

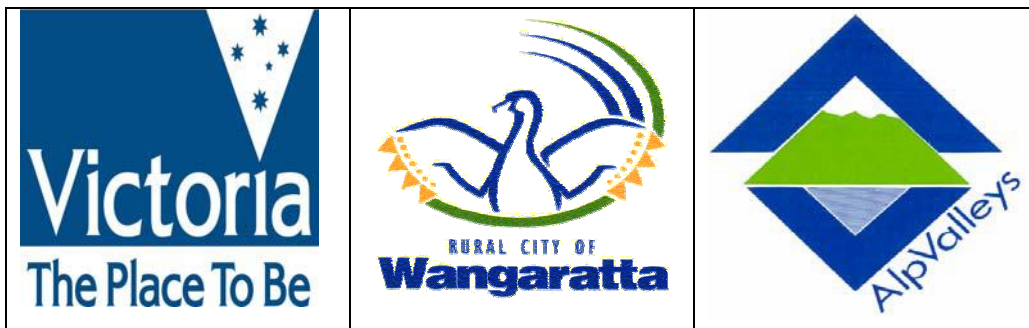
# WINE CLUSTER:

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**FEASIBILITY STUDY OF WINE BOTTLING, WAREHOUSING  
AND DISTRIBUTION CLUSTER, NORTH EAST VICTORIA**



06 August 2007



# Wine Cluster:

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## FEASIBILITY STUDY OF WINE BOTTLING, WAREHOUSING AND DISTRIBUTION CLUSTER, NORTH EAST VICTORIA

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## WINE BOTTLING, WAREHOUSING AND DISTRIBUTION FACILITY FEASIBILITY STUDY

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**ABBREVIATIONS / UNITS**

Case wine	12, 750 ml bottles
Megalitre (ML)	1 000 000 litres
NEWZ	North East Wine Zone
Pallet	64, cases

**Note**

**All prices quoted in report unless otherwise stated  
are GST Exclusive.**

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## SUMMARY

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### BACKGROUND AND SCOPE

There have been discussions since the earliest days of the Australian Alpine Valleys Agribusiness Forum (hereafter referred to as AlpValleys) for the establishment of a facility to service the wine processing needs of the North East Victorian Wine Zone (NEWZ) <sup>1</sup>.

The brief for this consultancy is to undertake a detailed survey of stakeholders to test their perceptions of the feasibility and viability for the establishment of a new centralised entity for bottling, warehousing and distributing the wine output from the North East Wine Zone. If this study identifies sufficient support for the venture then further development of a business case can be justified.

In setting up the Feasibility Study, the Rural City of Wangaratta and AlpValleys expressed a view that the Study was not to determine the preferred location for a cluster, but rather to provide up to-date, robust information on current and future demand for bottling, warehousing and distribution in the NEWZ. The Study has not provided a detailed business case or considered ownership issues around future investment.

### WINE INDUSTRY

The Australian domestic wine industry scene in the 2000s decade is characterised as producers having increasing volumes of product to sell to customers but the major customers - Woolworths and Coles, through consolidation have dramatically increased their bargaining power. The higher US-A\$ has impacted upon the volume of exports. On the positive side branded bottled wine is increasing in presence, there is strong support being provided by owners and consumers are responding.

Nationally the drought of 2006/2007 has cut winegrape production with output reduced by 33% on that of 2006 when output was 1.87 million tonnes. The normally secure rainfall of the NEWZ did not occur with droughts, smoke from fires, frosts and shortages of water for irrigating vines in combination making the past vintage one of the most difficult in living memory. In the NEWZ production was estimated at 11 000 tonnes compared to a more normal of 24 000 tonnes, (ABARE, 2007).

The wine sector of the NEWZ mirrors the rural sector in general, with relatively few large, economically viable producers and growers. There are an estimated 204 grape growers - family and corporate farms - within the Zone. Many grape growing operations are small requiring the generation of income from other farm enterprises or from off-farm sources to sustain the venture. In 2005.2006 around 3 200 hectares were planted to mostly red grape varieties (71%).

There is an estimated 90 wineries within the North East Zone. Most wineries offer cellar door sales. Typically each region has around 20 wineries with exception of Glenrowan with half this number. From a range of sources it is estimated that 19 or 21% of the 90 wineries have been operating for 10 years or less.

By applying a standard extraction rate of 696 litres per tonne <sup>2</sup> to the Zone's production of winegrapes: reds and whites, as recorded by the ABS for the past six years (2000.2001 to 2005.2006), the output of wine averages 2 103 215 cases, i.e. a case is 12, 750 ml bottles.

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<sup>1</sup> The wine regions of Alpine, Beechworth, Glenrowan, King and Rutherglen constitute the NEWZ.

Discussion with wineries has brought into focus a number of key threats and weaknesses of the wine industry within the North East Wine Zone. These are:

- Farm businesses operate in a global economy whilst being subjected to the normal controlling influences of a biological system where droughts, frosts and fire are risks and uncertainties to be managed.
- Supply channel changes, notably the rise and rise of the supermarket bottle shops that show little interest in stocking lines with low volume potential.
- Export markets are price sensitive to movements in exchange rates.
- Domestic scene characterised by ever increasing number of wineries competing for markets that are highly price sensitive. Outside of the supermarket owned bottle shops there is a smaller tourist / wine connoisseur market.
- Wineries are in a weakened financial state arising from several years of above market supplies of wine, low grape prices and in the 2006.2007 vintage, climatic factors.

## KEY FINDINGS

From the data generated from the survey and qualitative questionnaire and discussions the leading findings on the present and projected scene by 2012 appear as:

- Bottling systems meeting needs. General satisfaction across all Regions with the present arrangements for bottling. These arrangements seen as being capable of servicing the projected expansion in output of wine. The Beechworth Region as a whole and most of the Alpine and Glenrowan Regions display no interest in change which is an expected position given the predominance of micro to small batches of wine, i.e. less than 2 000 litres (L).
- Capacity for expanding bottling. The mobile bottlers and the centralised bottlers outside of the Zone have spare capacity; however wineries informed that bottlers were not meeting their expectations in terms of timeliness. Centralised bottlers have the capacity to increase throughput if there is demand by operating additional shifts. Whilst they at present favour batches of over 5 000 litres this may not remain. From anecdotal information in the event of a new competitor entering the market these centralised bottlers are expected to be highly competitive by offering to bottle smaller batches.
- Key position of centralised bottling plants. An axiom is it is cheaper to move wine in bulk than in bottles. This is particularly relevant when exporting, where bottled wine is placed direct into a shipping container by the bottler. Bottling facilities of Ozpak at Nagambie and Portavin in the Melbourne suburb of Cheltenham are illustrative examples of businesses servicing the export market. They can readily connect from these locations to the main domestic transport route from Melbourne-Sydney-Brisbane.
- Mid-sized wineries seekers of new options. Of the 90 wineries surveyed, 14 of the 29 surveys received came from wineries with annual output of 50 000 L in 2006 or a projected output by 2012<sup>3</sup>. The businesses of two of the Zones larger wineries were excluded from the analyses of the concept: Brown Brothers of Milawa and Baileys of Glenrowan on the basis of their operations being on a National scale where in the foreseeable future there is little likelihood of gains arising from participating in a regional facility.

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<sup>2</sup> This is the average extraction rate from AlpValleys, 2003.

<sup>3</sup> Thirty one wineries responded to the survey. Responses from Brown Brothers and King Valley Wines (processor) excluded.



- Warehousing shortcomings. General interest in learning more about options for warehousing. The exception is the Beechworth Region where their position relates to relatively low volumes of wine, but of a high dollar value. Also wineries project contentment with time spent in their warehouses processing orders and report satisfaction with the conditions under which their wine is stored. Maintenance of a quality product resonates highly across the survey results. There is some disconnection between these two findings as there appears to be only a few warehouses where it is possible to maintain temperature within the optimum range.
- Distribution is costly. Wineries are on the lookout for ways to lower the cost of transporting cases from their premises to customers. A consistent comment was of rate levels favouring those with volume which disadvantaged most in the Zone. Individually they have undertaken comparative costing exercises and periodically replace one transporter with another. A group of wineries in the King Valley unsuccessfully sought to gain lower rates from Australia Post, (Pers. comm. Graeme Ray, Boggy Creek Vineyard, 22 June 2007).
- Projected new investment. The creating of additional warehouse space was the one area identified where wineries foresaw new investment. Again wineries had undertaken individual assessments.

## **ANALYSIS OF CLUSTER CONCEPT**

Issues that relate to competitiveness and sustaining profitability are general across the Zone. What emerges as a point of difference is the scale of operation of the winery as measured by output of wine. High volume wineries find it relatively straight forward in finding ways to extract volume discounts through matching themselves with businesses of like volume as has occurred with the Australian Competition and Consumer Commission (ACCC) sanctioned Independent Wineries Group (IWG).

At the other end of the spectrum of output are the more numerous wineries with annual crush of less than 100 tonnes. These wineries have a business culture of individually working through their financial issues. Many of these wineries have no aspirations to increase their output.

In between these two points are wineries that are growing in output and generally are searching for solutions to address issues which are squeezing their profitability. Their growth is singularly or in combination arising from raised productivity of vineyards, increased purchases from other vineyards and expanded sales.

These middle size and some smaller wineries have responded the strongest to this project as evident by 14 of the 29 surveys coming from those who's output is or will soon be in excess of 50 000 L per year.

There are an estimated 32 such mid-sized wineries within the NEWZ. As can be seen a number of these wineries elected to not participate in the project as is discussed in Section 1.3.

The report from here onwards focuses upon these mid-sized wineries by presenting options and then subjecting them to limited analysis of their financial impacts.

## **CONCLUSIONS**

The feasibility of a centralised facility was addressed from three perspectives, namely assessments of the technical, financial and market parameters. If all three are aligned and

are showing positive outcomes then this provides the necessary confidence for moving forward to the next level of investigation.

We have found it is **technically feasible** to:

- Move wine in bulk to a centralised facility for bottling as many wineries are already carrying out this practice.
- Locate a mobile bottler at premises where there are facilities that mirror those presently provided by centralised bottlers.

We have found, from initial calculations and assumptions, **financial feasibility** is likely for wineries, bottlers and warehouse operators. This is based upon introducing new arrangements for using existing plant and buildings to:

- Bottle wine by an existing mobile bottling unit at a centralised facility. This arrangement uses existing capital and labour and minimises further capital investment but seeks to achieve productivity improvements.
- Warehouse and distribute bottled wine in cases and pallets from a centralised facility to achieve potential savings in costs through aggregation of larger volumes.

We have found **market feasibility** to service domestic and export markets from a centralised facility. Such a facility has the potential to:

- Enable larger volumes of bottled wine to be exported by aggregation of small batches into export-sized consignments.
- Raise the quality image of the Zone through provision of product identification.
- Match the labelling and quality control standards of fixed bottlers thereby enhancing access to discerning markets.

The majority of business to sustain a centralised bottling, warehousing and distribution centre would come from attracting:

1. Bottling operations taking place at individual wineries across the NEWZ.
2. Warehousing from on-site at wineries, from other warehousing arrangements in the NEWZ or those located in capital cities.

An analysis was undertaken of bottling and warehousing options for the NEWZ. Findings from the analysis were:

#### 1. Bottling

- Small scale and large wineries have their own in-house bottling plants and are not seen as deriving benefits from a centralised facility.
- Mobile bottlers will continue to service wineries where the batch size and convenience factors outweigh moving wine in bulk to a centralised facility.

#### 2. Warehousing

- Fixed bottlers assessed as making limited use of the warehousing component of the centralised facility due to exports being a dominant destination of their bottled product. For domestic markets the facility has potential to attract business away from capital city-based warehouses especially where modern logistic practices are deployed, e.g. cross-docking.
- Re-direction to the centralised facility of bottled product presently stored in on-winery and other winery owned and / or leased premises in the NEWZ. The tempo of business won by the centralised facility is underpinned by its ability to provide savings

in freight, to offer superior conditions of storage and providing superior service to domestic customers.

Value capture by wineries from a centralised bottling facility may not amount to a significant cost saving because of the added costs to the winery to move wine to a centralised location. Other benefits may accrue to wineries from gaining and / or maintaining market access, conveniences or cost savings in bottles and other 'dry' goods.

The largest opportunity for value capture by wineries is in the area of transportation, particularly cases of wine. Wineries would need to either have a controlling interest in, or have a close working relationship with a warehouse business in order to negotiate with transport companies and capture some or all the costs savings that could be made.

Location features of the facility are crucial. It needs to be positioned so as to present strong commercial reasons for wineries, bottlers and warehouse operators to change their present arrangements. An illustration of investing in a Greenfield versus modifying an existing operation provided under the assumptions a clear advantage to the latter.

Wineries will need to identify the best parties to a centralised facility and be able to discern the competitive and collaborative arrangements required to make such changes deliver value at the winery end of the supply chain. In a similar vein the relationships developed between the wineries, bottler and warehouse owner and the addressing of issues are crucial for securing the on-going support of wineries.

Wineries will require proof of savings and operational features of an integrated facility.

Our conclusion is it is feasible to create a centralised bottling, warehousing and distribution facility. We make recommendations for informing and engaging with the wineries as they are the most vulnerable sector and are deserving of strong support from governments.

## RECOMMENDATIONS

The recommendations arising from this feasibility study are directed at assisting the wineries of the North East Wine Zone of Victoria to familiarise themselves with its findings and in progressing them into a plan of action.

Over the past few months a number of wineries have become familiar with the potential gains to be made from a centralised facility. To-date these wineries have been essentially providers of comments and information. With the completion of this stage of investigations wineries need to assess what should be the next steps. The following recommendations are set out as a series of steps for wineries to progress the concept over the next few months.

1. The Rural City of Wangaratta and AlpValleys by the end of October 2007 to:

- 1.1. Lead a two-level information program on informing wineries on the Wine Cluster study. Firstly, a personalised approach to the nine largest or possibly extending to the next five mid-sized wineries assessed as having a commitment to the concept and secondly, providing information of a more general nature to all wineries in the Zone.

Notes. Program intended to inform in some detail those wineries of a size and interest as to the findings of the feasibility study. Program based upon a combination of personal and group contact augmenting exchange of information beyond which has already occurred.

- 1.2. Convene a forum for targeted mid-sized wineries to discuss the financial data and scenarios.

Notes. Attendees would be those who from personal approaches in Recommendation 1.1 express a strong interest in working with their fellow wineries.

- 1.3. Subject to the above two recommendations, support wineries in forming an incorporated entity and in the resourcing of a strategic plan for progressing the establishment of a wine cluster.

Notes. Forming an incorporated body provides a tailor-made vehicle for representing the wineries in discussions with providers of bottling, warehousing and transport services. It places such discussions on a firmer footing for engaging in collaborative financial modelling and for recording heads of agreement decisions.

2. That the Rural City of Wangaratta and AlpValleys, the owners of the Study provide to the incorporated entity, formed as a result of Recommendation 1.3, exclusive use of the report and accompanying financial modelling for up to 12 months, subject to achieving satisfactory progress at quarterly milestone.

Notes. The report presents the findings of where value may be captured within the supply chain by bottlers, warehouse and transport providers. The entity may choose to evaluate revisions of the assumptions in the accompanying Excel ® program and use this information in furthering discussions with parties on forming the cluster.

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## **FOREWORD**

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### **GUIDE TO REPORT**

This is the report of the perceived needs and benefits to the wine industry in North East Victoria that might be derived from the establishment of a wine bottling, warehousing and distribution facility.

Section One provides the background to and the methodologies applied for undertaking the feasibility study.

Section Two discussion occurs on the leading issues within the wine industry at three levels, namely Australian, Victorian and in the North East Wine Zone of Victoria. This discussion seeks to provide some insights into the financial pressures being experienced by wineries.

Section Three describes present practices for bottling, warehousing and distribution of bottled wine so as to provide a background for evaluating the findings from consulting with wineries. Discussion occurs on some innovations notably in warehousing and distribution.

Section Four summaries the leading findings arising from the surveying of the wineries and subsequent discussions at meetings in each of the five Regions.

Section Five draws together the data and information from earlier Sections and subjects it to a series of financial analyses. The findings are presented of scenarios of a specified volume of wine for bottling, warehousing and distribution.

Section Six presents the study's findings, conclusions against the study objectives and recommendations.

Section Seven is the annexes of supporting information.

### **ACKNOWLEDGEMENTS**

A sincere thanks to the winery principals in completing the Winery Survey and the Winery Questionnaire when attending regional meetings. To the vigneron/winemaker associations for their assistance in arranging the meetings and provision of information on the grape and winery scene in their respective regions. To the project's management committee for their participation, interest, assistance and valued input over the period from late March through to mid July 2007. A full listing of those who we acknowledge is provided in Annex 7.9.

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# 1 STUDY BACKGROUND, OBJECTIVES AND METHODOLOGY

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## 1.1 Background

From the earliest days of the Australian Alpine Valleys Agribusiness Forum (hereafter referred to as AlpValleys) there has been interest in the establishment of a facility to service the wine processing needs of the North East Victorian Wine Zone (NEWZ).

In late 2001 accounting firm Ernst and Young reported upon a project commissioned by AlpValleys of a 'feasibility study, business plan and initial project plan for a co-operatively owned development, including at least three elements:

- Grape receival and crushing, warehousing, cellaring and distribution
- Bottling (and labelling)
- Marc processing and distillation facilities
- By-product recovery, processing and marketing', (Ernst & Young).

A review of the Ernst & Young report is provided in Annex 7.1.

A major study in 2003: North East Zone Strategic Study, (AlpValleys, 2003) produced by Wine Food Tourism Strategies, Melbourne, documented the plantings, production, employment, sales and economic impacts of grape growing and wine processing within the five wine regions of the NEWZ, namely, Alpine Valleys, Beechworth, Glenrowan, King Valley and Rutherglen. The findings from the 2003 study were incorporated into the AlpValleys Agribusiness Profile, (AlpValleys, 2005).

The brief for this consultancy is to undertake a detailed survey of stakeholders to test their perceptions of the feasibility and viability for the establishment of a new centralised entity for bottling, warehousing and distributing the North East Wine Zone wine output. If this study identifies sufficient support for the venture then further development of a business case can be justified.

## 1.2 Objectives

The objective of this Project as interpreted from the Brief, is to quantify and describe the perceived needs and benefits to the wine industry in North East Victoria that might be derived from the establishment of a wine bottling, warehousing and distribution facility. More specifically, the objectives are:

1. Describe the position of regional vineyard area and winegrape production relative to Victoria.
2. Quantify wine production in terms of the total crush, fermentation and storage of each wine region with the North East zone. Include bulk wine and barrel storage. Also include bulk wine traded in and out of the region.
3. Analyse current bottled wine sales by channel. Include 5-year projections.

4. Describe the current systems used for bottling, warehousing and distribution within the region (both owned and contracted) and identify their strengths and weaknesses, opportunities and threats.
5. Describe the conditions and criteria under which stakeholders would and would not use a centralised bottling, warehousing and distribution centre.
6. Identify and describe possible models for a centralised bottling, warehousing and distribution centre, their strengths and weaknesses, opportunities and threats.

These objectives precede the selection of a preferred facility design and the development of a business case to support a centralised bottling, warehousing and distribution centre in North East Victoria.

### **1.3 Methodology**

A series of methods were applied throughout the course of research on the Objectives for the project, involving:

- Interviews with principals of key wineries across three of the regions.
- Surveying NEWZ wineries to capture grape production, volumes of wine bottled and sales channels.
- Meetings with wineries in each of the five regions that also captured qualitative information on bottling and warehousing.
- Inspections and discussions with principals associated with wine bottling and those providing general warehousing and road transport.
- Telephone discussions and correspondence with industry organisations.
- Researching wine industry literature and industry statistics.

The sequence of activities throughout the project are summarised in Annex 7.7.

The process commenced by interviewing key industry identities to hone understandings of bottling, warehousing and distribution within the NEWZ. From these interviews a survey tool was developed and piloted with several wineries.

All 90 wineries across the NEWZ were invited to participate so as to capture the activities of crushing (tonnes of grapes), processing (litres of juice), bottling (750 ml bottles) and warehousing (cases, 12 x 750ml bottles). In total, 13 questions were asked that related to the 2002 and 2006 vintages and for the vintage of 2012 - some five years into the future. This spread of years was sought so as to decipher any trends. Respondents were advised it may take 30 minutes to complete or longer, depending on the extent of referral to business records.

The survey was subsequently provided in two formats, namely in Microsoft Excel® and as an Adobe® Portable Document Format (PDF). With the exception of the King region the surveys were distributed to wineries via the executive officer of the respective vignerons/winemakers association. For the King region the consultants communicated directly with the wineries due to the absence of the local vigneron's association executive officer. Completed survey forms were sent directly to the lead consultant either electronically or facsimile. Refer to Annex 7.4.1 for the survey and to Annex 7.4.2 for discussion relating to follow-up actions on the survey.

Initial NEWZ and region-specific results from the survey were presented to meetings held in each of the regions. At the meetings in the King, Glenrowan and Rutherglen Regions, attendees completed qualitative questions on bottling, warehousing and distribution. Refer to Annex 7.4.4 for the questionnaire and to Annex 7.4.5 for leading findings. This semi-structured format guided subsequent discussion. Arising from these meetings were items that related to the strengths, weaknesses, opportunities and threats of these components of the wine supply chain.

Analysis was performed on the data from both the surveys and qualitative questionnaire with preliminary findings discussed with selected wineries in the Alpine, King and Glenrowan Regions; wine bottlers and providers of general warehousing and road transport operators. The discussions refined the present bottling, warehousing and distribution systems as appears in Annex 7.2 and provided an opportunity for the consultants to 'road test' possible changes.

Typical industry financial data, e.g. rates for transporting cases and pallets and bottling were inserted into the physical models: present and possible. Modelling was then undertaken of the wine output from wineries that met a set of criteria, e.g. minimum output of 50 000 L per annum to represent the assessment of the feasibility of a centralised and integrated wine bottling, warehousing and distribution facility. Scenarios were run of varying throughput, length of time in warehousing and of charges.

Assessments of the grape and wine industry at the National, Victorian and NEWZ were undertaken with recourse to readily available public domain material, statistics from the Australian Bureau of Statistics and the Australian Wine and Brandy Corporation and industry publications. A listing of the sources of information is provided in Annex 7.10.



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## 2 WINE INDUSTRY SITUATION

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The leading issues within the wine industry at three levels, namely Australian, Victorian and in the North East Wine Zone of Victoria are discussed to provide some insights into the financial pressures being experienced that have resulted in a number of wineries supporting the present study into the feasibility of a centralised wine bottling, warehousing and distribution facility.

### 2.1 Australian industry strategic issues

#### Strategic assessment and direction

The performance of the Australian wine industry since the early 1990's has been described as the fifth boom for the industry since the 1850s, (Anderson). The industry has been characterised by a strong export focus, excellent strategic leadership, innovation and productivity improvements along the supply chain, clever marketing and management of information, strong collaboration within the industry and the emergence of identifiable and differentiated wine regions.

The Australian Wine and Brandy Corporation, in their Wine Industry Outlook for 2002 identified increased international competition as a future risk and as a result small and medium sized wine makers will experience margin pressure, (Stanford). The Australian Wine Industry has since reviewed its 1996 *Strategy 2025* document that laid the foundation for an export-oriented industry where Australia today is a truly influential global producer. The results of an 18 month period of review and consultation culminated in May 2007 with the launch of *Wine Australia: Directions to 2025*, an industry strategy for sustainable success, (AWBC-WFA).

Key messages from *Directions to 2025* are for the Australian wine sector to:

- Re-evaluate its current approach towards export markets.
- Identify new and sustainable market opportunities through detailed market intelligence, and turn consumer interest into aspiration through segmented marketing strategies.

Their achievement is through:

- An international reputation for regionally distinct and fine wine production.
- Introducing new strategies to encourage more Australians to drink better wine more frequently.

#### Retail market channel

The Australian domestic market is becoming more competitive for retail wines. Leading the competitive forces is retail consolidation. In 2005 the two key wine retailers – entities owned by either Coles or Woolworths – controlled in excess of 50 per cent of the Australian retail liquor market. This consolidation and concentration of market power will continue through

extension of liquor sales into selected supermarkets; the roll out of the two principal liquor superstores – Dan Murphy’s (Woolworths) and 1st Choice (Coles) – and continued acquisition of independent liquor retailers. Supermarket stocking policies, highly aggressive pricing and centralised purchasing, when linked to the extensive product range and market power of the large wine companies, is excluding smaller wineries from obtaining space within the retail liquor sector, (Vintage 2003).

**Supply and demand estimates**

*White grapes.* Committed intake <sup>4</sup> at National level of white winegrapes is expected to decline from 780 KT in 2007 to 650 KT in 2011. Committed intake from winery-owned vineyards is estimated to rise from 176 KT in 2007 to 199 KT in 2011, i.e. to 31% of total commitments.

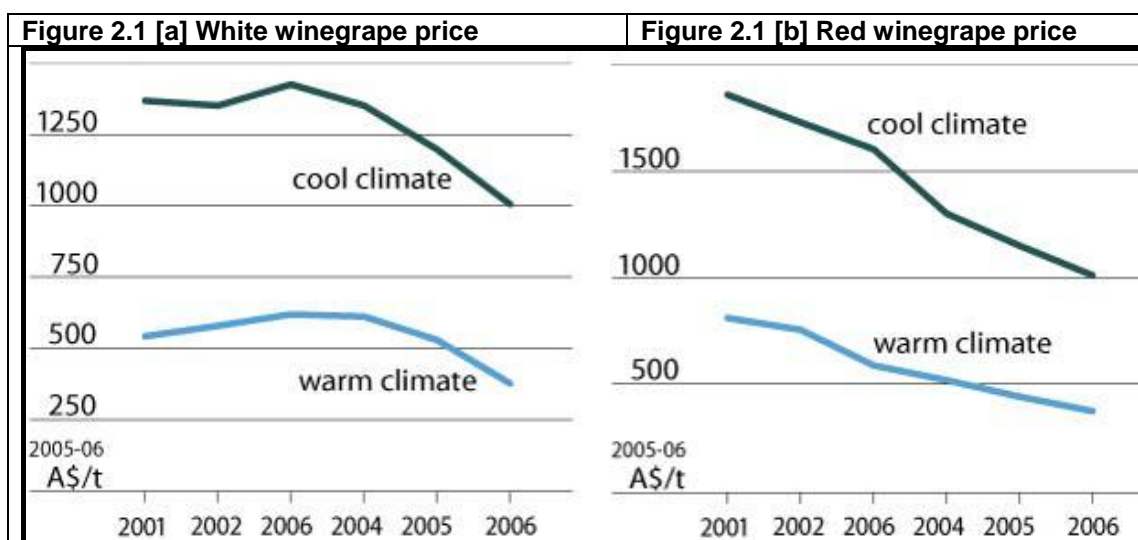
*Red grapes.* Committed intake of red winegrapes is estimated to decline from 930 KT in 2007 to 720 KT in 2011. Committed intake from winery-owned vineyards is estimated to rise from 180 KT in 2007 to 200 KT in 2011, i.e. to 37% of total commitments.

