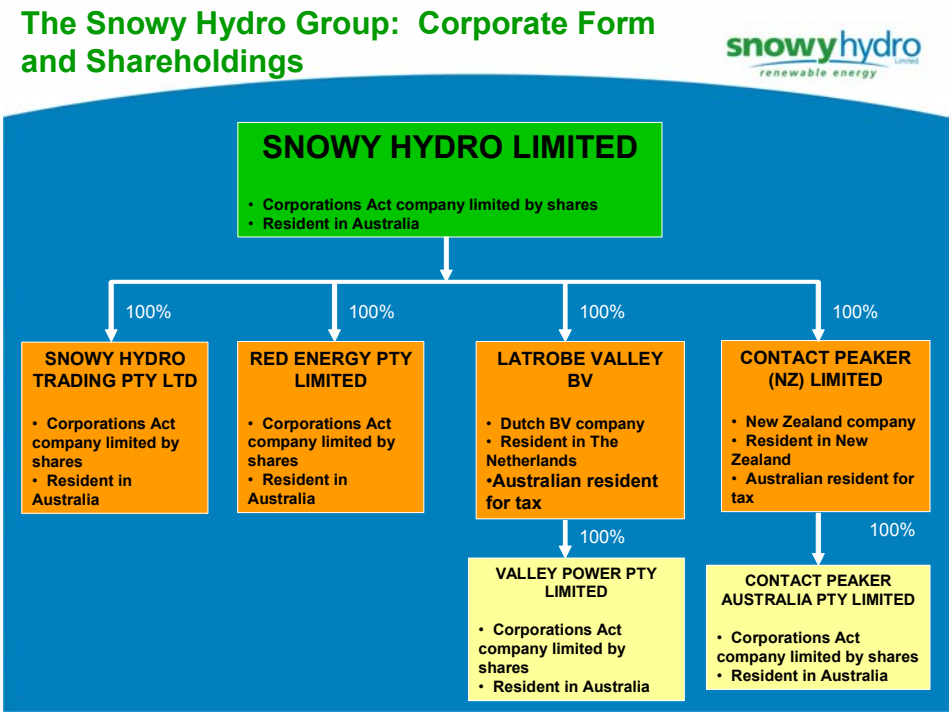
2.2 Shareholdings

Snowy Hydro's issued share capital consists only of ordinary shares.

The issued share capital is held 58% by the State of New South Wales, 29% by the State Electricity Commission of Victoria and 13% by the Commonwealth of Australia ("**Shareholding Governments**").

2.3 Corporate Structure

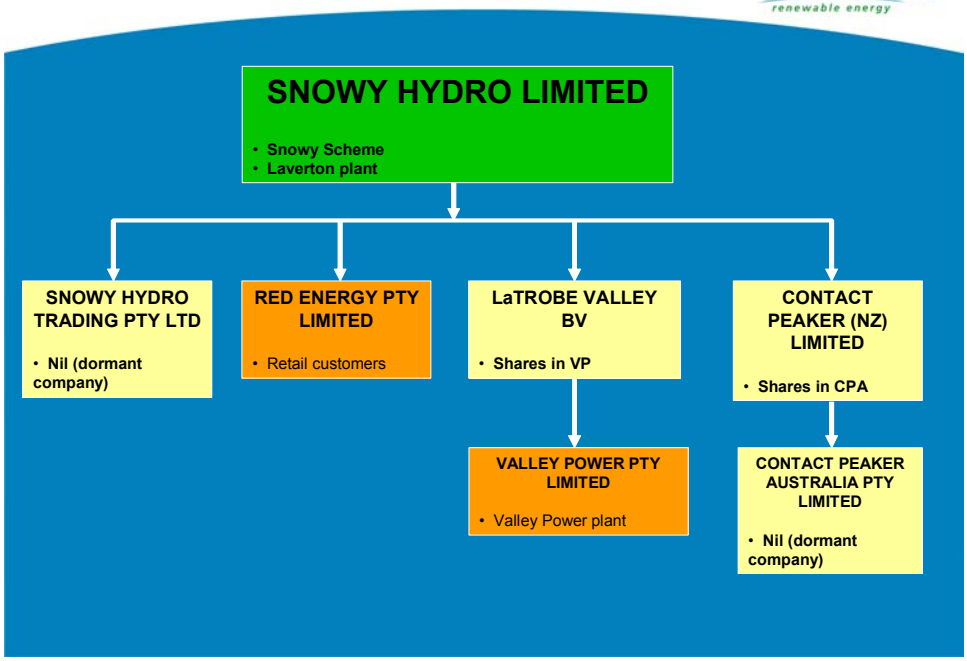
The illustration below shows the corporate structure of the Snowy Hydro group of companies ("**Snowy Hydro Group**").



2.4 Asset Ownership

The illustration below shows in which entities the key assets of the Snowy Hydro Group are held.

The Snowy Hydro Group: Asset Ownership



3. CORPORATE GOVERNANCE

3.1 Constitution

The exercise of rights as between the shareholders, the company, the company's Directors and third parties including creditors is as prescribed by the Corporations Act generally and Snowy Hydro's Constitution.

With a few notable exceptions, Snowy Hydro's Constitution is in a standard form for an unlisted public company. The exceptions are as follows.

(1) **The Involvement of Shareholders in the Management of the Company**

Under Rules 17 and 18 of Snowy Hydro's Constitution, certain matters are reserved to the shareholders and not the directors.

Under Rule 17, the directors must invite and consider representations from the shareholders before doing any of the following:

(a) acquiring any major debt, asset or investment;

(b) encumbering substantial parts of the company's assets;

(c) Lending funds, giving guarantees or indemnities with respect to third party obligations;

(d) Entering into any significant partnership or joint venture; or

(e) Undertaking any material financial or capital restructuring.

Under Rule 18.1, shareholder approval is required to:

(f) changes either directly or indirectly to the nature or scale of the company's activities;

(g) the disposal or winding up of the company's main undertaking; and

(h) the appointment of an external administrator.

Under Rule 18.2, unanimous shareholder approval is required for:

(i) an amendment to the Constitution;

(j) the issue or allotment of any unissued shares; and

(k) any other thing in relation to shares (grant of any options or rights over shares, consolidation, increase in share capital etc).

(2) **The Control of Shares**

Under Rule 113 of the company's Constitution, control over the issue of shares is reserved to the shareholders rather than the directors.

(3) **Shareholder Access to Information**

Under Rule 54 of the company's Constitution, the shareholders are given access to corporate information in circumstances involving a valuation or sale of shares.

(4) **Corporate Reporting**

The Constitution prescribes a range of reporting requirements including:

(a) Rule 109: half yearly report;

(b) Rule 110: continuous disclosure requirement;

(c) Rule 111: annual Corporate Plan;

(d) Rule 112: annual Statement of Corporate Intent.

3.2 *Shareholders' Agreement*

As an overlay to the company's Constitution, there is in place a *Shareholders' Agreement* between the Shareholder Governments.

Unusually although appropriately given that in the case of Snowy Hydro its three shareholders are sovereign Governments, the company is not a party to the *Shareholders' Agreement*. Legally, therefore, the sole governing instrument for the company is its Constitution. As between the Shareholder Governments, however, their

contractual obligations contained in the *Shareholders' Agreement* override their contractual obligations in the company's Constitution.

The *Shareholders' Agreement* provides, among other things:

(1) For equality of voting rights as between the Shareholder Governments despite their differing equity shares;

(2) That some resolutions of the Shareholder Governments in general meeting must be unanimous, including:

  (a) a change either directly or indirectly to the nature or scale of the company's activities;

  (b) the disposal of or winding up by the company of its main undertaking; and

  (c) the appointment of an external administrator;

(3) for each Shareholder Government to be entitled to appoint a nominee director (referred to as an "Appointed Director") and for all three Shareholder Governments to appoint other directors (referred to as "Elected Directors") by unanimous resolution.

3.3 The Duties of Directors of Snowy Hydro

Under the *Corporations Act*, directors of bodies corporate are required to act for a proper corporate purpose and in the best interests of the company as a whole. Directors have potential personal liability for breach of their duties as directors.

In this context, it is incumbent on directors of Snowy Hydro to consider the wider interests of the company, not just the interests of the company's shareholders. Accordingly, the Snowy Hydro directors must consider the interests of both the shareholders and the company's creditors who include:

(1) banks;

(2) bond holders; and

(3) Snowy Hydro's trading counterparties.

In the case of Snowy Hydro, decision- making by the company's directors therefore needs to involve consideration of matters including:

(1) the maintenance of the company's asset base;

(2) the potential impact on the company's external debt; and

(3) the potential impact on the company's derivative trading arrangements and, potentially, other significant commercial arrangements.

PART TWO: INTRODUCTION TO SNOWY HYDRO'S REGULATORY ARRANGEMENTS

4. SNOWY HYDRO'S REGULATORY ARRANGEMENTS

4.1 Corporatisation

The Snowy Mountains Hydro- electric Scheme ("**Snowy Scheme**") was corporatised on 28 June 2002. Corporatisation was effected under complementary legislation of the three shareholding jurisdictions passed by each jurisdiction's Parliament in 1997 ("**Corporatisation Acts**").

Under the Corporatisation Acts, Snowy Hydro is deemed to be the successor in law to the Snowy Mountains Hydro- electric Authority ("**Authority**").

The process of corporatising the Snowy Scheme took some seven years to complete. On Corporatisation a clear, the operations of the Snowy Scheme became subject to a comprehensive and robust set of regulatory arrangements and Snowy Hydro was established with commercial and corporate arrangements appropriate for its unique position with respect to water and the National Electricity Market ("**NEM**").

4.2 The Governments' Corporatisation Objectives

The three Shareholder Governments had a number of objectives in corporatising the Snowy Scheme. Their collective objectives included:

(1) To achieve a commercial operator of the Snowy Scheme that was:

(a) separate from the generating interests of NSW and Victoria (Victorian generation assets had not been privatized by 1997); and

(b) establish Snowy Hydro with a regulatory and corporate governance framework similar to the other companies that compete in the NEM; and

(2) to balance up and codify the rights of electricity users who pay for the Snowy Scheme through electricity prices versus water users who benefit from the water regulation services provided by the Snowy Scheme but do not pay for them.

In addition to their common objectives, each of the Shareholder Governments had other specific objectives in Corporatisation:

(3) the Commonwealth wanted to privately refinance its $800 million debt;

(4) NSW wanted to bring the Snowy Scheme under its planning and environmental regulatory regime (the Snowy Scheme being located within its premier national

park, Kosciuszko National Park ("**KNP**"); and

(5) Victoria wanted to implement Snowy River environmental flows (environmental flows were not legally possible prior to Corporatisation) and terminate the Snowy River indemnity it had given to the Authority.

5. THE LEGAL REGIMES APPLICABLE TO SNOWY HYDRO

5.1 Corporate, Electricity and Australian Financial Services

Snowy Hydro holds all registrations and licences that it requires under the National Electricity Rules to operate as a generator and retailer in the NEM.

Snowy Hydro holds an Australian Financial Services Licence that it requires under the Corporations Act to provide financial services to its wholesale customers.

As a company incorporated under the Corporations Act, Snowy Hydro is subject to regulation by the Australian Securities and Investments Commission ("**ASIC**") and the Australian Competition and Consumer Commission ("**ACCC**").

5.2 Environmental Regulation

Snowy Hydro is subject to the full range of Commonwealth and New South Wales environmental laws including the *Environmental Protection and Biodiversity Conservation Act (Cth)*, the *Environmental Planning & Assessment Act (NSW)* ("**EP&A Act**"), the *Protection of the Environment Operations Act (NSW)*, the *National Parks & Wildlife Act (NSW)* ("**NPW Act**") and the *Contaminated Lands Management Act (NSW)*.

Within the KNP, Snowy Hydro's operations are subject to both the Kosciuszko Plan of Management and the Snowy Management plan ("**SMP**"). Both are plans of management made under the NPW Act. The latter is specifically enforceable against Snowy Hydro through regulation.

Unlike some other privatised assets previously subject only to Commonwealth law, Snowy Hydro has no exemptions from New South Wales planning and environmental laws.

On Corporatisation the Snowy Scheme was given deemed planning approvals for the purposes of the EP&A Act and the NSW Local Government Act. Importantly, however, any future development by Snowy Hydro is subject to the standard approval processes under the NPW Act and the EP&A Act.

5.3 Water

The regulatory regime applicable to the water operations of the Snowy Scheme are detailed in Part 8 below.

5.4 Land Use and Planning Laws

Under the NSW Corporatisation Act, the works and activities comprising the Snowy Scheme as at the Corporatisation date (referred to as the "Existing Scheme

Development") were deemed to have been given the requisite consents or approvals for the purposes of the NSW Environmental Planning & Assessment Act and the NSW Local Government Act.

Outside the KNP, Snowy Hydro is subject to the full range of environmental and planning laws and instruments as would be any other person carrying on activities on land. The Snowy Scheme straddles four local government areas (Cooma-Monaro Shire, Snowy River Shire, Tumbarumba Shire and Tumut Shire) and applicable planning instruments include the local environmental plans of those four Shires.

Inside the KNP, Snowy Hydro is subject to the provisions of environmental and planning laws applicable within national parks, in particular the NPW Act. Snowy Hydro's activities within the KNP are regulated by two plans of management under the NPW Act, the general KNP Plan of Management and the Snowy Management Plan which is specific to Snowy Hydro's activities within the KNP. The Snowy Management Plan includes an obligation on Snowy Hydro to prepare an Environmental Management Plan ("**EMP**") for the operation of the Snowy Scheme within the KNP. The EMP establishes environmental management strategies for a range of activities associated with the existence and operation of the Snowy Scheme within the KNP and is approved by the NSW Department of Environment and Conservation. Each chapter of the EMP is to be updated at regular intervals.

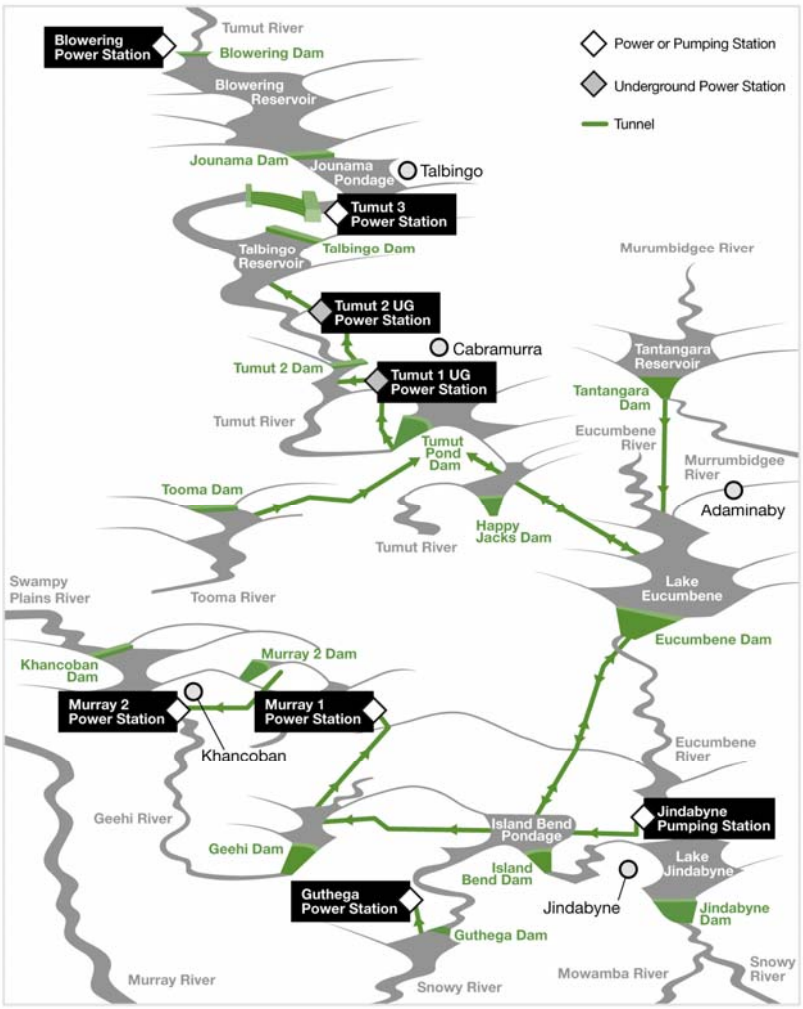
PART THREE: THE SNOWY SCHEME

6. THE SNOWY SCHEME

6.1 The Snowy Scheme

Located predominantly in the KNP, the Snowy Scheme consists of a network of seven power stations, 31 generating units, 16 dams and 225 kilometres of tunnels and aqueducts dispersed over a catchment area of 5,124 square kilometres.

The Snowy Scheme was designed to collect and store water that would naturally flow east of the Snowy Mountains to the coast, diverting it through trans-mountain tunnels and power stations and then releasing it west of the Snowy Mountains into the River Murray and the Murrumbidgee River where it can be used for town water supply, irrigation and environmental uses.



5.1.1 **THE SNOWY SCHEME**

7. THE TWO DEVELOPMENTS

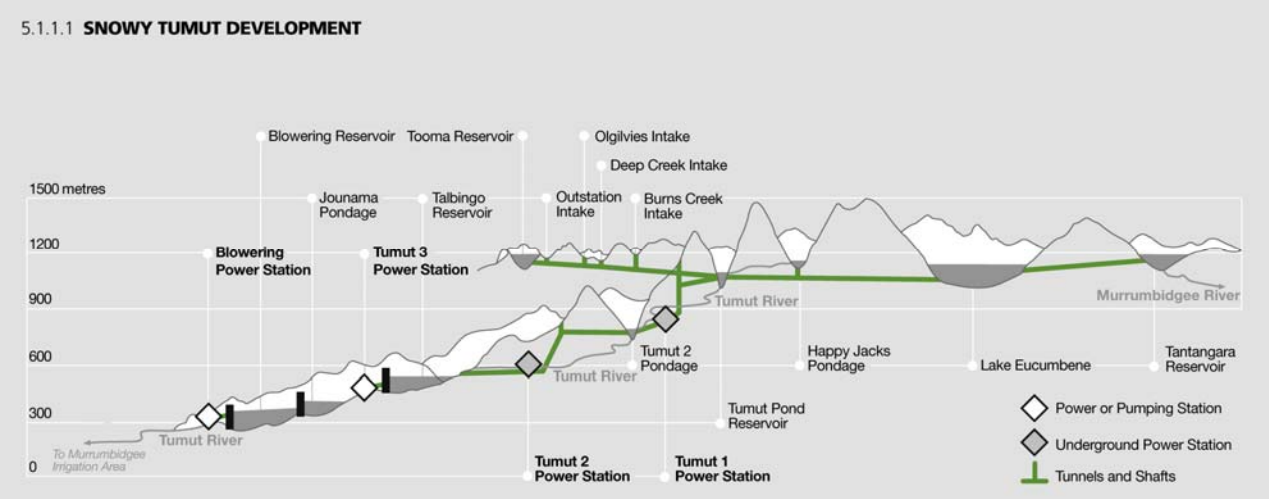
7.1 Introduction

The Snowy Scheme comprises two major developments: the northern Snowy-Tumut Development and the southern Snowy-Murray Development.