*Cooler-climate districts.* Total committed intake of winegrapes in the cooler-climate districts is estimated to decline from 635 KT in 2007 to 515 KT in 2011. Wineries are over-committed in their purchases of fruit from these districts in comparison to their estimated requirement in the next two years. Nationally, significantly more fruit is sought on the open market from the warm inland districts compared to the cooler-climate districts. There is a structural imbalance between supply and demand. In the warm inland, fruit is in excess demand while in cooler-climate areas there is excess supply, (AWBC).

**Winegrape prices**

Australian winegrape prices decreased further across most varieties in 2005-2006 compared with the previous year. Most notable was the fall in the average white winegrape price, with decreases of 26 per cent in warm climate regions and 13 per cent in cool climate regions (Figure 2.1 [a]). The average red winegrape price also fell, with decreases of 12 per cent in warm climate regions and 9 per cent in cool climate regions, (Figure 2.1 [b]) (ABARE).

**Figure 2.1: Australian Winegrape Prices, 2001-2006**



<sup>4</sup> Committed intake is the amount of fruit that wineries are already committed to take in for a given future year. It is made up of winery grown fruit and contracted purchases. A KT is 1 000 tonnes.

### **Infrastructure issues**

The winegrape sector generally mirrors the rural sector with relatively few large, economically viable producers and growers. Many grape growing operations are small and as a result, mostly unsustainable unless subsidised through other income.

Improvements to transport and logistics to relieve constraints on future profitability were prominent among the suite of infrastructure issues recorded by wine companies when surveyed as part of *Directions to 2025*. The survey revealed a general belief that there are aspects of infrastructure where positive action can be taken to reduce costs, improve production efficiencies and wine quality and plan against future threats.

Comments from wine companies align well with the objectives of this feasibility investigation as do their suggestions on strategic areas of focus, namely working collaboratively with other agricultural sectors, pooling resources and influence to improve productivity. Further, there is also good alignment with a statement of concern expressed by Victorian wine companies of generating interest in cooperative processing facilities as a means of raising efficiencies and for enabling the introduction of innovative processes, (AWBC-WFA).

## **2.2 Victoria's Wine Industry**

Victoria has diverse climates and soils capable of producing world-class table, sparkling and fortified wines. In the north west the large wineries produce 70% of the State's wine volume as cask wine and value-for-money varietal bottled wine. The remaining 30% is spread from south west Victoria to Gippsland and from the Mornington Peninsula to Rutherglen and the Alpine valleys of the north east. This sector of the industry is dominated by small producers where their focus is on high-value premium wine production, (Vintage 2003).

The Victorian wine industry has doubled in size in the last decade. The rapid expansion in vineyard plantings and wine production between 1999 and 2003 has resulted in an oversupply of red winegrapes and wine, lowered winegrape and wine prices and contributed to lowered profitability for grape growers and winemakers. As well, the expanded number of new (particularly small) winery enterprises has increased competition between wineries for the growing wine tourism market, (Vintage 2010).

Smaller wineries are placing reliance on increasing distribution in restaurants, specialist wine retailers and growing their winery tourism markets. Medium and larger wineries response is in building national distribution in the retail sector and increasing their exports as a means of achieving a sustainable future, (Vintage 2010).

Drought and frosts in the 2006-2007 vintage had a significant impact upon the production of grapes. In the North East Wine Zone, production was estimated at 11 000 tonnes compared to a more normal of 24 000 tonnes. Table 2.1 presents data on the NEWZ and other Victorian Zones for the 2005-2006 and 2006-2007 vintages with projections of output for the next two vintages. ABARE is projecting NEWZ production to return to normal levels in 2007-2008, (ABARE).

In this sharply more competitive environment the primary challenge for the Victorian wine industry is to ensure the ongoing viability of the industry by:

- Growing the market for Victoria's premium wines through ... cellar-door, restaurant distribution, specialist retail and export sectors.
- Better managing business costs.
- Continuing to produce consistently high-quality winegrapes and wine products, (Vintage 2010).

At the time of the 2005 vintage the cool climate zones accounted for 40 per cent of Australian winegrape plantings but only 20 per cent of Australian wine sales. While Victoria's level of exposure to this is less than South Australia's, Victoria cannot be insulated from interstate trade in grapes and wine, especially given the dominance of the top four wine companies in terms of production and share of wine sales, (Vintage 2010).

**Table 2.1: Victorian Wine Zones, Winegrape Production, 2005-2009** (tonnes)

Zones	Estimated <sup>1</sup>		Projected <sup>1</sup>	
	2005-2006	2006-2007	2007-2008	2008-2009
Central	28 000	14 000	24 000	29 000
North East	23 000	11 000	20 000	24 000
Port Phillip	21 000	10 000	20 000	22 000
Other	7 000	4 000	5 000	7 000
Total Greater Victoria <sup>2</sup>	79 000	52 000	69 000	82 000
<b>Australia</b>	<b>1 755 000</b>	<b>1 143 000</b>	<b>1 372 000</b>	<b>1 792 000</b>

Source: ABARE, May 2007. Note 1. Premium and non-premium winegrapes only. Note 2. Greater Victoria represents the Victorian zones excluding the cross border Zone of Murray-Darling Swan Hill.

### Wine tourism market

Consumer behaviour has impacted upon the significance of the cellar door distribution channel with a shift away from this channel in favour of large liquor retail chains. Maintaining cellar door sales is a challenge for wineries.

Measurement of winery visitation shows annual growth of a little over 1.0% per year during the period from 1998 to 2003. Results from the National Visitor Survey (NVS) show that there were 462 000 domestic overnight visitors who visited a winery in Victoria in the year ending December 2003 <sup>5</sup>. In regards to daytrip visitors, the NVS shows that 546 000 domestic daytrip visitors visited a Victorian winery in the year ending December 2003. This figure has increased since 1998, with average annual growth of 1.1%.

Winery visitation growth of 8.2% recorded via a different measure over the same period. The Victorian Wineries Tourism Activity Survey shows that in the year ending December 2002, there were 3.2 million visits to Victorian tourism wineries, i.e. those with cellar door facilities open 7 days a week. This figure has increased since 1998, with average annual growth of 8.2%.

Wineries of the NEWZ achieved the second highest number of visits (21%) after the 'Around Melbourne' area (68% of visits) in 2003 on a Victorian total of 2 850 817 visits, (Vic Tourism).

North East Victoria has a significant strength in promoting food and wine. The North East Valleys Food and Wine Strategy provides an 'umbrella' where wineries work with other sectors in promoting tourism and in turn cellar door sales.

## 2.3 North East Victoria Wine Industry

North East of Victoria vineyards date back to the mid 1800s where in 2005.2006 around 3 200 hectares are planted to mostly red grape varieties. (Figure 2.2). This area represents 2.1% of the National area of 153 204 hectares of bearing grapes, (ABS). At an average yield of 8.7 tonnes per hectare, (six years 2000-2006, as per Table 2.2 where the range was 7.7

<sup>5</sup> National Visitor Survey (NVS) is an origin-based national telephone survey produced by the Bureau of Tourism Research. Around 80 000 interviews are conducted each year.

t/ha in 2001.2002 to a high of 10.6 t/ha in 2003.2004), the regional output averages 27 562 tonnes (Table 2.3).

The shift away from cool-climate regions such as the NEWZ to warm inland districts as a primary source of grape supply has a lot to do with the comparative price of grapes and the wineries desire to meet a market-place wine price point. In these warm inland districts there has been a leap in the quality of winegrapes arising from improved production techniques, a higher proportion of premium varietals, reduced cropping levels and a string of excellent vintages combining to deliver lower-priced and higher-quality fruit to the large wineries, (Vintage 2010).

Four of the five wine regions that constitute the North East Wine Zone are defined by the Australian Wine and Brandy Corporation's Geographical Indications Committee, namely, Alpine Valleys (proclaimed in 1999), Beechworth (2000), Glenrowan (2003) and Rutherglen (1997) with the fifth, the King Valley, having interim GI region status, (Internet accessed 17 January 2007, [www.wineaustralia.com/australia](http://www.wineaustralia.com/australia)). Figure 2.3 reveals the boundaries of the North East Wine Zone of Victoria. A summary of the vineyards, wineries and growing conditions for each of the regions is provided in Annex 7.3.

Rutherglen Region has the oldest vineyards dating back to the late 1850s. Baileys of Glenrowan vineyards date back to 1870 with Brown Brothers have the oldest vineyard in the King region with plantings occurring in 1887. Vineyards in the Beechworth region are less than 50 years of age, (Wine Directory, 2004).

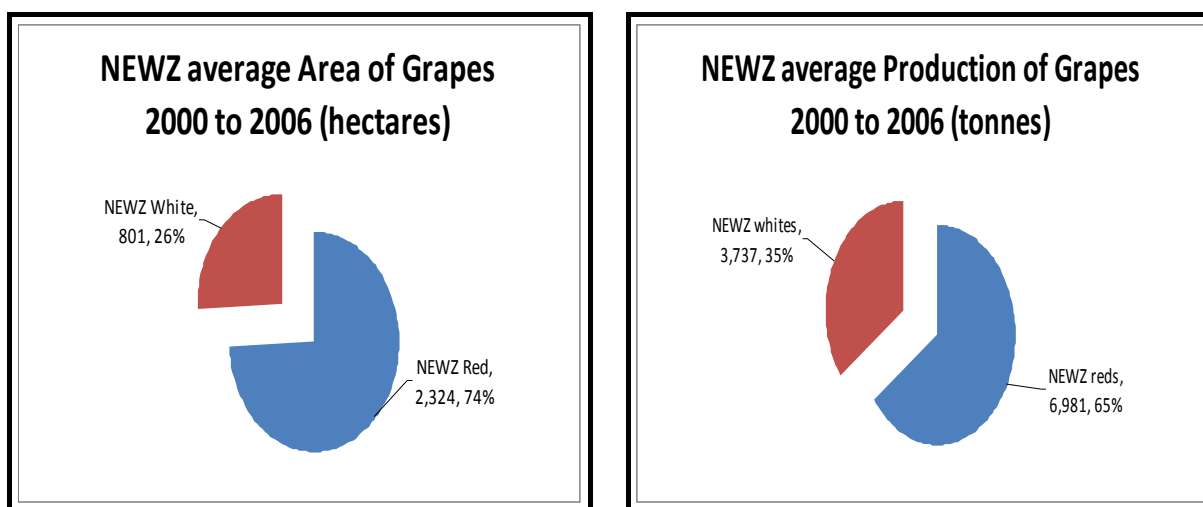
**Table 2.2: North East Wine Zone bearing area grapes (ha)**

Region	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
Alpine/Beechworth	794	1 074	912	924	892	859
Beechworth	35	45	92	86	94	83
Glenrowan				210	209	203
Rutherglen	793	994	919	897	929	999
North East other <sup>1</sup>	1 213	1 096	1 340	1 057	982	1 024
<b>Total</b>	<b>2 835</b>	<b>3 209</b>	<b>3 263</b>	<b>3 174</b>	<b>3 106</b>	<b>3 168</b>

Source: Victorian Wine Industry Association data sourced from Australian Bureau of Statistics.

Note 1. The Australian Bureau of Statistics group non GI area and production statistics as North East Other which for this project has been assumed to represent the area of the King Valley Region with an adjustment, where stated, for Glenrowan Regional statistics.

**Figure 2.2: North East Wine Zone, red and white grape (hectares / tonnes)**



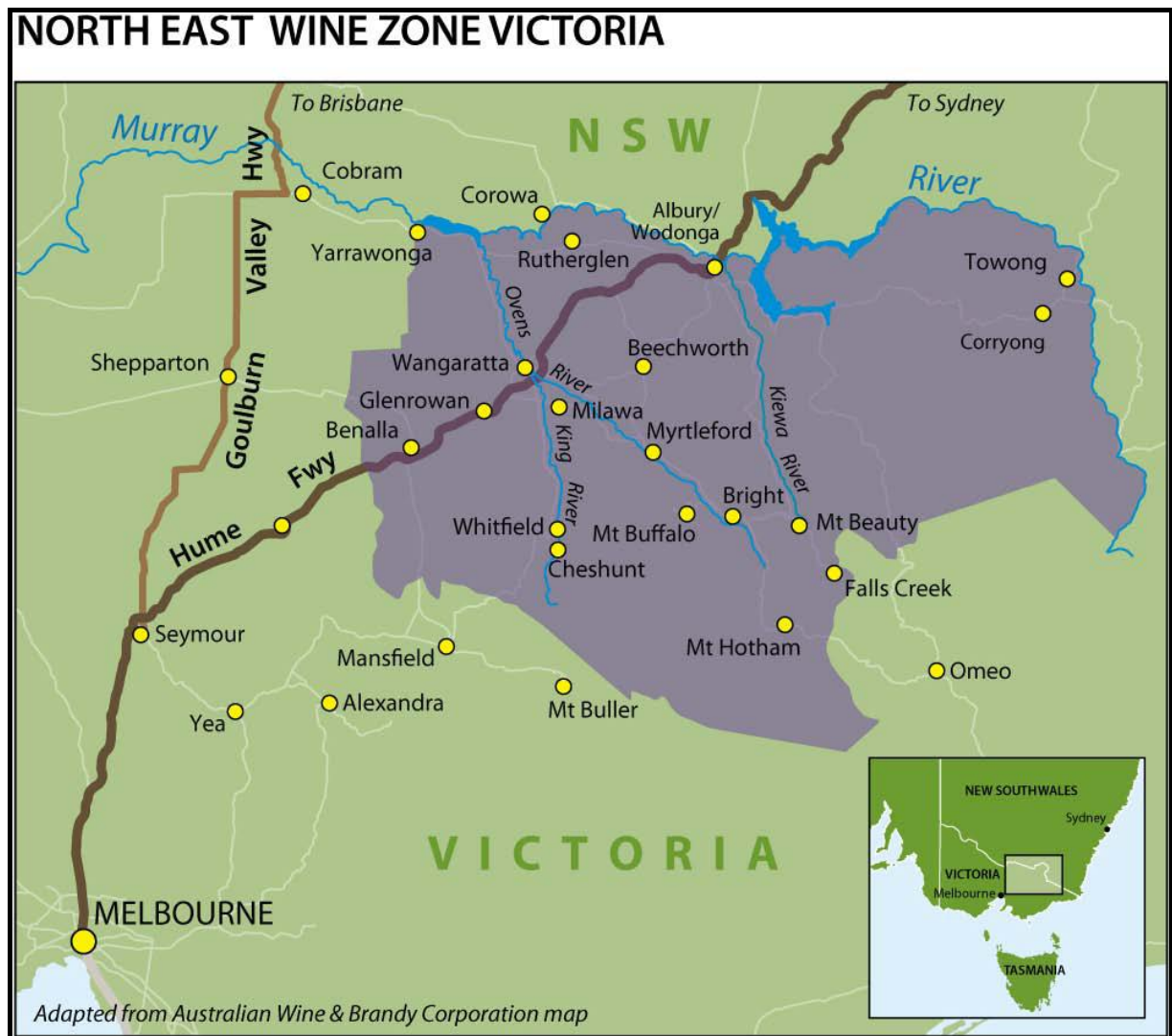
Source: ABARE.

**Table 2.3: North East Wine Zone production - red and white grapes (tonnes)**

Region	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
Alpine/Beechworth	8 620	8 751	7 944	11 529	8 800	7,340
Beechworth	142	276	361	576	710	531
Glenrowan				1 973	1 916	1 652
Rutherglen	4 911	6 381	4 904	6 642	7 494	7 419
North East other	12 243	9 160	9 168	12 981	11 781	8 978
<b>Total</b>	<b>25 916</b>	<b>24 568</b>	<b>22 377</b>	<b>33 701</b>	<b>30 701</b>	<b>25 920</b>

Source: Victorian Wine Industry Association data sourced from Australian Bureau of Statistics.

Figure 2.3: North East Wine Zone of Victoria



The rainfall on an annual basis across the NEWZ has varied greatly over this span of six years, i.e. 2000 to 2006. However the average to slightly above average rains of the 2003.2004 period coincide with the Zone's highest yields. Using Beechworth as an illustrator, rainfall was substantially above average in 2000 (+21%) and in 2005 (+28%); slightly above average in 2003 (+10%); average in 2004 (+2%) and substantially below average in 2001 (-14%), 2002 (-32%) and in 2006 (-57%). Bureau of Meteorology, Internet accessed 29 May 2007, [www.bom.gov.au](http://www.bom.gov.au).

There is an estimated 90 wineries within the North East Zone. Most wineries offer cellar door sales. Typically each region has around 20 wineries with exception of Glenrowan with half this number. A full listing of Zone wineries appears in Annex Table 7.11 with a summary in Table 2.4. From a range of sources it is estimated that 19 or 21% of the 90 wineries have been operating for 10 years or less.

**Table 2.4: Wineries by region, NEWZ (number)**

Region	Wineries (No.)
Alpine	19
Beechworth	19
Glenrowan	10
King	22
Rutherglen	20
<b>Total</b>	<b>90</b>

Source: Vigneron/winemaker associations and Internet searches during May 2007.

There are an estimated 204 grape growers - family and corporate farms - within the Zone. Most of the growers are family farms with small acreages most notably in the 'newer' wine regions of Alpine Valleys and Beechworth. King Valley has the largest number of growers at 80 and the largest area of bearing vines (1 024 ha in 2005.2006). At the other end of the spectrum the Beechworth wine region has 26 growers, the smallest area of bearing vines (83 ha in 2005.2006) and correspondingly the smallest output (531 tonnes in 2005.2006) of the five regions.

See Table 2.5 for approximate numbers of grape growers by Region. An appreciation of vineyard size may be gained by comparing Table 2.2 and Table 2.5, e.g. Beechworth vineyards average 3.2 ha (2005.2006 area of 83 ha and 26 grape growers). Another perspective of vineyard area is presented in Table 2.6 where wineries are grouped on the size of their vineyard area. From the wineries of known vineyard area, 65% are of an area of 20 ha or less.

**Table 2.5: Grape growers by region, NEWZ (number)**

Region	Vineyard (No.)
Alpine	49
Beechworth	26
Glenrowan <sup>1</sup>	14
King	80
Rutherglen	35
<b>Total</b>	<b>204</b>

Source: Vigneron/winemaker associations and Internet searches during May 2007. Note 1. Includes Mt Pilot winery.

**Table 2.6: Wineries by grapevine area, NEWZ (number)**

Region	Wineries (No.)	Wineries size (No.)			
		<=20 ha	20 to <100 ha	>100 ha	No data
Alpine	19	5	3	0	11
Beechworth	19	10	0	0	9
Glenrowan	10	6	1	1	2
King	22	10	8	1	3
Rutherglen	20	11	9	0	0
<b>Totals</b>	<b>90</b>	<b>42</b>	<b>21</b>	<b>2</b>	<b>25</b>

Source: Wine Directories, 2004 and 2006.



**Grape processing**

A study of the 2002.2003 vintage by Wine Food Tourism Strategies of Melbourne (AlpValleys, 2003) recorded these findings:

- Excess processing capacity. Wineries had a capacity to process 48 545 tonnes of grapes or put another way there was an excess capacity of close to 14 000 tonnes based upon regional production of 30 918 tonnes for the year.
- In excess of 20 million bottles. At an average extraction rate of 696 litres per tonne, the 2003 vintage of 30 918 tonnes yielded 16.31 million litres, after allowance for spillage/losses. This equates to 21.75 million, 750 ml bottles of wine.
- High zonal wine making. Around 73% of the North East Zone’s grapes are crushed and processed within the Zone with the balance processed elsewhere <sup>6</sup>. There are substantial differences in out-of-zone exporting by the five regions with Beechworth exporting 51% of regional farm output; Alpine Valleys and Rutherglen exporting around low-30’s%; King Valley 24% and Glenrowan, 4%.

By applying a standard extraction rate of 696 litres per tonne, the Zone’s output for the past six years is presented in Table 2.7 where it averaged 2 103 215 cases, i.e. cases of 12, 750 ml, bottles.

**Table 2.7: North East Zone wine output, 2000 – 2006 (cases)**

Region	Cases <sup>1</sup>					
	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
Alpine/Beechworth	666 575	676 776	614 305	891 561	680 502	567 588
Beechworth	10 958	21 322	27 948	44 537	54 930	41 064
Glenrowan				152 577	148 171	127 739
Rutherglen	379 761	493 490	379 912	513 625	579 505	573 767
North East other	946 769	708 410	708 969	1 003 840	911 087	694 306
<b>Total</b>	<b>2 004 062</b>	<b>1 899 998</b>	<b>1 730 434</b>	<b>2 606 139</b>	<b>2 374 195</b>	<b>2 004 465</b>

Note 1. A case comprised of 12, 759 ml bottles or 9 litres of wine. Tonnes of grapes by region by year as per Table 2.3 using ABS data.

Some comments from winery principals on the NEWZ:

***“The national wine companies drive the business, it is not regionally driven.”***

***“Big players have critical mass, small players do not.”***

Most of the wineries in the NEWZ are small to medium sized wine producers. Three wineries have a strong influence upon the output picture for the NEWZ, i.e. Brown Brothers at Milawa, Baileys of Glenrowan and Gapsted Wines at Myrtleford. Collectively they process around 371 200 cases per annum through applying averaged vineyard yields and an extraction rate of 696 l/t to their production, (Brown Brothers, 208 000, Baileys, 94 400 and Gapsted, 68 800 cases), (Wine Directory, 2004).

<sup>6</sup> This project’s survey of wineries has recorded a much lower zonal wine making percentage as discussed in Section 3.3.

A winery producing more than 50 000 litres per vintage (5 555 cases) was assumed to be a business of 'prospective' size that could be attracted in the next five years to utilise the services of a centralised facility comprised of wine bottling, warehouse and distribution. Forty five wineries are estimated as achieving an output of this volume within the Zone. This number was established by scanning two sets of data:

1. Winery survey. Production in 2006 from 27 of the 29 survey responses recorded for this project. Excluded were wineries (two from Beechworth Region) where production was less than 5 000 litres.
2. Wine Directory. This publication (Wine Directory, 2004 and 2006) profiles wineries across Australia and New Zealand by including area of vineyard. Calculations were made to identify those wineries with a 'potential' wine production in excess of 50 000 litres. Some 18 wineries met this criterion.

A full listing of the 45 wineries is in Annex Table 7.12. A sort took place of these wineries into three size groups: 'large', i.e. exceeding 100 000 litres; 'medium' with production between 50 000 and 100 000 litres; and 'small to medium' where production was less than 50 000 litres. Based upon the Wine Directory there are some 'large' wineries in this latter group but it was not possible to verify the accuracy of the data hence a conservative approach was adopted. (Table 2.8).

**Table 2.8: Wineries by three volume sizes (numbers)**

Region	Wineries (number)			
	Group 1 <sup>1</sup>	Group 2 <sup>2</sup>	Group 3 <sup>3</sup>	Total
	Large wineries	Medium wineries	Small to medium	
Alpine	2		4	6
Beechworth <sup>4</sup>			1	1
Glenrowan			6	6
King	2	5	9	16
Rutherglen	5		11	16
<b>Total</b>	<b>9</b>	<b>5</b>	<b>31</b>	<b>45</b>

Note 1. Wineries with production exceeding 100 000 litres in 2006 as per survey (5 in number).

Note 2. Wineries with production between 50 000 and 100 000 in 2006 as per survey (5 in number).

Note 3. Remainder of surveyed wineries (17 in number) plus wineries with output assumed as exceeding 50 000 litres as sourced from the Wine Directory.

Note 4. Two survey responses excluded. A listing of the 45 wineries is in Annex Table 7.12.

All wineries are doing business in an intensely competitive industry. Differentiation, an approach to marketing, is occurring individually and at a regional level. A notable expression of successful regional branding is the Beechworth Region which has gained a distinct reputation for high quality wines. For the remainder of wineries they are battling a customer who can easily substitute a North East Victorian wine for another Australian or internationally produced wine. Their bargaining power with their suppliers of inputs and buyers of finished product is not as strong as the larger players in the industry, hence cost management is a critical component to business success but difficult to achieve in any significant way.

The North East Wine Zone is actively marketed as a wine and food region. Most wineries within the Zone market their own products under their own names, (AlpValleys, 2005).

Vignerons within the respective regions have formed associations and developed business and marketing plans. For example, the Alpine Valley Vignerons Association Inc. have identified issues confronting both growers and wineries with the following presented for their relevance to this project:

- **Strengths** - Quality fruit, commitment by growers and winemakers to produce a quality product.
- **Weaknesses** - Lack of (growing and winemaking) critical mass, shortage of grape processing facilities, distance from alternative facilities and a lack of regional selling power, (AlpValleys 2005).
- **Opportunities** - Value-add to regions grapes.
- **Threats** - Phylloxera management program may result in further restrictions on movement of grapes, poor quality wine being produced under Alpine brands and low-cost bulk wine areas having a negative impact upon the local region, (AVV, 2003).

Wineries in some regions have formed marketing associations, e.g. Wines of the King Valley and Winemakers of Rutherglen which has brought about enhanced levels of recognition, such as, Winery Walkabout in the Rutherglen region.

Central to these issues is an absence of scale where, but for a few of the wineries, e.g. Baileys of Glenrowan (part of the Fosters Group) and Brown Brothers of Milawa, there are real limits to containing costs and undertaking broadly-based marketing plans. Notwithstanding this there is a view that many smaller scale winemaking businesses are 'export ready' yet are unsure or do not have the processes and / or funding to tap into the international wine market. With a critical mass this would enable unique, smaller scale wine brands to be promoted and sold collectively under the region's developed premium wine image, (AlpValleys, 2005).

### **Transport**

The NEWZ has the Nation's two major transport systems: the Hume and Goulburn Valley Highways and the Melbourne-Sydney-Brisbane railway which connect the Nation's major capitals of Melbourne, Sydney and Brisbane. These cities are also the primary centres for marketing the wines of the NEWZ. Located in the NEWZ are a number of national and regional road companies with an interest in expanding the movement of pallets.

Governments at Federal and state levels have given extensive commitments to address safety and capacity constraints along the Hume Highway and the rail system, e.g. duplication of the remaining 108 km of single carriageway Hume Highway in NSW by 2012 and increasing the length of dual rail track.

A recent study on rail transport found:

An inland railway linking Melbourne and Brisbane will need to be in operation by 2019 to meet Australia's forecast transport task.

The greatest hindrance to rail achieving good reliability on the inter-capital city routes is congestion in the Sydney metropolitan network.

The most important characteristics determining choice of transport mode are price and reliability and it is the latter that is significantly impacting on rail's competitiveness with current on-time reliability of rail around 40-45% in the corridor (Melbourne-Sydney-Brisbane) compared with road at 95-98%, (DOTARS).

Whilst for the foreseeable time road is the mode of transport for wine both in case and pallets, there is potential for rail to express its natural competitive advantage with long hauls such as Melbourne to Brisbane. A prerequisite is having a cost-efficient system within the North East for aggregating and moving pallets to Melbourne for loading onto trains.

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## 3 BOTTLING, WAREHOUSING AND DISTRIBUTION

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The present practices for bottling, warehousing and distribution of bottled wine are described in general terms to provide a background for evaluating the findings from consulting with wineries. Discussion occurs on some innovations notably in warehousing and distribution.

### 3.1 Introduction

This Section describes in generalised terms the systems for bottling, warehousing and distribution that may be found within the NEWZ. Against this background the results are assessed of the Survey of wineries and of the qualitative Questionnaire (See Annex 7.4 for survey instruments). It is from these appreciations that analyses are undertaken in subsequent sections of the main objective of the project - the feasibility of establishing a new centralised entity for bottling, warehousing and distribution in the North East Wine Zone.

### 3.2 Bottling systems

The volume of wine to be bottled as well as the size of batches are major determinants as to which approach winemakers adopt when assessing options for bottling. Wineries with batches of less than 100 cases are likely to bottle by hand<sup>7</sup>. For volumes larger than this the winemaker has a choice of using a contract bottler or using an in-house bottling plant. A listing of contract bottlers with potential for delivering services in the NEWZ is in Annex 7.6.2.

In the NEWZ there are these contract bottling options:

- Mobile bottlers. Two well-known companies provide within-winery bottling, namely Portavin Estate Bottlers of Bendigo and Mobile Wine Processing of Avoca. Another bottler operating in the Mornington Peninsular and Yarra Valley is Vinifill of Cranbourne. A variation of the bottler moving from winery to winery is where they park their plant at a winery and bottle for several wineries. Under this variation the wine is brought to the bottling site in bulk vats, e.g. 1 000 litre capacity.
- Centralised bottlers. Located outside the boundaries of the NEWZ are several high-capacity specialist bottling-only businesses that provide services to local wineries, e.g. Ozpak at Nagambie, Best Bottlers at Mildura and Portavin Integrated Wine Services at Cheltenham<sup>8</sup>.

On a minor scale is contract bottling by some wineries with in-house bottling plants. Such arrangements are based upon long-standing personal relations often between neighbours.

To complete the bottling picture, Brown Brothers perform bottling at Milawa and in the case of Baileys of Glenrowan, at the parent company's South Australian facilities.

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<sup>7</sup> Wineries using their own (or someone else's) small-scale, low output bottling system.

<sup>8</sup> Warehousing facilities are available at Best Bottlers, Mildura and Portavin at Cheltenham.

Factors influencing the use of a centralised bottler are efficiency gains in terms of time taken for bottling, volume discounts and fulfilment of customer requirements on QA.

Labelling of the bottles usually occurs at the time of bottling however this can be a separate operation undertaken within all systems.

### 3.2.1 Pros and cons of bottling systems

Winemakers exercise considerable control over the quality of the wine which extends to the choice of the system for bottling. Factors influencing their choice are:

- Quality control procedures.
- Technical standards of the bottling plant.
- Flexibility in timeliness of bottling.

The views of some Australian consultants on what to look for when choosing a bottling system are presented in Annex 7.6.1 with their findings being: use a contract bottler that satisfies your QA procedures and equipment that is state-of-the art and operated by trained and experienced staff. For the NEWZ there are additional assessments that relate to cost and inconvenience of transporting wine to a centralised facility versus the *benefits* of transporting wine to a centralised facility. As well there are assessments of

- Price competitiveness for bottling batches as small as 5 000 litres.
- Responsiveness of bottler when wineries seek changes in bottling booking slots.
- Level of mechanisation, i.e. from dry goods handling to finished goods.
- Product identification and traceability, e.g. batch number laser etched on bottles.

### 3.3 Wineries perspectives on bottling

Thirty one surveys were received: three from Alpine Valleys, two from Beechworth, five from Glenrowan, thirteen from King Valley and eight from Rutherglen. Two King Valley surveys excluded: Brown Brothers of Milawa (own facilities) and King Valley Wines (wine processor), thus data from 29 surveys accounted for in the report.

The representation of this sample in terms of reflecting zone changes is not able to be established hence considerable caution needs to be exercised in undertaking any extrapolations.

The volume of wine processed was established from the quantity of grapes crushed by these wineries.

Findings on grape crush from the survey are:

- Extra 3 000 tonnes projected to be crushed in 2012 over that of 2002. (Table 3.1). The survey did not capture the sources of these tonnes. Comments from the members of the project Steering Committee place the most likely source as additional purchases by these wineries from NEWZ vineyards with lesser tonnes coming from increased own winery grapes via productivity and / or new plantings, if any.
- Importation of grapes from outside the Zone is projected to rise 139% from 1 837 tonnes by 2002. Phylloxera protocols prohibit the movement of grape and grape material out of the NEWZ which was confirmed by zero exports from the surveyed wineries.

**Table 3.1: Grapes crushed in 2002, 2006 and 2012 (tonnes)**

	Vintages		
	2002	2006	2012
Grapes grown in NEWZ	13 232	13 423	16 179
Grapes sourced from other zones	1 837	1 235	4 393
Total grapes crushed	15 069	14 658	20 572

Source: Survey of 29 wineries. Data from Annex 7.4.3.

Findings on bottling systems from these 29 wineries for three vintages, namely 2002, 2006 and 2012 are:

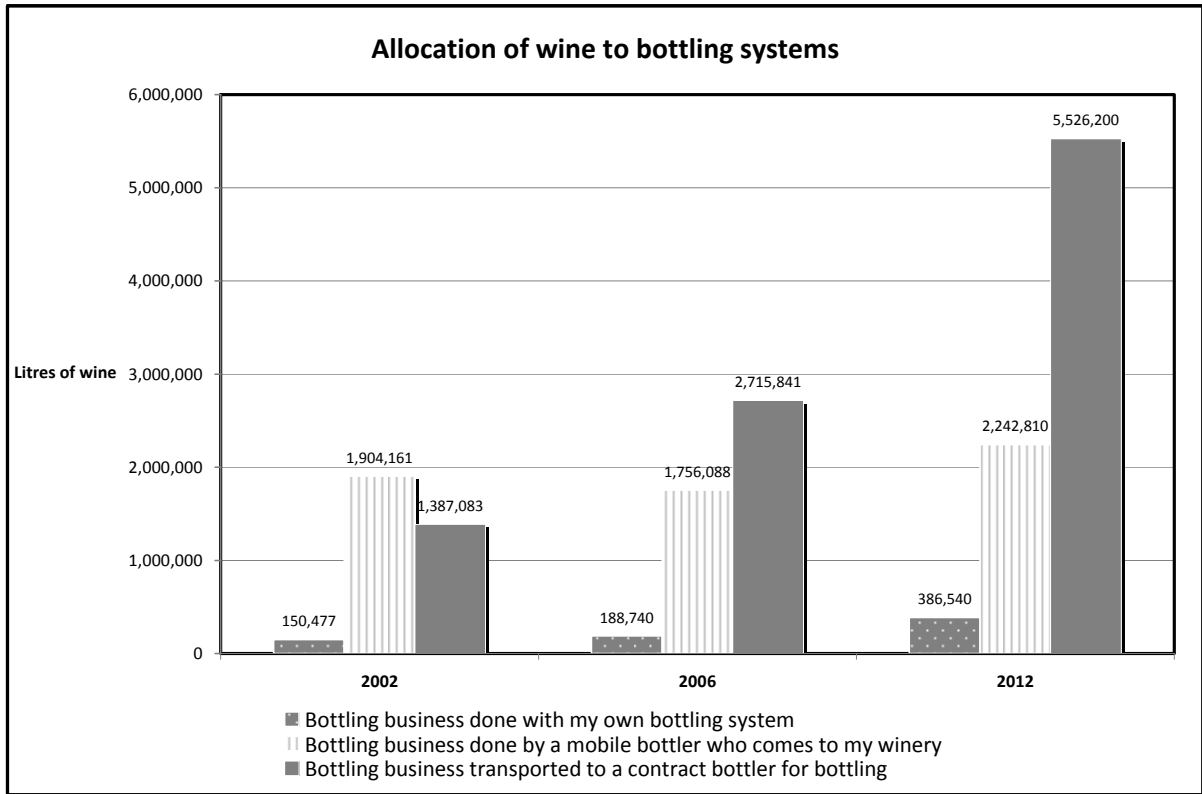
- No clear bottling trends. Bottling volume rises from 3.442 million litres (ML) in 2002 to 4.661 ML in 2006 and with a projection of 8.156 ML by 2012. The relative shares of the bottling effort remains around the same at 4% own bottling; 33% mobile bottling and 63% by centralised bottlers. (Table 3.2 and Figure 3.1).
- Major change projected between 2006 and 2012. Within the Alpine Region, mobile bottling projected to rise from 0.117 ML in 2006 to 0.383 ML by 2012 or 104%. Centralised bottling in the Alpine Region by 56% (1.677 ML in 2006 to 2.615 ML in 2012) In the King Region, mobile bottling rise by 45% (0.428 ML to 0.621 ML) and centralised bottling by over 400% (0.423 ML to 2.229 ML). Refer to Annex 7.4.3.

**Table 3.2: Bottling system usage in 2002, 2006 and 2012 (ML)**

Own Bottling			Mobile Bottler			Centralised Bottler			Zone Total		
2002	2006	2012	2002	2006	2012	2002	2006	2012	2002	2006	2012
0.150	0.189	0.386	1.904	1.756	2.243	1.387	2.716	5.462	3.442	4.661	8.156
4%	4%	5%	55%	38%	28%	40%	58%	68%	100%	100%	100%

Source: Survey of 29 wineries. Data from Annex 7.4.3.

**Figure 3.1: Bottling system usage in 2002, 2006 and 2012 (litres)**



Source: Survey of 29 wineries.

There is considerable ‘exporting’ of bulk wine from the NEWZ to other wine zones. The survey confirms the broad industry data of the NEWZ continuing to ‘export’ wine for bottling in the warm inland districts notwithstanding improvements in quality and productivity in these importing areas. The factors that drive this transfer were discussed in Sections 2.1 and 2.3.

From the survey of 29 wineries, around 6.5 ML of wine was on average exported from the 2002 and 2006 vintages with a projection of 6.3 ML for the 2012 vintage. A much smaller volume comes to these wineries from other zones: estimated at 0.922 ML in 2006 with a projection of 0.615 ML in 2012. Red wine represents up to 80% of exports from the Zone.

The ‘net’ wine for bottling based upon the surveyed wineries is reflected in Table 3.3 where there is a projected 75% increase in 2012 compared to the 2006 vintage. This is a growth of 137% off the 2002 vintage. However, more telling is the significant decline in percentages terms of ‘exports’ of the total bulk wine: from 68% in 2002 to 55% in 2006 and a projection of 44% by 2012.

**Table 3.3: Bulk wine for bottling (ML)**

	Vintages (ML)		
	2002	2006	2012
Bulk wine produced <sup>1</sup>	10.704	10.420	14.512
Bulk wine ‘exports’ <sup>2</sup>	-7.262	-5.759	-6.356
Net bulk wine for bottling	3.442	4.661	8.156

Source: Survey of 29 wineries. Data from Annex 7.4.3. Notes 1. Grapes grown in the NEWZ plus grapes imported. 2. Bulk juice / wine sent to other zones for bottling.

Broader industry trends are driving change as to choice of bottling system with the most notable being wine distributors / retailers requiring traceability of products with back up coming from spot testing along the supply chain. Identifying cases as well as individual bottles by batch processing number is becoming common place. Centralised bottlers are well-equipped to fulfil these levels of identification and of random process sampling, e.g. during bottling, labelling and capping.

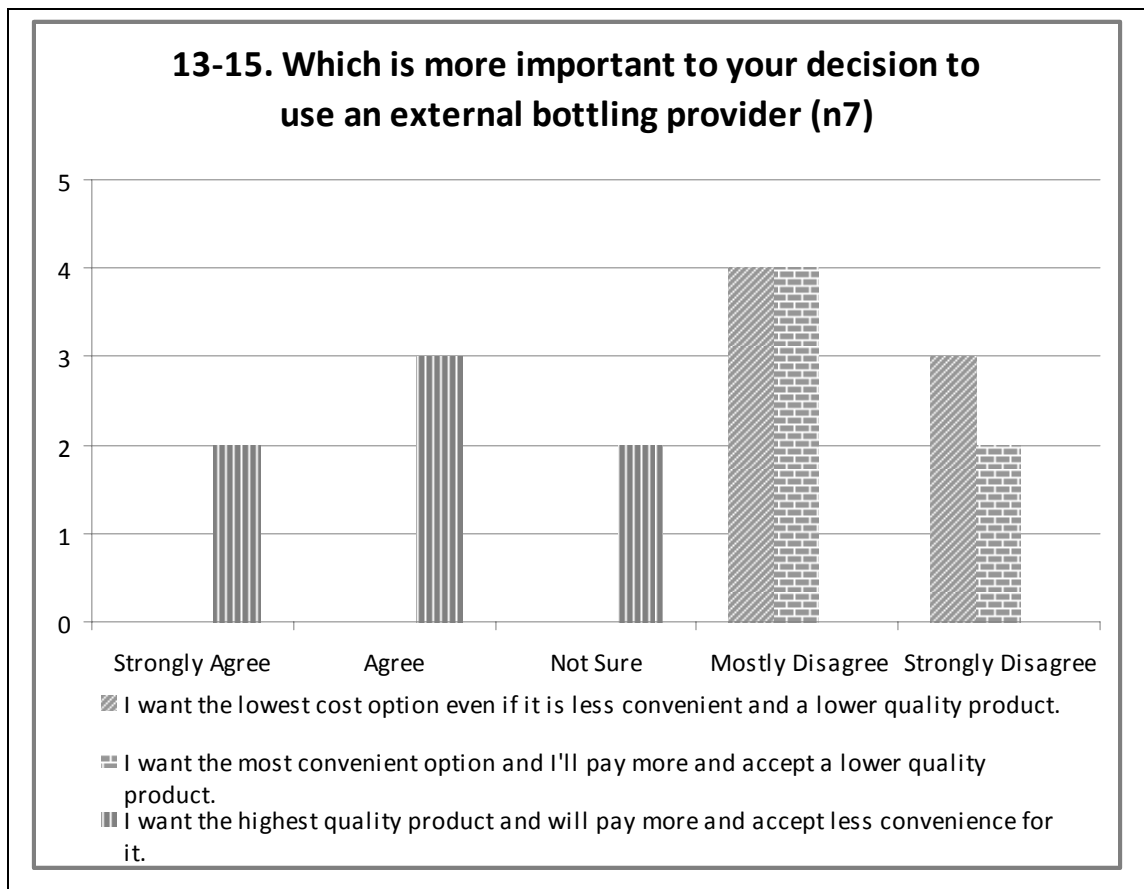
Eighteen wineries participated in the qualitative questionnaire (Survey form appears in Annex 7.4.4) involving seven from King, five Glenrowan with six within the Rutherglen Region. Excluded from the following discussion have been questionnaires were the winery produces less than 50 000 litres per year - which corresponds broadly with the cut-off level of production adopted for analysing the financial aspects of the project.

Leading findings from the eight qualifying questionnaires are:

- Flexibility in bottling. Equal split of views between 'strongly agree' and 'agree'.
- Controlling influence of winemakers. Opinion was spread as to the use of a mobile bottler for the reason it maintaining control over the process of bottling: scores - 4 'agree'; 2 'not sure' and 1 'mostly disagree'.
- Quality, cost and convenience of bottlers. Wineries place a much higher value upon product quality than either cost or convenience factors. Responses from seven wineries presented in Figure 3.2.



Figure 3.2: External bottling, qualitative views



Note. Seven wineries responses represented.

Some comments from winery principals on bottling:

***“Most people have facilities to bottle small volumes.”***

***“(Batches) less than 5 000 litres bottled on the vineyard using own small bottling line, using three labour units and can take a couple of days.”***

***“Bottling is driven by market demand, vintage needs and amount of storage space available.”***

***“Need to be doing 10 000 cases per year to justify your own bottling line.”***

***“Negatives of an own bottling line include the need for skills to understand and run the technology and maintenance issues. Also commits the winery to allocate labour to it and this may not be the best use of labour.”***

Some comments from winery principals on broader issues of bottling:

***“Bulk wine that is not bottled in the zone is sent elsewhere for repacking to national markets or to export. Also the majority of wine***

***that leaves the zone is blended. It seems the only way the wine businesses in the zone (and regions) can brand-build is by bottling and selling cellar door, internet or direct wholesale. It is also the way they make the best margin.”***

***“We only label a portion of our wines. We label on demand i.e. domestic markets and for export due to specific country by country requirements.”***

### 3.4 Warehousing systems

A small store at each winery supports cellar door and Internet / wine club sales. Larger quantities of bottled and labelled wine are stored in a building at the winery and / or off-site.

These general purpose buildings may house the wine tanks, un-labelled bottles, associated dry goods and sundry wine making equipment. From a very small sample, cost minimisation appears to have been uppermost in their fit-out for a winery warehouse with limited consideration of achieving high efficiency in the use of forklifts for loading and unloading and of broader OH&S matters.

Warehouses at non-winery locations in the opinion of winery principals appear to be efficient facilities for moving pallets but the degree of control over temperature is variable. One facility in the Albury area has these features:

- Area 1 - Constant ambient temperature, e.g. 8 to 20 degrees C.
- Area 2 - Thermostat control, e.g. 10 to 12 degrees C.

This Albury site has an area for long-haul trucking operators to drop off bottled wine pallets for later delivery as-is or broken down into cases for local distribution.

### 3.5 Wineries perspectives of warehousing

The survey of 29 wineries provides these insights into the warehousing scene in the Zone.

- A projected doubling of on-winery warehousing from 2006 to 2012, (Table 3.4 and Figure 3.4).
- A projected 64% increase by survey wineries in off-site storage within the NEWZ in the next five years.
- Regionally, the King Region reveals a four-fold increase in on-winery warehousing by 2012, (based on a 2006 vintage of 1 100 pallets in on-winery warehouse); followed by Rutherglen with a 69% increase (849 pallets) and Alpine with a 26% (2 098 pallets) expansion. Refer to Annex 7.4.3.

**Table 3.4: Warehousing locations, 2002 and 2012 (Pallets)**

	On-winery	Off-site NEWZ	Outside NEWZ	Total
2006	4 182	3 175	735	8 091
2012	8 453	5 198	508	14 159

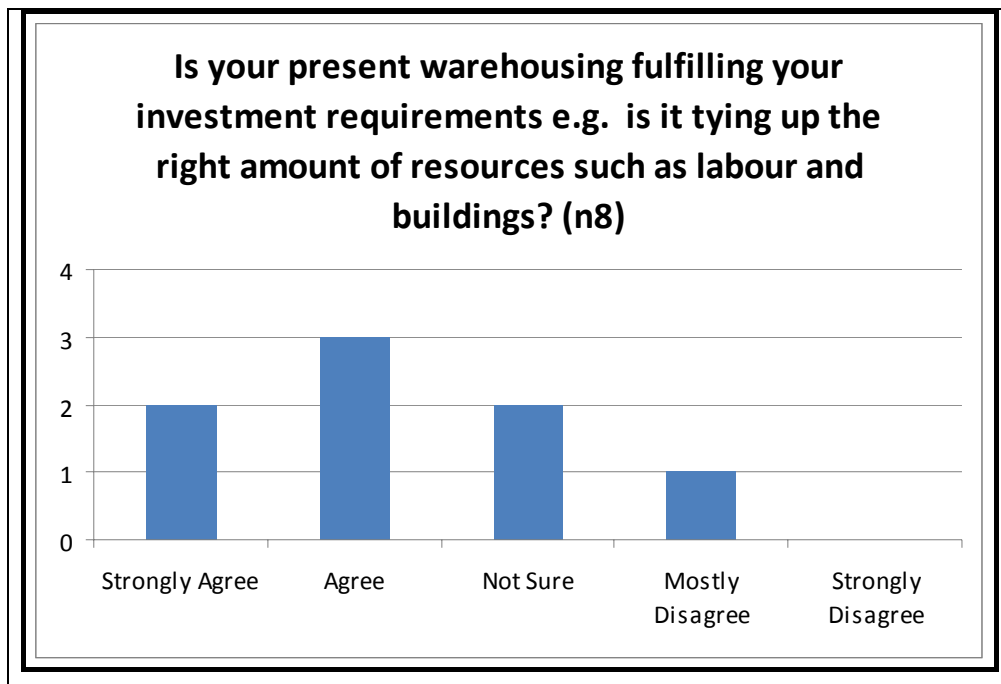
Source: Survey of wineries. Data from Annex 7.4.3.

Eighteen wineries participated in the qualitative questionnaire as described in Section 3.3. Leading findings from the eight qualifying questionnaires are:

- Wineries processing of orders. A spread of views on the time-value question of packing orders with most agreeing it was time well spent: scores - 1 'strongly agree', 4 'agree', 2 'mostly disagree' and 1 'strongly disagree'.
- Warehouse adequacy. Most wineries satisfied with their present warehousing arrangements: scores - 6 'agree' and 2 'mostly disagree'. Wineries have positive views on their investment in warehouses - capital and labour: scores 2 'strongly agree', 3 'agree', 2 'not sure' and 1 'mostly disagree'. (Figure 3.3)
- Future warehousing investment. In the next five years all eight wineries will be investing in improvements or new warehousing with five projecting expenditure to exceed \$50 000: scores - 1, >\$200 000; 2, \$100 000 to \$200 000; 2, \$50 000 to \$100 000; and 3, <\$50 000.

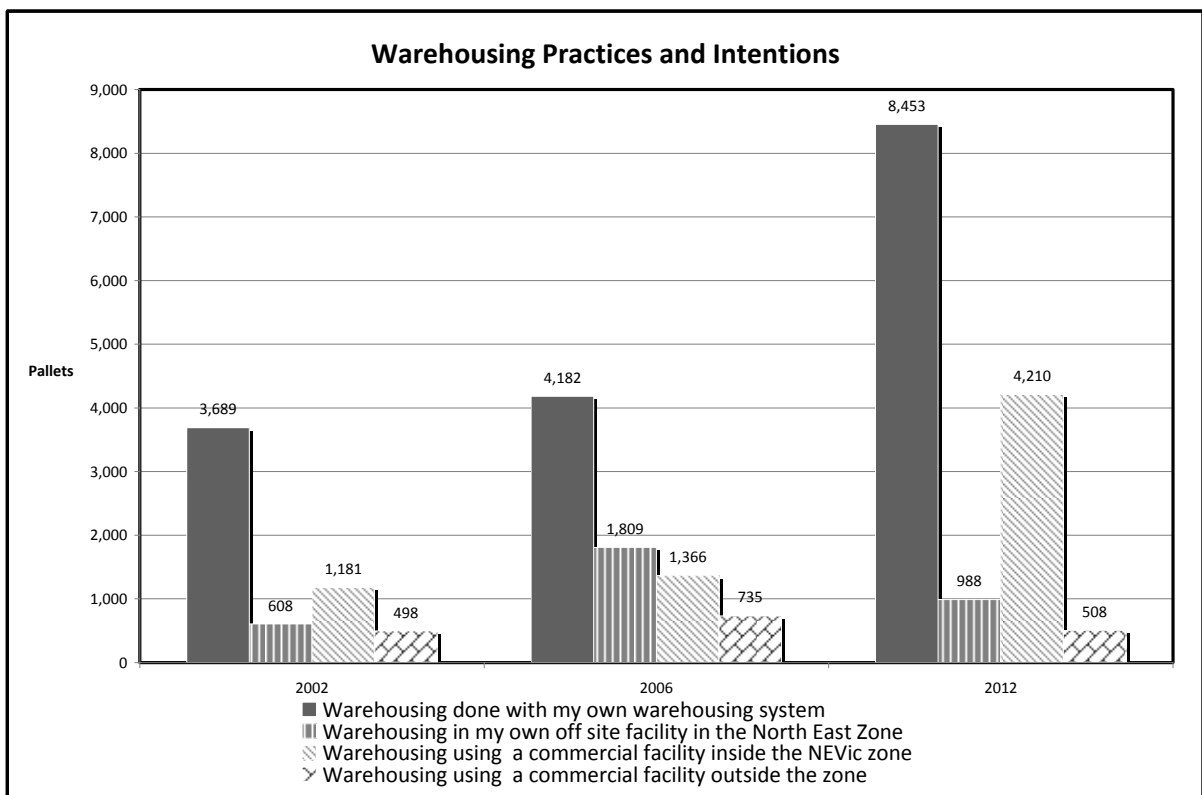
The prospective investments in warehousing are substantial. Subsequent discussion was energetic on the Zone having a modern computer-based purpose built wine warehouse. One driving factor is the projected growth in need for warehousing as recorded in the Survey where on-site warehousing rises from around 4 180 pallet capacity to 8 450 pallets by 2012. (Figure 3.4).

Figure 3.3: Warehousing meeting needs, qualitative views



Note. Seven wineries responses represented.

Figure 3.4: Warehousing intentions, 2012 (Pallets)



Source: Survey of wineries.

The leading drivers of change in practices within warehouses are:

- Customers requiring proof of storage conditions that is being met through product traceability and quality assurance systems.
- Supply chain innovations such as just-in-time, cross-docking, pick-n-pack operate at their best where there has been an aggregation of larger volumes at integrated warehousing-distribution centres. Dedicated road transporters operate from these delivering to capital city depots or national delivery nodes. These innovations are supported by computer-based systems which inform management of activities in the areas of inventories, receipt and dispatch, pallet wrapping and labelling.
- Business alliances being formed involving warehousing and distribution, e.g. Bevchain involving major and next tier wine, beer and spirit bottlers and road transporter - Linfox<sup>9</sup>.

Some comments from winery principals on warehousing:

***“A centralised warehouse for mail out at Rutherglen with sequenced pickups from wineries - seems an idea with merit. Also seems an opportunity to bundle goods both at warehouse and in dispatch e.g. warehousing wine and cheese or jam and dispatching a basket of goods wine and jam or other non perishable goods.”***

***“I expect there will be economic advantages to a centralised, consolidated facility that is accessible, available and customer focused and distribution will save us a lot.”***

### 3.6 Distribution systems

Wineries have developed internal arrangements for distributing their wine within two broadly described systems of:

1. Business to customer (B-C)
2. Business to business (B-B).

A business to customer system is used most commonly for selling cases of wine within Australia. Such orders may be generated via the Internet, mail inquiry or wine club. Parcel delivery companies, notably Australia Post and National transport companies, e.g. Toll, collect the case from the winery or locally arranged depot and deliver it directly to the customer.

A business to business system involves the movement of pallets (64 cases) and corresponding change of ownership to a domestic wholesaler, to a domestic wholesaler and then to a distributor or to an exporting agent. A number of specialist wine distributors have evolved within the industry with two examples provided:

1. Specialist wine distributors/wholesalers. The Nelson Wine Company, Abbotsford Victoria (Internet accessed 16 May 2007 [www.nelsonwineco.com.au](http://www.nelsonwineco.com.au)) reportedly represents Dal Zotto Estate (King Region) and Chambers Rosewood (Rutherglen

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<sup>9</sup> Bevchain is 50/50 owned by NZs international brewer Lion Nathan and Australia's top freight transport operator Linfox. Starting 26 October 2006, its aim is to organise other beverages industry companies' logistics on the base volume of Lion Nathan's.

Region). Rutherglen Wine and Spirit Company market some wines from northern Victoria. (Internet access 16 May 2007 [www.rw-s.com.au](http://www.rw-s.com.au)).

2. National / international wine distributors. Australian Liquor Marketers (ALM) reportable services Australia and New Zealand (Internet accessed 16 May 2007 [www.almliquor.com.au](http://www.almliquor.com.au)). ALM has 16 distribution centres for servicing 14 500 independent licensed liquor outlets. The company has developed alliances with marketing groups to better meet the needs of customers and for adding value by decreasing buying costs and providing greater product exposure

A more recent development has been an integrated warehouse / transport business alliance, i.e. Bevchain. This alliance has reportedly gained the business of Australia's wine majors and has actively sought the business of the next level of wine producers: Independent Wine Group members, e.g. Brown Brothers, Milawa.