7.2 The Snowy- Tumut Development

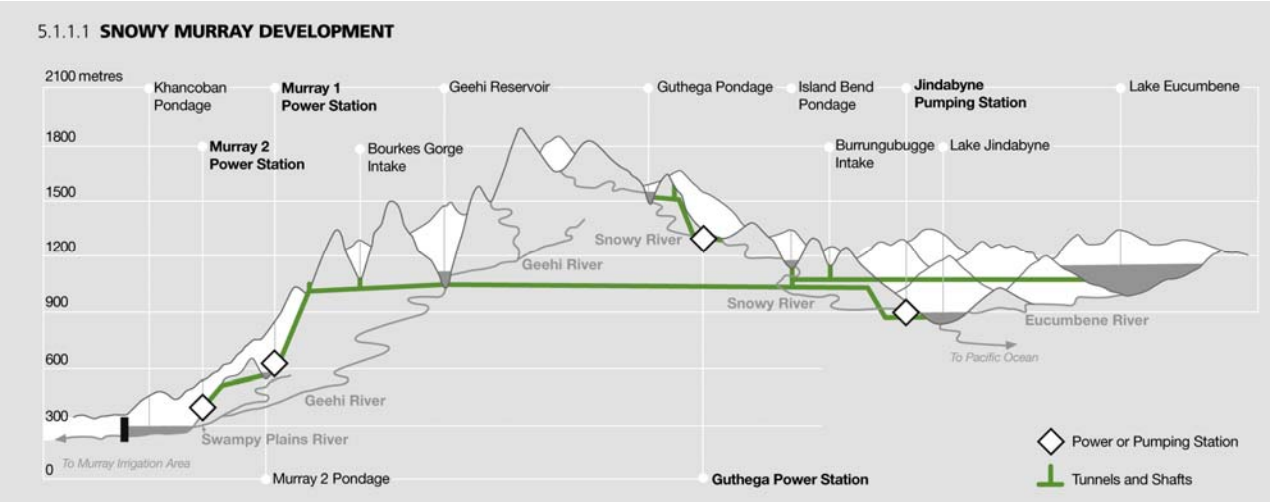
The Snowy-Tumut Development currently consists of four power stations and 15 generating units and has total generation capacity of 2,196MW. The Snowy-Tumut development collects the headwaters of the upper Murrumbidgee and Eucumbene. The waters are diverted westward from Lake Eucumbene through a trans-mountain tunnel to Tumut Pond Dam. They join the waters of the Tooma and Tumut Rivers, and flow through Tumut 1 and Tumut 2 underground power stations discharging into the Talbingo Reservoir. Water stored in Talbingo Reservoir then passes through the Tumut 3 Power

Station into Jounama Dam. Three of the six generators at Tumut 3 Power Station have pumps that can be used to pump water from Jounama Dam back up into Talbingo Reservoir, thereby "recycling" water. Water is released from Jounama Dam into Blowering Reservoir. A small hydro power station is currently under construction at Jounama Dam. Water releases from Blowering Dam are managed by State Water, a NSW State Owned Corporation, to provide for town water supply, irrigation, environmental and other water use requirements. Blowering power station is therefore a "run of river" plant that operates as State Water releases water from Blowering Dam into the Tumut River to join the Murrumbidgee River near Gundagai.



7.3 The Snowy-Murray Development

The Snowy-Murray Development consists of three power stations and 16 generating units, and has total generation capacity of 1,560MW. Water in the upper Snowy River is diverted at Guthega Dam through Guthega power station. Inflows into the relatively small Guthega Pondage are seasonal. During times of high inflows, water flowing into Island Bend Pondage is directed to Lake Eucumbene for storage and subsequently transferred to the Murray catchment. At times of low inflows, water from Island Bend is diverted directly to Geehi Reservoir through a trans-mountain tunnel together with water which flows back from Lake Eucumbene and supplemented with water pumped from Lake Jindabyne. Pumps lift water from Lake Jindabyne, normally using off-peak power, to discharge into Geehi Reservoir on the western side of the Great Dividing Range. There, with additional water from the Geehi River, the water passes through Murray 1 and Murray 2 power stations, generating electricity. Khancoban Dam regulates water released from Murray 2 power station down the Swampy Plain River which is a tributary of the upper River Murray. Further downstream of Khancoban is Hume Dam which provides regulation of water for irrigation requirements and flows for South Australia. Hume Dam is operated by River Murray Water.



7.4 Control Centres

Major water diversions and all of Snowy Hydro's hydro-electric and gas turbine generating assets are controlled remotely from Cooma. These assets may also be operated from a back-up control centre at another location.

Snowy Hydro is reliant on communication systems that are provided by Snowy Hydro and by third parties to ensure the efficient co-ordination of generating capacity which is used to effectively mitigate electricity price risk hedging contract risk and to take advantage of spot market opportunities as they occur.

PART FOUR: SNOWY HYDRO – THE BUSINESS

8. INTRODUCTION

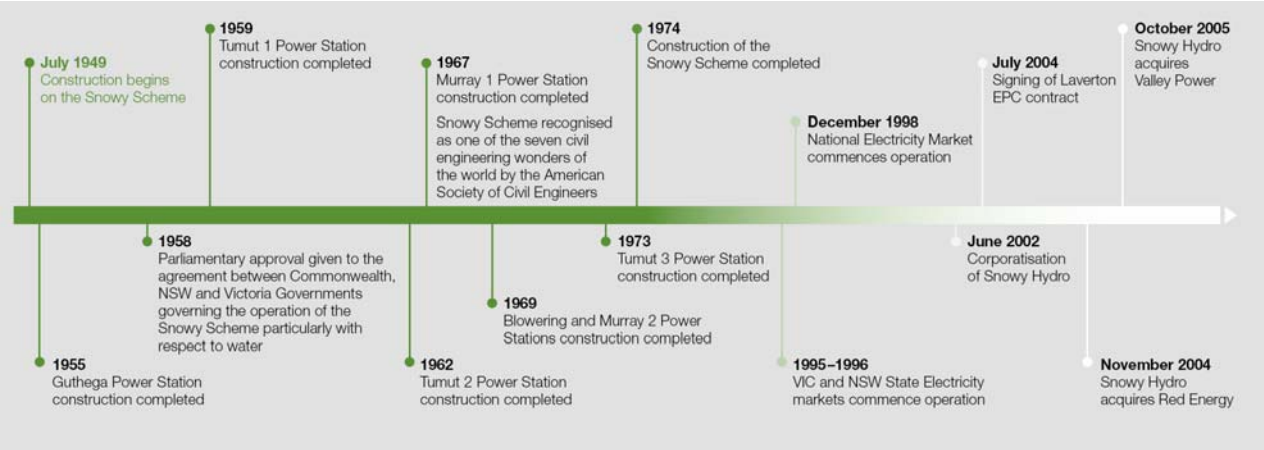
8.1 Snowy Hydro's Assets

Snowy Hydro owns and operates the 3,756MW Snowy Scheme, the 300MW Valley Power gas-fired power station located in Victoria and Red Energy, an electricity retailer operating primarily in Victoria. In addition, Snowy Hydro is currently constructing a 320MW gas-fired power station in Laverton North, Victoria.

8.2 Key Milestones in the Development of Snowy Hydro

The timeline below sets out key milestones in the development of Snowy Hydro.

Snowy Hydro Development Milestones



Snowy Hydro is the NEM's third largest generator by capacity. Its portfolio of hydro generation assets and its gas-fired peaking capacity places it in a strong position to take advantage of periods of high prices in the NEM spot market. Snowy Hydro generally targets its generation to periods of high demand, which normally correlate with periods of higher spot market prices.

Snowy Hydro is a leading supplier of electricity price risk hedging contracts such as price caps and similar contracts to other NEM participants (retailers and other generators) who are seeking protection to limit the price risk they face in the NEM spot market. Snowy Hydro's ability to draw on large-scale generation at short notice means that it is able to offer such contracts, and generally hedge the risk it takes on under those contracts by generating electricity as required. Snowy Hydro has established risk management policies to control its financial risk under these contracts.

Snowy Hydro is mainland Australia's largest renewable energy generator. In the 2004 fiscal year, the Snowy Scheme accounted for more than 70% of renewable energy production in the mainland NEM. As such, Snowy Hydro benefits from existing schemes to promote the use of renewable energy such as the Commonwealth MRET Scheme. In addition, Snowy Hydro is ideally positioned to benefit from increased demand for electricity from non-polluting sources. Snowy Hydro may benefit significantly from any future introduction of carbon trading or carbon reduction schemes if the marginal costs of fossil fuel powered electricity generators increased.

A profile of Snowy Hydro's generating assets is set out in the table below.

Snowy Hydro's Generation Assets

Snowy Hydro's Generation Assets

		Commissioned	# of units	Capacity[1]	Generation Energy Type	Pumping Capacity	NEM Region
Snowy - Murray Development		1967	10	950MW	Hydro	-	Snowy
	Murray 2	1969	4	550MW	Hydro	-	Snowy
	Guthega	1955	2	60MW	Hydro	-	Snowy
	Jindabyne	1963	-	-	-	76MW (2 units)	Snowy
Snowy - Tumut Development	Tumut 1	1959	4	330MW	Hydro	-	Snowy
	Tumut 2	1962	4	286MW	Hydro	-	Snowy
	Tumut 3	1973	6	1,500MW	Hydro	592MW (3 units)	Snowy
	Blowering	1969	1	80MW	Hydro	-	NSW
Snowy Scheme		1974	31	3,756MW	Hydro	668MW	
Valley Power		[2001][2]	6	300MW	Gas / Distillate	-	VIC
Laverton North[3]		2006	2	320MW	Gas / Distillate	-	VIC

Nameplate capacity

Station was fully commissioned in 2002. Generating sets were previously used

Snowy Hydro expects commissioning by the end of calendar year 2006

8.3 Gas-fired Power Stations

Snowy Hydro also owns and operates the Valley Power gas-fired peaking power station in the Latrobe Valley, Victoria. The station's six 50MW open cycle fast start gas turbine generating units complement the Snowy Scheme's hydro-electric assets, enhance Snowy Hydro's ability to generate at times of peak demand in Victoria, and hedge the

exposure arising under its electricity price risk hedging contracts.

Snowy Hydro is currently constructing a 320MW gas-fired power station in Laverton North, Victoria. The Laverton North Power Station will assist Snowy Hydro in meeting the needs of its customers in Victoria and is expected to be well placed to take advantage of the anticipated growth in Victoria's summer electricity demand. The station will comprise two new open cycle gas turbines. In the event of a gas supply curtailment, both these stations are designed to be operated on low sulphur-emission distillate fuel.

Snowy Hydro is continuing to monitor developments in the Victorian electricity and gas markets to determine whether there is value to be added through converting one of the units at its Laverton North site to combined cycle generation, which would significantly increase the energy output from the station. There is sufficient space on the Laverton North site for this to occur.

Due to construction delays, completion of Laverton North is now expected to occur in the second half of 2006 rather than December 2005, as was originally scheduled.

9. SNOWY HYDRO'S ASSET PORTFOLIO

9.1 The Competitive Strengths of Snowy Hydro's Asset Portfolio

The foundation for Snowy Hydro's competitive position in the NEM is provided by its unique portfolio of generation assets. The physical attributes of its generation assets helps the Company to provide "firm" electricity price risk hedging contracts that can be tailored to the specific needs of individual NEM customers. "Firm" contracts refer to contracts under which payment is not subject to certain contingencies such as plant or transmission outages, force majeure events and regulatory changes. Such contracts attract premiums in the contracts market, compared to "non-firm" contract cover.

9.2 Scale

Snowy Hydro's total capacity of 3,756MW of flexible hydro-electric plant and 300MW of open cycle gas-fired plant enables it to generate significant quantities of electricity during periods of high demand. It also allows Snowy Hydro to enter into a portfolio of electricity price risk hedging contracts with other NEM participants while managing the risk of those contracts through its generating capacity. For example, if Snowy Hydro is exposed to financial risk under a cap contract (where Snowy Hydro must pay the counterparty if the NEM spot price exceeds the cap strike price), one way Snowy Hydro can manage that risk is to generate electricity when the electricity spot price is above the cap contract strike price.

9.3 Flexibility

Snowy Hydro's fast-start assets can provide up to 1,000MW of generation capacity in five minutes, up to 3,000MW in 10 minutes and be at near full available capacity in 30 minutes subject to water storage levels. This flexibility allows Snowy Hydro to offer electricity price risk hedging contracts that are closely tailored to its customers' needs.

The characteristics of Snowy Hydro's plant also give it the ability to offer Ancillary Services to NEMMCO, including black start capability, frequency regulation and voltage

control.

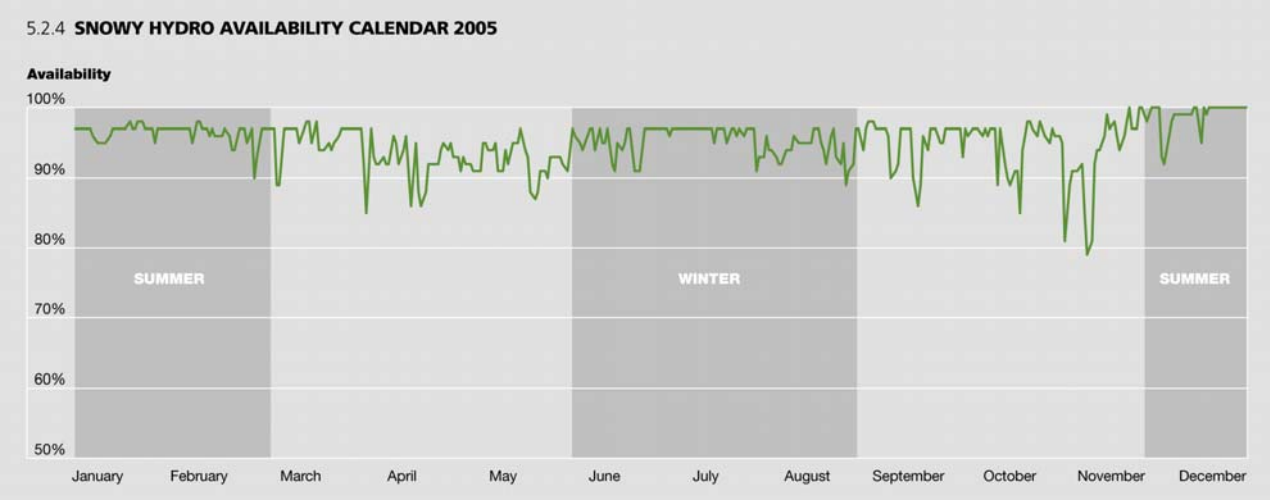
9.4 Diversity

Snowy Hydro's existing asset portfolio consists of 37 generating units in eight power stations (including Valley Power but excluding the Laverton North Power Station). The largest units in the Snowy Scheme (six 250MW generators at Tumut 3) each represent less than 6.2% of Snowy Hydro's total generating capacity. This diversity of generating units results in a high degree of availability across a substantial portion of its generating capacity at all times, providing Snowy Hydro with a natural risk-mitigant against individual generating unit failure.

9.5 Availability and Reliability

The Snowy Scheme assets have historically demonstrated high levels of performance relative to industry recognised standards. Availability of generating plant for service (i.e. not under maintenance or repair) is important even though the plant may not actually be operating. This is particularly critical during periods of peak demand such as summer and winter months and between 6.00am and 10.00pm weekdays, which tend to be correlated with higher spot prices when Snowy Hydro may need to generate electricity to cover its electricity price risk hedging contracts or can otherwise take advantage of the high spot price. To achieve this high level of performance, Snowy Hydro maintains flexibility with respect to maintenance and outages, avoiding periods of high demand.

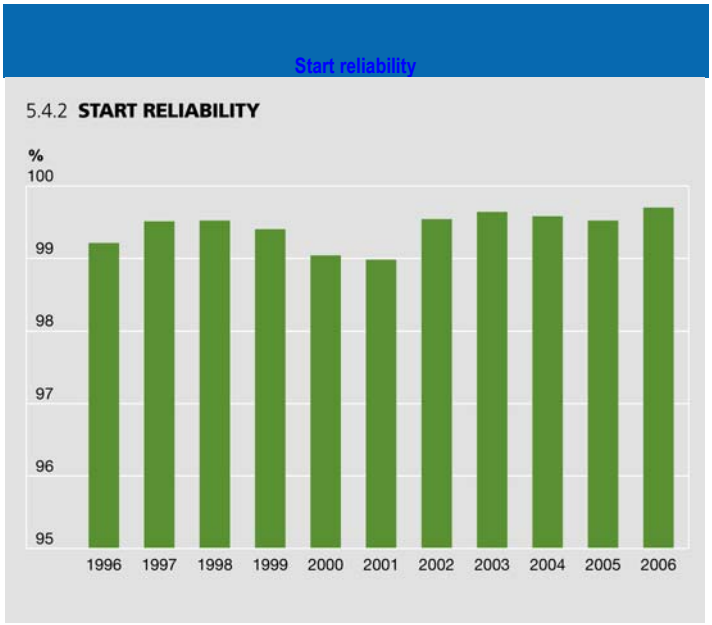
The chart below highlights that the Snowy Scheme tends to maintain a higher level of available generation capacity in summer and winter months as maximum electricity demand typically occurs during periods of extreme weather conditions.



The Snowy Scheme's forced outage rate is very low by international standards, reflecting sound engineering, condition monitoring and preventative maintenance. The forced outage rate has been 0.54%, 0.16% and 0.17% in fiscal years ending June 2004, 2005 and 2006 (year to date), respectively.

Start reliability measures the successful remote starting of generating units to come up to

speed, connect to the network and automatically load without intervention. Start reliability of the Snowy Scheme has been consistently above 99%, due to robust communication and control systems and sound engineering and maintenance procedures.



9.6 Low Marginal Cost of Generation

Snowy Hydro's hydro-electric plant is not constrained by the cost of energy that is consumed, as the marginal cost of generating from hydro-electric assets is virtually zero. However, an important consideration in Snowy Hydro determining whether or not to generate electricity is the opportunity cost of the water used, as the amount of water available to Snowy Hydro for generation is not unlimited.

In contrast, the short-run marginal costs of coal and gas-fired generators are typically between $4-$20/MWh and $35-$50/MWh respectively, while oil-fired power stations can have short-run marginal costs in excess of $250/MWh.

9.7 Water Storage Capacity

The Snowy Scheme has total active water storage capacity (as described in Section 5.8.2) of about 5,300Gl. The Snowy Scheme was designed to make minimum annual water releases into both the River Murray and the Murrumbidgee River each year, even through a drought sequence as severe as the worst on record, the 1937 to 1946 drought. In every Water Year since the Snowy Scheme was completed in 1974, the Snowy Scheme has met its annual water release obligations.

9.8 Location

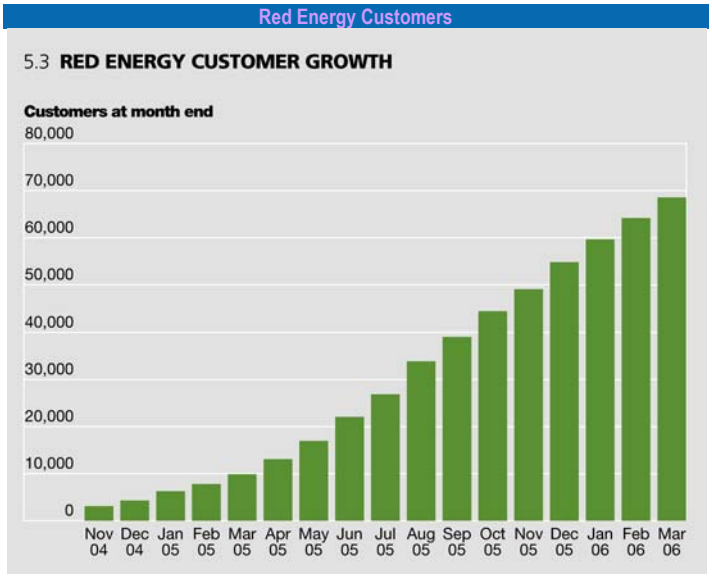
The Snowy Scheme is located between the NEM's two largest maximum demand centres, NSW and Victoria, providing access to both of these NEM regions. This access is subject to transmission risk and Basis Risk. In the future this transmission risk and Basis Risk may either decrease or increase if market regulatory changes are made, such

as changes to the definition of the Snowy region.