### 3.7 Wineries perspectives of distribution channels

The survey of 29 wineries provides these insights into distribution of bottled wine:

- Wineries strategy to optimise returns. Cellar door sales and direct mail sales projected to rise by 38% and 89% respectively between 2006 and 2012. The projection of an 8% per annum increase for cellar door sales is questionable as at the high end of winery visitation survey data. See Section 2.2 for discussion. (Table 3.5).
- A strategy of moving further along the supply chain. A parallel strategy to business to customer is of working through an agent or distributor where the winery seeks to receive a larger monetary share of the customers purchase.
- Export growth is low. The wineries envisage a continuation of focus upon the domestic market as this is better suited to their volumes of varietal wines. For example, a winery producing annually some 30 labels from 35 000 cases has around 1 000 cases per label. For most wineries in the Zone sustaining an export customer with any one label is problematic.
- Quarterly sales pattern continue. The present practice (2006) of marketing around the same volume each quarter apart from the October to December is projected to continue into 2012, albeit with increased volumes. (Table 3.6 and Figure 3.5).

**Table 3.5: Wine sales by channel (cases)**

Channel	Years		Channel 2012 (%)	Trends 2006 - 2012 (% increase)
	2006	2012		
Cellar door	136 389	187 833	21	38
Direct mail / Internet	57 531	108 954	12	89
Direct wholesale	142 557	256 802	28	80
Wholesale through distributor	65 443	165 834	18	153
Export from Australia	115 920	186 725	21	61
<b>Total</b>	<b>517 839</b>	<b>906 150</b>	<b>100</b>	

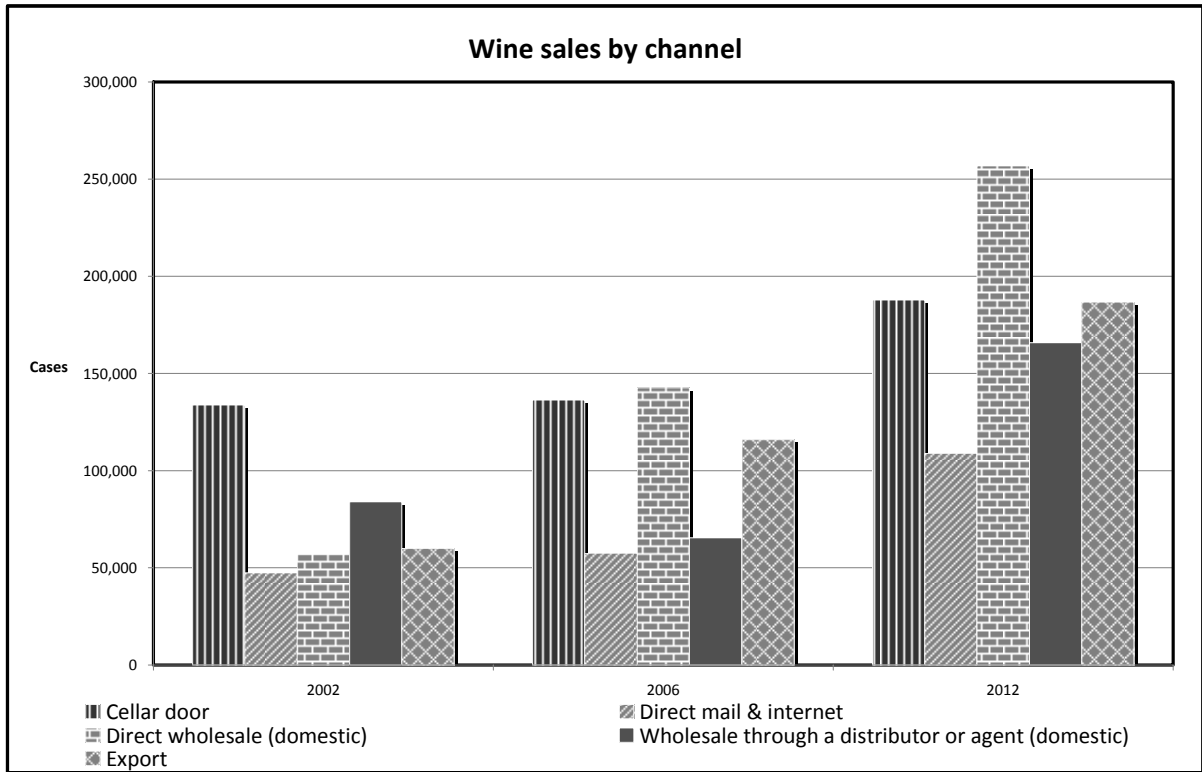
Source: Survey of wineries. Data from Annex 7.4.3.

**Table 3.6: Wine sales throughout the year (cases)**

Year	January - March	April - June	July - September	October - December	Total
2006	95 811	102 650	86 828	117 420	402 709
2012	152 959	161 848	147 457	198 002	660 267
Change (%)	60	58	70	69	64

Source: Survey of wineries. Data from Annex 7.4.3.

Figure 3.5: Wine sales by channel, 2002 to 2012 (cases)



Source: Survey of wineries.

Some comments from winery principals on distribution:

***“We do all our own distribution although there are isolation problems and can be difficult and expensive to get couriers. One centralised facility solves these problems.”***

***“There is a trend to six packs for OH&S reasons and also marketing reasons.”***



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## 4 ANALYSIS OF CONSULTATIONS

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This Section summaries the leading findings arising from the surveying of the wineries and subsequent discussions at meetings in each of the five Regions.

### 4.1 Rationale

Discussion within Section 2 has brought into focus a number of key threats and weaknesses of the wine industry within the North East Wine Zone. In brief these are:

- Farm businesses operate in a global economy whilst being subjected to the normal controlling influences of a biological system where droughts, frosts and fire are risks and uncertainties to be managed.
- Supply channel changes, notably the rise and rise of the supermarket bottle shops that show little interest in stocking lines with low volume potential.
- Export markets are price sensitive to movements in exchange rates.
- Domestic scene characterised by ever increasing number of wineries competing for markets that are highly price sensitive. Outside of the supermarket owned bottle shops there is a smaller tourist / wine connoisseur market.
- Wineries are in a weakened financial state arising from several years of above market supplies of wine, low grape prices and in the 2007 vintage, climatic factors.

The rationale that underpins the feasibility study includes achieving benefits for:

- Wineries in being better able to operate in a global economy. Through efficiency gains along the supply chain and reduction in costs to wineries that in turn improves their ability to be more competitive.
- NE Victoria's wine industry that in turn provides benefits to the wider community in general. Strongly growing businesses create demand for goods and services and for employment.
- Commercial organisations providing services. As businesses expand so do their requirements for more skilled staff that in turn creates demand for education and training.
- Federal and State Government agencies in achieving their objectives through partnership arrangements with the regional community.

The discussion from here onwards focuses on analysing some options for addressing these threats and weaknesses. These options are not edge of fabric ones but ones that will achieve sustained economic performance through undertaking major structural change.

## 4.2 Leading findings

The leading findings on the present and projected scene by 2012 appear as:

- Bottling systems meeting needs. General satisfaction across all Regions with the present arrangements for bottling. These arrangements seen as being capable of servicing the projected expansion in output of wine. The Beechworth Region as a whole and most of the Alpine and Glenrowan Regions display no interest in change which is an expected position given the predominance of micro to small batches of wine, i.e. less than 2 000 litres.
- Capacity for expanding bottling. The mobile bottlers and the centralised bottlers outside of the Zone have spare capacity; however wineries informed that bottlers were not meeting their expectations in terms of timeliness. Centralised bottlers have the capacity to increase throughput if there is demand by operating additional shifts. Whilst they at present favour batches of over 5 000 litres this may not remain. From anecdotal information in the event of a new competitor entering the market these centralised bottlers are expected to be highly competitive by offering to bottle smaller batches.
- Key position of centralised bottling plants. An axiom is it is cheaper to move wine in bulk than in bottles. This is particularly relevant when exporting, where bottled wine is placed direct into a shipping container by the bottler. The bottling facilities of Ozpak at Nagambie and Portavin in the Melbourne suburb of Cheltenham are illustrative examples of businesses servicing the export market. They can readily connect from these locations to the main domestic transport route from Melbourne-Sydney-Brisbane.
- Mid-sized wineries seekers of new options. Of the 90 wineries surveyed, 14 of the 29 surveys received came from wineries with annual output of 50 000 litres in 2006 or a projected output of this volume by 2012. Excluded from the analyses of the concept were Brown Brothers of Milawa and Baileys of Glenrowan on the basis of their operations being on a National scale where in the foreseeable future there is little likelihood of gains arising from participating in a regional facility.
- Warehousing shortcomings. General interest in learning more about options for warehousing. The exception is the Beechworth Region where their position relates to relatively low volumes of wine, but of a high dollar value. Also wineries project contentment with time spent in their warehouses processing orders and report satisfaction with the conditions under which their wine is stored. Maintenance of a quality product resonates highly across the survey results. There is some disconnection between these two findings as there appears to be only a few warehouses where it is possible to maintain temperature within the optimum range.
- Distribution is costly. Wineries are on the lookout for ways to lower the cost of transporting cases from their premises to customers. A consistent comment was of rate levels favoured those with volume which disadvantaged most in the Zone. Individually they have undertaken comparative costing exercises and periodically replace one transporter with another. A group of wineries in the King Valley unsuccessfully sought to gain lower rates from Australia Post, (Pers. comm. Graeme Ray, Boggy Creek Vineyard, 22 June 2007).
- Projected new investment. The creating of additional warehouse space was the one area identified where wineries foresaw new investment. Again wineries had undertaken individual assessments.

### 4.3 Positioning of wineries

Issues that relate to competitiveness and sustaining profitability are general across the Zone. What emerges as a point of difference is the scale of operation of the winery as measured by output of wine. High volume wineries like Brown Brothers of Milawa with over 2 500 tonnes, (Wine Directory 2006) crushed annually from their NEWZ vineyards - plus imports from other zones – are better at extracting volume discounts through matching themselves with businesses of like volume as has occurred with the Australian Competition and Consumer Commission (ACCC) sanctioned Independent Wineries Group. At the other end of the spectrum of output are the more numerous wineries with annual crush of less than 100 tonnes. Refer to Table 4.1, where 30 of the 65 identifiable wineries have crushes of less than this amount.

Most wineries have a business culture of individually working through their financial issues. It is likely that many of the NEWZ wineries have no aspirations to increase their output.

In between these two points of large and small wineries are wineries that are growing in output and generally are searching for solutions to address issues which are squeezing their profitability. These wineries are termed mid-sized.

These middle size and some smaller wineries have responded the strongest to this project as evident by 14 of the 29 surveys coming from those whose output is or will soon be in excess of 50 000 litres per year.

There are an estimated 45 mid-sized wineries within the NEWZ (Refer Table 2.8 and Annex Table 7.12). As established in Section 1.3 all 90 wineries were presented with the survey and received an invitation to the regional meetings. Many failed to respond to their respective vigneron / winemaker association or return the lead consultants telephone messages. From those who informed as to their reasons their responses categorised as:

- Wariness of cooperative arrangements. It appears they foresaw the facility being run along Cooperative lines and declined to be a party to such a business.
- Timing of the project. For some wineries the timing of the project was not appropriate for them as other avenues of business are being explored. For some they will maintain a watching brief and if a centralised facility eventuates, then assess its value to them at that time.
- Wariness of surveys. Past experiences have made them wary about the interpretations placed upon responses to questions. See Annex 7.4.2 for an analysis of the Survey methodology.

The report from here onwards focuses upon these 45, mid-sized wineries by presenting options and then subjecting them to limited analysis of their financial impacts.

**Table 4.1: Wineries winegrape production (tonnes)**

Region	Wineries (No.)	Winegrape production (t)		
		<100 tonnes	101 to 200 tonnes	>201 tonnes
Alpine	8	3	2	3
Beechworth	10	10	0	0
Glenrowan	8	4	3	1
King	19	7	3	9
Rutherglen	20	6	6	8
Totals	65	30	14	21

Source: Wine Directory, 2004 and 2006.

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## 5 WINE CLUSTER ANALYSIS VALUE CAPTURE

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Section five draws together the data and information from earlier Sections and subjects it to a series of financial analyses. The findings present scenarios of specified volumes of wine for bottling, warehousing and distribution.

### 5.1 Existing supply chains

The concept of a wine cluster in the NEWZ addresses the strategic issue of process improvement, particularly supply chain processes. Four major generic supply chains can be identified linking wineries in the NEWZ to national and international markets.

- Business to customer. For example, the supply of bottled wine from the winery to the consumer with a transport entity delivering cases of wine to the door of the consumer. This system supports the 'wine club' supply model. Product is paid for by credit card before it leaves the winery and terms for cost of transport are 30 days (Annex 7.2.1, Annex Figure 7.1).
- Business to business (direct wholesale). For example, the supply of pallets of wine from the winery direct to a retail business who then sells to consumers (e.g. independent bottle shops). This system supports the movement of larger volumes of bottled wine to markets in capital cities (Annex 7.2.1, Annex Figure 7.2).
- Business to business (indirect wholesaler domestic). For example, the supply of pallets of bottled wine to a wholesaler in a capital city who takes ownership of the product and distributes to retail networks (e.g. Woolworths or Coles distribution systems or independent wholesale systems). This system is an alternative to moving large volumes of bottled wine to markets in capital cities (Annex 7.2.1, Annex Figure 7.3).
- Business to business (exporting agent). The supply of pallets of bottled wine to an export agent who packages the product in shipping containers for export to international markets (Annex 7.2.1, Annex Figure 7.4).

Presently wineries within the NEWZ utilise a range of bottling and warehousing models (Table 5.1). The mid-size wineries predominantly use mobile bottling configurations and a combination of warehouse options either within the NEWZ or beyond.

The centralised wine bottling and warehousing facility is expected to draw its business predominately from the existing mobile bottling business conducted on site at each winery (bottling options 3 and 4 Table 5.1).

The warehouse is expected to draw its business from all the current warehousing systems in use (warehouse options A, B, C, and D Table 5.1) provided it can offer a warehouse agreement that provides sufficient benefits to wineries.

**Table 5.1: Bottling and warehousing options, NEWZ**

			Options for Warehousing Bottled Wine			
			A	B	C	D
			Bottled wine in own warehouse at the winery	Bottled wine in own warehouse off site from the winery	Bottled wine in a commercial warehouse in the NEWZ	Bottled wine in a commercial warehouse in a Capital city
Bottling Options	1	Own bottling on a small scale	YES	NO	NO	LIMITED
	2	Community bottling compact capacity (caravan system)	YES	NO	NO	LIMITED
	3	Mobile bottling small batches	SOME	SOME	SOME	LIMITED
	4	Mobile bottling medium capacity	SOME	SOME	SOME	SOME
	5	Centralised mobile bottling (Medium capacity)				
	6	Contract bottling (High capacity)	SOME	SOME	SOME	SOME
	7	Own bottling line of large scale e.g. Brown Brothers	Yes	Yes	?	Yes

**Explanations**

This matrix illustrates bottling options (1 to 7) on vertical axis and on the horizontal axis possible warehousing options (A to D).

**Bottling options.** *Community bottling* is where several wineries work together by bringing their wine in bulk vessels to a winery for bottling by a mobile bottler. *Mobile bottling small batches* is a unit with a maximum capacity of around 1 000 bottles per hour (750 ml). *Medium capacity* bottling plants are those with a capacity of around 2 000 bottles per hour (750 ml). *High capacity* bottling plants are those around 6 000 bottles per hour (750 ml).

Wineries of small scale and large at the other end of the spectrum are not seen as deriving benefits from an Integrated Bottling, Warehousing and Distribution facility for differing reasons but related to scale of operations.

The solid arrows reflect the potential for bottling and warehousing by an Integrated Bottling, Warehousing and Distribution facility. Dotted arrows indicate there is a lower likelihood of packaged wine being warehoused in the facility arising from location of high capacity bottler.

## 5.2 Scenario analysis

Data from 63 vineyards / wineries from the NEWZ were collated together by wine Region from the Wine Directory (2004 and 2006) (Table 2.6). Forty five were selected based on their vineyard area achieving a wine output being greater than 100 000 litres or the winery having expressed an interest via the survey in the cluster concept. Excluded were Brown Brothers, Milawa and Baileys of Glenrowan. Discussion on the methodology for their selection is in Section 2.3 with a summary in Table 2.8 .

The hectares indicated in the Directory for each winery was recorded with average winegrape yields (derived from ABS data for the NEWZ where range was between 6.8 and 9.8 t/ha) applied to determine the production in tonnes for each winery. An average extraction rate (696 l/t) was used to determine the bulk litres of wine (reds and whites) for processing. Transfers of grapes / wine within and beyond the NEWZ have not been assessed in these figures. For example, a winery such as Gapsted Wines purchases grapes from others in the Zone and elsewhere. This and other wineries 'export' a proportion of their wine in bulk to be blended or bottled outside the NEWZ under a contractual situation to another winery.

The 45 wineries, representing 50 percent of the 90 wineries, account for 7.3 m litres of wine; or approximately 38 percent of NEWZ average production of 19.18 ML or 27 562 tonnes (Table 2.3).

Three scenarios were developed based upon this level of production. The first assumes 20 percent of this production (Scenario No. 1: 161 900 litres) would be bottled, warehoused and dispatched from a centralised facility somewhere in the NEWZ. The other scenarios tested 40 percent (Scenario No 2) and 80 percent (Scenario No. 3) of this production (Table 5.2).

The purpose of this analysis is to examine the critical mass that could be gathered across the NEWZ to sustain a centralised bottling and warehousing facility and then to hypothesise where value might be captured by wineries.

**Table 5.2: Scenario production and allocation variables**

		Unit	Scenario 1 Low	Scenario 2 Medium	Scenario 3 High	Totals
1	Estimated production volume from selected wineries	cases (dozen)				809,621
2	Estimated percent of total production for a centralised system	% of production	20%	40%	80%	
3	Wine production estimated for centralised bottling, warehousing & dispatch system	cases (dozen)	161,924	323,849	647,697	

### 5.2.1 Bottling scenarios

Three bottling batch sizes were identified that coincided with the pricing structure of a current mobile bottling business servicing the NEWZ. Variables included the bottling capacity of a mobile semi trailer bottling system, downtime between batches and recommended retail price points for different batch sizes and bottling configurations (Table 5.3).

**Table 5.3: Bottling variables**

4	Batch sizes for bottling	Sizes	Small	Medium	Large	
		pallets	10	25	50	
		cases	640	1600	3200	
		litres	5,760	14,400	28,800	
5	Batch size allocation	%	70%	20%	10%	100%
6	Bottling capacity	cases/hr				250
7	Down time	hrs/batch				0.5
8	Bottling batch size & price points	dozen	0 - 1500	1500 - 3000	3000 plus	
9	Fill & cork	\$/dozen	\$2.85	\$2.65	\$2.45	
10	Cap & Label	\$/dozen	\$2.20	\$2.00	\$1.80	
11	Fill/Cork/Capsule/Label	\$/dozen	\$3.95	\$3.75	\$3.55	

Prices for mobile bottling from Portavin Estate Bottlers schedule of fees effective 1<sup>st</sup> June 2006 excluding GST, (Pers.comm. Eddie Price, General Manager, Portavin Melbourne, 6 June 2007).

An assumption was made to proportionally allocate the estimated volume of wine against three batch size options: small, medium and large. Seventy percent of the total volume of wine was allocated as small batch size attracting the highest bottling price and consuming the most downtime between batches. This assumption was based on wineries finding it less expensive to hold wine in bulk hence doing smaller bottling runs to save costs of storage and more closely match supply to market demand.

Based on these assumptions, Scenario One (low volume allocation) indicated the mobile bottler would be required for 94, eight-hour days per year. If Scenario Three eventuated it would be needed for all of the year (assuming an even demand spread throughout the year (Table 5.4).

**Table 5.4: Bottling times using semi trailer sized mobile bottling unit**

		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
	%	20%	40%	80%
<b>Batch sizes</b>	cases	<b>161,924</b>	<b>323,849</b>	<b>647,697</b>
Small	8 hr days	68	135	271
Medium	8 hr days	17	35	70
Large	8 hr days	8	17	34
	<b>Total days</b>	<b>94</b>	<b>187</b>	<b>374</b>

The bottler's gross revenue would range between \$626 600 and \$2.5 m (Table 5.5). The cost to bottle ranged from \$3.55 to \$3.95 per case.

These per case prices exclude the additional costs of labour, power, water, bottles, corks, capsules, labels, cartons, dividers, pallets, bins, stretch wrap, forklift and waste disposal.

**Table 5.5: Summary costs for bottling all batch sizes**

Batches		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
	%	20%	40%	80%
	cases	161,924	323,849	647,697
Small	\$3.95	\$447,721	\$895,441	\$1,790,883
Medium	\$3.75	\$121,443	\$242,886	\$485,773
Large	\$3.55	\$57,483	\$114,966	\$229,932
<b>Total bottling costs</b>		<b>\$626,647</b>	<b>\$1,253,294</b>	<b>\$2,506,588</b>

Note: Fill/cork/cap/label operations.

## 5.2.2 Warehousing scenarios

A warehouse heads of agreement underpins the charges for using such facilities. Typically an agreement includes provision for the following;

- Work flow (time line cut offs, lead times, etc.).
- Inventory assumptions – number of SKUs (Stock Keeping Units), stock on hand and environmental conditions.
- Warehouse charge calculations – triggers for exit of SKUs, e.g. vintage roll over, inventory clearance, terms and conditions and weighted average stock on hand.
- Rates table - the charges paid for using the facility and invoicing.

Without specific knowledge of a particular warehouse agreement, assumed download and upload costs were \$2.50 per pallet and warehousing of pallets \$2.50 per pallet per week, (Pers. comm. Jim Garraway, General Manager, Joss Distribution 16 May 2007). These figures are indicative only.

Time in the warehouse spanned three periods: twenty (short), forty (medium) and eighty weeks (long). It was assumed that seventy percent of the volume of wine would be in the warehouse for a short duration, twenty percent medium and ten percent long duration (Table 5.6).

**Table 5.6: Warehouse variables**

12	Download costs	\$/pallet				<b>\$2.50</b>
13	Upload costs	\$/pallet				<b>\$2.50</b>
14	Warehouse cost	\$/pallet/week	<b>\$2.50</b>	<b>\$2.30</b>	<b>\$2.10</b>	
15	Time in the Warehouse	period	Short	Medium	Long	
		weeks	<b>20</b>	<b>40</b>	<b>80</b>	
16	Annual volume of wine to be Warehoused	%	<b>70%</b>	<b>20%</b>	<b>10%</b>	100%



Based on these assumptions of length of storage and volumes, the gross revenue for the warehouse would range from \$190 300 to \$761 000 (Table 5.7).

**Table 5.7: Indicative gross value of warehousing**

		<b>Scenario 1 Low</b>	<b>Scenario 2 Medium</b>	<b>Scenario 3 High</b>
	%	<b>20%</b>	<b>40%</b>	<b>80%</b>
	cases	<b>161,924</b>	<b>323,849</b>	<b>647,697</b>
	pallets	<b>2,530</b>	<b>5,060</b>	<b>10,120</b>
Short term storage	\$	\$97,408	\$194,815	\$389,630
Medium term storage	\$	\$49,083	\$98,167	\$196,333
Long term storage	\$	\$43,770	\$87,540	\$175,081
<b>Total Warehouse Revenue</b>		<b>\$190,261</b>	<b>\$380,522</b>	<b>\$761,044</b>

### 5.2.3 Transportation scenarios

Transportation costs vary depending on destination and pack size. Three destinations were chosen with these proportional distributions: 60% Melbourne, 30% Sydney and 10% Brisbane. Two common pack sizes were tested; cases (12, 750 ml bottles) and pallets (64 cases, 12, 750ml bottles).

The freight rates for pallets assume single pallet loads to each destination. The freight rates for cases were determined from a desk-top survey of rates paid across wineries of the NEWZ. No specific freight company was identified although Australia Post has a dominant market share in the NEWZ (Annex 7.2.2, Annex Table 7.2).

The figures used were averaged across the price points for each destination. Maximum and minimum prices were identified (Table 5.8).

**Table 5.8: Transportation charges**

17	Freight fee structure	range	<b>Melb</b>	<b>Syd</b>	<b>Bris</b>
	Proportional distribution to destinations	%	<b>60</b>	<b>30</b>	<b>10</b>
18	Freight costs	\$/case	<b>\$9.94</b>	<b>\$12.52</b>	<b>\$19.63</b>
19	Freight costs	\$/pallet	<b>\$65.00</b>	<b>\$115.00</b>	<b>\$230.00</b>

### Transporting pallets

The gross revenue for freighting individual pallets to capital cities is in Table 5.9. For Melbourne based upon 60% of the pallet freight task (Table 5.8), revenue ranges from \$98 700 to \$394 700.

**Table 5.9: Pallet wine, indicative gross value for freighting to capital cities**

		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
	%	20%	40%	80%
	pallets	2,530	5,060	10,120
Melbourne	\$65/pallet	\$98,673	\$197,345	\$394,690
Sydney	\$115/pallet	\$87,287	\$174,575	\$349,149
Brisbane	\$230/pallet	\$58,192	\$116,383	\$232,766
Total freight costs	\$	\$244,151	\$488,303	\$976,606

### Transporting cases

The gross revenue for freighting individual cases to capital cities is in (Table 5.10). For Melbourne based upon 60% of the case freight task (Table 5.8), revenue ranges from \$1.0 million to \$3.9 million.

**Table 5.10: Case wine, indicative gross value for freighting to capital cities**

		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
	%	20%	40%	80%
	cases	161,924	323,849	647,697
Melbourne	\$9.94	\$965,716	\$1,931,433	\$3,862,866
Sydney	\$12.52	\$608,188	\$1,216,375	\$2,432,751
Brisbane	\$19.63	\$317,857	\$635,715	\$1,271,430
Total freight costs		\$1,926,570	\$3,783,523	\$7,567,046

## 5.3 Centralised warehouse and distribution facility

The concept of a wine cluster featuring a centralised bottling, warehousing and dispatch facility requires an incentive for all parties, wineries, bottler and warehouse operator to structure sound and acceptable commercial arrangements. Wineries need to be able to capture a sufficient amount of the value that can be liberated by the change to a centralised facility and the bottler and warehouse operator require a sufficient return on their investment. A structural change in the supply chains for wineries in the NEWZ must lead to a reduction in operating costs and capital investment required by the NEWZ wineries so that they move to a stronger competitive position from where they are today. The following examples help to identify where value might be captured by wineries.

### Bottling services

If the average charge for fill/cork/cap/label bottling in Scenario No. 1 (Table 5.5) was reduced by 10 percent, (the difference between highest Recommended Retail Price to lowest RRP) then wineries might capture \$0.39 per case in value. This may be offset by the costs associated with transporting bulk wine by wineries to a central location but added to by savings, if any, in labour, power, water, bottles, corks, capsules, labels, cartons, dividers,

pallets, bins, stretch wrap, forklift and waste disposal areas. Wineries would need to be able to negotiate strongly with the bottler in a competitive environment in order to capture any cost reductions.