10. RED ENERGY

10.1 Red Energy

Snowy Hydro acquired Red Energy, a Victorian-based electricity retailer, in November 2004. As illustrated below, the number of Red Energy's active customer accounts has increased from approximately 3,000 at the time of acquisition to approximately 67,000 at the end of March 2006.



In addition to its predominantly Victorian retail customer base, Red Energy has obtained retail licences to operate as an electricity retailer in ACT, Queensland and South Australia.

Since July 2004, one of Red Energy's key marketing strategies has been the ability to guarantee that 100% of its customer energy consumption is matched by the generation and delivery to the NEM of an equal amount of renewable energy. This renewable energy guarantee is provided at no extra cost to its customers. Other key marketing strategies employed by Red Energy include the offer of no fixed term contracts, discounts on customers' first bills, shopping and merchandise offers, and a 5% discount for bills paid on time.

11. SNOWY HYDRO'S SOURCES OF REVENUE

11.1 Overview

Snowy Hydro earns revenue from the following sources:

(1) Generation Revenue from:

(a) electricity price risk hedging contract payments

(b) electricity sales into the NEM spot market

(c) inter-regional settlements

(2) Option premiums

(3) Ancillary Services

(4) Red Energy

(5) Renewable Energy Certificates

(6) Other revenue and income (including water assurance fees)

11.2 Generation Revenue (Contract, Spot and Inter-regional Settlements Revenue)

Snowy Hydro's strategy to maximise revenue primarily relies on maximising the sum of contract, spot and inter-regional settlements revenue (collectively "**Generation Revenue**").

The positioning and nature of the contract portfolio has the tendency to stabilise total revenues because, if NEM prices are higher than expected, Snowy Hydro's spot revenue will tend to increase but contract payouts by Snowy Hydro to its counterparties will also be higher. Conversely, if NEM prices are lower than expected, Snowy Hydro will expect to require less generation to hedge its electricity price risk hedging contract portfolio and its higher contract receipts will be offset by lower spot generation revenue.

As spot revenue and contract revenue are generally inversely related, and inter-regional settlements revenue represents a form of insurance against inter-regional price differences, Snowy Hydro manages these three individual components of Generation Revenue as a single revenue stream, resulting in an overall level of revenue volatility that is lower than if each of the components were considered individually.

Snowy Hydro continually seeks to rebalance its portfolio of generation capacity, electricity price risk hedging contracts and other contracts to maximise earnings in response to market events. Its core strategy in this regard is to minimise its revenue downside through its portfolio of electricity price risk hedging contracts and preserve its revenue upside through spot market generation.

11.3 Electricity Price Risk Hedging Contract Revenue

Snowy Hydro earns revenue by entering into electricity price risk hedging contracts including caps, swaps, collars, option contracts, triggered contracts and structured products.

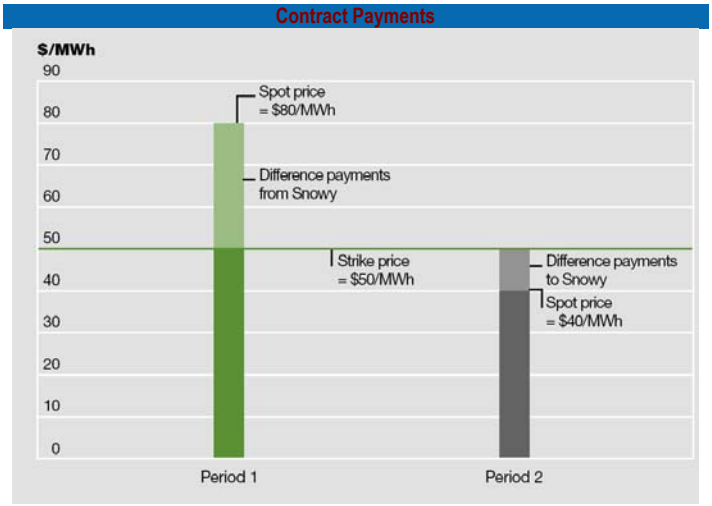
Snowy Hydro's structured products include "shared benefit caps", which are collars that give the counterparty the ability to change the cap strike price and volume (within limits). When high or volatile spot prices are expected, the counterparty may set the strike price as low as possible to maximise the difference payments received from Snowy Hydro.

The flexibility of these products attracts premium pricing for Snowy Hydro.

Snowy Hydro can pay or receive difference payments under its electricity price risk hedging contracts. Snowy Hydro typically aims to generate electricity when it is exposed to paying difference payments under those contracts.

For example, under a swap contract with a strike price of $50/MWh, Snowy Hydro will generally choose to generate when the spot price exceeds $50/MWh, at which time it earns the spot price (say $80/MWh) but pays to the counterparty the difference between the spot price and the contract price (the difference payment, in this case $30/MWh). If the price is below $50/MWh, Snowy Hydro receives the difference between $50/MWh and the spot price (say, $40/MWh), but may choose not to generate (depending on other factors such as required minimum annual water releases). As set out in the diagram and table below, if the spot price was $80/MWh for one hour and $40/MWh in the following hour, Snowy Hydro would earn $50 during the first hour plus $10 in the following hour, for a single MWh of generation to cover the swap contract. In this example Snowy Hydro earns $60/MWh.

Snowy Hydro's contract outcomes are shown diagrammatically below.



Net payments to Snowy Hydro would be as follows:

	Hour 1	Hour 2	Outcome
Snowy Hydro spot generation	1MWh	-	**1MWh**
Snowy Hydro spot proceeds	$80	-	**$80**
Contract difference payments	($30)	$10	**($20)**
Proceeds per MWh	**$50**	**$10**	**$60**

In contrast, a base load generator tends to generate continuously due to its comparative lack of flexibility to ramp up and down and its low energy cost. As a result, a base load generator that sold a similar $50/MWh swap and chose to generate for the full two hour period would receive (net) $50 for each MWh.

Payments to a base load generator would be as follows:

	Hour 1	Hour 2	Outcome
Base load spot generation	1MWh	1MWh	**2MWh**
Base load spot proceeds	$80	$40	**$120**
Contract difference payments	($30)	$10	**($20)**
Proceeds per MWh	**$50**	**$50**	**$50**

All electricity price risk hedging contracts entered into by Snowy Hydro involve an element of risk. If Snowy Hydro has entered into a $50/MWh swap contract, it is required to make difference payments to its counterparty whenever the NEM spot price exceeds $50/MWh. If Snowy Hydro is, for any reason, unable to dispatch energy into the relevant NEM region for the periods for which the contract applies, then Snowy Hydro will be unable to cover its exposure arising from the requirement to make these difference payments.

For example, if the $50/MWh swap contract discussed above was written in NSW, and the NEM spot price in NSW was $80/MWh at a time when Snowy Hydro was denied access to have its generation dispatched by NEMMCO (due to transmission constraints, unit outages or another reason), Snowy Hydro would be exposed to paying $30/MWh while receiving no payments for spot generation.

The difference payments made by Snowy Hydro and its counter-party would be the same as in the diagram above, but Snowy Hydro would not earn spot revenue.

Net payments (assuming the same spot price outcomes as above) would be as follows:

	Hour 1	Hour 2	Total
Snowy Hydro spot generation	-	-	0MWh
Snowy Hydro spot proceeds	-	-	-
Contract difference payments	($30)	$10	($20)
Total proceeds	**($30)**	**$10**	**($20)**

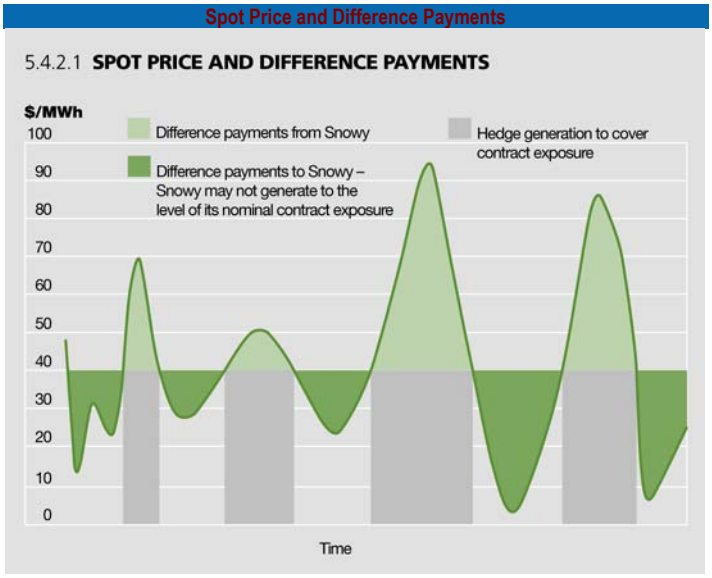
In this example, the worst case scenario is that the difference payment for each hour could reach $9,950/MWh, being the difference between VoLL and the contract strike price.

The examples provided above are indicative of Snowy Hydro's generating strategy for its electricity price risk hedging contract portfolio, except that the overall generation profile is also influenced by the need to manage water releases and by the ability of Snowy Hydro to earn spot revenue from generation that is not required to cover contracts. Snowy Hydro will typically aim to generate enough electricity to cover or defend its contract exposure if it is exposed to paying net difference payments. If the NEM spot price is below this level, it will earn difference payments while not necessarily generating to the level of its nominal contract exposure. Snowy Hydro's contract revenue may therefore be summarised as consisting of the sum of:

(1) "Hedge generation" that is revenue earned when Snowy Hydro generates to cover its electricity price risk hedging contract position (typically limited to the strike price of any contract); and

(2) Difference payments that are earned while Snowy Hydro is not necessarily generating to the level of its contract exposure.

This may be represented diagrammatically as follows for a $40/MWh swap contract:



In the case of a cap contract, the buyer pays an up front premium. If the spot price is higher than the strike price, then Snowy Hydro makes difference payments. Snowy Hydro will typically aim to generate enough electricity to cover its exposure when this occurs. No payments are made when the spot price is less than the strike price.

The operating strategy described above is made possible by Snowy Hydro's ability to increase or decrease generation by very small or very large increments, over very short periods of time at very short notice. Snowy Hydro's ability to execute this strategy is limited by Snowy Hydro's water release obligations and also by physical limits relating to the rates at which it can produce electricity and release water.

Snowy Hydro's electricity price risk hedging contracts tend to have the characteristic of being relatively "capacity-intensive" rather than "energy-intensive", meaning that the generation volume that Snowy Hydro expects to require to hedge the risk arising under its portfolio of contracts is relatively low, compared to the nominal volumes specified in the contracts. The amount of water Snowy Hydro has available determines the energy available to Snowy Hydro to hedge its energy exposure associated with its contract portfolio. Due to water availability and large generation capacity the Snowy Scheme's average capacity factor has been approximately 13.5% since 1974. Capacity factor is a measure of actual generation as a percentage of the Snowy Scheme's capacity multiplied by the number of hours in a year. Consequently, Snowy Hydro's contracting strategy focuses on optimising the balance of capacity and energy exposure in its contract portfolio, within the constraints of its risk limits.

11.4 Spot Revenue

Snowy Hydro bids all of its available generation into the NEM spot market for dispatch. "Spot Revenue" is defined by Snowy Hydro to be the revenue from generation that is not

required to provide hedging generation for its electricity price risk hedging contract portfolio. Snowy Hydro is able to take advantage of volatile spot prices by generally targeting its generation toward peak demand periods (which are usually associated with higher prices,) due to its ability to increase generation with very short lead time at virtually zero marginal cost. However, to comply with its annual water release requirements, manage snow-melt in spring and other inflows and manage physical constraints, a portion of Snowy Hydro's spot generation is dispatched during off-peak periods.

11.5 Inter-regional Settlements

Snowy Hydro receives revenue from SRA units it has purchased. The principal purpose of the Company's participation in the SRA process is to partially offset the Basis Risk that it faces when it enters into electricity price risk hedging contracts referenced to a NEM region other than where its generating plant is located. Snowy Hydro faces substantial costs of purchasing these SRA units on an ongoing basis.

The SRA units that Snowy Hydro purchases help the Company to insure against the financial effects of transmission constraints and other similar risks associated with trading between regions. They help to offset the payments that Snowy Hydro might be required to make under electricity price risk hedging contracts referenced to the spot price in other NEM regions. The revenue that Snowy Hydro receives from the SRA units is effectively the receipts received from this insurance.

There are three main risks associated with using SRA units that could result in the loss of revenue. An outcome of an SRA process may be that Snowy Hydro is not able to purchase the requisite number of units to hedge existing electricity price risk hedging contracts, or that Snowy Hydro faces a competitive price that is too high. If this occurs, then Snowy Hydro would not have sufficient SRA units to help offset the payments it may need to make to counterparties, or that Snowy Hydro would not be able to enter into certain electricity price risk hedging contracts.

Second, the revenue received for the SRA units may be significantly less than the purchase cost if there is insufficient accumulation of funds over the life of the units. This may result from limited occurrences of inter-regional price differences and interconnector flow.

Third, even if there are significant price differences between the regions, the pay-out under the SRA units may not be an effective hedge. This is because the accumulation of funds may be affected by a number of factors such as lower than expected interconnector flows between the NEM regions at times of high price differences.

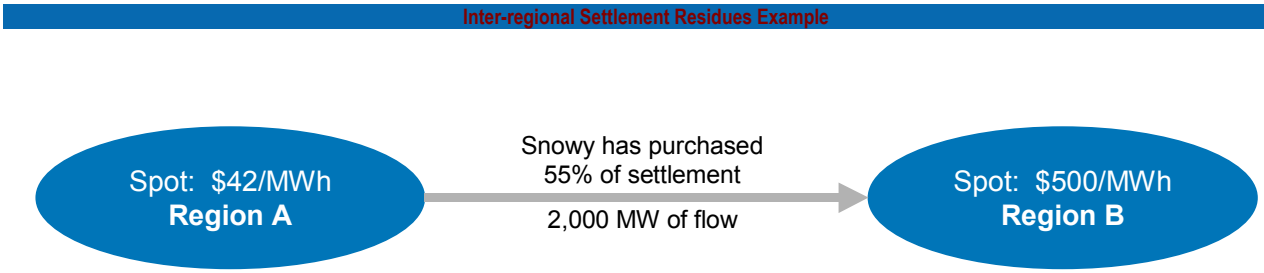
Unless there are changes to regional boundaries, Snowy Hydro will continue to write the bulk of its contracts outside of the Snowy region. There are currently a number of electricity market rule change proposals at various stages of consideration by the AEMC. These may affect any or all of the regional boundary definitions, the mechanisms for managing transmission congestion and the risks associated with trading between the regions. If the inter-regional boundaries between New South Wales, Victoria and Snowy change, Snowy Hydro may benefit through lower Basis Risk and reduced SRA unit costs. Snowy Hydro could, however, be disadvantaged depending upon the nature of changes

made.

The use of SRA units to hedge inter-regional risks is illustrated by a simple example.

In this example it is assumed that there is a transmission constraint between regions A and B with 2,000MW of inter regional flow from region A to B. Snowy Hydro is assumed to have purchased 55% of the SRA units and to be generating 2,500MW with plant located in region A. Snowy Hydro has sold 1,000MW of swap contracts to customers referenced to region B at a strike price of $35/MWh. As a result of the transmission constraint there is a significant price difference between region A ($42/MWh) and B ($500/MWh). Snowy Hydro is required to make substantial difference payments to its customers (1,000MW x ($500-$35)/MWh). The spot revenue from the generation in region A (2,500MW x $42/MWh) Snowy Hydro receives from NEMMCO is insufficient to hedge the contract difference payments, however the SRA units in this example provide sufficient offsetting cash flow.

Inter-regional Settlement Residues Example



Generation spot revenue of 2,500 * $42 =	**$105,000**
Contract payment of 1,000 * ($500 – $35) =	**($465,000)**
Cash Flow = Generation spot revenue + Contract payments	**($360,000)**
NEMMCO pays 2,000MW * $42/MWh =	($84,000)
NEMMCO receives 2,000MW * $500/MWh =	$1,000,000
Settlement residues =	**$916,000**
Snowy Hydro's share @ 55% =	$503,800
Snowy Generation spot revenue + Contract payments + SRA units = $105,000 + (465,000) + 503,800	**$143,800**

11.6 Option Premiums

A number of the electricity price risk hedging contracts include up-front or on-going option premiums, which are separate to any difference payments arising from the contracts.

11.7 Ancillary Services

The characteristics of its generating assets allow Snowy Hydro to provide a range of ancillary services to NEMMCO, which assist in maintaining the security of the

interconnected power system and the quality of the electricity supplied through it. These services include:

(1) Voltage Control: controlling the voltage of the 330 kV transmission system that connects the Snowy region to the NSW and Victorian regions, thereby ensuring that the transmission equipment operates within its design limits;

(2) Frequency Control: adjusting the power output from Snowy Hydro's generating plant so that the 50 Hz power system operates within frequency limits; and

(3) Black Start/System Restart: restarting the power system in the event of a power system collapse.

11.8 Red Energy

Red Energy's customer base provides Snowy Hydro with a relatively small, but growing, addition to net revenue through retail electricity sales.

11.9 Renewable Energy Certificates (RECs)

Snowy Hydro sells RECs to other market participants who are required under the MRET Scheme to purchase a required volume of RECs related to their wholesale energy purchases. Snowy Hydro creates RECs whenever its hydro-electric generation exceeds its relevant baseline (which reflects a historical average yearly level of generation by Snowy Hydro's hydro stations as set by ORER). RECs are only generated when Snowy Hydro's hydro generation exceeds its relevant baseline (historical average generation). Above average generation may result from a number of factors such as high inflows of water into the Snowy Water Catchment, high demand for water by irrigators or where discretionary water is released. Accordingly, income generated from RECs is highly variable and does not occur every year. Snowy Hydro's eligibility to create RECs is subject to legislative or regulatory change.

11.10 Water Assurance Fees

Snowy Hydro has entered into agreements with NSW irrigation corporations and the NSW Water Administration Ministerial Corporation to pre-release from the Snowy Scheme future years' minimum annual water releases, in addition to the then applicable minimum annual water release, for which Snowy Hydro received a fee. These additional water releases result in the reduction of future years' minimum annual water releases. These arrangements have occurred during drought periods, when Snowy Hydro was able to pre-release future years' minimum annual water releases above its then current minimum annual water release requirements. These arrangements are approved by the NSW Department of Natural Resources (which is effectively a party to them) and by the Murray-Darling Basin Commission (in the case of arrangements affecting the Snowy-Murray Development).

Water assurance fees are dependent on a range of factors outside of Snowy Hydro's control (including Snowy Hydro's ability to make additional water releases and irrigators' water rights transfers between themselves). Water assurance fees cannot be relied upon as a stable source of revenue.