### Warehouse services

The warehouse operation may not yield specific value creation for wineries in terms of dollars per case sold but it could lead to savings in capital investment in warehouse infrastructure for some wineries. It might also shift the time spent doing inventory and dispatch tasks to other tasks that are market development in nature. Wineries would need to be able to negotiate strongly for a competitive warehouse agreement.

### Transportation services

Transportation is the area where most value could be captured by wineries particularly in the wine case freight business. Using Melbourne as an example, the average freight rate, all wineries (Table 5.8) for a case of wine to Melbourne is \$11.92 (GST Excl.). The highest rate is \$20.91 (+75%) and the lowest \$5.45 (-54%) (Annex Table 7.2). When the rates from a selection of the larger wineries are analysed the average rate falls to \$9.94 per case for Melbourne (Based on the difference between average freight costs and minimum freight costs).

Negotiations between individual wineries and transport operators for freight rates for cases of wine are based on volume. Individually, few wineries move sufficient volume to position them in a strong bargaining position with transport companies. If a commercial arrangement could be developed between wineries and the centralised warehouse then collectively a much stronger bargaining position is created which could lead to significant cost savings in the transport end of the business.

For example a 20 percent reduction in freight rates from the average price means a \$2.34 per case saving for wineries (Table 5.11). If the minimum average all wineries freight fee (-54%) was achieved the saving could be double this amount. This saving may not all be captured by the wineries as that will depend on the arrangements they make to negotiate across the entire throughput of the warehouse.

**Table 5.11: Possibilities for value capture by wineries**

		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
	%	20%	40%	80%
	cases	161,924	323,849	647,697
	pallets	2,530	5,060	10,120
from the Bottling	10%	\$62,665	\$125,329	\$250,659
	\$/case	\$0.39	\$0.39	\$0.39
from the Warehouse	0%	\$0	\$0	\$0
	\$/case	\$0.00	\$0.00	\$0.00
from the Transport (cases)	20%	\$378,352	\$756,705	\$1,513,409
	\$/case	\$2.34	\$2.34	\$2.34
Total value capture by wineries	\$	\$441,017	\$882,034	\$1,764,068
	\$/case	\$2.72	\$2.72	\$2.72

## 5.4 Financial performance of facility components

Another perspective of the cluster is to assess the impact of business activity on the financial performance of the entities. A conventional method for revealing performance is through Earnings Before Interest and Tax (EBIT), i.e. total earnings before provisions are deducted<sup>10</sup>. The reader is advised that these figures are indicative and intended as a guide only, a more detailed analysis is required for all activities.

Using a rule that assumes operating costs as a percentage of income a quick 'back of the envelope EBIT can be determined from the scenario revenue data. These EBIT findings emerge:

- Transporting cases. Distributing cases achieves the highest EBIT which is three times higher than the next of bottling. (Table 5.15 and Table 5.12).
- Bottling. Bottling achieves and EBIT which is approximately five times higher than warehousing. (Table 5.12 and Table 5.13).
- Transporting pallets. Pallet businesses have an EBIT that is substantially less, by a factor of seven, than one moving the product as cases. (Table 5.14 and Table 5.15).

**Table 5.12: Bottling, high level financial analysis**

		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
Total Revenue	\$	\$626,647	\$1,253,294	\$2,506,588
Operating costs	70%	\$438,653	\$877,306	\$1,754,612
EBIT	\$	\$187,994	\$375,988	\$751,976

**Table 5.13: Warehousing, high level financial analysis**

		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
Total Revenue	\$	\$190,261	\$380,522	\$761,044
Operating costs	80%	\$152,209	\$304,418	\$608,835
EBIT	%	\$38,052	\$76,104	\$152,209

**Table 5.14: Transporting, high level financial analysis (pallets)**

		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
Total Revenue	\$	\$244,151	\$488,303	\$976,606
Operating costs	70%	\$170,906	\$341,812	\$683,624
EBIT	\$	\$73,245	\$146,491	\$292,982

**Table 5.15: Transporting, high level financial analysis (cases)**

		Scenario 1 Low	Scenario 2 Medium	Scenario 3 High
Total Revenue	\$	\$1,891,761	\$3,783,523	\$7,567,046
Operating costs	70%	\$1,324,233	\$2,648,466	\$5,296,932
EBIT	\$	\$567,528	\$1,135,057	\$2,270,114

<sup>10</sup> This measures a company's performance and is often used in preference to net profit as it excludes the effects of borrowings and tax benefits and adjustments.

## 5.5 An illustration of the wine value chain

Gaining an appreciation of where value is captured along the chain assists in identifying where costs and margins occur.

An example has been constructed to illustrate the occurrence and levels of costs and margins. It is indicative only and does not purport to represent any particular winery but the proportional costs are representative of margins and costs in the industry.

The example illustrates a base case situation for a bottle of wine with a retail price of \$16.60, GST Exclusive. It is assumed it costs a winery \$6.00 to produce bulk wine to which are added costs of bottling, warehousing and transport. To these costs are added the margins of the producing winery, the wholesaler and retailer. (Table 5.16 and Figure 5.1).

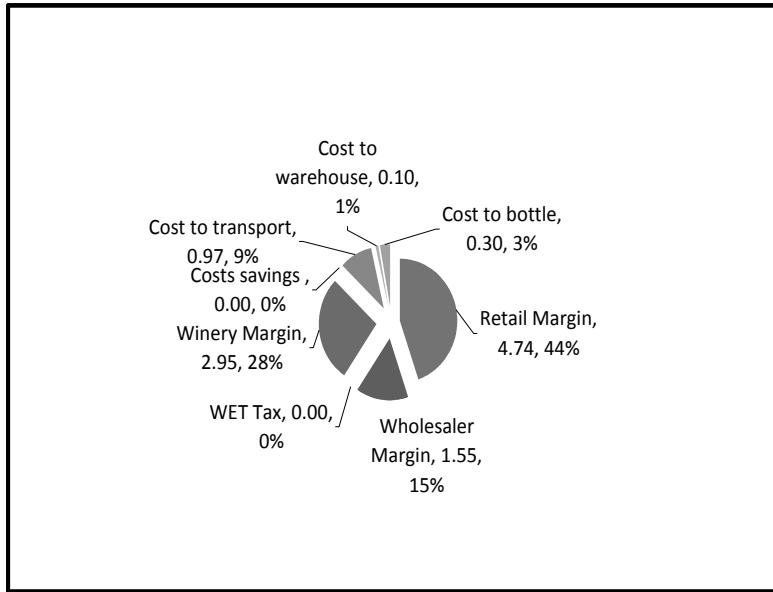
Two scenarios were constructed on this base case to illustrate the effects of reducing bottling and freight costs: Scenario A with a 5% reduction in bottling and 15% in freight charges and Scenario B a 10% reduction on base bottling and 30% on base freight. (Table 5.16).

The savings in Scenario A and B of \$0.16 and \$0.32 per bottle respectively may all accrue to the winery or be shared with others in the supply chain. In reality, centralised warehousing situation wineries in the NEWZ may also be able reduce costs at other points in the supply chain e.g. warehousing and retailing although this idea would need to be tested by wineries.

**Table 5.16: Value chain illustration**

		Base Case		Scenario A	Scenario B
		\$/bottle	% Retail	\$/bottle	\$/bottle
Retail Selling Price (ex GST)	\$	<b>16.60</b>	1.00	<b>16.60</b>	<b>16.60</b>
Retail Margin	<b>40%</b>	<b>4.74</b>	<b>0.29</b>	<b>4.74</b>	<b>4.74</b>
Retailer Buying Price	\$	<b>11.86</b>		<b>11.86</b>	<b>11.86</b>
Wholesaler Margin	<b>15%</b>	<b>1.55</b>	<b>0.09</b>	<b>1.55</b>	<b>1.55</b>
Wholesaler Buying Price	\$	<b>10.31</b>		<b>10.31</b>	<b>10.31</b>
WET Tax	<b>0%</b>	0.00	0.00	0.00	0.00
Winery Margin	<b>40%</b>	<b>2.95</b>	<b>0.18</b>	<b>2.95</b>	<b>2.95</b>
Costs savings	\$	<b>0.00</b>	<b>0.00</b>	<b>0.16</b>	<b>0.32</b>
Cost to produce finished product	\$	<b>7.37</b>	0.44	<b>7.20</b>	<b>7.04</b>
Cost to transport	\$	<b>0.97</b>	0.06	0.82	0.68
Cost to warehouse	\$	<b>0.10</b>	0.01	0.10	0.10
Cost to bottle	\$	<b>0.30</b>	0.02	0.28	0.27
Cost to produce bulk wine	\$	<b>6.00</b>	0.36	6.00	6.00

**Figure 5.1: Value chain illustration, bottle of wine**



Note. These are indicative costs and margins for the base value chain illustrative model.

Bottling, warehousing and transportation represent only 8.2% of the retail price of the example bottle of wine. Wineries have been active in pursuing a greater share of the value of a bottle of wine through cellar door and wine club sales. It is expected that wineries will be very discerning about allocating time pursuing cost reductions in the areas of bottling, warehousing and distribution because of the relatively small gains that could be made compared to other areas of the value chain.

## 5.6 Financial performance of warehouse options

The warehouse is a pivotal component for a centralised facility as on the input side is bottling and on the output side is distribution.

The return on investment of a hypothetical ‘Greenfield’ warehouse has been compared to an existing warehouse where the majority of the investment is a sunk cost to gain perspectives on the level of investment that could be sustained by a given level of throughput. This analysis as presented in Table 5.17 is a rough guide constructed on assumptions developed from limited knowledge of the costs in operating such a business.

The revenue used for the warehouse equates to Scenario 3 volumes, the most optimistic one for warehousing (Table 5.7). Under the assumptions, a Greenfield warehouse results in a negative Internal Rate of Return (IRR) of -1.8%, whereas an existing warehouse under the same operating costs (costs equating to 80% of revenue) has an IRR of 17.6%. An existing warehouse operating under a higher operating cost of 90% of revenue achieves an IRR of 7.3%. An IRR of this level is very close to industry expectations, (Pers. comm. Garry Nash, First State Real Estate, Wangaratta 11 July 2007).

**Table 5.17: Hypothetical warehouse**

		Greenfield site	Existing warehouse a sunk cost	Existing warehouse, lower margin
Revenue from warehousing activities	\$/year	\$761,000	\$761,000	\$761,000
Operating costs	% of revenue	80%	80%	90%
Cost to build warehouse	\$/m <sup>2</sup>	\$1,500	\$0	\$0
Size of warehouse	m <sup>2</sup>	2,000	2,000	2,000
Cost of building	\$	\$3,000,000	\$0	\$0
Additional depreciation items	\$	\$0	\$500,000	\$500,000
Additional investment	\$	\$500,000	\$750,000	\$750,000
Salvage value of investment	\$	\$0	\$0	\$0
Tax rate	%/annum	30%	30%	30%
Required rate of return	%	8.0%	8.0%	8.0%
<b>NPV</b>	\$	<b>\$2,038,332</b>	<b>\$524,796</b>	<b>-\$36,340</b>
<b>IRR</b>	%	<b>-1.8%</b>	<b>17.6%</b>	<b>7.3%</b>

## 5.7 Summary of key findings

The purpose of this analysis is to provide a sound basis for assessing the feasibility of a centralised facility. It has entailed an examination of the critical mass that could be gathered across the NEWZ to sustain a centralised bottling and warehousing facility and then to hypothesise where value might be captured by wineries. The findings that emerge provide pointers as to what are the key issues requiring addressing in order to move forward to the next phase of assessment.

A theme running through the report is of wineries raising their competitiveness. The findings of Michael Porter, (Porter) on the determinants of competitiveness have been applied to the NEWZ where we find these conditions:

- NEWZ wineries experiencing cost disadvantage. For many of the Zone's wineries with a business as usual or with a growth strategy they have to innovate as costs of production for wine are higher than the warm inland areas of Sunraysia and like areas.
- Increasing domestic competition. A clear finding is the focus upon cellar door, wine club and Internet sales. These market channels are viewed as 'easier' and more profitable for small and mid-sized wineries to service. This strategy will buy some time but, as found, the number of wineries is growing within a flat domestic market which will within a short time force further consideration of how to sustain business plans. Responses of wineries will vary with some opting to diversify cellar door offerings, e.g. food, quality coffee and beer. Some will develop relations further down the supply chain with distributors whilst others build upon their wine club.
- Related business investment. This project has attracted the attention of transporters and warehouse operators expressing their interest in creating more winery supportive infrastructure. Some such businesses may in time invest in creating superior logistic infrastructure that appeal to particular volume-sized wineries.
- Emergence of winery industry strategy. This project has been financially supported by the two largest volume Regions of Rutherglen and King and Glenrowan through their respective winery associations. Such collaboration demonstrates a desire, at least by the leaders, to break through the culture of individualism. There is a window of opportunity provided by this project for the mid-sized wineries to lead the further investigations of a wine cluster with the collaborative involvement of others in the wine supply chain, namely the bottling, warehousing and transport components. Collaboration may occur in a number of areas identified within the scope of this project and beyond. Potential outcomes of collaboration are reductions in cost of inputs, provision of services and in sustained access in competitive markets as illustrated in Table 5.18.

The static financial analysis undertaken with the project is a first pass attempt to identify where value might be captured by wineries and other stakeholders to the changes being proposed. Some leading findings from this analysis are:

- Nine wineries have a present capacity exceeding 100 000 litres with a further five having an output between 50 000 and 100 000 litres. These nine high producing wineries are the ones for approaching to lead the structural changes whereby the NEWZ wineries have the scope to move to a stronger competitive position from where they are to-day.
- Thirty eight percent of the wine volume is produced by 50% (45 wineries) of NEWZ wineries (excluding Brown Brothers, Milawa and Baileys of Glenrowan). The



importance of these 45 wineries would appear to be understated. From the survey it is clear that a number of the larger ones purchase grapes from other vineyards in the Zone thereby bolstering their importance within the Zone.

- Forty percent of the business of these 45 wineries, i.e. medium scenario 2, represents a significant amount of wine in terms of volume and dollars for a bottling business, a warehouse and a transport company.
- The majority of business to sustain a centralised mobile bottling operation would come from existing mobile bottling operations taking place at individual wineries across the NEWZ. The mobile bottling businesses currently servicing the NEWZ may be part of the solution in moving to a centralised facility. If only 20 percent of wine volume moved through the centralised bottler it would utilise a bottling machine with a 250 case capacity per hour for 94, eight-hour days. Centralised fixed bottles like Ozpak at Nagambie are expected to remain a strong competitor to a centralised mobile bottler.
- Value capture by wineries from a centralised mobile bottling facility may not amount to a significant cost saving because of the added costs to the winery to move wine to a centralised location. Other benefits may accrue to wineries from gaining and / or maintaining market access, conveniences or cost savings in labour, power, water, bottles and related 'dry goods'.
- The majority of business to sustain a centralised warehouse operation would come partly from existing on-winery warehouses, from commercial warehousing arrangements currently in place in the NEWZ and / or from commercial warehouses located in capital cities. The centralised warehouse agreement will be crucial to securing the support of wineries.
- The largest opportunity for value capture by wineries is in the area of transportation, particularly cases of wine. Wineries would need to either have a controlling interest in, or have a close and influential working relationship with a warehouse business in order to negotiate with transport companies and capture some or a substantial amount of the cost savings that could be made.
- In an illustrative value chain analysis, the cost to wineries of producing a bottle of wine represents 44% of the retail price. A centralised facility is a sound step towards reducing costs across the whole supply chain. A cautionary note is for wineries to not lose sight of working collaboratively with others in the value chain on marketing the North East wines as being wine of high quality and representing good value for money.
- An illustrative example of investing in a Greenfield warehouse versus modifying an existing operation provides a rough guide as to what returns an investor may achieve with a clear advantage, under the assumptions, to an existing warehouse operation at least in the early establishment phase of the centralised concept. Alternatively, a Greenfield warehouse would need additional throughput to justify their investment in excess of what the NEWZ wineries could provide.
- Unless wineries of the NEWZ act quickly and decisively a significant proportion of the value from centralising bottling and warehousing activities may be captured by others in the supply chain. Wineries will need to identify the best parties to a centralised facility and be able to discern the competitive and collaborative arrangements required to make such changes deliver value at the winery-end of the supply chain.

**Table 5.18: Areas for winery competition and collaboration**

<b>Focus Areas</b>	<b>Compete</b>	<b>Collaborate</b>	<b>Desired Outcomes</b>
Transportation of finished wine products to market destinations	Compete with other wineries arranging own transport with their preferred transport company	Collaborate when negotiating transport fees from a centralised warehouse based on total throughput of warehouse	Cost reductions that accrue from transport cost negotiations are captured by wineries and possibly shared with the warehouse
Transportation of bulk wine to a centralised facility	Individual wineries arranging their own bulk wine transportation and bottler – compete for space on tanker	Collaborate when negotiating annual bulk wine transportation rates to a centralised bottling facility	Accredited transport companies provide a bulk transport service to NEWZ wineries to service the centralised bottling facility
Warehousing wine products in a centralised facility	Wineries compete to gain outsourced warehouse options	Wineries collaborate to negotiate commercial arrangements with a centralised warehouse	Centralised warehouse commercial goals complementary to winery's commercial goals
Bottling	Individual wineries compete to arrange mobile bottling	Wineries and warehouse collaborate to negotiate the terms and conditions of bottling at a centralised location	Bottling is centralised under a competitively negotiated arrangement where wineries are part of the negotiation
Dry Goods	Individual wineries procure their own dry goods	Bottler or warehouse entity purchases common dry goods e.g. bottles, caps, dividers etc.	Reduction in costs of generic dry goods.
Export markets	Individual wineries finding and supplying export markets	Wineries collaborate to access export markets, meet orders and ensure continuity of supply and profit maximisation	Gaining and retaining high margin export markets through customers seeking larger volumes and / or providing them with a greater range of regional / zone wines across 365 days.
Wine Clubs	Wineries compete to attract and sign up customers, customer service levels and retaining the confidentiality of wine club participants	Wineries collaborate to engage a third party to administer and operate wine clubs at regional level or that of the North East Wine Zone.	Reduction in costs of wine club administration and operation and retains or improves service levels to wine club members.

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## 6 CONCLUSIONS AND RECOMMENDATIONS

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### 6.1 Project Objectives

#### 6.1.1 Objective 1

Describe the position of regional vineyard area and winegrape production relative to Victoria.

The North East Wine Zone (NEWZ) in 2005.2006 represented 29% of Greater Victoria's estimated winegrape production of 79 000 tonnes. In the 2006.2007 vintage, production in the Zone fell dramatically in response to drought, frosts and shortages of water to an estimated 11 000 t. Central Victoria's production also declined to an estimated 52 000 t. ABARE has projected a return to normal vintage outputs by 2008.2009 of 24 000 t for the NEWZ and 82 000 t for Central Victoria.

There are an estimated 204 vineyards in the NEWZ. In 2005.2006 around 3 200 hectares were planted to mostly red grape varieties (71%). King Valley has the largest number of growers at 80 and the largest area of bearing vines (1 024 ha in 2005.2006). At the other end of the spectrum the Beechworth wine region has 26 growers, the smallest area of bearing vines (83 ha in 2005.2006) and corresponding the smallest output (531 tonnes in 2005.2006) of the five regions.

An estimated 90 wineries are within the Zone as of May 2007. It is further estimated that 19 or 21% of the 90 wineries have been operating for 10 years or less.

#### 6.1.2 Objective 2

Quantify wine production in terms of the total crush, fermentation and storage of each wine region with the North East zone. Include bulk wine and barrel storage. Also include bulk wine traded in and out of the region.

Findings on grape crush from the survey of 30 wineries reveal an extra 3 000 tonnes by 2012 compared to that of 2002. Anecdotal information points to mid-sized wineries increasing their purchases from other NEWZ vineyards with lesser tonnes coming from increased own winery grapes via productivity and / or new plantings, if any. Another source of grapes is importations from vineyards outside the Zone. Phylloxera protocols prohibit the movement of grape and grape material out of the NEWZ.

A study of the 2002.2003 vintage (AlpValleys, 2003) recorded these findings:

- Wineries had a capacity to process 48 545 tonnes of grapes or around double the normal production of grapes in the Zone.
- Around 73% of the North East Zone's grapes are crushed and processed within the Zone with the balance processed elsewhere.
- The Zone's output of wine averages 2 103 215 cases, i.e. 12, 750 ml bottles. This estimate derived from a standard extraction rate of 696 litres per tonne applied to the Zone's production of winegrapes for the past six years (2000.2001 to 2005.2006), i.e. no allowance for purchasing of grapes from other zones.

An estimated 5.7 ML in 2006 was traded out of the Zone from responses of the 29 surveyed wineries. These wineries are conservatively estimated to produce around 38% of the Zone's wine whilst noting the exclusion of production from Brown Brothers of Milawa and Baileys of Glenrowan.

### 6.1.3 Objective 3

Analyse current bottled wine sales by channel. Include 5-year projections.

A survey of 29 wineries recorded wine sales in 2006 of 517 839 cases compared to 382 404 in 2002, a rise of 35%.

These same wineries project total wine sales to climb to 906 150 cases by 2012, a rise of 75% on 2006. This projection is predicated on a continuation of trends for a greater quantity of the Zone's grape crush being retained and bottled. In 2002, 32% of the total crush of 10.704 ML was bottled in the Zone; 45% of the 10.42 ML 2006 and a projection of 56% by 2012 (14.512 ML).

In 2006 37% of the 517 839 cases marketed either as cellar door sales or via wine clubs. By 2012 these channels will be less significant with a projected representation of 33% of 906 150 cases. However, they represent a 64% increase on the 2002, 181 251 cases sold via these channels. Such an increase is questionable having regard for trends over past decade. There is projected increase in wholesaling through a distributor.

### 6.1.4 Objective 4

Describe the current systems used for bottling, warehousing and distribution within the region (both owned and contracted) and identify their strengths and weaknesses, opportunities and threats.

Wineries appear contented with the options available for bottling their wine – mobile and centralised. These bottling options, particularly the centralised ones have spare capacity accessible by NEWZ wineries. Market forces will address the competitiveness of mobile bottlers and centralised ones when tasked to bottle small batches of down to 5 000 litres.

Wineries with output equating to 2 000 to 5 000 litres per annum for 'wine estate' reasons are the least likely to be attracted to a fully or partially centralised bottling, warehousing or distribution facility.

High-volume wineries like Brown Brothers on the other hand have in place systems geared for servicing their present needs and for addressing growth in volume or in changes within the market, e.g. increasing demand for sparkling wines. Whilst expressing an interest in the concept it appears to not offer them scope for achieving savings in cost or access to markets that arise from a lack of volume. These wineries are most likely to maintain a position of independence from other regional wineries on bottling, warehousing and distribution.

Mid-sized wineries represented approximately 50% of the respondents to the survey and questionnaire: 14 out of 29. As a proportion of the 90 wineries in the Zone, mid-sized ones represent 36% or 32 wineries. Thus the survey sample represents 44% of this sized winery which is considered a satisfactory outcome.

Respondent wineries expressed interest in examining options for warehousing. Their interest arises from firstly a lack of space either now or projected and secondly, for undertaking

comparisons between an out-sourced facility with them extending and/or building at their winery.

Warehousing, especially if offering pick-n-pack and cross-docking services, is a potential 'hook' for generating interest in introducing a reversal of practice where mid-sized wineries take all but very small batches of their wine in bulk to bottlers. Remaining batches would be either bottled by hand or by a mobile bottler.

A number of wineries reported that they were at times transporting wine in bulk to centralised bottlers and at other times to a mobile bottler located at a neighbouring winery. The question was then explored - what if a mobile bottler parked themselves at a warehouse with the bottled wine moving directly into storage. With the support of wineries the concept was developed and refined to become the focus of much of the analysis undertaken within the project. The conclusions reached are reported upon against Objective 6.

### 6.1.5 Objective 5

Describe the conditions and criteria under which stakeholders would and would not use a centralised bottling, warehousing and distribution centre.

Decisions about feasibility are supported by technical, financial and market assessments. If all three are aligned and are showing positive outcomes then this provides the necessary confidence for moving forward to the next level of investigation.

We have found it is **technically feasible** to:

- Move wine in bulk to a centralised facility for bottling as many wineries are already carrying out this practice.
- Locate a mobile bottler at premises where there are facilities that mirror those presently provided by centralised bottlers, e.g. National Association of Testing Authorities (NATA) accredited laboratory, Hazard Analysis Critical Control Points (HACCP) procedures and British Retail Consortium (BCR) accreditation.

We have found, from initial calculations and assumptions, **financial feasibility** is likely for wineries, bottlers and warehouse operators. This is based upon introducing new arrangements for using existing plant and buildings to:

- Bottle wine by an existing mobile bottling unit at a centralised facility. This arrangement uses existing capital and labour and minimises further capital investment but seeks to achieve productivity improvements.
- Warehouse and distribute bottled wine in cases and pallets from a centralised facility to achieve potential savings in costs through aggregation of larger volumes.

We have found **market feasibility** to service domestic and export markets from a centralised facility. Such a facility has the potential to:

- Enable larger volumes of bottled wine to be exported by aggregation of small batches into export-sized consignments.
- Raise the quality image of the Zone through provision of product identification.
- Match the labelling and quality control standards of fixed bottlers thereby enhancing access to discerning markets.

The majority of business to sustain a centralised bottling, warehousing and distribution centre would come from:

1. Existing mobile bottling operations taking place at individual wineries across the NEWZ.
2. For the warehousing component from existing warehouses on-site at wineries, from commercial warehousing arrangements currently in place in the NEWZ or from commercial warehouses located in capital cities.

Value capture by wineries from a centralised bottling facility may not amount to a significant cost saving because of the added costs to the winery to move wine to a centralised location. Other benefits may accrue to wineries from gaining and / or maintaining market access, conveniences or cost savings in bottles and other 'dry' goods.

The largest opportunity for value capture by wineries is in the area of transportation, particularly cases of wine. Wineries would need to either have a controlling interest in, or have a close working relationship with a warehouse business in order to negotiate with transport companies and capture some or all the costs savings that could be made.

Location features of the facility are crucial. It needs to be positioned so as to present strong commercial reasons for wineries, bottlers and warehouse operators to change their present arrangements.

Wineries will require proof of savings and operational features of an integrated facility. This is more likely to emerge through winery principals undertaking assessments of their own operations against the findings within the report. Assistance in conducting these assessments would be highly beneficial through initial personalised approaches to a small number of mid-sized wineries.

Moving from assessments by individual wineries to a group of wineries acting as one is a substantial step as it involves members sharing their business information. Facilitation of the building of an environment of trust and cooperation is essential where over time a sufficient number assess that it is in their interests to progress the concept.

Wineries within this smaller group will need to identify the best parties to a centralised facility and be able to discern the competitive and collaborative arrangements required to make such changes deliver value at the winery end of the supply chain. In a similar vein the relationships developed between the wineries, bottler and warehouse owner and the addressing of issues are crucial for securing the on-going support of wineries.

An alternative to a winery-lead assessment is for an existing NEWZ warehouse / transport operator targeting the business of selected wineries to achieve a centralised facility. These types of businesses may use a reconfiguration of their present infrastructure or that of a purpose-built building. Facilitation of this approach requires much less external resourcing as the business(s) have the data from existing enterprises and prospective winery information from day-to-day contacts.

The economics of implementing a centralised concept either as a green-field facility versus modifications to an existing warehouse / transport complex are matters beyond the scope of this project. However based upon preliminary analyses and anecdotal comments a more favourable rate of return is more likely from the latter option.

## 6.1.6 Objective 6

Identify and describe possible models for a centralised bottling, warehousing and distribution centre, their strengths and weaknesses, opportunities and threats.

Two methods were applied to provide an assessment of a centralised facility:

1. A qualitative assessment of bottling and warehousing. This assessment examined a range of bottling and warehousing options.
2. A static financial analysis of the individual components of a centralised facility: bottling, warehousing and distribution. In this method a base case was established for each component with scenarios constructed of key variables.

### 1. Qualitative assessment

An analysis was undertaken of bottling and warehousing options for the NEWZ. These options: 7 bottling and 4 warehousing, were presented figuratively in Section 5 at Table 5.1. Findings from the analysis were:

#### 1.1 Bottling

- Small scale and large wineries have their own in-house bottling plants and are not seen as deriving benefits from a centralised facility.
- Mobile bottlers will continue to service wineries where the batch size and convenience factors outweigh moving wine in bulk to a centralised facility.

#### 1.2 Warehousing

- Fixed bottlers assessed as making limited use of the warehousing component of the centralised facility due to exports being a dominant destination of their bottled product. For domestic markets the facility has potential to attract business away from capital city-based warehouses especially where modern logistic practices are deployed, e.g. cross-docking.
- Re-direction to the centralised facility of bottled product presently stored in on-winery and other winery owned and / or leased premises in the NEWZ. The tempo of business won by the centralised facility is underpinned by its ability to provide savings in freight, to offer superior conditions of storage and providing superior service to domestic customers.

### 2. Static financial analysis

The assessment was undertaken on the production of wine from 45 wineries within the NEWZ which was calculated as 809 621 cases per vintage. Three **production scenarios** were run where the centralised facility captured 20%, 40% and 80% of the production from these 45 wineries. Additional scenarios were run by varying the sizes of batches for bottling, of periods in the warehouse and of destinations for cases and pallets from the warehouse.

Leading findings from the scenarios undertaken on bottling, warehousing and distribution were:

#### 2.1 Bottling

As expected the lowest cost to bottle occurred where there was a higher proportion of large batches. Within the bottling scenarios the price to fill/cork/capsule/label was \$3.55 per case when the batch is of 3 200 cases; \$3.95 for 640 case batch; and \$3.75 per case when the batches are 1 600 cases. When 20% of the total bottling production of 809 621 cases occurs

in the facility the revenue from bottling is \$0.627 million; at 40% of the available production, \$1 253 million and \$2.507 million if the facility captures 80% of the available market.

A bottler would be located at the facility for 94, eight hour days when processing 161 900 cases (20% of 809 621 cases); 187 days when processing 40% and 374, eight hour day equivalents should it capture 80% of the market.

## 2.2 Warehousing

Warehouse revenue rose substantially the larger the volume warehoused. Three durations of warehousing time were compared: 70% of wine stored for 20 weeks (short); 20% of wine for 40 weeks (medium) and 10% for 80 weeks (long). The short term warehouse rate equates to \$0.60; medium duration \$0.30 and long term \$0.27 per case per week. When 20% the volume was warehoused for the short duration, revenue was \$190 300, rising to \$761 000 when 80% of the 809 621 cases are warehoused for 80 weeks with an intermediate revenue of \$380 500 when facility captures 40% of the production from the 45 wineries.

## 2.3 Distribution

Transportation revenue is as expected the highest with distributing cases compared to the alternative of pallets. Three destinations were examined: 60% to Melbourne with a rate of \$9.94 per case; 30% to Sydney where rate per case is \$12.52 and 10% to Brisbane with a rate of \$19.63 per case. When the facility captures 20% of the total movement task of 809 621 cases, revenue is \$1.892 million from distributing to the three capital cities (\$0.244 million with pallets); with 40% of the movement task, revenue is \$3.784 million (\$0.488 million with pallets) and at 80%, \$7.567 million (\$0.977 million with pallets).

## 2.4 Value proposition

A cluster concept facility built upon soundly assessed financial incentives to the parties is a prerequisite. In order to appreciate the value proposition a hypothetical example was constructed commencing with bulk wine in a vat and continuing through the stages to a sale to a retail customer. Assuming a retail price of \$16.60 per bottle, GST Excluded, bottling, warehousing and transportation represent only 8.2% of the retail price of the example bottle of wine. Value capture by wineries from a centralised mobile bottling facility may not amount to a significant cost saving because of the added costs to the winery to move wine to a centralised location. Other benefits may accrue to wineries from gaining and / or maintaining market access, conveniences or cost savings in labour, power, water, bottles and related 'dry goods'.

The largest opportunity for value capture by wineries is in the area of transportation, particularly cases of wine.

## 2.5 Investing in a warehouse

Wineries would need to either have a controlling interest in, or have a close and influential working relationship with a warehouse business in order to negotiate with transport companies and capture some or a substantial amount of the cost savings that could be made. An illustration of investing in a Greenfield versus modifying an existing operation provided, under a set of assumptions, a clear advantage to the latter.



## 6.2 Recommendations

The recommendations arising from this feasibility study are directed at assisting the wineries of the North East Wine Zone of Victoria to familiarise themselves with its findings and in progressing them into a plan of action.

Over the past few months a number of wineries have become familiar with the potential gains to be made from a centralised facility. To-date these wineries have been essentially providers of comments and information. With the completion of this stage of investigations wineries need to assess what should be the next steps. The following recommendations are set out as a series of steps for wineries to progress the concept over the next few months.

1. The Rural City of Wangaratta and AlpValleys by the end of October 2007 to:

- 1.1. Lead a two-level information program on informing wineries on the Wine Cluster study. Firstly, a personalised approach to the nine largest or possibly extending to the next five mid-sized wineries assessed as having a commitment to the concept and secondly, providing information of a more general nature to all wineries in the Zone.

Notes. Program intended to inform in some detail those wineries of a size and interest as to the findings of the feasibility study. Program based upon a combination of personal and group contact augmenting exchange of information beyond which has already occurred.

- 1.2. Convene a forum for targeted mid-sized wineries to discuss the financial data and scenarios.

Notes. Attendees would be those who from personal approaches in Recommendation 1.1 express a strong interest in working with their fellow wineries.

- 1.3. Subject to the above two recommendations, support wineries in forming an incorporated entity and in the resourcing of a strategic plan for progressing the establishment of a wine cluster.

Notes. Forming an incorporated body provides a tailor-made vehicle for representing the wineries in discussions with providers of bottling, warehousing and transport services. It places such discussions on a firmer footing for engaging in collaborative financial modelling and for recording heads of agreement decisions.

2. That the Rural City of Wangaratta and AlpValleys, the owners of the Study provide to the incorporated entity, formed as a result of Recommendation 1.3, exclusive use of the report and accompanying financial modelling for up to 12 months, subject to achieving satisfactory progress at quarterly milestone.

Notes. The report presents the findings of where value may be captured within the supply chain by bottlers, warehouse and transport providers. The entity may choose to evaluate revisions of the assumptions in the accompanying Excel® program and use this information in furthering discussions with parties on forming the cluster.

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## 7 ANNEXES

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## ANNEX 7.1 2001 FEASIBILITY STUDY SUMMARY

# Review of Ernst and Young Report to Australian Alpine Valleys Agribusiness Forum Inc

## Feasibility of AlpValleys Wine Cluster Development

### Key Points

- A facility that provides services from crushing to sales and distribution did not have support.
- More interest lies in bottling, warehousing and distribution services particularly the latter two.
- Support of a few key stakeholders is required to gain sufficient volumes of throughput.
- Supporting stakeholders from Alpine and King Valley GI regions are needed to achieve sufficient throughput.
- The service of bottling is a separate issue to warehousing and distribution. The latter appear to provide clearer benefits to a broader range of stakeholders whereas bottling is less clear.
- There are many possible business models; the challenge is to articulate the few that have the support of the major stakeholders and clearly identify the benefits of change.

The purpose of the Ernst & Young Report (E&Y) was to perform a feasibility analysis of the potential for a high volume wine facility in the North East region of Victoria. Preferably, the development would consist of state of the art facilities for high volume grape crushing, wine and by product processing, bottling and labelling, storage of juice, bulk wine and finished goods, and sales and distribution.

Ernst & Young suggested the most desirable model that would generate the greatest economic benefits for users, the industry and the region is a state of the art facility offering a comprehensive package of services from grape crushing through to sales and distribution. Their survey found there was little support for such a facility.

The objective of the proposed facility is to 'curb the extent of value added processing which is leaking from the region to be performed in other areas of Victoria and interstate.'

It was estimated the facility needed to have a throughput of a minimum of 20,000 to 30,000 tonnes or approximately 20 to 30 million litres at a minimum to offer nationally competitive production costs to users.

A 5,000 tonne facility could expect a minimum of \$1.50 of overhead per litre, compared to approximately 30c per litre for a 30,000 tonnes facility

The objections to the wine processing facility included the following.

- 'Large vineyard respondents who send value added production interstate indicate that the availability of a large wine processing facility in the region is unlikely to change this practice.'
- Smaller and boutique growers and winemakers whose product are locally processed indicate that a primary reason for their lack of interest in an outsourced facility is the

belief that the winemaking process is a key point differentiation in an otherwise competitive market

- Contract facilities with lower output levels will provide increased economies of scale to small producers yet will not have the critical mass to achieve sufficient cost savings necessary to encourage participation by highly important larger producers.
- There is a low level of interest in the development of a high volume contract wine processing facility for the region, with only four respondents indicating that they would-be interested in outsourcing their wine making process, to it.
- Businesses already outsourcing their wine production indicate they are already well serviced by local operators. Gapsted has contributed significantly to this capacity

The benefits identified by Ernst & Young included 'generating direct cost savings for users however other benefits include the ability to co-locate educational, industry marketing, tourism and other facilities on the site and the stimulation of industry growth by reducing infrastructure cost barriers to entry. We consider the wine processing component of this development to be the most critical to the success of such value added facilities. A reduced scale facility, such as a bottling and labelling plant, is less likely to support such value added facilities.

The benefits identified by Ernst & Young appeared not strong enough or not clearly articulated enough to attract sufficient interest from industry stakeholders.

Instead there appeared more interest in a facility that could bottle, warehouse and distribute finished products. Any centralised facility will require large throughput to be viable. Hence there are a core group of medium to large organisations in the region whose support is critical to provide sufficient volumes to achieve ongoing financial sustainability of the development.

Ernst & Young identified the following possibilities for bottling and distribution

- Stand alone bulk storage facilities (up to 30 million litres) could be feasibility to support a facility offering all processing services or to a facility offering just bottling and distribution services.
- Over 90% of the potential throughput forecast for 2006 would be provided by two individual organisations making their participation critical to the project's feasibility.
- One of these respondents is satisfied with current interstate bottling arrangements which already provide significant economies of scale (based on processing capacity of in excess of 50,000 tonnes in 1999). It is experiencing no capacity issues, yet would consider local bottling if further substantial cost efficiencies could be generated. This appears unlikely on the basis of throughput forecast from our survey results.
- Apart from the bottling services, no other component of the facility including distribution would be utilised by this participant.

Survey respondents proposed the following objections to a bottling facility.

- Many small winemakers indicated they would not outsource their bottling function because their current arrangements with mobile bottlers were preferable to an

outsourced bottling facility because of transport cost, product and quality control issues.

- Concerns about service priority versus the larger producers.
- There appeared not sufficient support for a high volume bottling and distribution facility.
- A large regional operator has a bottling facility which is operating below its capacity. While this facility could add extra shifts to almost double capacity its current capacity, the organisation forecasts significant internal growth that would consume this excess capacity in future years.

Increasing national supply and competitive pricing means the need for reduced costs within the supply chain are of increasing in importance to regional stakeholders. The following advantages of a sales and distribution centre were proposed.

- Offers local participants to pool their output to participate in large national and export sales contracts
  - Advantages smaller wineries who cannot supply economic order sizes to national and international markets on a regular basis – cost reducing and market access.
  - Ability to consolidate sales orders into large shipments and enables operators to increase the regularity and stability of sales and export penetration – market access.
  - Consolidation of administrative services such as receipting, processing sales orders, invoicing and debt collection – cost reducing.
- Reduction in equity capital or debt costs relating to infrastructure and equipment needs – cost reducing.
- Cost efficiencies in staffing levels – cost reducing.
- Reduction in raw materials and utility costs from shared facility and increased purchasing power – cost reducing, margin expanding.

Various business model options emerge.

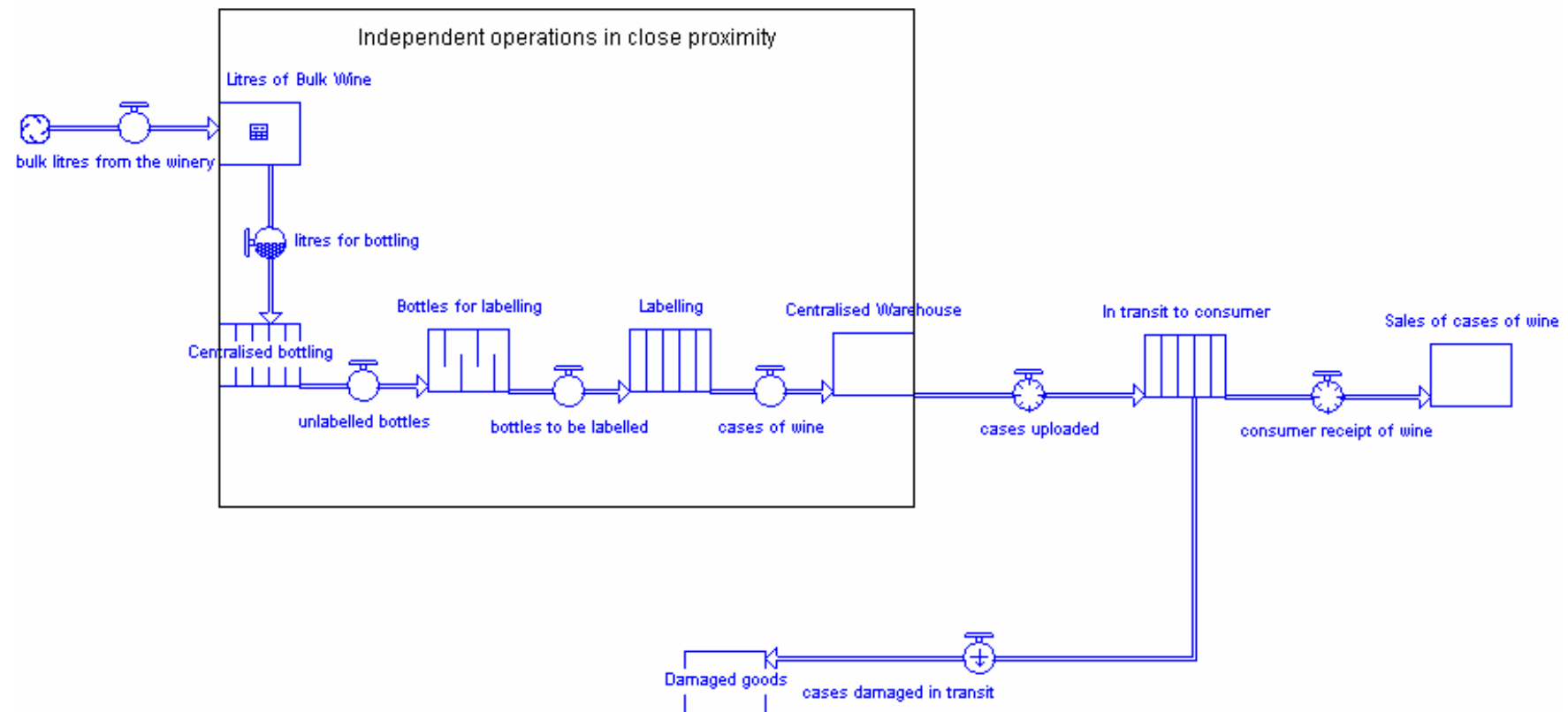
1. Short term consider outsourcing to existing operators with surplus capacity in the region
2. Existing operators sell their infrastructure to investors to create a centralised independent facility
3. Establish a fully functional facility providing services from crushing to sales and distribution.
4. Establish a centralised bottling, warehousing and distribution centre only.
5. Establish a mobile bottling, centralised warehousing and distribution centre.
6. Establish a warehousing and distribution centre only.

## ANNEX 7.2 WINE CLUSTER ANALYSIS

### Annex 7.2.1 Supply chains

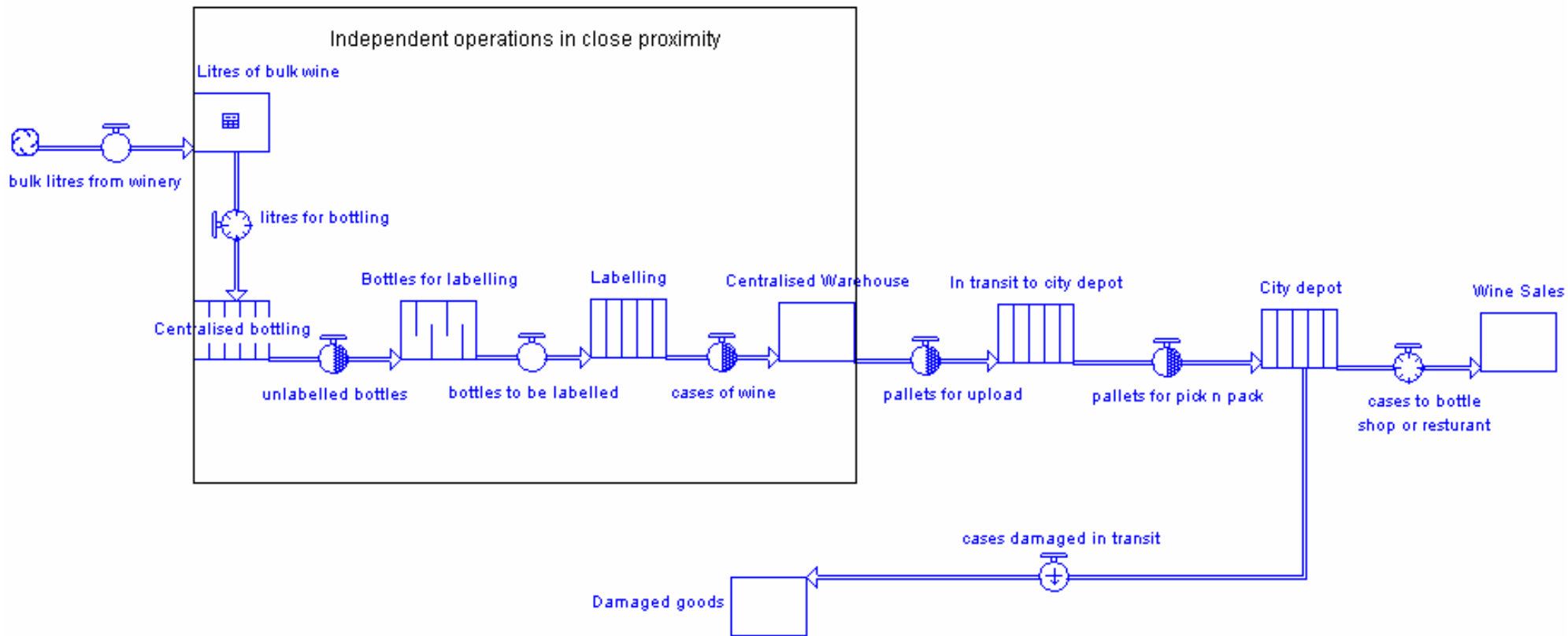
#### Annex Figure 7.1: Business to Customer

#1. Winery to Consumer Supply Chain: Independent bottling, warehousing and distribution systems in close proximity and wine cases transported by a single transport company delivering to the door of the consumer.



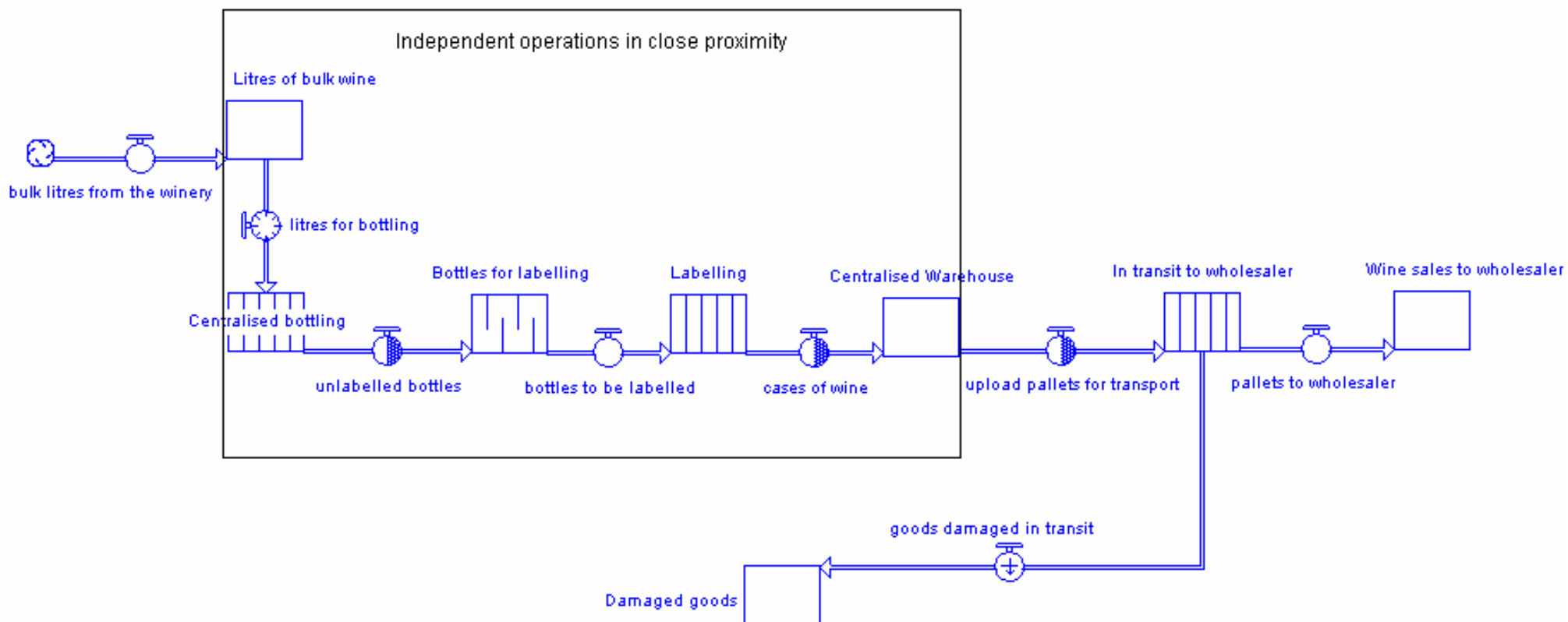
**Annex Figure 7.2: Business to Business, Direct wholesale (retail)**

#2. Winery to Independent Retailer Supply Chain: Independent bottling, warehousing and distribution systems in close proximity and contracting transport companies to deliver pallets of wine to pick n pack depots and forwarding to independent retail destinations in capital cities on the eastern seaboard of Australia



**Annex Figure 7.3: Business to Business, Indirect wholesaler**

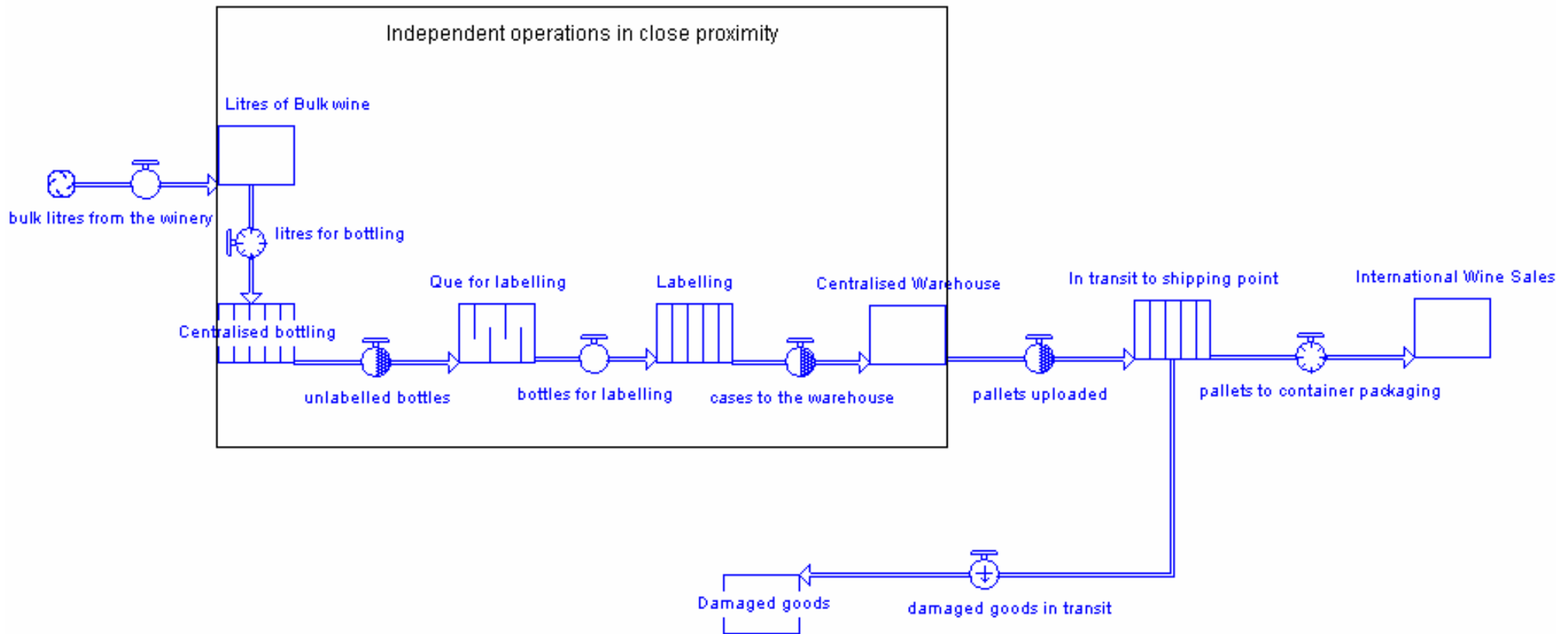
#3. Winery to Wholesaler Supply Chain: Independent bottling, warehousing and distribution systems in close proximity and contracting transport companies to deliver pallets of wine to wholesaler destinations in capital cities on the eastern seaboard of Australia.





**Annex Figure 7.4: Business to Business, export agent**

#4. Winery to Export Agent Supply Chain: Independent bottling, warehousing and distribution systems in close proximity and contracting transport companies to deliver pallets of wine to deliver pallets of wine to an export agent for packaging into containers and shipping to international markets.