11.11 Retail customers

Snowy Hydro's retail customer base consists of approximately 67,000 Red Energy customers in Victoria, as at 31 March 2006. These customers are predominantly under contracts with no fixed term.

Red Energy intends to enter other State or Territory markets as conditions allow.

12. PORTFOLIO POSITIONING AND CONTRACT RISK MANAGEMENT

12.1 Portfolio Positioning

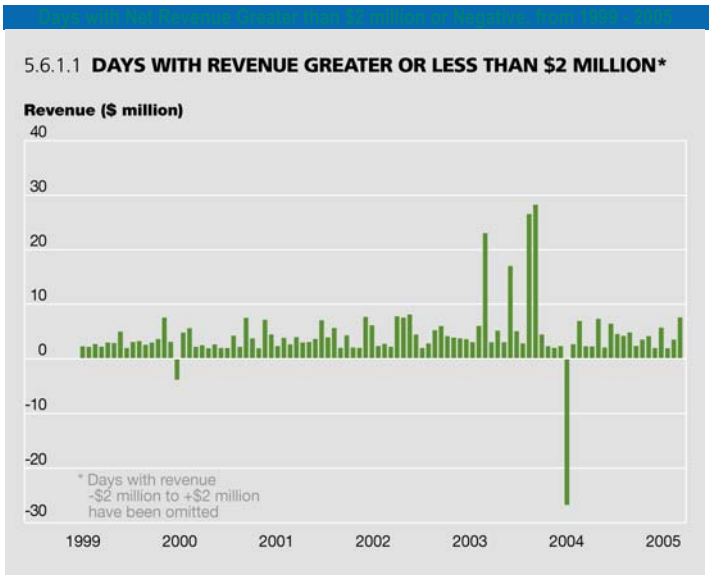
Snowy Hydro's fast-start and reliable generation assets allow it to structure a portfolio that provides, on average, more upside than downside from unpredictable market events.

Snowy Hydro's strategy is to contract a portion of its capacity to provide a base of revenue that exceeds the fixed costs of the business. Sole reliance on the peaking spot market would create an unacceptable degree of revenue volatility. Entering into price risk hedging contracts reduces this volatility and provides more certain coverage of fixed costs in any given year. In addition to providing a more certain base revenue, Snowy Hydro seeks to structure its portfolio to capture the benefits of increased volatility and higher electricity prices as they occur.

12.2 Historical Portfolio Outcomes

Since the corporatisation of Snowy Hydro in 2002, there have been a number of unpredictable market events that affected Snowy Hydro's EBITDA. Prior to corporatisation, there were also unpredictable events that affected the revenues produced by Snowy Hydro's predecessor entities.

These events occur irregularly, and while the effect tends to average out over the long term, they cannot be predicted with any degree of certainty within a particular year. Using historical analysis over the last seven years, these unpredictable events have resulted, with only two exceptions, in significant positive revenue outcomes for Snowy Hydro's business. These positive outcomes are demonstrated in the following chart, which shows individual days where the value of net revenue was either greater than $2 million or negative.



12.3 Portfolio Opportunities

Throughout the year, Snowy Hydro continually adjusts its generation dispatch in response to actual market events as they unfold. Snowy Hydro seeks to minimise its revenue downside through its portfolio of electricity price risk hedging contracts and to preserve its revenue upside through spot market generation. The following points provide examples of these upside opportunities.

Other Generators' Forced Outages

Electricity generators are not 100% reliable. An unexpected failure of a large generator can cause significant market disruption, typically resulting in higher NEM spot prices. Snowy Hydro's fast-start, reliable generation is generally able to capture these high prices.

Alternatively, Snowy Hydro is in a position to offer other market participants electricity price risk hedging contracts for large volumes at short notice. In this situation, and for a fee, Snowy Hydro could provide the generator with short term contract cover (until the generator is returned to service) that removes the risk of price spikes to which the generator would otherwise be exposed.

Planned Outages of Large Base Load Generators.

Large base load generators across the NEM tend to schedule maintenance during periods where volatility is expected to be low, for example during spring, autumn and on weekends. Unexpected weather patterns (either hot or cold) or coincidental forced outages during these periods can result in unpredictable high prices.

Extreme Positive and Negative Events

Extreme demand or supply events are rare and typically last for less than two or three

hours.

Over the last seven years, they have resulted in additional spot revenue and SRA unit revenue to Snowy Hydro in excess of $10 million for a single day on four occasions (as shown in the chart above). An example of such an event could be simultaneous high demand in all NEM States (due to high temperatures) coinciding with the forced outage of a large generator, resulting in high prices in all NEM regions.

Conversely, over the same period, they have resulted in a loss of spot revenue and SRA unit revenue to Snowy Hydro in excess of $10 million for a single day on one occasion. These adverse events can result from dramatic reduction of transmission capacity that leads to both unfavourably high prices in regions where Snowy Hydro has contract exposures and an inability to have Snowy Hydro's generation dispatched in those regions to sufficiently offset the contract exposure.

Other Events

There is a large range of other events that can and have occurred in the NEM. For example industrial relations disputes or coal supply problems have effectively closed generation plants or severely limited their output. High prices can often result from such disruptions. Similarly, high prices can also result from unexpected transmission failure. Snowy Hydro cannot predict these events with any degree of certainty but its fast start and reliable generation places it in an ideal position to capture revenue benefits.

12.4 Contract Risk Management

Snowy Hydro generally uses its physical generation capacity to manage its electricity price risk hedging contracts.

This simplified example illustrates how Snowy Hydro uses its generation capacity to hedge a cap contract. For simplicity, the example does not take into account Basis Risk or the impact of SRA units.

For example, when Snowy Hydro sells a 100MW cap with a strike price of $300/MWh, it is exposed to the risk of the spot price exceeding $300/MWh. This risk is fully mitigated provided Snowy Hydro can also generate 100MW at $300/MWh or higher. If Snowy Hydro is unable to generate the full 100MW at $300/MWh or higher, it is exposed to downside revenue risk. The following table provides a simple analysis of this risk profile. The shaded box shows the revenue per hour that Snowy Hydro would receive or pay under nine different scenarios. For example, if Snowy Hydro could only generate 50MW and the spot price was $1,000/MWh, the loss for that hour would be $20,000. The $20,000 loss is calculated by subtracting the contract payment of $70,000 (100MW * ($1,000/MWh - $300/MWh)) from the spot revenue of $50,000 (50MW * $1,000/MWh).

Snowy Hydro Generation	Spot Price $300/MWh	Spot Price $1,000/MWh	Spot Price $5,000/MWh
100MW	$30,000	$30,000	$30,000
50MW	$10,000	($20,000)	($220,000)
0MW	($10,000)	($70,000)	($470,000)

To take the example a step further, it is necessary to assess the probabilities of each event actually happening. For example, Snowy Hydro may be able to determine (using the methodology detailed below) that there is a higher level of probability that prices will be $300/MWh or below than there is that prices will be $5,000/MWh. Furthermore, consideration must be given to the fact that Snowy Hydro has generation capacity to generate in excess of 4,000MW distributed over 37 units, making it highly unlikely that Snowy Hydro will not have any capacity to generate. It can therefore be concluded that the probability of $5,000/MWh prices combined with no capacity to generate is extremely low. Revenue at risk (measured by probable losses) assesses those potential losses. Snowy Hydro uses this Revenue at Risk ("RaR") approach when managing its electricity contract portfolio. In Snowy Hydro's RaR measurement, revenue incorporates payments arising from financial contracts settled against the spot market, offsetting spot revenue arising from physical generation and SRA unit receipts.

The same principles demonstrated in the previous example can be used on a highly structured portfolio of electricity price risk management contracts. Snowy Hydro has a highly structured contract and portfolio risk management framework that ensures that the risks the Company is assuming remain within Board approved limits. These limits are only changed subject to Board approval. That framework is based on defined probability limits applying to defined monetary amounts over defined time periods. The probabilities associated with those timeframes are set out below.

Timeframe	Probability
Daily	99.9%
Weekly	95%
Monthly	90%

The 99.9% daily loss limit is used as the base for the risk management system. This means that the portfolio risk management systems are designed so that there is a 99.9% probability that there will not be a revenue loss in excess of the daily monetary limit. In other words, provided the assessed probabilities are correct, Snowy Hydro would only expect to exceed the specified limit once every 1,000 days – approximately once every three years (if it is fully utilising its limits). It is worth noting that a daily loss greater than the Board approved daily loss limit has happened once in Snowy Hydro's history. The event that caused the loss was assessed as having less than 0.1% probability of occurring and did not constitute a breach of the contract portfolio risk management systems.

As noted above, the daily loss limit is supplemented with weekly and monthly loss limits with lower levels of probability (as shown above). These limits work in the same way as the daily loss limit. The weekly loss limit means that the portfolio of electricity price risk hedging contracts is managed so that there is only a 5% probability of a loss of an

amount greater than the Board approved weekly loss limit. The monthly limit means that the contract portfolio is managed so that there is only a 10% probability of a loss of greater than the Board approved monthly loss limit.

The specified maximum revenue loss limits referred to above are periodically determined by the Board. While the maximum revenue loss limits are subject to change by the Board, the Company has been operating under existing limits since 2003. The existing limits have evolved from limits that were in place prior to corporatisation through a rigorous financial and risk review process. Since 2001 there have been only two occasions where the daily revenue loss for the Company was in excess of $2 million. There has only been one occasion where the weekly revenue loss was greater than $2 million and no occasions where the monthly loss was greater than $2 million. The amount of the actual maximum losses over the relevant daily, weekly and monthly periods are not necessarily reflective of the loss limits established by the Board from time to time.

The RaR position is continually monitored by Snowy Hydro's senior management and reported to the Board weekly as part of the risk management process.

The risk management system presented above refers to assessed probabilities. Assessed probabilities can be explained by returning to the simple cap example presented above. The probability of a price of $5,000/MWh could be assessed by reference to previous events. For example it could be determined that prices of $5,000/MWh or more had occurred on average for seven hours per year for the last three years. However, simply working out the average number of times a year a particular price has occurred in the past is not sufficient to determine the risks in a complex portfolio of contracts. Therefore, Snowy Hydro uses sophisticated models to determine its assessment of the 99.9% probability of its maximum revenue loss on any given day.

As detailed below, there are three broad inputs that determine the RaR calculation:

Spot Price Outcomes

Snowy Hydro uses a model to simulate spot price, temperature and demand behaviour in each region. A distribution of each of these factors is used as the basis to determine contract, spot and SRA unit revenue.

Simplistically, the main characteristics of the model are that prices exhibit a significant price spike component but have a tendency to return to some mean level. The key parameters of the model are based on a combination of historical data and market data. The AFMA forward curve is used as a proxy for forecast spot prices and is considered to be the level to which prices will tend to revert.

Capacity and Generation

Physical generation is modelled based on total generation capacity of all of Snowy Hydro's generation assets (MW available at any time) and energy capabilities (MWh that Snowy Hydro is able to generate over a period of time) at various confidence levels and time horizons. These assumptions are based on historical Snowy Scheme data.

Transmission

In forecasting SRA unit revenue, the capacity limits of each aggregate regional interconnector are estimated at various confidence levels. These capacity limits are based on historical transmission data. A simple transmission model forecasts flows and resulting SRA unit revenue.

13. EMPLOYEES

13.1 Employees

As at 1 April 2006, Snowy Hydro had 584 full time equivalent employees, of which 182 were employed by Red Energy.

Employees are located in Cooma (the head office), Sydney, regional New South Wales, Melbourne and regional Victoria.

While the majority of Red Energy employees are employed in sales roles, almost 60% of the remaining Snowy Hydro employees work in professional or technical positions.

The majority of employees (outside of Red Energy) are employed under the *Snowy Scheme Enterprise Agreement 2004* ("**EBA**") which is due for renewal in June 2007. Snowy Hydro negotiates the terms of its EBA with staff and unions, including but not limited to Australian Metal Workers Union, Association of Professional Engineers, Scientists and Managers, Australia, Electrical Trades Union and Australian Workers Union. Snowy Hydro has a constructive, ongoing relationship with its workforce and the unions.

Some employees, including professional and specialist employees, as well as the entire senior management team are employed under individual contracts.

As a result of its commitment to building a performance oriented culture, Snowy Hydro was awarded the 2005 Australian Human Resources Institute Award for Excellence in People Management.

PART FIVE: SNOWY HYDRO'S STRATEGY

14. STRATEGY

14.1 Introduction

Since corporatisation, Snowy Hydro believes it has positioned the business to be a major participant in the rapidly evolving Australian electricity industry. The following is an extract form Snowy Hydro's corporate plan completed in June 2005:

> *"Snowy Hydro believes the market will eventually consolidate to around five or six key vertically integrated players. CLP, AGL and Origin have, to varying degrees, achieved substantial vertical integration already. This leaves room for two to three further vertically integrated entities. This plan lays the foundation for Snowy Hydro to be one of these.*
>
> *There is a reasonable risk of serious loss in shareholder value over the next ten years if Snowy Hydro follows a "do nothing" strategy and therefore is not one of the five or six major players; Snowy Hydro's products will either not be required or the pricing will be significantly reduced. This will move Snowy Hydro back to its original business model as a peak generator with somewhat stranded assets."*

Snowy Hydro intends to use the following strategies to take advantage of growth in electricity demand and to enhance its position as a provider of Peak electricity generation and as a leading provider of electricity price risk hedging contracts to participants in the NEM.

14.2 Expand Gas-Fired Generation Capacity

Snowy Hydro will seek opportunities to expand its gas-fired peaking capacity to:

(1) Increase Capacity to Maintain and Enhance its Position as a Leading Provider of Electricity Price Risk Hedging Products

This strategy is based on the forecast growth of its core market segment, namely Peak electricity demand. NEMMCO has forecast expected annual electricity consumption to grow by 2.0% per annum on average and expected maximum electricity demand to grow by 2.8% per annum on average across the NEM from 2005/2006 to 2014/2015. By expanding its peak generation capacity, Snowy Hydro can respond to an increase in demand for electricity price risk hedging contracts

(2) Mitigate Inter-regional Transmission and Price Difference Risk

Snowy Hydro intends to mitigate the risk of inter-regional transmission constraints and price differences between regions, by building and acquiring

additional gas-fired peaking generation outside of the Snowy region.

(3) Diversify Energy Sources

The addition of gas-fired peaking generating units to its portfolio of hydro generation plants means that Snowy Hydro is further able to choose between energy sources from which to dispatch generation. As a result, gas-fired peaking generation can be substituted for hydro generation at times when the opportunity cost of releasing water is high.

(4) Mitigate Gas Delivery Risk

The acquisition or construction of additional gas-fired peaking generating units mitigates gas delivery risk because it reduces the risk of gas supply curtailment to any individual power station. This strategy supplements Snowy Hydro's current ability to manage gas supply risk through the ability to use an alternative distillate fuel which is stored on-site.

Examples of this strategy to date are Snowy Hydro's acquisition of Valley Power and its current construction of the Laverton North Power Station in Victoria. In addition, Snowy Hydro recently agreed commercial terms for the acquisition of land in South Australia, providing the opportunity to construct additional gas-fired peaking capacity in the future.

The company also has a strong desire to build peaking capacity in New South Wales. It has already identified a potentially suitable site and it is currently investigating the feasibility of obtaining the relevant permits to develop the site.

14.3 Expand Portfolio of Electricity Price Risk Hedging Contracts

Snowy Hydro will seek to expand its contract portfolio by attracting new customers and growing its business with existing customers. Snowy Hydro intends to achieve this objective both by modifying its electricity price risk hedging contract product offerings to make them more attractive and through creating new types of contracts, to add value to Snowy Hydro and its customers. Snowy Hydro intends to satisfy this increase in demand with increased generation capacity.

14.4 Expand Retail Customer Base

Snowy Hydro will seek to expand its retail customer base both organically (by growing its existing Red Energy retail customer base) and by considering value-adding acquisitions.

The addition of residential retail customers diversifies Snowy Hydro's revenue and removes an element of contract renewal risk by giving Snowy Hydro the ability to sell electricity to its retail customers that might otherwise have been allocated to covering its contract portfolio.

In assessing retail opportunities, Snowy Hydro's key criteria, consistent with its overall growth strategy, are as follows:

(1) a differentiated product offering;

(2) low administrative and other costs of servicing customers;

(3) complementary fit with Snowy Hydro's electricity price risk hedging and generation activities; and

(4) competitive return on equity compared to electricity price risk hedging and generation opportunities.

14.5 Consider Other Acquisition Opportunities in the Energy Sector

Given its substantial existing peaking generation portfolio and its experience in operating and managing peak generation assets, Snowy Hydro is well positioned to take advantage of acquisition opportunities that arise in the energy sector generally. Acquisition opportunities are expected to arise as a result of consolidation in the energy sector and privatisation of government owned entities, such as the recently announced sale of the Queensland Government's electricity retail businesses. Snowy Hydro will consider making strategic acquisitions that complement its existing portfolio, including additional gas-fired peaking plant and retail acquisitions, as described above.

14.6 Maintain and Enhance the Snowy Scheme

Snowy Hydro's core business strategy is underpinned by the Snowy Scheme. It has programs in place to keep the assets in proper working condition and to maintain and enhance the reliability of the plant and to increase capacity..

14.7 Snowy Scheme Modernisation

Prior to the corporatisation of Snowy Hydro in 2002, the Snowy Mountains Hydro-electric Authority established a capital refurbishment and replacement program. The program was designed to ensure the ongoing asset integrity of the Snowy Scheme. PB Power has recently prepared an independent engineer's report on Snowy Hydro's generation assets. In that report, PB Power concluded that:

"Snowy Hydro has Assets that are sound, well designed, constructed, maintained and operated. The Assets are proactively managed, and the overall integrity of the Assets is expected to improve accordingly."

Since corporatisation, Snowy Hydro has maintained and extended its program to enhance the Snowy Scheme's capabilities. Commencing July 2006, Snowy Hydro is undertaking a 10 year capital expenditure program designed to ensure the continuing high reliability and availability of the Snowy Scheme. The program is estimated to cost between $220 million and $250 million, of which $145 million has been approved for expenditure over the next five years. Implementation of the program is scheduled to occur between 2006 and 2016 and will involve all power and pumping stations, tunnel systems and major infrastructure assets. Snowy Hydro expects that the balance of the 10 year capital expenditure program will be approved closer to the time when the relevant work is scheduled to commence. On completion, the program is expected to result in an increase in capacity of 300MW and an increase in energy output of 75GWh per annum. The 10 year capital expenditure plan forms part of Snowy Hydro's rolling 20 year asset management plan.

The first major site works are expected to commence in July 2006 at the Tumut 3 Power Station. This program is expected to result in three of the six generation units being out of commission on a rolling basis of 6 months each from mid 2006 until the end of 2007. The final three units will be completed from 2008 to 2010 with one unit being out of commission per year for a six month period. Other specific capital expenditure projects in the 20 year asset management plan include:

(1) The Snowy Scheme modernisation project involving a range of plant upgrades, technology improvements and life extension refurbishments encompassing the entire Snowy Scheme. The plan includes the introduction of advanced controls and protection systems technology, installation of new turbine runners to optimise generation capabilities and improve water utilisation efficiency, major plant refurbishment and life extension works, replacement of key plant items, upgrading of power station fire protection facilities and major maintenance of the Snowy Scheme's trans-mountain tunnel systems; and

(2) Small hydro generation projects, including the 14MW Jounama Dam small hydro power station.

PART SIX: FINANCING SNOWY HYDRO'S STRATEGY

15. FINANCING THE COMPANY'S STRATEGY

15.1 Introduction

The funding requirement for Snowy Hydro's growth strategy is a function of which strategy the company pursues.

There are three paths that Snowy Hydro could strategically pursue over the coming five to ten years:

(1) "Cash Cow";

(2) "Risk Manager"; or

(3) "Major Player".

These above alternatives are explained in more detail below.

15.2 "Cash Cow" Alternative

This strategy involves maintaining the Scheme to current high standard and undertaking modernisation and upgrade opportunities as they arise. The company estimates that between $220 million and $250 million is required to modernise and upgrade the Scheme over the next ten years. The Board has already approved $145 million of this expenditure. In addition to the modernisation and upgrade an additional $10 to $15 million per annum is required for normal capital works, often referred to as "maintenance capex". Total capital expenditure would be between $35 million and $40 million per annum.

Under this strategy the company would increase its dividends in the short term to up to $160 million per annum while maintaining its BBB+ credit rating. However over the ten year period the dividends would decline to around $90 million. There would be no need for additional equity.

The impact of vertical integration of our customers would not be mitigated under this strategy and over the coming five to ten years Snowy Hydro would lose a substantial portion of its customer base. This loss of customer base occurs because either Snowy Hydro's existing customers are acquired by a competitor or they build their own peaking plant to manage their electricity price risks. Snowy Hydro estimates the EBITDA loss would be in the order of $80 million to $100 million.

The IPO process estimated Snowy Hydro's current equity value (asset value less debt) to be $2.5 billion to $3.0 billion. The equity value of the business under the cash cow strategy could fall to $1.6 billion to $1.8 billion.

15.3 Risk Manager

This strategy builds on the cash cow strategy by recognising that Snowy Hydro is the premier provider of risk management contracts to the industry and it has developed an expertise in providing these highly structured derivatives. However, in order to maintain its position, Snowy Hydro will need to continue its expansion into gas fired peaking plant. It is estimated that the company needs to add an additional 300MW of capacity every four years, at an all in cost of between $250 million to $300 million for each 300MW development. The location of the plant within the NEM cannot be determined until closer to the time of construction. However, it is safe to assume that a number of the investment would be outside New South Wales.

This Risk Manager strategy best describes Snowy hydro's current position and has been endorsed by the shareholders through the current statement of Corporate Intent. Under this strategy the company could pay on average dividends in the order of $110 million per annum while maintaining its BBB+ credit rating. There would be no need for additional equity. However, it is possible that under some future market outcomes the levels of dividends would need to be reduced in particular years in order to retain appropriate credit rating ratios. The equity value of the business would be between $2.5 billion and $3.0 billion.

15.4 Major Player

This strategy best describes Snowy Hydro's vision for the future. It is the strategy that produces the greatest value from the Scheme because it capitalises on the Scheme's unique ability to manage extremely difficult electricity market risk. The company has already successfully positioned itself as an electricity market risk manager and taken a small step towards vertical integration through organically growing Red Energy. The next step in the strategy was to have been the strategic acquisition of retail and/or further generation opportunities as the industry consolidated. The Scheme provides Snowy Hydro with assets that are ideal for managing volatile electricity market risk and therefore positions the business to be very competitive in purchasing retail customer loads.

Under this strategy the company could pay on average dividends in the order of $110 million per annum from the existing business while maintaining its BBB+ credit rating. However, there would be the need to inject up to $800 million of additional equity in order to finance acquisition opportunities estimated to be between $1.5 billion and $2 billion over the next five years. The balance of funding would be provided through a mixture of debt, debt hybrid structures and other financing techniques.

The equity value of the business would be between $3.0 billion and $3.5 billion plus the additional equity contributed of $800 million.

15.5 Summary

The following table summarises the position under the three strategic alternatives

	Dividends	Equity Value (Assets less Debt)
Cash Cow	$160 million initially falling to $90 million over the long term. NSW share = $93 million falling to $52 million	$1.6 billion to $1.8 billion NSW share = $0.9 billion $1.0 billion
Risk Manager	$110 million NSW share = $64 million	$2.5 billion to $3.0 billion NSW share = $1.5 billion $1.7 billion
Major Player	$110 million(1) NSW share = $64 million	$3.0 billion to $3.5 billion(1) NSW share = $1.7 billion $2.0 billion

(1) To determine a like for like comparison, these figures exclude the additional dividends provided by acquisitions and the additional equity required to finance the acquisitions.

PART SEVEN: WATER

16. WATER OPERATIONS: PHYSICAL ASPECTS

16.1 Overview

In addition to electricity production, the other key objective in the design and construction of the Snowy Scheme was to mitigate the effects of drought on irrigated agriculture along the River Murray and Murrumbidgee River.

The Snowy Scheme was designed to make certain minimum water releases into both the River Murray and Murrumbidgee River each year, even through a drought sequence as severe as the December 1936 to July 1946 drought (the "design drought sequence"), the most severe drought sequence in the last 101 years.

16.2 The Snowy Scheme's Capability

The Snowy Scheme has a defined (and limited) capability to capture and divert inflows, store those inflows and then release those inflows. In this sense it is a "closed" system: a reduction in the Snowy Scheme's capability to capture inflows or a reduction in the Snowy Scheme's ability to divert inflows necessarily equates to an equal reduction in the Snowy Scheme's ability to make required annual releases to the Murrumbidgee River and River Murray catchments.

This theme of a "closed" system underlies much of the following discussion, particularly in relation to the environmental flow arrangements and the Snowy Scheme's ability to store water over long periods.

16.3 The Snowy Scheme: Converting Variable Inflows Into Highly Reliable Annual Releases

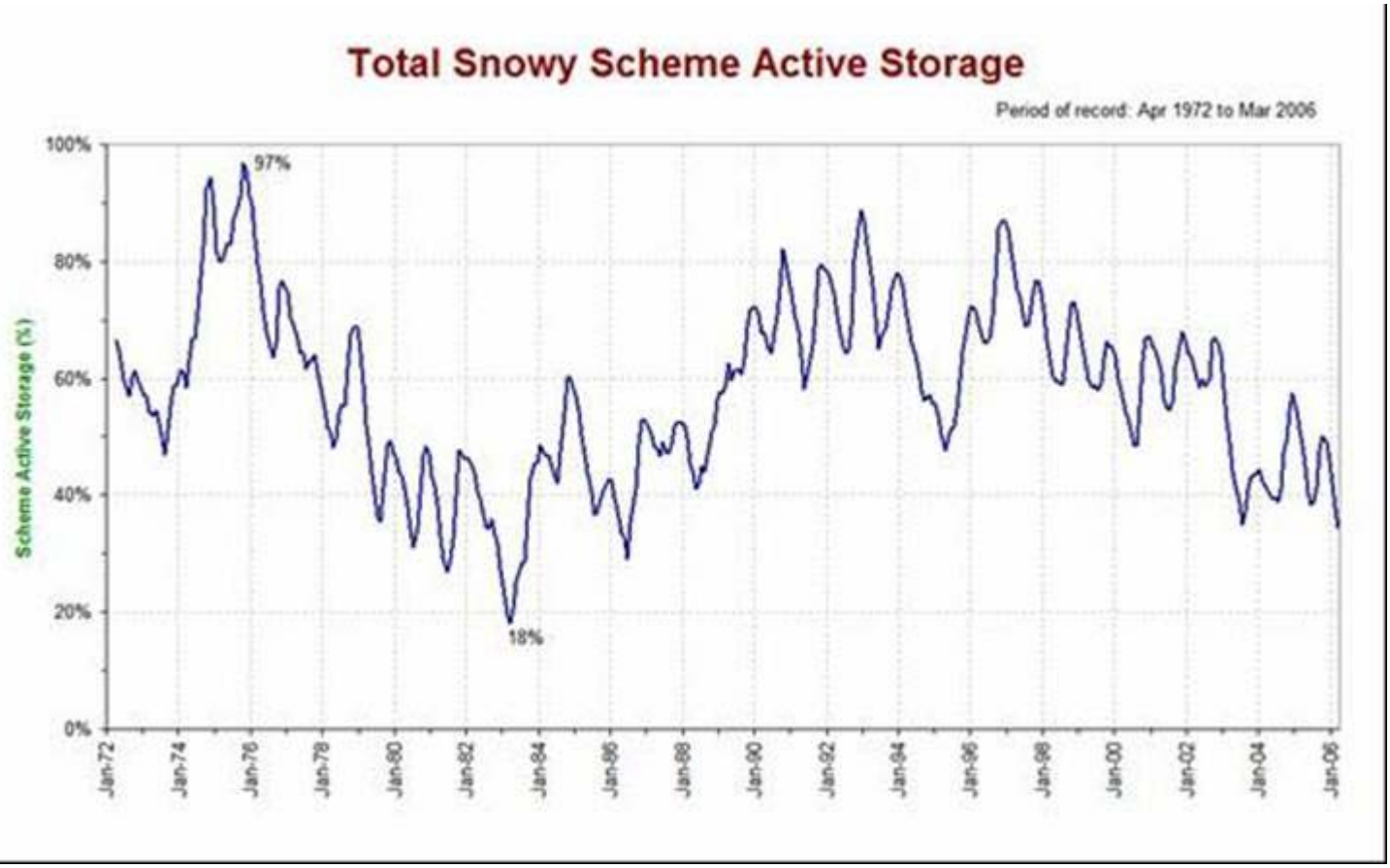
The Snowy Scheme was designed with the aim of accumulating sufficient water during wet years to enable continued releases to the River Murray and Murrumbidgee River even during the design drought sequence. That is, the Snowy Scheme is designed to be able to capture highly variable annual inflows into the Snowy Water Catchment (varying from 30% of annual average to 220% of annual average, measured over a period of 101 years), store that water and release it in the form of highly reliable required annual releases.

The total active storage capacity of the Snowy Scheme (being the storage capacity of the reservoirs above the lowest level to which water in each of them will be drawn down during normal operations) is about 5,300Gl. The following table sets out, for each of the Snowy Scheme's reservoirs, the total active storage capacities and actual active storage volume as at 31 March 2006.

Total Active Storage Capacities and Actual Active Storage Volumes

Reservoir	Active Capacity at Full Supply Level (Gl)	Active Storage on 31 March 2006 (Gl)
Eucumbene	4,367	1566
Tantangara	239	0
Tooma	26	1
Tumut Pond	50	5
Talbingo	190	145
Jounama	31	8
Jindabyne	389	95
Geehi	13	7
Total Snowy	5,305	1826

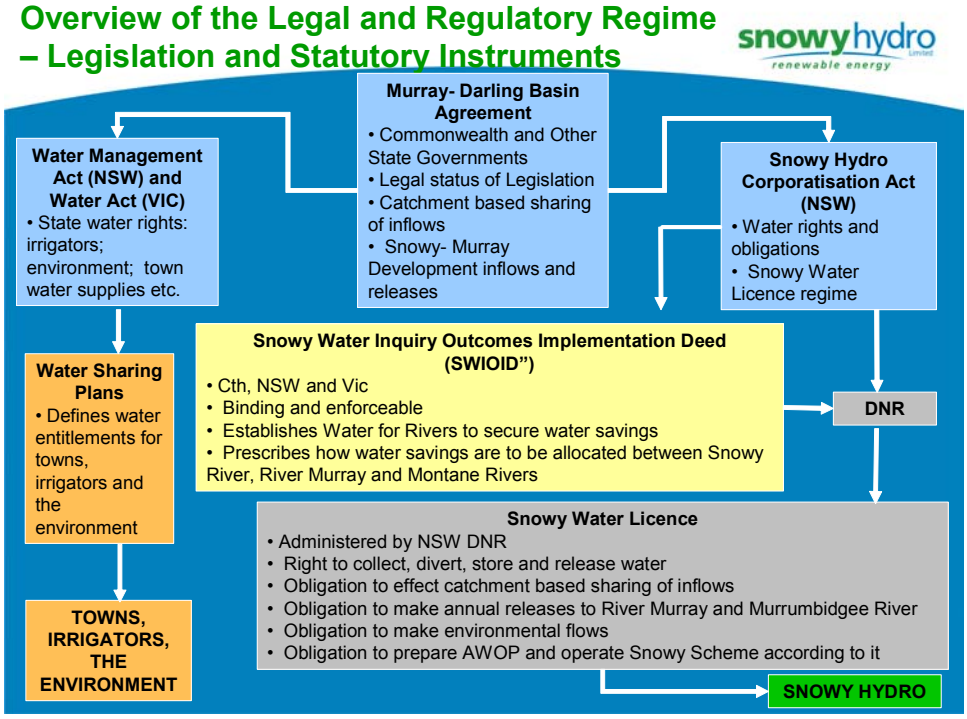
The following graph illustrates the Snowy Scheme's active storage capacity since commissioning of the Snowy Scheme:



17. WATER OPERATIONS: THE LEGAL AND REGULATORY REGIME

17.1 Overview

The water operations of the Snowy Scheme are regulated by the Snowy Water Licence. The diagram below, however, illustrates the inter- relationships between Acts and other instruments that impact upon the terms and administration of the Snowy Water Licence.



17.2 Regulation of Snowy Scheme Water Operations is Totally Independent of Ownership of Snowy Hydro

Much of the time taken during the corporatisation process was directed to the development of a robust water regulatory regime applicable to the Snowy Scheme.

The key point in relation to the regulatory arrangements applicable to the water operations of the Snowy Scheme is that not one of them turns on the ownership of Snowy Hydro. In other words, a change in ownership of Snowy Hydro is not a trigger for any change to the water regulatory arrangements.

It can also be said of the resulting water regulatory arrangements that they:

(1) Are clearly defined and legally enforceable; and

(2) In relation to the water captured by the Snowy Scheme, strike the right balance

between the competing needs of electricity generation and provision of NEM services by the Snowy Scheme and on the other hand the environmental and irrigational interests downstream.

17.3 The Snowy Water Licence

The Snowy Water Licence is the instrumental governing Snowy Hydro's rights and obligations regarding the collection, diversion, storage and release of water from the Snowy Scheme.

The Snowy Water Licence is issued under Part 5 of the *Snowy Hydro Corporation Act 1997 (NSW)* ("**NSW Corporatisation Act**").

The Snowy Water Licence is intended to give effect to the provisions of the *Snowy Water Inquiry Outcomes Implementation Deed* ("**SWIOID**"), an agreement between the three Shareholder Governments that arose out of the Snowy Water Inquiry in 1998.

The NSW Water Administration Ministerial Corporation (effectively the NSW Department of Natural Resources) is required to administer the Snowy Water Licence consistently with the provisions of the SWIOID, including in particular in exercising its discretion to amend the Snowy Water Licence.

Unless terminated earlier, the Snowy Water Licence expires on the 75th anniversary of the Corporation Date being 28 June 2077. There is no provision in the Snowy Water Licence or the NSW Corporatisation Act for the renewal or extension of the Snowy Water Licence term beyond this date.

17.4 Annual Water Operating Plans

Snowy Hydro has an obligation to comply each water year with the provisions of the Annual Water Operating Plan ("**AWOP**") applicable to that water year.

The purpose of an AWOP is to provide State water authorities with details of how Snowy Hydro proposes to operate the Snowy Scheme within the parameters established by the provisions of Schedule 3 (environmental flow requirements) and Schedule 4 (western river releases) to the Snowy Water Licence and any water accounting, annual allocations and other parameters notified to Snowy Hydro by the Ministerial Corporation.

The AWOP process involves Snowy Hydro preparing a draft AWOP which is then reviewed by the WCLC established under the SWIOID and comprising representatives from NSW Treasury, NSW Department of Natural Resources, Victorian Department of Sustainability and the Environment, MDBC and the Commonwealth Department of Industry. Snowy Hydro must consider WCLC comments and provide a revised AWOP to NSW Department of Natural Resources. DNR then considers the AWOP and, if appropriate, approves it.

Each year Snowy Hydro must operate the Snowy Scheme in accordance with the AWOP approved by DNR.

17.5 The Murray- Darling Basin Agreement

The Murray- Darling Basin Agreement ("**MDB Agreement**") is an inter- governmental agreement annexed to legislation of several Parliaments including those of the Commonwealth and the States of New South Wales, Victoria and South Australia. As a matter of law the MDB Agreement has the character of legislation.

Following Corporatisation of the Snowy Scheme, a new Schedule G was inserted into the MDB Agreement. Among other things Schedule G replicates the provisions of the Snowy Water licence relating to Required Annual Releases from the Snowy- Murray Development. The effect of this particular inclusion is that the Murray- Darling Basin Commission ("**MDBC**") accounts releases from the Snowy- Murray Development in accordance with Schedule G. That is, those releases are allocated 50:50 to the States of New South Wales and Victoria as set out in the Schedule G formula unless agreed otherwise by the MDBC.

The new Schedule G to the MDB Agreement also:

(1) implements new arrangements for sharing water made available from the Snowy Scheme to the River Murray catchment above Hume Dam;

(2) secures Victoria's water rights (and consequently those of South Australia) which were contained in the original Snowy Agreement; and

(3) requires the MDBC to adjust water accounts to restore the status quo if New South Wales amends the Snowy Water Licence in a way which alters Victoria's access to water.

17.6 The Snowy Water Inquiry Outcomes Implementation Deed

The Snowy Water Inquiry Outcomes Implementation Deed ("**SWIOID**") is a legally binding and enforceable agreement between the three Shareholder Governments. The SWIOID:

(1) Sets out the three Governments' commitment to achieve water efficiency savings and the methodology they will apply to accounting for the water efficiency savings; and

(2) Establishes the Water Consultation and Liaison Committee ("**WCLC**"), which is given the right to review and provide comment on each draft AWOP prepared by Snowy Hydro.

Under the NSW Corporatisation Act and the *Water Management Act 2000 (NSW)* ("**Water Management Act**"), the NSW Department of Natural Resources must administer the Snowy Water Licence so as to give effect to the provisions of the SWIOID.

18. SNOWY HYDRO'S WATER RIGHTS

18.1 Collect, Divert, Store and Release

The Snowy Water Licence confers the following rights on Snowy Hydro:

(1) The right to collect all water from the rivers, streams and lakes within the Snowy

Water Catchment;

(2) The right to divert that water;

(3) The right to store that water;

(4) The right to use that water to generate electricity and for purposes that are incidental or related to the generation of electricity; and

(5) The right to release that water from storage,

in each case in accordance with the terms of the Snowy Water Licence. Snowy Hydro's rights are subject to the rights of certain other occupiers to take and use water (for example, local councils).

19. WATER RELEASES

19.1 The Four Drivers to Snowy Scheme Water Releases

There are four drivers to Snowy Scheme water releases:

(1) **Regulatory**: to meet the water release requirements prescribed in the Snowy Water Licence;

(2) **Electricity Generation:** to generate electrical energy. Snowy Scheme generation is targeted to periods of peak electricity market demand (generally correlated to higher spot market prices);

(3) **Physical:** Inflows and storage levels:

(a) Snowy Hydro manages its storages so as to minimise spill from its reservoirs because spill equates to a loss of resource; and

(b) Snowy Hydro moves water from short term storages to long term storage in Lake Eucumbene to minimise forced generation; and

(4) **Operational Constraints:** physical constraints in the Snowy Scheme.

It is important to note that electricity generation is inseparably linked to Snowy Scheme water releases because the only practical way to release water from the Snowy Scheme is by generating electricity through the Snowy Scheme's turbines.