## Annex 7.2.2 Bottling, Warehouse and transport variables

### Annex Table 7.1: Variables for Centralised bottling, warehousing and transport

Estimated Production Volumes for Centralised Bottling, Warehousing Dispatch							
		Unit	Scenario 1 Low	Scenario 2 Medium	Scenario 3 High	Totals	Comments and Assumptions
1	Estimated production volume from selected wineries	cases (dozen)				809,621	The total volume of wine estimated from a core group of wineries See sheet Production
2	Estimated percent of total production for a centralised system	% of production	20%	40%	80%		Percent of total estimated production available to a centralised facility
3	Wine production estimated for centralised bottling, warehousing & dispatch system	cases (dozen)	161,924	323,849	647,697		

Variables for Centralised Bottling							
4	Batch sizes for bottling	Sizes	Small	Medium	Large		Batch sizes are estimates to reflect the different price points of the mobile bottler and have been provided by Portavin
		pallets	10	25	50		
		cases	640	1600	3200		
		litres	5,760	14,400	28,800		
5	Batch size allocation	%	70%	20%	10%	100%	Wineries with large batches may do two or more bottling runs to save costs of storage hence the increase in percentage of small to medium batch sizes.
6	Bottling capacity	cases/hr				250	Maximum speed of the current semi trailer system owned by Portavin
7	Down time	hrs/batch				0.5	Estimated average downtime based on Portavin advice.
8	Bottling batch size & price points	dozen	0 - 1500	1500 - 3000	3000 plus		Portavin batch size examples
9	Fill & cork	\$/dozen	\$2.85	\$2.65	\$2.45		Volumes and price points supplied by Portavin
10	Cap & Label	\$/dozen	\$2.20	\$2.00	\$1.80		
11	Fill/Cork/Capsule/Label	\$/dozen	\$3.95	\$3.75	\$3.55		

Variables for Warehousing							
12	Download costs	\$/pallet				<b>\$2.50</b>	Price estimates from discussions with Joss Distribution. Any price arrangements for warehousing will depend on the warehouse agreement.
13	Upload costs	\$/pallet				<b>\$2.50</b>	
14	Warehouse cost	\$/pallet/week	<b>\$2.50</b>	<b>\$2.30</b>	<b>\$2.10</b>		
15	Time in the Warehouse	period	Short	Medium	Long		Times are estimates only but the assumption is wineries will retain wine in bulk storage for as long as they can and only bottle what they can sell over a specific time period.
		weeks	<b>80</b>	<b>40</b>	<b>20</b>		
16	Annual volume of wine to be Warehoused	%	<b>70%</b>	<b>20%</b>	<b>10%</b>	100%	Estimates of the percent of volume that spends different time lengths in the warehouse.

Variables for Transportation						
17	Freight fee structure	range	<b>Melb</b>	<b>Syd</b>	<b>Bris</b>	
18	Freight costs	\$/case	<b>\$9.94</b>	<b>\$12.52</b>	<b>\$19.63</b>	Price sourced from a survey of wineries across regions and within the NEWZ and averaged
19	Freight costs	\$/pallet	<b>\$65.00</b>	<b>\$115.00</b>	<b>\$230.00</b>	Assume single pallet rates. For further rates click on this hyper link

**Annex Table 7.2: Indicative freight rates, pallets and cases**

Indicative pallet freight rates							
Destination	Pallets	Melbourne	\$/pallet	Sydney	\$/pallet	Brisbane	\$/pallet
B-double	34	\$780	\$23	\$1,800	\$53	\$3,800	\$112
Single	22	\$600	\$27	\$1,300	\$59	\$2,600	\$118
Half Load	11	\$375	\$34	\$850	\$77	\$1,800	\$164
Single Pallet	1	\$65	\$65	\$115	\$115	\$230	\$230

Conventional trailers are 22 pallets on the floor but there are some trailers that can carry 24 pallets on the floor. The single vehicles would have a carrying capacity of approximately 25.0 tonnes including pallets. The b-double vehicles have the capacity to carry 34 pallets on the floor and a capacity of approximately 37 tonnes including pallets. These rates are also subject to a fuel surcharge which is calculated monthly depending upon monthly fuel price

Source: Tony Green, Managing Director, Greenfreight, Albury, 19 June 2007.

Region	Winery	Wine	Bottle price, GST Excl. (\$)	Freight carton 12 bottles GST Excl. (\$)					
				Melbourne	Victorian country	Sydney	NSW country	Brisbane	
Alpine	Gapsted Wines	2004 Cabernet Merlot	16.00	\$ 9.09	\$ 9.09	\$ 13.64	\$ 13.64	\$ 18.18	
	Michelini Wines	Chardonnay	17.50	\$ 13.64	\$ 13.64	\$ 13.64	\$ 13.64	\$ 31.82	
Beechworth	Castagna	2004 Gensis - Syrah	65.00	\$ 20.91	\$ 25.45	\$ 20.91	\$ 25.45	\$ 25.45	
	Pennyweight	2004 Beechworth Riesling (Organic)	24.00	\$ 15.00	\$ 22.73	\$ 15.00	\$ 22.73	\$ 22.73	
	Smiths Vineyard	2005 Smiths Vineyard Chardonnay	32.00	\$ 13.64	\$ 13.64	\$ 13.64	\$ 13.64	\$ 13.64	
Glenrowan	Auldstone Cellars	2000 Chardonnay	19.00	\$ 10.91	\$ 13.64	\$ 13.64			
	Granite Range Estate	2003 Reserve Merlot	18.45	\$ 11.00	\$ 11.00	\$ 16.09	\$ 16.09	\$ 29.18	
King	Dal Zotto Estate	Merlot	19.00	\$ 5.45	\$ 6.36	\$ 10.91	\$ 13.64		
	Chrismont	2005 Riesling	15.00	\$ 9.09	\$ 9.09	\$ 13.64	\$ 13.64	\$ 18.18	
Rutherglen	All Saints	2004 Ruby Cabernet Limited Release	28.00	\$ 8.73	\$ 11.64	\$ 9.68	\$ 11.64	\$ 11.77	
	Pfeiffer Wines	2005 Riesling	16.50	\$ 13.64	\$ 13.64	\$ 13.64	\$ 13.64	\$ 18.18	
<b>24.59</b>				Melbourne	Victorian country	Sydney	NSW country	Brisbane	
<b>All wineries</b>			Average	<b>\$ 11.92</b>	\$ 13.63	<b>\$ 14.04</b>	\$ 15.77	<b>\$ 21.02</b>	
			Max	<b>\$ 20.91</b>	\$ 25.45	<b>\$ 20.91</b>	\$ 25.45	<b>\$ 31.82</b>	
			Min	<b>\$ 5.45</b>	\$ 6.36	<b>\$ 9.68</b>	\$ 11.64	<b>\$ 11.77</b>	
% difference from average			Max	<b>75%</b>	87%	<b>49%</b>	61%	<b>51%</b>	
% difference from average			Min	<b>-54%</b>	-53%	<b>-31%</b>	-26%	<b>-44%</b>	
<b>Selected wineries from Alpine, King Valley &amp; Rutherglen</b>				Average	<b>\$ 9.94</b>	\$ 10.58	<b>\$ 12.52</b>	\$ 13.30	<b>\$ 19.63</b>
				Max	<b>\$ 13.64</b>	\$ 13.64	<b>\$ 13.64</b>	\$ 13.64	<b>\$ 31.82</b>
				Min	<b>\$ 5.45</b>	\$ 6.36	<b>\$ 9.68</b>	\$ 11.64	<b>\$ 11.77</b>
% difference from average				Max	<b>37%</b>	29%	<b>9%</b>	3%	<b>62%</b>
% difference from average				Min	<b>-45%</b>	-40%	<b>-23%</b>	-13%	<b>-40%</b>

Source: Internet searches of 19 May 2007.

### ANNEX 7.3 NORTH EAST WINE REGIONS

Information in Annex 7.3 on the five wine regions sourced as follows:

General regional information - Internet, [www.wineaustralia.com/Australia](http://www.wineaustralia.com/Australia), accessed 28 May 2007.

Climate - Bureau of Meteorology - Internet, [www.bom.gov.au](http://www.bom.gov.au) accessed 28 May 2007.

Winegrape area and varieties - Victorian Wine Industry Association data sourced from Australian Bureau of Statistics Australian Bureau of Statistics.

Wineries - Vigneron/winemaker associations within the North East Wine Zone with supplementation from Internet searches.

**Annex Table 7.3: North East Wine Zone bearing area grapes (ha)**

Region	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
Alpine/Beechworth	794	1 074	912	924	892	859
Beechworth	35	45	92	86	94	83
Glenrowan				210	209	203
Rutherglen	793	994	919	897	929	999
North East other <sup>1</sup>	1 213	1 096	1 340	1 057	982	1 024
<b>Total</b>	<b>2 835</b>	<b>3 209</b>	<b>3 263</b>	<b>3 174</b>	<b>3 106</b>	<b>3 168</b>

Source: Victorian Wine Industry Association data sourced from Australian Bureau of Statistics.

Note 1. The Australian Bureau of Statistics group non GI area and production statistics as North East Other which for this project has been assumed to represent the area

**Annex Table 7.4: Red Grapes - varieties, NEWZ, 2005 - 2006**

Variety	Region (tonnes)					Total
	AV/Beech	Beechworth	Glenrowan	NE Other	Rutherglen	
Shiraz	836	63	529	1,142	3,012	5,582
Cabernet Sauvignon	1,002	105	808	1,519	1,003	4,437
Merlot	2,324	45	211	1,462	296	4,337
Pinot Noir	455	94		555	115	1,219
Durif	22	2		50	620	694
Muscat a Petits Grains Rouge	5		4	0	569	578
Other Red	51	9	39	209	85	392
Sangiovese	110	29		109	57	304
Meunier	12			167	0	178
Petit Verdot	18	8		41	20	86
Tempranillo	41	0		23	13	77
Mataro				21	52	73
Grenache	1				64	65
Barbera	34	2		12	17	64
Cabernet Franc	7	1	7	26	16	57
Malbec	27	2		6	15	50
Touriga			19		22	41
Nebbiolo	9	9		2	10	30
Ruby Cabernet	6			1	21	28
Zinfandel				0	2	2
<b>Total</b>	<b>4,956</b>	<b>368</b>	<b>1,616</b>	<b>5,344</b>	<b>6,009</b>	<b>18,294</b>

**Comments:**

Three leading varieties: Shiraz, Cabernet Sauvignon and Merlot, constitute 78% of the 18 294 tonnes produced in 2005/2006. These same varieties were the leaders in the 2000.2001 vintage.

The next three varieties: Pinot Noir, Durif and Muscat a Petis Grains Rouge, constitute 14%, thus six varieties represent 92% of the total tonnes produced in 2005/2006.

Regionally the Rutherglen Region has at least 18 known red varieties with 11 in Beechworth and 6 in Glenrowan.

**Annex Table 7.5: White Grapes - varieties, NEWZ, 2005 - 2006**

Variety	Region (tonnes)					Total
	AV/Beech	Beechworth	Glenrowan	NE Other	Rutherglen	
Chardonnay	1,482	90	28	1,568	371	3,539
Sauvignon Blanc	426	9		544	18	997
Riesling	89	2	0	617	96	803
Pinot Gris	145	33	0	496	116	790
Muscadelle			6		360	366
Viognier	117	20		75	66	278
Traminer	35			88	64	187
Other White	53	3		68	36	159
Semillon	6	3		34	87	131
Chenin Blanc	1			78	32	111
Marsanne		0			75	75
Trebbiano				3	47	50
Muscat a Petits Grains Blanc			2	36	9	47
Verdelho	30			13		43
Palomino		3			25	28
Roussane		0		15	9	24
<b>Total</b>	<b>2,383</b>	<b>163</b>	<b>36</b>	<b>3,634</b>	<b>1,411</b>	<b>7,626</b>

**Comments:**

Three leading varieties: Chardonnay, Sauvignon Blanc and Riesling, constitute 70% of the 7 626 tonnes produced in 2005/2006. These same varieties were the leaders in the 2000.2001 vintage.

The next three varieties: Pinot Gris, Muscadelle and Viognier, constitute 19%, thus six varieties represent 89% of the total tonnes produced in 2005/2006.

Regionally the Rutherglen Region has at least 14 known white varieties with 7 in Beechworth and 3 in Glenrowan.

**Annex 7.3.1 Alpine Region**

The region comprises four river basins or valleys, created by the Ovens, Buffalo, Buckland and Kiewa rivers with its location and boundaries shown in Annex Figure 7.5.

The two key climatic elements of temperature and rainfall are as expected directly related to altitude. See Annex Table 7.6 where Myrtleford at 223 m has a 905 mm rainfall compared to Mt Beauty at an elevation of 366 m receiving on average 1 266 mm. The summers are similar at Myrtleford and Bright with cooler mean temperatures prevailing at Mt Beauty.

The soils in the four major valleys are formed on river deposits from similar rocks, mostly granite. Soil types range from sandy loams to red-brown duplex and possess good structure.

**Annex Table 7.6: Alpine Region Climate**

Parameter	Myrtleford	Bright	Mt Beauty
Elevation (m)	223	319	366
Mean annual rainfall (mm)	905	1 139	1 266
Mean January temperature (°C)	19.1 (30.8 - 11.7)	18.6 (29.2 - 10.9)	16.3 (28.8 - 12.5)
Mean July temperature (°C)	10.5 (12.6 - 2.1)	10.5 (12.0 - 1.5)	9.3 (11.3 - 2.0)

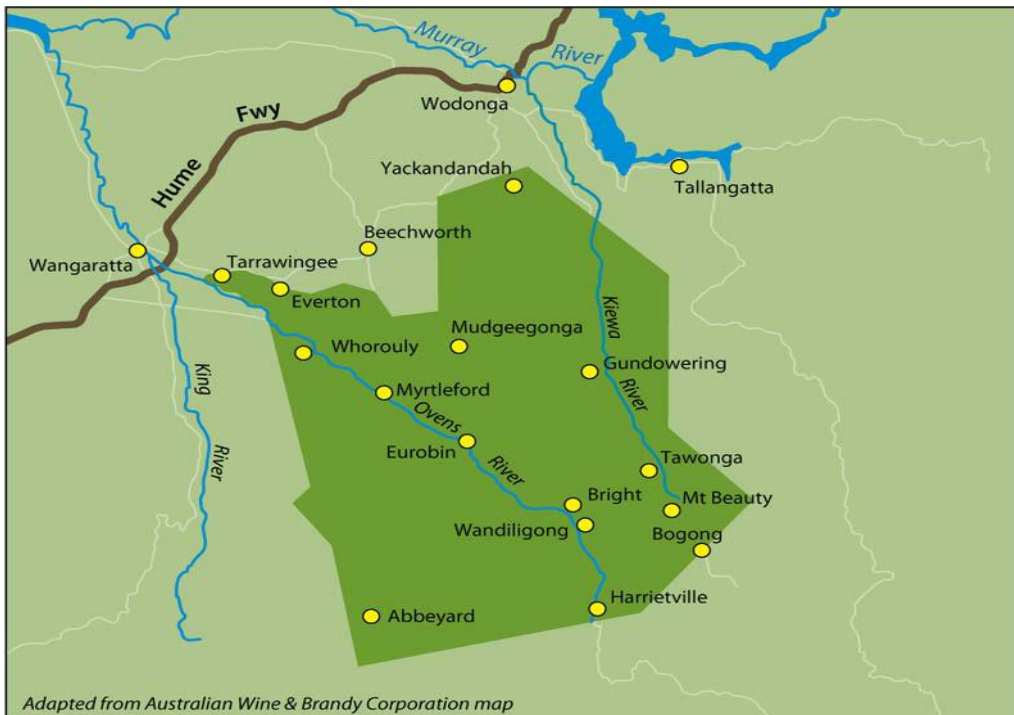
**Vineyards and Wineries**

There are an estimated 49 vineyards in the Region as of December 2006, (Alpine Valleys, 2007). Over the six year period from 2000 through to 2006 the area of winegrapes has grown from 794 ha in 2000.2001 to 859 ha in 2005.2006 with a peak of 1 074 ha in 2003.2004 (Annex Table 7.3) <sup>11</sup>. From Annex Table 7.4, red grapes of Merlot, Cabernet Sauvignon and Shiraz represented the three most popular varieties over this six year period being 47%, 20% and 17% respectively of the 2005.2006 production. White grapes, Annex Table 7.5, of Chardonnay, Pinot Gris and Riesling were the three most popular varieties where in 2005.2006 they represented 62%, 6% and 4% respectively of the Region’s production.

There are an estimated 19 wineries in the Region as of May 2007. Of the 19 listed in Annex Table 7.11, three known to have been in operation for 10 years or less.

**Annex Figure 7.5: Alpine Region**

**ALPINE VALLEYS WINE REGION**



<sup>11</sup> The Australian Bureau of Statistics group area and production statistics as AV/Beechworth which for this project has been assumed to represent the area of the Alpine GI Region.

**Annex 7.3.2 Beechworth Region**

Winegrape production in modern times within the Beechworth Region is the youngest of the five regions of the NEWZ with oldest plantings dating back some 30 years. The plantings of the mid-1880s associated with the gold rush had by 1916 almost disappeared.

Like the Alpine Region the soils of the Beechworth area are granitic with granite rock outcrops ever present among the vineyards. In other vineyards the soils are derived from sandstone, mudstone and shale originating from marine sediments.

The area can experience extremes in climate with hot dry summers and bitterly cold winter days with lots of frosts. July mean temperatures of 7.0 °C are the lowest across the five GI Regions of the NEWZ. See Annex Table 7.7. Frost risk is site specific as most of the vineyards are planted on slopes with free air drainage taking the frost downhill to pond in the valleys below.

A constraint upon development is water and suitable land. In addition to unsuitable soils for dam construction there is a lack of underground water which are considered major barriers to large-scale viticultural development. Thus the incentive in grape and wine production is quality which has resulted in the region gaining a reputation for its wine not being cheap, (e.g. 2004 and 2005 Giaconda Warner Vineyard Shiraz, \$85 and \$95 per bottle) but enjoying a fine reputation, (Mattinson).

The location and boundaries of the Beechworth region are shown in Annex Figure 7.6.

**Vineyards and Wineries**

There are an estimated 26 vineyards in the Region as of April 2007, (Pers. comm. Russell Bourne, President Beechworth Vignerons Association, 19 April 2007). Over the six year period from 2000 through to 2006 the area of winegrapes has grown from 35 ha in 2002.2001 to 83 ha in 2005.2006 with a peak of 94 ha in 2004.2005 (Annex Table 7.3). Red grapes of Pinot Noir, Cabernet Sauvignon and Shiraz represented the three most popular varieties over this six year period being 26%, 29% and 17% respectively of the 2005.2006 production. White grapes of Chardonnay, Pinot Gris and Viognier were the three most popular varieties where in 2005.2006 they represented 55%, 20% and 12% respectively of the Region’s production. See Annex Table 7.4 and Annex Table 7.5, respectively.

There are 19 wineries in the Region as of May 2007. Of the 19 listed in Annex Table 7.11, five and possibly more have been in operation for 10 years or less.

**Annex Table 7.7: Beechworth Region Climate**

Parameter	Centre
	Beechworth
Elevation (m)	580
Mean annual rainfall (mm)	949
Mean January temperature (°C)	13.9 (27.3 - 13.4)
Mean July temperature (°C)	7.0 (9.6 - 2.6)



## Annex Figure 7.6: Beechworth Region

### BEECHWORTH WINE REGION



#### Annex 7.3.3 King Region

Encompassing the watershed of the King River, this is an increasingly important grape growing region, albeit one of extremely varied terrain. At its northern end is Milawa, which is at the lowest point of 155 metres above sea level. At the southern end is the Whitlands plateau, at 800 metres, one of the highest winegrape growing areas in Australia. Owing to the abundance of suitable land, most of the vineyards have been established on relatively gentle slopes, typically north and north-east facing.

It is fertile country capable of producing high yields of good quality grapes across the full spectrum from Chardonnay to Cabernet Sauvignon. The region supplies grapes to an extraordinary number of leading wineries across South Australia, Victoria and New South Wales.

The climate changes progressively and significantly from north to south. At Milawa, the northern extremity some 20 km from Wangaratta, the annual rainfall is 630 mm and at Edi Upper some halfway up the valley at an elevation of 365 metres, the rainfall has risen to 1 040 mm. See Annex Table 7.8.

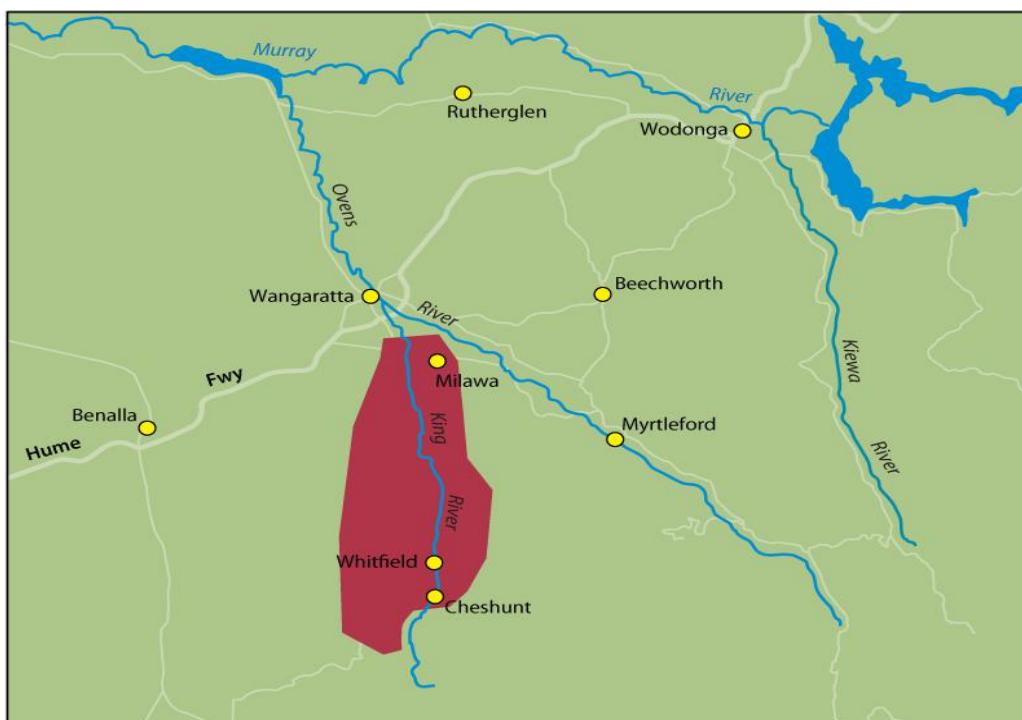
As expected, the soil types vary significantly throughout the valley, changing with altitude, slope and site characteristics. However, deep red clay loams abound, at times veering more to grey or brown in colour but having the same structure. Drainage is good, fertility high, and vigorous growth is encountered in virtually all sites.

The King Valley has interim GI region status with an illustration of the boundaries and location provided in Annex Figure 7.7.

**Annex Table 7.8: King Region Climate**

Parameter	Centres	
	Edi Upper	Wangaratta
Elevation (m)	365	153
Mean annual rainfall (mm)	1 037	631
Mean January temperature (°C)	15.9 (29.8 - 13.9)	17.5 (31.5 - 14.0)
Mean July temperature (°C)	8.4 (11.9 - 3.5)	10.5 (12.9 - 2.4)

**Annex Figure 7.7: King Region  
KING VALLEY WINE REGION (Interim)**



**Vineyards and Wineries**

There are an estimated 80 vineyards in the Region as of April 2007, (Pers. comm. Dave Maples, President King Valley Vignerons Association, 22 May 2007). Over the six year period from 2000 through to 2006 the area of winegrapes has been stable at around 1 000 ha - 1 002 ha in 2000.2001 and 1 024 ha in 2005.2006 with a peak of 1 340 ha in 2002.2003 (Annex Table 7.3) <sup>12</sup>. Red grapes of Cabernet Sauvignon, Shiraz and Merlot represented the three most popular varieties over this six year period being 28%, 21% and 27% respectively of the 2005.2006 production. See Annex Table 7.4. White grapes of Chardonnay, Pinot Gris

<sup>12</sup> The Australian Bureau of Statistics group area and production statistics as North East Other which for this project has been assumed to represent the area of the King Region with an adjustment for Glenrowan Region’s statistics. The Glenrowan Region’s area of 211 ha as of 2003.2004 assumed to have been stable for the preceding three years and was subtracted from the North East Other area of 1 213 ha for 2000.2001.

and Riesling were the three most popular varieties where in 2005.2006; (see Annex Table 7.5) they represented 43%, 14% and 17% respectively of the Region's production.

There are 22 wineries in the Region as of May 2007. Of the 22 listed in Annex Table 7.11, four have been in operation for 10 years or less.

#### **Annex 7.3.4 Glenrowan**

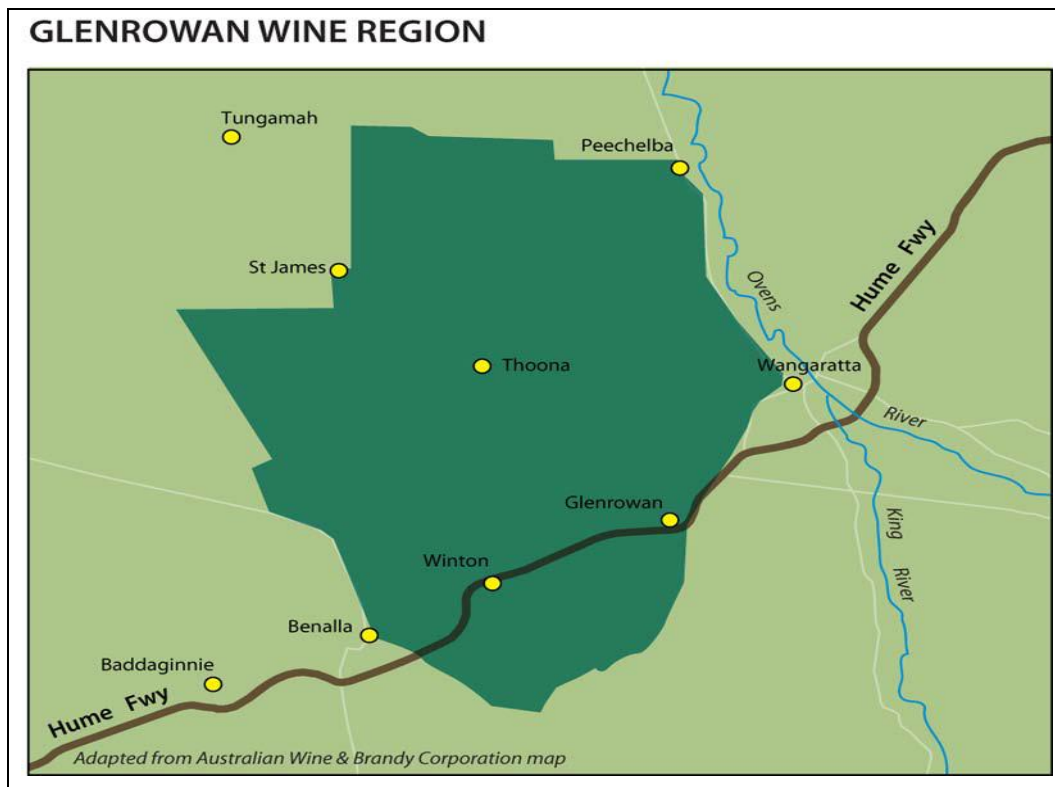
In 1866 Varley Bailey planted the first vines on a property known as Bundarra with rich red granite soil on the slopes of the Warby Ranges. Along these slopes and near environs are a number of vineyards which constitute the Glenrowan Region. Another historical family, the Booth's came to the region in 1904 with their descendants continuing the tradition of grape growing and making wines. The boundaries of the Glenrowan region are presented in Annex Figure 7.8.