19.2 Snowy Scheme Contribution to Western Catchments

On the River Murray as at Hume Dam, the Snowy Scheme contributes inflows of:

(1) 8% during average inflow years; and

(2) 33% during drought years.

On the Murrumbidgee River at Wagga Wagga, the Snowy Scheme contributes inflows of:

(3) 25% during average inflow years; and

(4) 60% during drought years.

Water releases from the Snowy Scheme:

(5) to the Murrumbidgee River are allocated 100% to NSW; and

(6) to the River Murray are shared 50:50 between NSW and Victoria.

19.3 The Snowy Water Licence: Achieving Annual Water Releases for Water Users and Flexibility for Electricity Generation

The Snowy Water Licence achieves a balance between water releases timed for the benefit of downstream irrigation and environmental uses, while at the same time providing Snowy Hydro with the timing flexibility it needs as a peak generator in the NEM. The Snowy Water Licence achieves this outcome in two ways.

First, the Snowy Water Licence prescribes that Snowy Hydro must make minimum annual water releases to the River Murray and Murrumbidgee River catchments but it is generally not prescriptive in terms of when during each year those releases must be made.

Water held in Snowy Scheme storages to deliver on the current and future years' minimum annual water release requirements is referred to as "Below Target Water". Any water held in Snowy Scheme storages in excess of this is referred to as "Above Target Water".

In terms of the timing of the minimum annual water releases, the Snowy Water Licence specifies conditional minimum release requirements for the months from December to April. There are also restrictions on the rate of water releases from the Jounama Dam during times when Blowering Dam is spilling. The Snowy Water Licence does not prescribe any other within-year restrictions on the timing of release of the minimum required annual releases to the River Murray and Murrumbidgee River catchments.

There are physical constraints associated with the operation of the Snowy Scheme. Also, Snowy Hydro must operate the Snowy Scheme in accordance with an annual water operating plan developed by Snowy Hydro and approved by the NSW Department of Natural Resources each year. Snowy Hydro includes in those plans guaranteed quarterly minimum release volumes which it must meet during the relevant water year. The NSW Department of Natural Resources can vary an annual water operating plan prepared by Snowy Hydro only to achieve consistency between the provisions of the plan as prepared by Snowy Hydro and the minimum annual water release requirements and the environmental flow requirements.

The volume of those minimum annual releases (being 1,062Gl for the Snowy-Murray Development and 1,026Gl for the Snowy-Tumut Development, totalling 2,088Gl) equates to 84% of the long term inflows of both Developments. Those volumes are "nominal" in that in each Water Year they are potentially adjusted for items including inter-valley

transfers and carry over volumes from the previous Water Year. The minimum annual water releases are also reduced where inflow conditions are forecast to be worse than the design drought sequence. Also, in any water year the minimum annual water releases can be varied by agreement between Snowy Hydro and the NSW Department of Natural Resources on any terms and they are reduced where irrigator entitlements are fully satisfied under "baseline" conditions.

Second, because the Snowy Water Licence only seeks to regulate the timing of release of Below Target Water, this means it gives Snowy Hydro absolute discretion to the timing of release of any Above Target Water held in Snowy Scheme storages. Again, this is subject only to physical constraints associated with the operation of the Snowy Scheme and the limit on releases from the Jounama Dam when Blowering Dam is spilling.

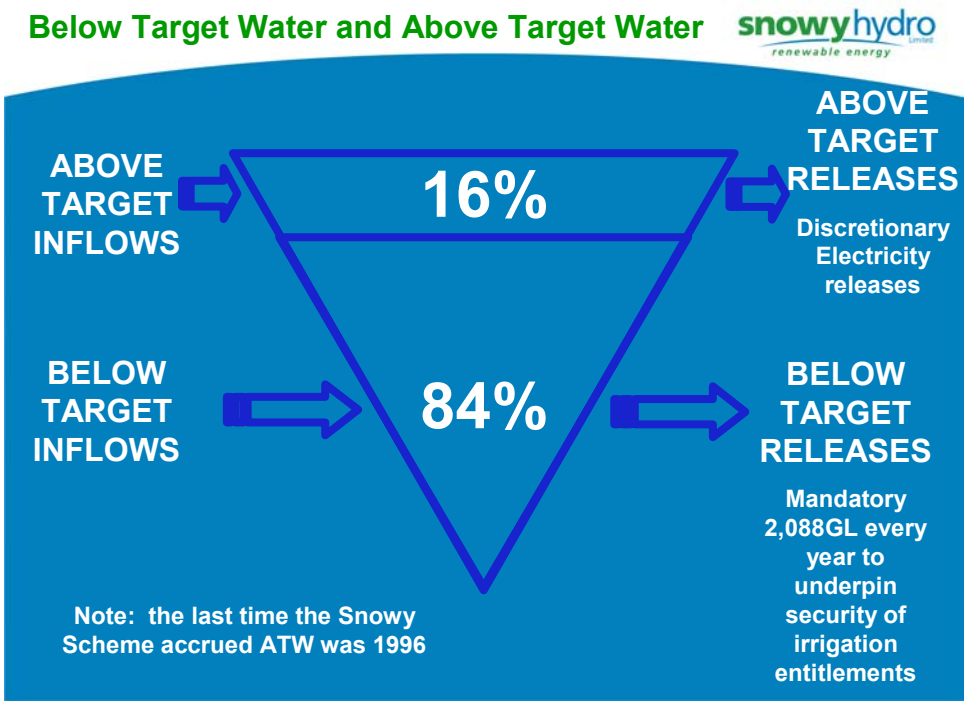
Below Target Water and Above Target Water arrangements strike the correct balance between short term flexibility needed for electricity generation versus longer term water security requirements for downstream water users:

(1) The NEM works on a 5 minute basis;

(2) The States work on an annual water allocation basis;

(3) Dams operate on a multi- year "memory" basis.

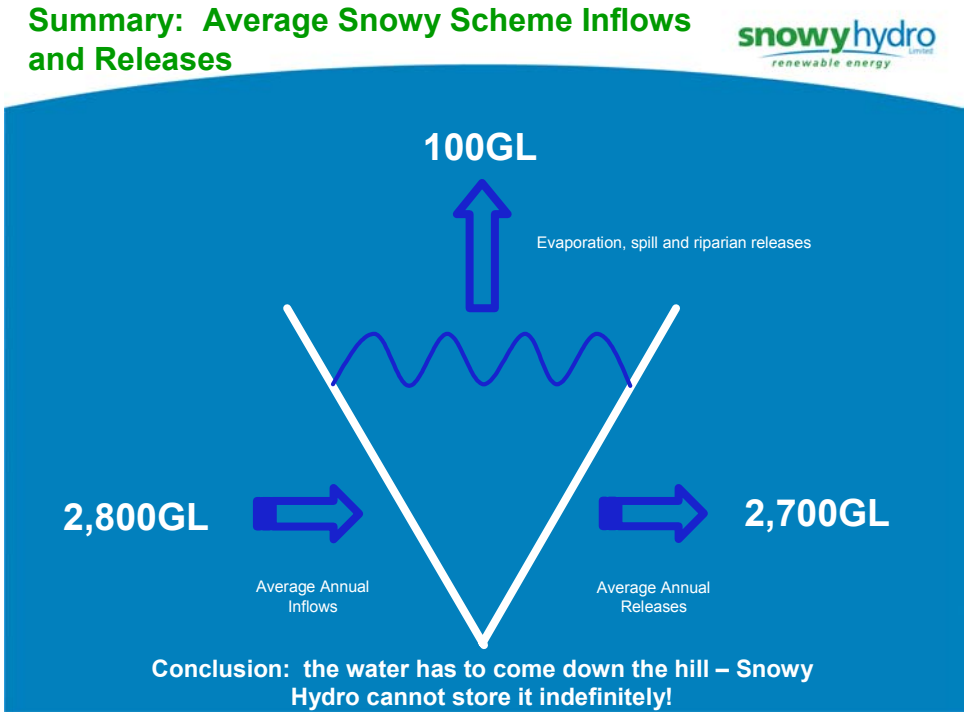
All of this is illustrated in the diagram below:



In every Water Year since the Snowy Scheme was completed, the Snowy Scheme has met its annual water release obligations.

19.4 Snowy Hydro's Ability to Store Water Indefinitely

One of the misconceptions generated during the IPO process was that Snowy Hydro could "hold back" releases and store water indefinitely in the Snowy Scheme. The Snowy Scheme does not have this capability. In fact, during the period from completion of the Snowy Scheme, average outflows have equalled average inflows as shown below:



19.5 Downstream Re-Regulation of Snowy Scheme Releases By Government Water Authorities

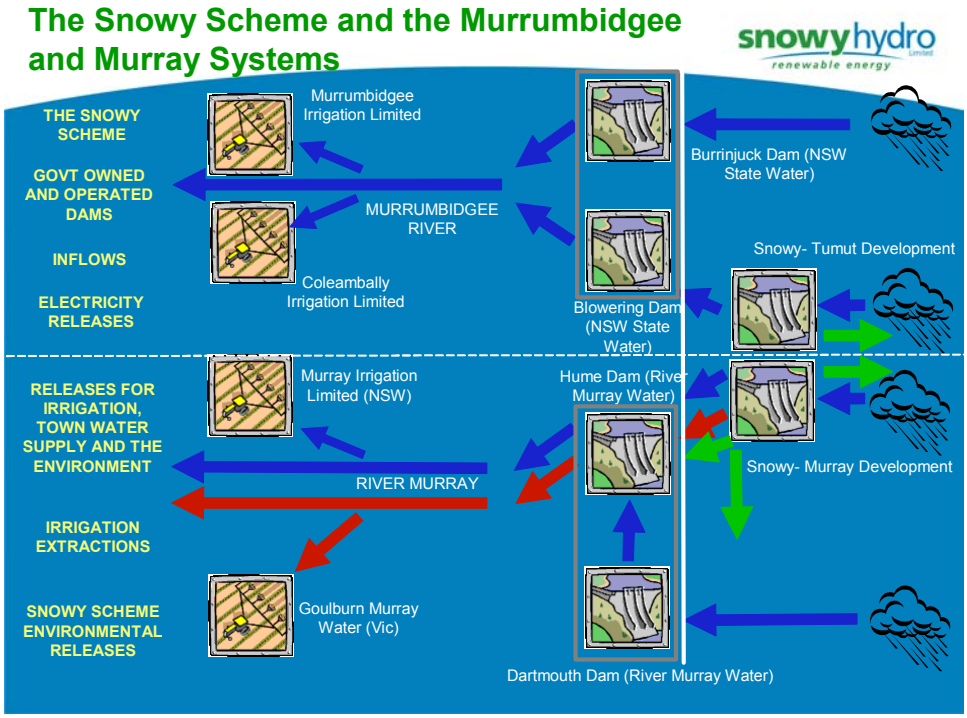
Snowy Scheme releases are not supplied directly to downstream water users. Rather, those releases and the other River Murray and Murrumbidgee River catchment inflows are re-regulated by the Hume Dam on the River Murray and Blowering Dam on the Tumut River. Water releases for irrigation and environmental uses along the upper River Murray are managed by River Murray Water principally through releases from Dartmouth and Hume Dams (the Snowy Scheme does not make releases into Dartmouth Dam), and by NSW State Water along the Murrumbidgee River through releases from Blowering and Burrinjuck Dams (again the Snowy Scheme does not make releases into Burrinjuck Dam).

This is illustrated in the following diagram which shows that irrigation releases are made

only:

(1) **Into the Murrumbidgee River catchment**: from both Blowering Dam and Burrinjuck Dam. The operations of these dams are synchronised to meet irrigation demands; and

(2) **Into the River Murray**: from both Dartmouth Dam and Hume Dam. Again, the operations of these dams are synchronised to meet irrigation demands.



20. ENVIRONMENTAL FLOWS

20.1 The Governments to Fund and Secure Water Efficiency Savings

Under the SWIOID, the three Governments have committed to funding and securing water efficiency savings. The environmental flows that Snowy Hydro is required to release under the Snowy Water Licence are, each year, equal to the volume of water efficiency savings achieved by the Governments to date.

All increased environmental flows in the Snowy River will be offset with water obtained by the Governments primarily through prior verified water efficiency savings in diversions from the River Murray and in the Murrumbidgee and Goulburn-Murray river systems. Water efficiency savings obtained by the Governments will also be used to provide dedicated environmental flows in the River Murray.

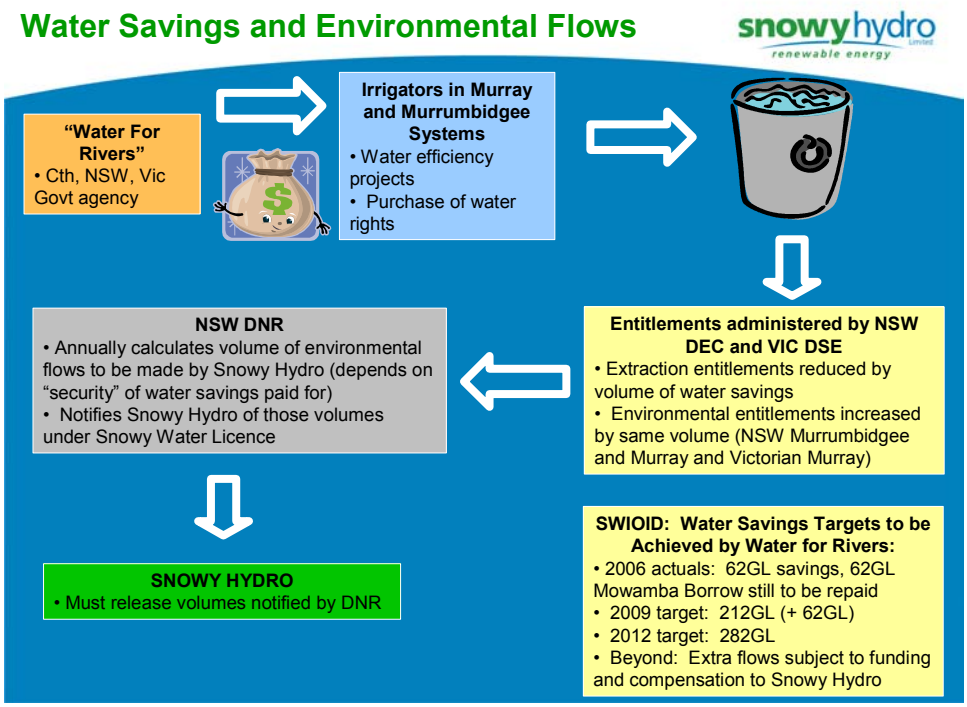
The water efficiency savings recovered in the irrigation districts will reduce the volume of

water required to supply the needs of irrigation farmers. These water savings will offset increased flows in the Snowy River by reducing the required annual releases from the Snowy Scheme to the west for irrigation farming. These reductions will enable increased releases from Jindabyne Dam to the east to provide increased flows in the Snowy River.

To achieve these water efficiency savings, the three Governments established the Joint Government Enterprise (trading as "Water-4-Rivers") with a charter to obtain water efficiency savings at least cost.

New South Wales and Victoria have each committed to contribute $150 million and the Commonwealth $75 million, over 10 years (2002 - 2012) to achieve the water efficiency savings. The funding is independent of Government ownership of Snowy Hydro and would continue in the absence of Government ownership.

The process may be illustrated as follows:



20.2 Increased Flows

Under the Snowy Water Licence, Snowy Hydro is required to make two types of environmental flows.

The first is known as Snowy River Increased Flows. These are releases to be made from Jindabyne Dam into the Snowy River.

The volume of the Snowy River Increased Flows to be made each year by Snowy Hydro

is determined by the volume of verified water savings achieved and water entitlements purchased to that date by the Governments from the River Murray and Murrumbidgee Rivers. For the 2006-07 Water Year, the volume of Snowy River Increased Flows is 38Gl. Under the SWIOID, the Governments have committed to targeting Snowy River Increased Flows of 212Gl per annum (representing 21% of the annual average flow of the Snowy River as at Jindabyne Dam) from June 2009.

Note in this regard that, generally, water efficiency savings are allocated to the Snowy River Increased Flows and the River Murray environmental flows in the proportion 2:1. That is, for every 3 GL of water efficiency savings achieved by the Governments, 2 GL is allocated to the Snowy River and 1 GL is allocated to the River Murray.

The main exception to this general rule is that the Snowy River allocation is then to be split 1:1 between Snowy River Increased Flows to be made from Jindabyne Dam and to repayment of the Mowamba "borrow" which stands at approximately 60GL. (The releases made from Mowamba Weir during the first three years after Corporatisation were "borrowed" from the Snowy Scheme's Below Target Water and have to be repaid to the Snowy Scheme. If the borrow is not repaid, the Snowy Scheme will fail earlier in a dry inflow sequence than it otherwise would have in terms of being able to maintain western river releases.)

The second is known as Snowy Montane Rivers Increased Flows. These are additional flows that Snowy Hydro must allow to pass through certain of its regulating structures. The volume of Snowy Montane Rivers Increased Flows increases proportionately with the volume of Snowy River Increased Flows. Under the Snowy Water Licence (which in this regard mirrors the SWIOID) the volume of Snowy Montane Rivers Increased Flows is capped at 150GWh of foregone electricity generation.

Both Snowy River Increased Flows and Snowy Montane Rivers Increased Flows result in foregone revenue for Snowy Hydro. This is because, under the current Snowy Scheme configuration, given the water used for those flows, Snowy Hydro is able to generate substantially less electricity resulting in foregone revenues in both the spot market and as a hedge for electricity price risk hedging contracts.

In the case of the Snowy River Increased Flows, Snowy Hydro is not entitled to any compensation for flows up to 212Gl per annum. However, as recognised in the SWIOID and confirmed in the Tripartite Deed between the NSW and Victorian Governments and Snowy Hydro, if the Victorian and NSW Governments decide to increase Snowy River Increased Flows above 212Gl, then Snowy Hydro is entitled to compensation for the net foregone revenue of that increase (this reflects the terms of the SWIOID). Under the SWIOID, the States cannot increase Snowy River Increased Flows above 294Gl.

Snowy Hydro is not entitled to any compensation for Snowy Montane Rivers Increased Flows, although these flows are capped at a volume equivalent to 150GWh of foregone generation.

Water releases in the future will be affected by inflows into the Snowy Water Catchment and by the need for Snowy Hydro to make Snowy River Increased Flows and Snowy Montane Rivers Increased Flows as NSW and Victoria secure water savings on the River Murray and Murrumbidgee Rivers. If by June 2009 the States achieve their target volume of total water savings, then from that time these flows will result in a reduction of

291Gl per annum in turbined releases and about 537GWh in generation.

PART EIGHT: LAND ISSUES

21. LAND OCCUPATION BY SNOWY HYDRO

21.1 Outside the KNP

Outside the KNP, Snowy Hydro owns the vast bulk of Snowy Scheme operational land. The Blowering Power Station site is leased from the Department of Natural Resources.

21.2 Inside the KNP

Inside the KNP, Snowy Hydro obtains its right to occupy land under the Snowy Park Lease.

The Snowy Park Lease gives Snowy Hydro the right to exclusive occupation of some areas within the KNP including, for example, power station sites. For others areas including reservoirs, Snowy Hydro is given non-exclusive rights of occupation.

21.3 The Snowy Park Lease

The Snowy Park Lease is a lease granted both under the NSW Corporatisation Act and the NPW Act.

The Snowy Park Lease comprises an authority under the NPW Act to carry on the Existing Scheme Development within the KNP. The Snowy Park Lease permits Snowy Hydro to use the land for the purposes of:

(1) the collection, diversion and release of water for generating hydro-electricity;

(2) the exercise of Snowy Hydro's rights and obligations under the Snowy Water Licence;

(3) the carrying out of the activities referred to in the Schedule of Existing Developments as they relate to the KNP; and

(4) other uses as approved by the Minister in writing from time to time.

Under the Snowy Park Lease, Snowy Hydro must:

(5) maintain and keep Snowy Hydro's works located in the Leased and Licensed Areas in good and substantial repair, order and condition to preserve their structural integrity;

(6) Keep the Leased Areas clean and tidy;

(7) Not put waste in the Licensed Areas; and

(8) Ensure that Snowy Hydro's occupation of Leased and Licensed Areas does not cause deterioration (defined as degradation of the basic condition of the land within the Leased and Licensed Areas from the condition they were in as at the commencement date).

The Snowy Park Lease expires on 28 June 2077 and cannot be terminated without cause.

22. ACCESS TO LAND

22.1 Access to Land Within the KNP

Except for areas of the KNP that are leased to Snowy Hydro under the Snowy Park Lease (eg, power station sites), the public have a statutory right of access under the NPW Act to the lands within the KNP that are licensed to Snowy Hydro under the Snowy Park Lease. These areas include reservoirs.

22.2 Access to Land Outside the KNP

The areas of interest in regard to access are the lakes located outside the KNP, principally Lakes Eucumbene and Jindabyne.

Both Lakes Jindabyne and Eucumbene have extensive foreshores significant portions of which adjoin the KNP and are therefore accessible to the public. The remaining shoreline adjoins either:

(1) New South Wales Crown land and is licensed for grazing; or

(2) private landholders and is licensed for grazing and recreational use. These agreements provide for continued public access; or

(3) land leased to Snowy River Shire Council for the express purpose of public access.

Lake Eucumbene and Lake Jindabyne both have easy access from the public roads that run to the edge of Snowy Hydro land. These roads are Council maintained, are well sign posted, and offer easy access to the key recreational access points around both lakes.

Snowy Hydro has developed 10 key recreational areas around these lakes to ensure safe access for recreational users. These well sign posted sites are accessed from the public roads mentioned above, are well maintained and offer environmentally friendly facilities.

In addition Snowy Hydro has in place cooperative arrangements with local government and local community groups to ensure boating access. These arrangements include: boat ramps at Lake Jindabyne and Old Adaminaby on Lake Eucumbene, Khancoban Pondage and Talbingo Reservoir. Further public access is available from the numerous caravan parks and camping areas that have been developed to provide a wide range of recreational opportunities.

23. REMOVAL OF DISUSED INFRASTRUCTURE WITHIN THE KNP

23.1 General

The Snowy Scheme is designed to maximise the Scheme's capability to capture water within the Snowy Catchment Area. As water is the "fuel" used to generate hydro-electricity, it is counter initiative for Snowy Hydro to want to remove Snowy Scheme infrastructure.

However, in practice it is recognised that at some point Snowy Hydro may want to remove, either permanently or for replacement, Snowy Scheme infrastructure.

23.2 Former Scheme Sites

During Corporatisation, extensive studies were undertaken to identify former Scheme sites within KNP. About 700 identified. About 30 classified as "Major Former Scheme Sites", the rest as "Minor Former Scheme Sites".

Under Major Former Scheme Sites Management Deed and Minor Former Scheme Sites Deed, Snowy Hydro paid DEC (KNP landholder) $32 million for cost of remediation of Major and Minor Former Scheme Sites.

Despite DEC payment, Snowy Hydro is still liable to meet costs of remediating contamination if found.

23.3 Continuing Sites: Snowy Park Lease

Under the Snowy Park Lease, Snowy Hydro must remediate the relevant parts of the Leased and Licensed Areas if it:

(1) Removes and does not replace any of its Works from the Leased and Licensed Areas;

(2) Ceases to use any of the Works constructed within a part of the Leased and Licensed Areas for a continuous period of at least ten years; or

(3) States an intention to end its occupation of part of the Leased and Licensed Areas by notice in writing.

Where remediation is required, Snowy Hydro must remediate the relevant areas to a condition that is either:

(4) generally consistent with the undisturbed areas of the KNP in the same locality; or

(5) suitable for preserving the relevant part of the Leased and Licensed Areas for appropriate heritage and conservation purposes.

In either case, the area must be free of debris, weeds and any contaminants, hazardous materials or other wastes. Prior to undertaking the applicable remediation, Snowy Hydro must provide a report to the Minister that specifies the remediation procedures it intends

to follow.

23.4 Snowy Water Licence

Under amendments to the Snowy Water Licence agreed during the IPO process, Snowy Hydro is not able to decommission assets where their decommissioning may

(1) cause it to be unable to comply with the water release requirements of the Snowy Water Licence and the SWIOID, specifically:

(2) the increased environmental flows; and

(3) Snowy Hydro cannot decommission any asset that will have the effect of reducing the yield capacity of the Snowy Scheme as the water releases requirements include the release of all water collected and stored by it to rivers and streams flowing from the Snowy Water Catchment.

PART NINE: HERITAGE

24. HERITAGE ISSUES

24.1 State Heritage

DEC has confirmed that there is no intention to seek individual items of the Snowy Scheme to be listed for State heritage significance under the *New South Wales Heritage Act 1997* (***Heritage Act***).

However, were there an intention to do so, there are no express arrangements prohibiting items of the Snowy Scheme being listed on the State Heritage Register ("**Register**") pursuant to the Heritage Act.

The New South Wales Minister administering the Heritage Act can direct the listing on the Register of a building or work where the Minister considers it is of State heritage significance, but only if the Heritage Council recommends that listing (s.32(1), Heritage Act).

Under the Snowy Management Plan Environmental Management Plan, Snowy Hydro is obligated to establish an approach to the management of heritage of the Snowy Scheme within the KNP, including the parameters that Snowy Hydro will follow with respect to the management of heritage for those activities approved under the NSW Corporatisation Act.

24.2 Aboriginal Heritage

Under the Snowy Management Plan Environmental Management Plan, Snowy Hydro is obligated to establish an approach to the management of Aboriginal heritage within the KNP, including the parameters that Snowy Hydro will follow with respect to the protection and management of Aboriginal heritage for those activities approved under the NSW Corporatisation Act.

PART TEN: OTHER

25. EMPLOYEE SHARE OFFERS DURING THE IPO

25.1 Employee Share Offers

The Committee has asked Snowy Hydro to indicate what share offers were to be made to employees as part of the proposed IPO.

Any preferential allocations of shares proposed to be made as part of the IPO were determined by the three Shareholder Governments as vendors of the shares.

In terms of employee share offers, the three shareholder Governments approved only two allocations:

(1) a "General Employee Share Plan" under which Snowy Hydro was to have made an initial offer of $1,000 worth of shares to eligible employees under this Prospectus; and

(2) a "General Employee Loan Based Share Plan" under which Snowy Hydro was to have made an offer to eligible employees under the Prospectus of shares funded by a one-off interest free loan facility of up to $10,000 with a repayment obligation which is limited to the value of the shares acquired.

Eligible employees were to have been full-time or permanent part-time employees of the Snowy Hydro Group or such other persons as the Board may determine. However, Executives of Snowy Hydro were not eligible to participate in either of these Plans. Accordingly, other than shares for which they may have applied for in the general public offer, Executives of Snowy Hydro would not have been able to participate in the share offer.

ANNEXURE: AN INTRODUCTION TO THE NATIONAL ELECTRICITY MARKET ("NEM")

1. INTRODUCTION

1.1 Introduction

Prior to the 1990s, the Australian electricity sector was characterised by State Government owned, vertically integrated electricity authorities.

In the early 1990s, a number of south-eastern States began disaggregating those authorities into separate generation, transmission, distribution and retailing businesses (although in some cases distribution and retailing have remained in the same business). Most assets in the Victorian and South Australian electricity supply chain were privatised between the mid-1990s and 2000. In contrast, the majority of generation, transmission and distribution assets in New South Wales, Queensland and Tasmania are currently government owned.

This restructuring has been accompanied by a range of regulatory and market reforms, including the creation of a national electricity market ("**NEM**"). Regulatory arrangements relating to the electricity industry are continuing to undergo reform.

2. THE NEM

2.1 Background

The NEM, which commenced in December 1998, is the wholesale market for the supply of electricity to retailers and end-users in Queensland, New South Wales, the Australian Capital Territory, Victoria, Tasmania and South Australia. While Tasmania officially joined the NEM on 29 May 2005, physical participation in the NEM did not occur until the commissioning of the Basslink interconnector, on 29 April 2006. The NEM was created to improve competitiveness of the electricity sector, provide choice for electricity consumers and help to match the supply and demand requirements among participants across the eastern States.

NEMMCO was established in 1996 to implement, administer and manage the NEM. NEMMCO's primary functions are to operate and administer the wholesale national electricity market and to manage the security of the power system in accordance with the National Electricity Rules that are made under the National Electricity Law.

One of the most recent developments in the electricity industry has been in relation to the governance arrangements that apply to the industry. This reform has resulted in the establishment of two new bodies, the Australian Energy Regulator ("AER") and the Australian Energy Market Commission ("AEMC").

(1) The AER is responsible for regulation of the wholesale national electricity market

and electricity transmission networks in the NEM and for monitoring and enforcing compliance with the National Electricity Rules. Currently the regulation of electricity distribution networks remains with State-based regulators, but non-economic regulation is expected to be transferred to the AER and AEMC during 2007.

(2) The AEMC is responsible for rule making and market development. The rule-making function primarily involves managing the rule change process, and consulting and deciding on rule changes proposed by others (the AEMC can not initiate material rule changes by itself). The market development function is performed by conducting reviews on any matter relating to the NEM at the request of the Ministerial Council on Energy ("MCE"), or on the operation and effectiveness of the National Electricity Rules at its own volition. For details of certain proposed rule changes that are being considered by AEMC and their potential impact on Snowy Hydro, see Sections 5.8 and 9.1.

The MCE is responsible for oversight and co-ordination of policy development relating to the NEM. The MCE can issue statements of policy principles in relation to any matters that are relevant to the exercise and performance by the AEMC of its functions and powers.

The NEM objective that guides the AER in performing its economic regulatory functions, the AEMC in performing its rule-making function and the MCE in issuing policy guidance is:

> "*to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability, and security of supply of electricity and the reliability, safety and security of the national electricity system*."

2.2 NEM Regions: Overview

The NEM is divided into six regions: New South Wales (including ACT), Victoria, Snowy, South Australia, Queensland, and Tasmania. Except for the Snowy region, which is located within NSW, NEM regions and State boundaries are closely aligned. Regional boundaries are generally located at points on the transmission network where there are likely to be significant limitations on the electricity transfer capability, or "transmission constraints". To facilitate the flow of electricity between the different NEM regions they are interconnected by more than one physical transmission line, with the exception of Tasmania which has a single interconnector, Basslink.

The figure below shows the NEM regions and the interconnections between regions.

While the Queensland, New South Wales, Victorian, Tasmanian and South Australian regions contain substantial electricity demand relative to their generation capabilities, the Snowy region, where the Snowy Scheme assets are predominantly located, has very little customer demand. As a result, almost all electricity generated in the Snowy region is exported to adjacent NEM regions.

The table below sets out the maximum demand for electricity in each region in the 2005 financial year. Except where otherwise indicated, maximum electricity demand occurred during summer.

Maximum Demand by Region (MW)

Region	Maximum Demand (MW*)
QLD	8,176
NSW	13,032*
SNOWY	-
VIC	8,512
SA	2,626
TAS	1,636*

* Denotes Winter Maximum Demand

Source: 2005 NEMMCO Statement of Opportunities

The table below sets out the projected existing and committed scheduled generation

capability in each region for the winter of 2006.

Aggregate Generation Capacity by Region (MW)

Region	Generation Capability (MW)
QLD	10,486
NSW	12,401
SNOWY	3,711
VIC	8,711
SA	3,490
TAS	2,400

Source: 2005 NEMMCO Statement of Opportunities

Interconnector capability varies in accordance with a range of factors, including availability of transmission equipment, and amount and location of generation which is in service.

The table below sets out the maximum recorded capability for each interconnection in both directions for the 2005 financial year.

Maximum Recorded Inter-regional Capabilities (MW)

Figure [1.1] Descriptor	Interconnectors	Capabilities (MW)
N-Q	New South Wales to Queensland	801
	Queensland to New South Wales	1,273
SN-N	Snowy to New South Wales	3,465 / 3,127*
	New South Wales to Snowy	1,150
V-SN	Victoria to Snowy	1,235
	Snowy to Victoria	1,863
V-SA	Victoria to South Australia	680
	South Australia to Victoria	435
Basslink	Tasmania to Victoria	600**
	Victoria to Tasmania	300**

* Denotes Winter / Summer capabilities

** Forecast Capability (not commissioned in the fiscal year ending June 2005)

Source: 2005 NEMMCO Statement of Opportunities

2.3 Transmission Constraints

Transmission constraints arise where the ability to transmit electricity between and within regions is restricted. Transmission constraints are impacted by a large range of factors including variable physical transmission capability, electricity system operating parameters, market modelling of transmission network capability and losses, planned and unplanned transmission network outages, monitoring equipment outages and physical losses. These constraints may give rise to differences in spot prices between regions of the NEM. If these constraints or limits are reached on interconnectors

between regions then significant price differences between those regions often occur.

2.4 Participants

There are four major sectors in the electricity supply chain within the NEM, namely:

(1) generation;

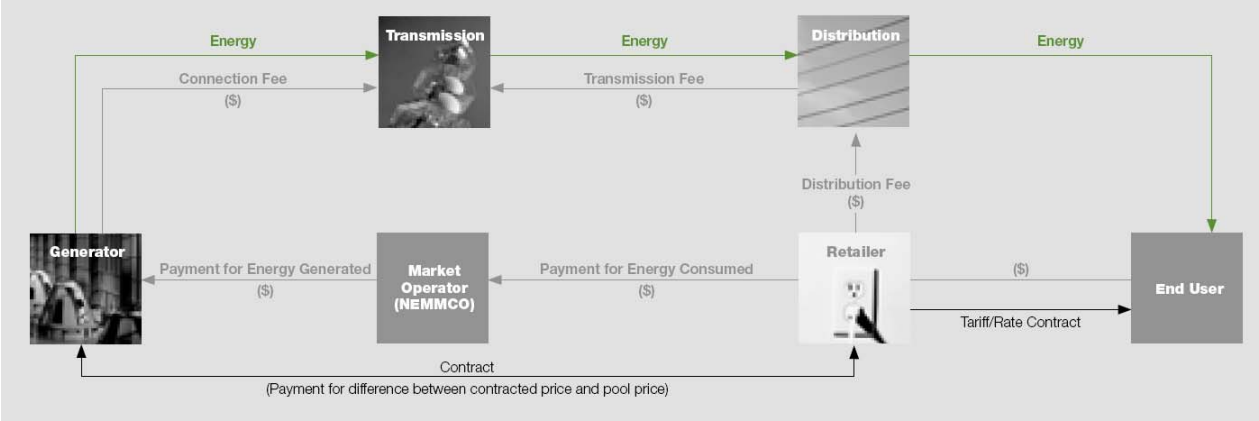
(2) transmission;

(3) distribution; and

(4) retail.

This is illustrated in the figure below.

Electricity Supply Chain



2.5 Generation

Electricity generation is the first process in the delivery of electricity to the end user. Common primary energy sources used in the generation of electricity include coal, gas, hydro, wind and solar energy. The primary energy sources used by power stations and the cost and efficiency with which these plants operate largely determine whether they are used to satisfy base load electricity generation or intermediate and peak electricity generation.

Coal-fired power stations generally operate as base load generators and provide a steady flow of electricity regardless of total demand from the NEM. These plants can have very long start times (from eight to 48 hours) and as a result tend to run at all times throughout the year, except during periods of routine maintenance, repairs or unplanned outage. Base load plants are characterised by their relatively low cost of generation. As a general rule, base load electricity generators provide the majority of the electricity used within the NEM.

Intermediate and peak generators tend to operate only when there is moderate to high demand for electricity within the market which is not met by base load generators,

leading to an increase in electricity prices. This usually occurs during normal higher demand periods and during extreme weather fluctuations such as hot summer days when the use of air conditioners is at its greatest. As a result, some peak load generators may only operate for very short periods throughout the year.

The distinction between an intermediate and peak power station largely depends on the stage of electricity demand at which they typically commence generation (i.e. an intermediate generator will tend to commence generation at a lower level of demand). Peak generators typically have fast start capabilities, with start times of approximately 20 minutes for gas turbine fired plants and as little as one-to-two minutes for hydro-electric plants, allowing them to respond quickly to transient peaks in demand. Unlike gas turbine fired plants, hydro-electric generators tend to have very low marginal costs as their primary energy source is water. When combined with their fast start capabilities, these qualities make hydro-electric power stations ideally suited to capitalise on periods of peak demand.

There are, however, broadly two types of hydro-electric power stations in Australia. There are those such as in the Snowy Scheme where the timing of water releases and therefore the timing of generation can generally be controlled, at least in the short to medium term. The other type of power stations are generally referred to as "run-of-river" hydro-electric power stations in that the timing of water releases, and therefore the timing of generation, is dictated by the timing of inflows or downstream water requirements and not electricity market factors. As a result, this second category of hydro-electric power stations is not suited to peak generation because there is no flexibility on timing of generation and it is therefore unable to target peak demand.

Total installed generation capacity in the NEM, as at 30 June 2004, was 38,330MW and total electrical energy produced by generators in the NEM in the year ended 30 June 2004 was 187,589GWh. According to ABARE, in excess of 75% of Australia's total annual electricity is generated using brown and black coal, which is in abundant supply in many parts of Australia. Brown and black coal-fired electricity generation is expected to grow by 1.2% and 1.9% per annum respectively over the next 25 years. In contrast, natural gas fired electricity generation, which currently accounts for 14.2% of total annual electricity generation, is forecast to grow by 3.8% per annum over the same period and renewable electricity generation, currently 7.8% of total annual generation, is expected to grow by 2.4% per annum.

NEMMCO has forecast expected annual electricity consumption to grow by 2.0% per annum on average and expected maximum electricity demand to grow by 2.8% per annum on average across the NEM from 2005/2006 to 2014/2015, representing an increase in maximum demand of approximately 1,000MW per year. Growth in peak demand is driven by a number of factors including economic growth, increasing consumer affluence and variability in weather. Figure [ ] highlights projected growth in maximum electricity demand in NSW and Victoria/South Australia over this period and climate.

2.6 Transmission and Distribution

Most electricity produced by generators is transmitted via high voltage transmission lines to population centres where it is delivered to consumers via distribution networks (which operate at lower voltages than transmission networks). Due to the level of capital

required to construct and maintain them, it is uneconomical to duplicate these networks. As a result, transmission and distribution networks in the NEM principally operate as natural monopolies which are regulated to prevent monopoly pricing. Regulation also establishes uniform rules for all generators, and retailers to gain access to transmission services. In contrast to new generation investment which is usually driven by market factors, the establishment of significant new regulated transmission assets (including interconnectors), or upgrades to those assets, must satisfy a formal regulatory approval process.

2.7 Retail

Electricity retailing is the process of attracting and retaining customers, purchasing electricity for use by those customers from the NEM (or local generators) and billing those customers for the supply of electricity consumed. This includes energy, transmission and distribution costs, and the recovery of operational costs and an operating margin. There are four main elements of an electricity retailing business:

(1) sales and marketing operations to attract and retain customers;

(2) customer management systems to ensure customers are transferred, billed and serviced efficiently;

(3) purchase of wholesale electricity from the NEM at NEM spot prices and transmission and distribution services from local network service providers; and

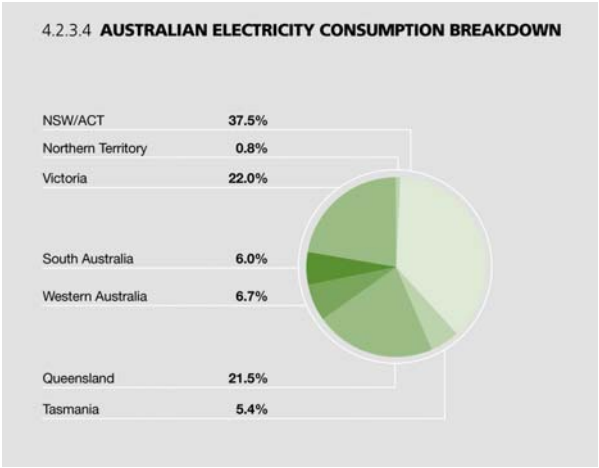
(4) hedging of risks associated with the volatility in wholesale spot market prices by entering into electricity price risk hedging contracts with counterparties such as generators to minimise financial exposure to potential fluctuations in spot prices.

2.8 End Users

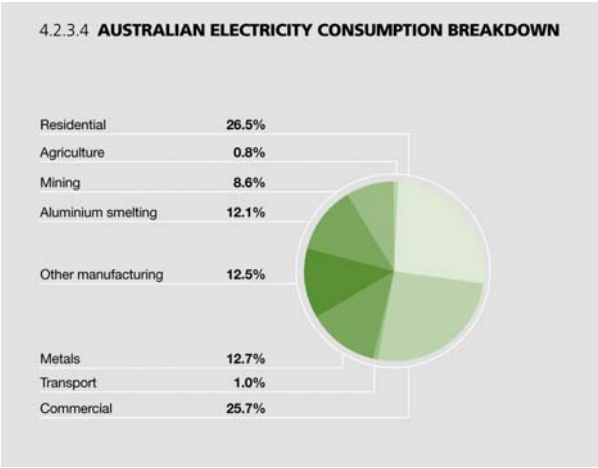
In 2004, New South Wales (including the ACT) and Victoria consumed almost 60% of the total electricity used in Australia. More than half of Australia's electricity was consumed by residential and commercial customers. Manufacturing, extractive and refining industries account for the majority of the remaining electricity consumption while aluminium smelting alone accounts for approximately 12% of total Australian electricity demand.

The NEM, which consists of all States and Territories in Australia other than Western Australia and the Northern Territory, accounts for approximately 92.5% of total Australian electricity consumption.

Electricity Consumption by State



Electricity Consumption by Sector



Source: Electricity Australia 2005, ESAA

2.9 Retail Competition and Vertical Integration of Participants

A recent electricity industry reform is to offer customers a choice of electricity retailer. This choice, referred to as retail contestability, has or is being phased in across each State. Customers in Victoria, New South Wales, South Australia and ACT are now able to choose their electricity supplier. Queensland has announced the introduction of full retail contestability from July 2007.

Retail contestability is expected to result in increased retail price competition. The ability to procure wholesale electricity at a known competitive price is therefore a primary driver for electricity retailers' profits, resulting in increased vertical integration of generation and retail participants. AGL is an example of an electricity retailer that has acquired base load, peaking and intermediate generation capacity (the Somerton plant in Victoria, an interest in the Loy Yang A plant in Victoria, the Hallett plant in South Australia and the Southern Hydro wind and hydro generation portfolio). Vertical integration in the industry may result in less demand for electricity price risk hedging products. Snowy Hydro has acquired the retailer Red Energy as a partial mitigant to this risk.

2.10 Spot Market Operation

Wholesale electricity trading in the NEM is conducted via a spot market where short term supply and demand are instantaneously matched through a centrally-coordinated dispatch process. The instantaneous matching of supply and demand is essential given that electricity cannot be stored. Generators make their generation offers to NEMMCO, which determines for each NEM region the least cost generation solution for the electricity demand requirement at any point in time. Generally, the last generator dispatched to meet a given electricity demand requirement sets the "marginal" price, which becomes the spot price. All generators dispatched during that period then receive the spot price for their NEM region (see Section 4.2.5).

Purchasers and sellers of electricity can manage their electricity prices under electricity

price risk hedging contracts. Electricity price risk hedging contracts are purely financial instruments and do not provide for the sale or purchase of physical electricity. They are usually entered into to mitigate a party's exposure to the variable NEM electricity spot price and are not regulated by, or settled through, the NEM.

2.11 Spot Market Prices

Electricity prices are calculated for each five-minute dispatch interval. Six dispatch prices are averaged every thirty minutes to determine the trading interval (half-hour) spot price. A separate spot price is published for each region within the NEM, for each trading interval. The spot price is the basis for settlement of electricity sold or purchased from the NEM during the relevant trading interval.

Spot prices in the NEM are determined by market forces within the parameters established by the National Electricity Rules including price limits, part of which is a price cap of $10,000/MWh (known as the Value of Lost Load or "VoLL") and a market price floor of -$1,000/MWh. In addition, the National Electricity Rules have established a cumulative price limit of $150,000 applied over a rolling period of 336 half hour trading intervals (equivalent to one week).

Key factors affecting both the supply and demand of electricity in the NEM are listed in the table below.

Key Factors Affecting Electricity Demand Key Factors Affecting Electricity Supply

Key Factors Affecting Electricity Demand	Key Factors Affecting Electricity Supply
Changes in weather and climate	New generation plant
Growth in economic output (i.e. GDP)	Marginal cost of generation
Growth in energy intensive commercial and industrial sectors	Capacity of interconnectors
Population growth	Interruptions to transmission networks
Growth in new housing	Interruptions to generation plant
Increase in the use of conventional and reverse cycle air conditioners	Bidding behaviour of market participants
Increased growth and usage of other electrical appliances	Availability of generation capacity
Electricity demand management in response to market price	New regional interconnectors

A price duration curve ranks NEM spot prices within a period in descending order, showing the proportion of time for which the spot price exceeded a given level. NEM spot prices are shown on the vertical axis of the price duration curve while the proportion of time for which the price exceeds a given level is shown in the horizontal axis. The following figure provides the price duration curve for the New South Wales region in calendar year 2005.

NSW Price Duration Curve – 2005

2.12 Derivative Market

Generators and retailers are exposed to uncertainty in NEM spot prices. In the case of a retailer, electricity price risk hedging contracts are entered into to avoid the risk of paying high spot prices. In the case of a generator, these contracts are entered into to avoid the risk of receiving less revenue when the spot price is low. Retailers and generators typically enter into these contracts with each other to offset these risks.

Electricity price risk hedging contracts are financial instruments (as opposed to arrangements under which electricity is physically supplied) between participants in the NEM such as generators and retailers. They typically operate independently of both the NEM and NEMMCO's spot market operation and are not factored into the balancing of supply and demand. The contracts can be entered into either as long term or short term arrangements that set an agreed price (referred to as "strike" price) for a quantity of electricity that participants can use to offset the financial risk presented by the volatility of NEM spot prices.

While there are numerous variations, some forms of electricity price risk hedging contracts are described below.

(1) Swap Contracts

Under a standard swap contract, the buyer (typically an electricity retailer) agrees for a fixed volume of MW to pay the seller for the difference between the strike price and the spot price, if the spot price is less than the strike price. Conversely, if the spot price is higher than the strike price the seller pays the buyer the price difference multiplied by the contract volume. Swaps do not involve the payment of an option premium.

(2) Cap Contracts

Caps are contracts where the buyer (e.g. an electricity retailer) pays a premium in return for the right to receive payments whenever the NEM spot price exceeds the cap strike price (on a specified volume of MW). The payments made under a cap contract are calculated as the NEM spot price minus the strike price in

each applicable half hour. Strike prices on cap contracts are generally set at high levels as these contracts are typically used by electricity retailers to provide protection against periods of unexpectedly high NEM spot prices.

(3) **Floor Contracts**

Floors are contracts where the buyer (e.g. an electricity generator) pays a premium in return for the right to receive payments whenever the NEM spot price falls below the floor strike price (on a specified volume of MW). The payments made under a floor contract are calculated as the strike price minus the NEM spot price in each applicable half hour. Floor contracts act to limit downside risk for the generator by guaranteeing a certain level of revenue to offset periods where the spot price is low.

(4) **Collars**

A collar is a combination of a cap contract and a floor contract written at different strike prices. If the spot price is higher than the cap price, the seller pays the buyer the difference between the cap price and the spot price multiplied by the agreed volume of MW. If the spot price is lower than the floor price, the buyer pays the seller the difference multiplied by the volume of MW. If the spot price is between the cap and the floor price, no payments are made.

(5) **Options Contracts**

These are contracts where the purchaser has the right at a specified point in time to exercise (at their discretion) an underlying contract such as a cap or swap in exchange for an option fee. Examples include captions (an option to buy a cap) and swaptions (an option to buy a swap).

(6) **Triggered Contracts**

These are contracts that are activated on a specific trigger. Examples include caps that are activated when a specified trigger such as regional demand is exceeded and deactivated when the demand recedes (a demand triggered cap) or a swap that is activated when a specific generator fails (an outage triggered swap).

(7) **Structured Products**

Structured products are non-standard products. They comprise combinations of various standard or basic products that are tailored to meet the specific risk management requirements of both the buyer and seller as negotiated between the parties.

2.13 AFMA Forward Curve

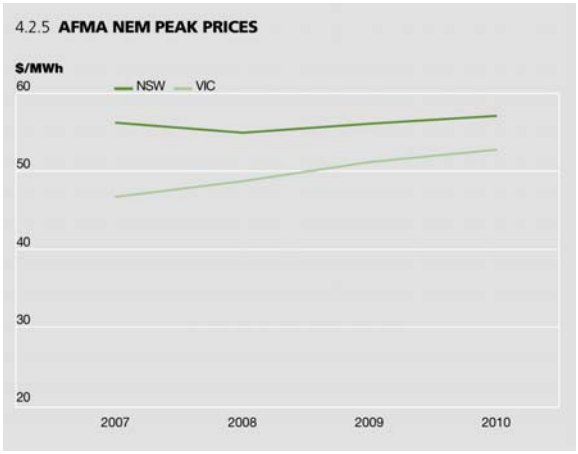
The figure below highlights the forward electricity price curves in the New South Wales and Victorian regions in the NEM as compiled by the Australian Financial Markets Association ("**AFMA**"). The AFMA electricity forward curves are estimates of forward prices for NEM Peak and NEM off-peak periods in each region within the NEM. The

forward curves are based on the bid and offer prices provided by AFMA members and are typically used as reference points by market participants in establishing the pricing and terms of their derivative contracts.

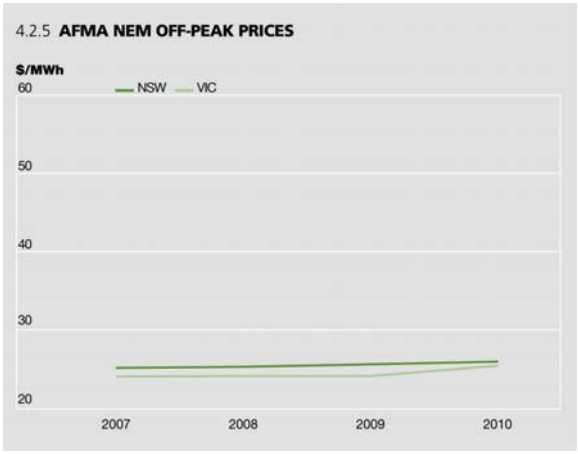
NSW and Victorian AFMA Electricity Forward Price Curves ($/MWh)

NSW and Victorian AFMA Electricity Forward Price Curves ($/MWh)

Peak



Off-Peak



Source: AFMA, as at [8 March 2006]

2.14 Regional Price Differences and Settlement Residue Auctions

Each region of the NEM has its own spot price that is influenced by factors such as demand and supply, transmission constraints, participant bids and offers and network loss factors. As a result, there may on occasions be substantial spot price differences between different market regions of the NEM at any given half hourly trading interval.

Inter-regional settlements residues ("**IRSR**") are an accumulated pool of funds that arise due to the price difference between NEM regions when there are flows on the regulated interconnectors between these regions. NEMMCO administers the IRSR and eligible persons can obtain the right to share in these funds via the SRA process.

IRSR arise when the energy payments NEMMCO receives from market participants (generally market customers such as electricity retailers) for a trading interval differ from the energy payments that NEMMCO must make to market participants (generally generators) in respect of that same trading interval. Positive IRSR will arise when electricity is generated in a low priced region and transmitted to a higher priced region. Less frequently, negative IRSR will arise when electricity is generated in a high price region and transmitted to a lower priced region.

Significant inter-regional price differences may occur when the regulated interconnectors between two regions are operating at full capacity (i.e. transmission is constrained), producing a significant accumulation of IRSR. Smaller inter-regional price differences generally arise when the regulated interconnectors between the regions are operating at less than full capacity. In those circumstances, the accumulation of IRSR is smaller.

The SRAs give eligible persons access to IRSR by enabling them to bid for units (known as SRA units), which are shares in the total IRSR amount. There are many variables affecting SRAs, meaning that bidding for units is uncertain and carries a number of potential risks. These risks include the uncertainty of purchasing the required number of units at an appropriate price, and the future value of the acquired units.

The SRAs are intended to make the NEM more efficient and competitive by providing a means of partially hedging the difference in NEM spot prices between NEM regions. The hedging provided is subject to a number of variables, such as the level of interconnector flows between NEM regions, which means that the inter-regional price risk cannot be completely mitigated by SRAs.

NEMMCO passes the proceeds from the SRAs to Transmission Network Service Providers to ultimately reduce regulated transmission charges to end use customers.

NEMMCO conducts these SRAs on a quarterly basis. Units are auctioned for each regulated interconnector between each market region and for both flow directions. Units for a relevant quarter are auctioned in four tranches, with one tranche auctioned during each of the four quarters preceding the relevant quarter.

3. RENEWABLE ELECTRICITY

3.1 Renewable Electricity

Renewable electricity such as hydro-electricity, and solar and wind-generated electricity, is electricity that is produced using sources of energy that are replaceable or non–depletable over a reasonable period of time. Electricity produced from fossil fuel sources are not renewable. A number of factors have driven recent growth in the renewable electricity sector, including:

(1) awareness of the atmospheric pollution caused by electricity generation from fossil fuels;

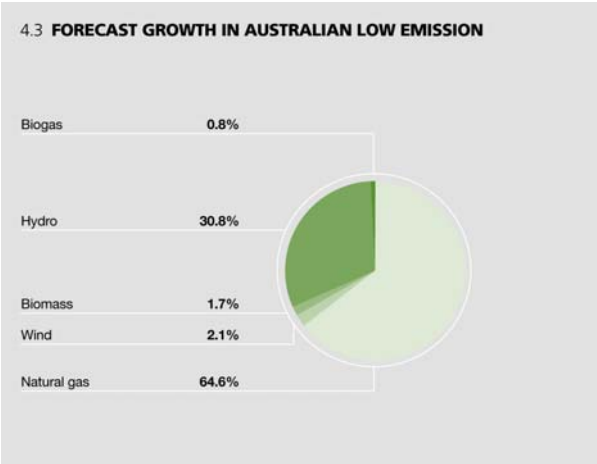
(2) the introduction of regulatory frameworks designed to promote the consumption of renewable electricity and development of renewable electricity generation projects; and

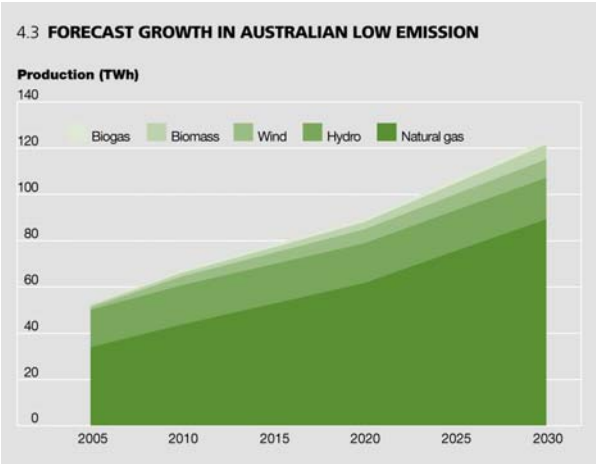
(3) technological advances in renewable electricity generation which have enabled renewable electricity generators to become more cost competitive with electricity generation from fossil fuels.

While the generation of low emission electricity (i.e. powered by natural gas) and renewable electricity is forecast to grow at approximately 3.5% per annum over the next 25 years, growth in hydro electricity generation is expected to be relatively small, due to the high costs and limited opportunity of constructing hydro generation assets. The contribution to total renewable electricity generation of hydro schemes is expected to decline from 30.8% in 2005 to 14.6% by 2030 as other renewable electricity energy sources such as wind, biomass and biogas experience growth of approximately 7% – 8% per annum over this period. The figure below highlights forecast growth in low emission and renewable electricity generation.

2003-04 and Forecast Growth in Australian Low Emission and Renewable Energy Electricity Generation

2003-04 Low Emission and Renewable Energy Electricity Generation	Forecast Growth in Low Emission and Renewable Energy Electricity Generation





Source: ABARE, Australian Energy National and State Projections to 2029-2030, October 2005

Australia has not ratified the Kyoto Protocol, but has committed to restricting its greenhouse emissions to 108% of 1990 levels by 2008-2012. Current initiatives to meet this objective involve a mixture of Federal and State Government policies including voluntary abatement programs and emissions trading in NSW (i.e. NSW Greenhouse Gas Abatement Scheme). The primary renewable energy framework in Australia is the Mandatory Renewable Energy Target scheme ("MRET Scheme"), introduced by the Australian Government in December 2000. The primary objective of MRET is to target an additional 9,500GWh of renewable energy generation per annum by 2010. The MRET Scheme applies on a national basis, including to those States and Territories outside the NEM.

The MRET Scheme operates through the creation, trade and surrender of Renewable Energy Certificates ("**RECs**"). Retailers and wholesale electricity purchasers must acquire and surrender a quantity of RECs equivalent to their share of the renewable generation target, or else they will be liable to pay a "shortfall" charge. One REC is equal to one MWh of electricity produced above a specified baseline by an accredited power station. The Office of the Renewable Energy Regulator ("**ORER**") assesses eligibility of renewable energy generators applying for accreditation and establishes the baseline over which RECs are generated. The renewable energy baselines set in 1997 represent the generation that would have occurred in an average generation year. An accredited power station commissioned after 1 January 1997 will generally have a baseline of zero.

The adoption of other alternatives to promote emissions reduction, such as the establishment of a broader emissions trading regime or the introduction of a carbon mitigation scheme, is a possibility. For example, a set of principles have been agreed by Premiers and Chief Ministers of the States and Territories in March 2005 for the development of a multi-jurisdictional greenhouse emissions trading scheme. Details are due to be published in June 2006. Such alternatives could significantly benefit some

producers of renewable energy.