The soils on the slopes of the Warby Ranges are well-drained, fertile, deep red clay and loamy clay soils that result from the weathering of granitic material washed down from the Warby Ranges. On the Ranges themselves at 400 metres elevation, there are also red and yellow duplex soils especially suited to vineyards and orchards. The soil types surrounding nearby Lake Mokoan are dark clays, loams and silty sands.

The Glenrowan climate is comparable to nearby Rutherglen with whom it shares a robust style of red and rich fortified wine. However, Glenrowan is slightly cooler in January as illustrated with the temperatures for Dookie, a locality some 40 km to the west. See Annex Table 7.9.

**Annex Table 7.9: Glenrowan Region Climate**

Parameter	Centres		
	Wangaratta	Rutherglen	Dookie
Elevation (m)	153	175	189
Mean annual rainfall (mm)	631	585	551
Mean January temperature (°C)	17.5 (31.5 - 14.0)	17.5 (31.2 - 13.7)	14.8 (29.8 - 15.0)
Mean July temperature (°C)	10.5 (12.9 - 2.4)	10.2 (12.3 - 2.1)	8.8 (12.5 - 4.0)

**Annex Figure 7.8: Glenrowan Region**

### Vineyards and Wineries

There are an estimated 13 vineyards in the Region as of April 2007, (Pers. comm. Dianne Morrison, Secretary Glenrowan Vignerons Association, 22 May 2007). Over the six year period from 2000 through to 2006 the area of winegrapes has been stable around 200 ha - 211 ha in 2000.2001 and 203 ha in 2005.2006 (Annex Table 7.3)<sup>13</sup>. From Annex Table 7.4, red grapes of Shiraz, Cabernet Sauvignon and Merlot represented the three most popular varieties over this six year period being 33%, 50% and 13% respectively of the 2005.2006 production. White grapes, of Chardonnay, Muscadelle and Riesling were the three most popular varieties; where in 2005.2006, (see Annex Table 7.5) they represented 78%, 17% and 0% respectively of the Region's production.

There are 10 wineries in the Region as of May 2007<sup>14</sup>. Of the 10 listed in Annex Table 7.11, three are known to have been in operation for 10 years or less.

<sup>13</sup> See Footnote number 14.

<sup>14</sup> Mt Pilot winery that is not within a defined GI Region has been included in the Glenrowan Region.

### Annex 7.3.5 Rutherglen

Grape vines came to Rutherglen with the gold rush of the 1850s. When the rest of Victoria went into a decline in the face of the move to fortified wine production, the north-east came into its own, notwithstanding the onslaught of phylloxera around the turn of the 1990s. Some nine of to-day's wineries have over 140 years of tradition, e.g. All Saints and Chambers.

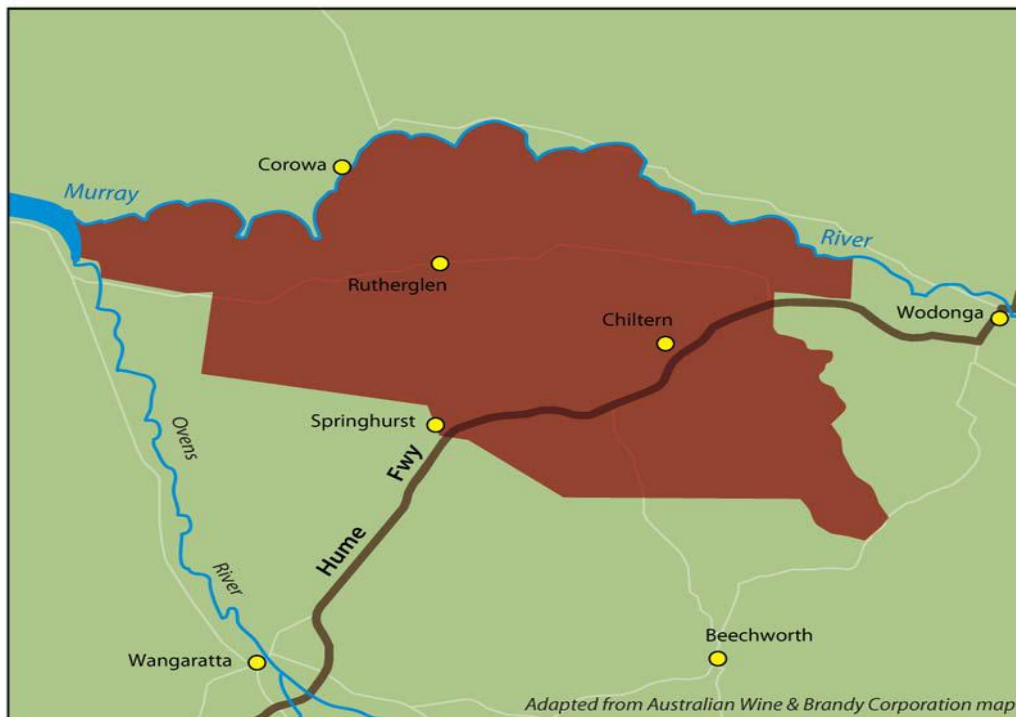
The great fortified wines for which the region is famous are grown on a band of loam on the lower slopes of the gentle local hills known as Rutherglen loam. Another entirely different soil type is 'Black Dog fine sandy loam' found around those wineries that are closer to the River Murray at Wahgunyah. In Annex Figure 7.9 the location of the region and its boundaries are shown.

The climate is strongly continental, with very hot summer days and cold nights in the winter. See Annex Table 7.10.

**Annex Table 7.10: Rutherglen Region Climate**

Parameter	Centres	
	Rutherglen	Wodonga
Elevation (m)	175	152
Mean annual rainfall (mm)	585	715
Mean January temperature (°C)	17.5 (31.2 - 13.7)	16.3 (31.8 - 15.2)
Mean July temperature (°C)	10.2 (12.3 - 2.1)	9.5 (12.6 - 3.1)

**Annex Figure 7.9: Rutherglen Region  
RUTHERGLEN WINE REGION**



### **Vineyards and Wineries**

There are an estimated 35 vineyards in the Region as of May 2007, (Pers. comm. Glenda Bascomb, Office Manager, Winemakers of Rutherglen, 22 May 2007). Over the six year period from 2000 through to 2006 the area of winegrapes has grown steadily from 793 ha in 2002.2001 to 999 ha in 2005.2006 (Annex Table 7.3). Red grapes of Shiraz, Cabernet Sauvignon and Muscat a Petitis Grains Rouge represented the three most popular varieties over this six year period being 50%, 17% and 9% respectively of the 2005.2006 production. White grapes of Muscadelle, Chardonnay and Trebbiano were the three most popular varieties where in 2005.2006 they represented 26%, 26% and 3% respectively of the Region's planted 211 ha. See Annex Table 7.4 and Annex Table 7.5, respectively.

There are 20 wineries in the Region, as of May 2007. Of the 20 listed in Annex Table 7.11, 11 have been operating for over 100 years with four for 10 years or less.

## ANNEX 7.4 WINERY SURVEY AND QUESTIONNAIRE

### Annex 7.4.1 Winery Survey Introduction and Explanation

#### Introduction

#### **Please aim to complete within five (5) days of receipt**

Thankyou for taking the time to complete this survey. The purpose of the survey is to compile data at a regional level to help determine the feasibility or otherwise of a centralised wine bottling, warehousing and distribution facility servicing the North East of Victoria.

Your responses will be aggregated at a regional level, e.g. Alpine Region. **Your responses will remain confidential.**

#### Survey Description

The survey of wineries across the North East Wine Zone, i.e. GI Regions of Alpine, Beechworth, Glenrowan, King and Rutherglen, consists of 13 questions. It should take around 30 minutes to complete, but may take longer depending on the extent of referral to business records for answers to questions.

The survey covers the activities of crushing (tonnes of grapes), processing (litres of juice), bottling (750 ml bottles) and warehousing (12 x 750ml cases). Please work through the questions in this order.

The required data asks you to reflect back to the 2002 vintage and more recently the 2006 vintage. It also asks you to think 5 years into the future to vintage 2012 so some idea of trends can be established.

#### Excel program uses

There are a number of prompts to help you. The light green coloured cells indicate the area where your data should be input (see the example on the right). Once you input your number it will turn red.

There are formula built into some of the tables to show you the results of your data input. There are also some summary tables to help you keep track of the numbers and provide a check as to their accuracy.

Hyperlinks have been included to help you navigate from one page to the next or you can use the tabs at the bottom of the screen.

#### Assistance

If you have questions or difficulty completing the survey please contact Dennis Toohey [wk 02 6041 4955 ah 02 6041 4429].

#### Returning the survey

Once you have completed the survey return it to Dennis Toohey on email at tooheyde@bigpond.net.au or if you choose to print it then fax it to Dennis on 02 6041 4350.

Summarised data from the survey will be presented to participants in a regional workshop to be held soon after the deadline for receipt of the data.

**To start the survey click on the hyperlink (NEXT) to the right.**

---

#### Disclaimer

The information contained in this document remains confidential as between Dennis E Toohey and Associates (the Consultant) and the respondent to the survey (the Respondent).

To the maximum extent permitted by law, the Consultant will not be liable to the Respondent or any other person (whether under the law of contract, tort, statute or otherwise) for any loss, claim, demand, cost, expense or damage arising in any way out of or in connection with, or as a result of reliance by any person on:

\* the information contained in this document (or due to any inaccuracy, error or omission in such information); or

\* any other written or oral communication in respect of the historical or intended business dealings between the Consultant and the Respondent

Notwithstanding the above, the Consultant's maximum liability to Wangaratta Unlimited and Australian Alpine Valleys Agribusiness Forum (the Client) is limited to the aggregate amount of fees payable for services under the Terms and Conditions between the Consultant and the Client. information or advice. The relevance and accuracy of that information or advice may be materially affected by a change in the environmental conditions after the date that information or advice was provided. The Consultant takes no responsibility and incurs no liability for any losses arising from any person's reliance on that information or advice where there has been a material change in environmental conditions from the time of

## Grapes

The two questions below seek an understanding of the tonnes of grapes that you crush at your site. The questions ask you for data on two vintage years, 2002 and 2006. It also seeks your expectations in 5 years time, vintage 2012. Please complete each table.

**1** How many **tonnes of red grapes** do you purchase (or contract) for crushing and their origin

	Tonnes crushed at your site 2002	Tonnes crushed at your site 2006	Expected tonnes crushed at your site 2012
From within the North East Wine Zone	0	0	0
From outside the North East Wine Zone	0	0	0
<b>Total red grape purchases (tonnes)</b>	0	0	0

**2** How many **tonnes of white grapes** do you purchase (or contract) for crushing and their origin?

	Tonnes crushed at your site 2002	Tonnes crushed at your site 2006	Expected tonnes crushed at your site 2012
From within in the North East Wine Zone	0	0	0
From outside the North East Wine Zone	0	0	0
<b>Total white grape purchases (tonnes)</b>	0	0	0



### Bulk Juice

Questions 3 to 7 seek understanding about litres of juice or wine that leaves or comes into your site for processing. The questions ask you for data on two vintage years, 2002 and 2006. It also seeks your expectations in 5 years time, vintage 2012. Please complete each table.

3 What are the **average extraction rates** you achieve for red and white grapes? [the extraction rate is regarded as the net litres of wine obtained from a tonne of grapes just prior to the bottling stage.]

	Extraction rate vintage 2002	Extraction rate vintage 2006	Expected extraction rates 2012
Average extraction rates for red grapes	0	0	0
Average extraction rate for white grapes	0	0	0

A **Summary of tonnes of grapes converted to juice for processing into wine. Please check the calculations in this table reflect the data in questions 1 and 2 and the extraction rates above.**

	Tonnes to Litres vintage 2002	Tonnes to Litres vintage 2006	Expected tonnes to litres vintage 2012
Red juice/wine from grapes	0	0	0
White juice/wine from grapes	0	0	0
<b>Total tonnes converted to juice</b>	<b>0</b>	<b>0</b>	<b>0</b>

**If bulk juice or wine comes into or leaves your site then please complete the tables below, otherwise go to Question 8**

4 How many litres of bulk **red juice/wine** come into your site for final processing and bottling?

	Litres into your site 2002	Litres into your site 2006	Expected litres into your site 2012
Within the North East Wine Zone	0	0	0
Outside the North East Wine Zone	0	0	0
<b>Total bulk red juice/wine into your site (litres)</b>	<b>0</b>	<b>0</b>	<b>0</b>

5 How many litres of bulk **white juice/wine** come into your site for final processing and bottling?

	Litres into your site 2002	Litres into your site 2006	Expected litres into your site 2012
Within the North East Wine Zone	0	0	0
Outside the North East Wine Zone	0	0	0
<b>Total bulk white juice/wine into your site (litres)</b>	<b>0</b>	<b>0</b>	<b>0</b>

6 How many litres of **red juice/wine** leave your site for final processing and bottling by someone else?

	Litres leaving your site 2002	Litres leaving your site 2006	Expected litres leaving your site 2012
Within the North East Wine Zone	0	0	0
Outside the North East Wine Zone	0	0	0
<b>Total bulk red juice/wine leaving your site (litres)</b>	<b>0</b>	<b>0</b>	<b>0</b>

7 How many litres of **white juice/wine** leave your site for final processing and bottling by someone else?

	Litres leaving your site 2002	Litres leaving your site 2006	Expected litres leaving your site 2012
Within the North East Wine Zone	0	0	0
Outside the North East Wine Zone	0	0	0
<b>Total bulk white juice/wine leaving your site (litres)</b>	<b>0</b>	<b>0</b>	<b>0</b>

8 What percentage of the **total litres bottled** makes up the following **batch sizes**?

	Vintage 2002	Vintage 2006	Expected litres bottled vintage 2012
Less than 2,000 litres	0%	0%	0%
Between 2,000 and 5,000 litres	0%	0%	0%
More than 5,000 litres	0%	0%	0%
<b>Total</b>	<b>must add to 100%</b>	<b>must add to 100%</b>	<b>must add to 100%</b>

9 What percentage of **total bottling business** do you do with the following systems?

	Vintage 2002	Vintage 2006	Expected litres bottled vintage 2012
My own bottling system	0%	0%	0%
Mobile bottler who comes to my winery	0%	0%	0%
Transport wine to a contract bottler for bottling	0%	0%	0%
<b>Total</b>	<b>must add to 100%</b>	<b>must add to 100%</b>	<b>must add to 100%</b>

10 What percentage of wine bottling is done at **what time of the year**?

January to March	April to June	July to September	October to December
0%	0%	0%	0%
<b>Total</b>			<b>must add to 100%</b>

c Summary of Bottling Volumes by Quarter				
Year	January to March	April to June	July to September	October to December
2003	0	0	0	0
2006	0	0	0	0
2012	0	0	0	0

## Warehousing and Transportation

The question below seeks understanding about warehousing and transportation of your bottled wine. Please complete each table.

- 11 What percentage of **total wine for bottling** (see summary table at the top of the previous page) is warehoused in the following ways?

	Warehoused vintage 2002	Warehoused vintage 2006	Expected Warehousing vintage 2012
Using your own on site facility	0%	0%	0%
Using your own off site facility in the North East Zone	0%	0%	0%
Using a commercial storage facility in the North East Wine Zone (e.g. Wangaratta)	0%	0%	0%
Using a commercial storage facility outside the Zone (e.g. Melbourne)	0%	0%	0%
<b>Total</b>	<b>must add to 100%</b>	<b>must add to 100%</b>	<b>must add to 100%</b>

## Sales Channels

The questions below seek understanding about the sales channels you use to reach the consuming customer of your bottled wine products. Please complete each table.

- 12 What is the percentage of your **bottled wine sales by channel**?

	Bottled Sales vintage 2002	Bottled Sales vintage 2006	Prospective Bottled Sales vintage 2012
Cellar door	0%	0%	0%
Direct mail & internet	0%	0%	0%
Direct wholesale (domestic)	0%	0%	0%
Wholesale through a distributor or agent (domestic)	0%	0%	0%
Export	0%	0%	0%
<b>Total</b>	<b>must add to 100%</b>	<b>must add to 100%</b>	<b>must add to 100%</b>

- 13 What percentage of your wine sales occur at **what time of the year**?

January to March	April to June	July to September	October to December
0%	0%	0%	0%
<b>Total</b>			<b>must add to 100%</b>

D Summary of Sales Volumes by Channel by Quarter				
Year	January to March	April to June	July to September	October to December
2003	0	0	0	0
2006	0	0	0	0
2012	0	0	0	0

The next page summaries your responses. Thank you for completing the questionnaire. Please return to Dennis Toohey, E-mail: tooheyde@bigpond.net.au or Facsimile: 02 6041 4350. We look forward to seeing you at the forthcoming regional workshop with date to be advised by E-mail or facsimile.

### Annex 7.4.2 Winery survey response analysis

The response rate to the survey was 32%, (29 from 90 wineries) which is acceptable albeit at the lower end of the range.

In the following three tables the responses by region and an analysis of non-responses are presented. Of those wineries that entered into discussions with the consultants the majority stated they would continue their present arrangements for bottling, warehousing and distribution.

#### Winery survey, respondents and non-respondents by Region

Region	Wineries surveyed (No.)	Wineries responded (No.)	Non-responding wineries (No.)
Alpine	19	3	16
Beechworth	19	2	17
Glenrowan	10	5	5
King <sup>1</sup>	22	11	10
Rutherglen	20	8	12
<b>Totals</b>	<b>90</b>	<b>29</b>	<b>60</b>

Note 1: Two surveys excluded: Brown Brothers and King Valley Wines (processor).

#### Winery survey, respondents with output assessed above 50 000 litres (2006 vintage)

Region	Wineries surveyed (No.)	Wineries responded (No.)	Respondents with output >50 K litres (No.)
Alpine	19	3	2
Beechworth	19	2	0
Glenrowan	10	5	0
King	22	11	7
Rutherglen	20	8	5
<b>Totals</b>	<b>90</b>	<b>29</b>	<b>14</b>

#### Follow-up methodologies

Vigneron / Winemaker organisation executive officer forwarded reminders via E-mail to those wineries who had not responded.

A member of the Management Committee achieved success by undertaking visits to wineries with a wine output that fitted target audience, i.e. in excess of 50 000 litres per vintage.

Consultants telephoned non-responding wineries in Beechworth and King Regions with responses recorded as follows:

Region	Non-respondent reasons					Total
	Call not answered or no reason provided	Wariness of surveys	Wariness of Cooperatives	Exploring other avenues	Continue with present	
Beechworth	9				8	17
King	4	1	1	1	3	10
<b>Total</b>	<b>13</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>11</b>	<b>27</b>

**Annex 7.4.3 Winery survey - regional results**  
**Grapes crushed**

Grapes crushed from within the zone (t)	Red grapes crushed from within North East Wine Region			White grapes crushed from within North East Wine Region			Total grapes crushed from within North East Wine Region (t)		
	2002	2006	2012	2002	2006	2012	2002	2006	2012
King Valley	399	594	1,436	255	416	1,382	654	1,010	2,818
Glenrowan	160	96	283	24	20	62	184	116	345
Rutherglen	2,967	2,976	2,850	475	671	890	3,442	3,647	3,740
Alpine Valleys	6,814	6,380	6,465	2,134	2,261	2,800	8,948	8,641	9,265
Beechworth	4	9	11	0	0	0	4	9	11
<b>Total grapes crushed from within the zone (t)</b>	<b>10,344</b>	<b>10,055</b>	<b>11,045</b>	<b>2,888</b>	<b>3,368</b>	<b>5,134</b>	<b>13,232</b>	<b>13,423</b>	<b>16,179</b>
Grapes crushed from outside the North East Wine region (t)	Red grapes crushed from outside North East Wine Region			White grapes crushed from outside North East Wine Region			Total grapes crushed from outside North East Wine Region (t)		
	2002	2006	2012	2002	2006	2012	2002	2006	2012
King Valley	0	0	0	0	0	0	0	0	0
Glenrowan	0	0	0	0	0	0	0	0	0
Rutherglen	13	22	100	124	113	293	137	135	393
Alpine Valleys	1,500	750	3,000	200	350	1,000	1,700	1,100	4,000
Beechworth	0	0	0	0	0	0	0	0	0
<b>Total grapes crushed from outside the region (t)</b>	<b>1,513</b>	<b>772</b>	<b>3,100</b>	<b>324</b>	<b>463</b>	<b>1,293</b>	<b>1,837</b>	<b>1,235</b>	<b>4,393</b>
Extraction rates (l/t)	Estimated extraction rates for red grapes			Estimated extraction rates for white grapes					
	2002	2006	2012	2002	2006	2012			
King Valley	677	685	685	632	640	642			
Glenrowan	658	662	664	625	625	630			
Rutherglen	659	659	665	623	621	623			
Alpine Valleys	687	670	670	735	745	745			
Beechworth	600	600	600						
<b>Average extraction rates (l/t)</b>	<b>656</b>	<b>655</b>	<b>657</b>	<b>654</b>	<b>658</b>	<b>660</b>			
Juice extracted from grapes for processing into wine (L)	Red grapes converted to juice on site			White grapes converted to juice one site			Total grapes converted to juice one site (L)		
	Vintage 2002	Vintage 2006	Vintage 2012	Vintage 2002	Vintage 2006	Vintage 2012	2002	2006	2012
King Valley	268,010	410,950	1,010,700	156,620	267,330	921,950	424,630	678,280	1,932,650
Glenrowan	107,120	63,908	187,550	15,125	12,475	38,700	122,245	76,383	226,250
Rutherglen	2,155,770	2,177,700	2,121,600	386,200	511,860	747,700	2,541,970	2,689,560	2,869,300
Alpine Valleys	5,928,200	5,077,100	6,725,750	1,684,500	1,892,970	2,751,000	7,612,700	6,970,070	9,476,750
Beechworth	2,400	5,400	6,600	0	0	0	2,400	5,400	6,600
<b>Total juice extracted from grapes (L)</b>	<b>8,461,500</b>	<b>7,735,058</b>	<b>10,052,200</b>	<b>2,242,445</b>	<b>2,684,635</b>	<b>4,459,350</b>	<b>10,703,945</b>	<b>10,419,693</b>	<b>14,511,550</b>
Growth (off 2002 vintage)	0%	-9%	19%	0%	20%	99%	0%	-3%	36%

**Note.** Excluded from survey Brown Brothers of Milawa and King Valley Wines.

**Bulk movement of wine**

<b>Bulk juice/wine brought into winery sites from within the NEWZ (L)</b>	<b>Total bulk juice/wine brought into winery sites from within the NEWZ (L)</b>		
<b>Region</b>	<b>2002</b>	<b>2006</b>	<b>2012</b>
King Valley	18,900	100,100	101,900
Glenrowan	1,500	19,155	21,600
Rutherglen	0	0	5,000
Alpine Valleys	10,853	14,391	300,000
Beechworth	0	0	0
<b>Transfers of bulk wine to other wineries for bottling within the NEWZ (L)</b>	<b>31,253</b>	<b>133,646</b>	<b>428,500</b>
<b>Bulk juice/wine brought into winery sites from outside the NEWZ (L)</b>	<b>Total bulk juice/wine brought into winery sites from outside the NEWZ (L)</b>		
<b>Region</b>	<b>2002</b>	<b>2006</b>	<b>2012</b>
King Valley	0	0	0
Glenrowan	0	0	0
Rutherglen	9,000	21,500	65,000
Alpine Valleys	425,000	900,000	550,000
Beechworth	0	0	0
<b>Bulk juice imports from outside the NEWZ to wineries for bottling</b>	<b>434,000</b>	<b>921,500</b>	<b>615,000</b>
<b>Bulk juice/wine sent out to another winery outside the NEWZ (L)</b>	<b>Total Bulk juice/wine sent out to another winery outside the NEWZ (L)</b>		
<b>Region</b>	<b>2002</b>	<b>2006</b>	<b>2012</b>
King Valley	0	0	0
Glenrowan	0	0	0
Rutherglen	-1,083,290	-1,053,400	-1,211,000
Alpine Valleys	-7,271,687	-6,439,425	-7,310,000
Beechworth	0	0	0
<b>Bulk juice exports from NEWZ wineries to wineries outside the NEWZ (L)</b>	<b>-8,354,977</b>	<b>-7,492,825</b>	<b>-8,521,000</b>
<b>Net bulk juice/wine for bottling inside the zone (L)</b>	<b>Net bulk juice/wine for bottling inside the zone (L)</b>		
<b>Region</b>	<b>2002</b>	<b>2006</b>	<b>2012</b>
King Valley	43,400	268,200	1,208,400
Glenrowan	1,500	31,710	36,600
Rutherglen	-821,290	-883,900	-1,141,000
Alpine Valleys	-6,485,834	-5,175,034	-6,460,000
Beechworth	0	0	0
<b>Net inter zone transfers of bulk juice/wine for bottling (L)</b>	<b>-7,262,224</b>	<b>-5,759,024</b>	<b>-6,356,000</b>
<b>Total juice extracted from grapes</b>	<b>10,703,945</b>	<b>10,419,693</b>	<b>14,511,550</b>
<b>Total bulk juice/wine for bottling within the Zone (L)</b>	<b>3,441,721</b>	<b>4,660,669</b>	<b>8,155,550</b>
Growth (off 2002 vintage)	0%	35%	137%

**Bottling**

Bottling batch sizes (L)	Bulk wine bottled in batch sizes less than 2000 litres			Bulk wine bottled in batch sizes between 2000 and 5000 litres			Bulk wine bottled in batch sizes more than 5000 litres			Total juice/wine for bottling		
	2002	2006	2012	2002	2006	2012	2002	2006	2012	2002	2006	2012
King Valley	37,844	26,789	84,085	217,136	333,079	375,580	213,050	586,612	2,681,385	468,030	946,480	3,141,050
Glenrowan	87,845	65,725	88,000	31,850	42,368	92,825	4,050	0	82,025	123,745	108,093	262,850
Rutherglen	238,651	223,276	164,525	511,037	665,610	388,700	970,992	916,774	1,175,075	1,720,680	1,805,660	1,728,300
Alpine Valleys	0	1,100	10,725	119,866	107,462	265,850	1,007,000	1,686,474	2,740,175	1,126,866	1,795,036	3,016,750
Beechworth	2,400	5,400	6,600	0	0	0	0	0	0	2,400	5,400	6,600
<b>Total bottling volume by batch size (L)</b>	<b>366,740</b>	<b>322,290</b>	<b>353,935</b>	<b>879,889</b>	<b>1,148,519</b>	<b>1,122,955</b>	<b>2,195,092</b>	<b>3,189,860</b>	<b>6,678,660</b>	<b>3,441,721</b>	<b>4,660,669</b>	<b>8,155,550</b>
% allocation to batch sizes	11%	7%	4%	26%	25%	14%	64%	68%	82%	100%	100%	100%
Throughput of Bottling systems (L)	Bottling business done with my own bottling system			Bottling business done by a mobile bottler who comes to my winery			Bottling business transported to a contract bottler for bottling			Total juice/wine for bottling		
	2002	2006	2012	2002	2006	2012	2002	2006	2012	2002	2006	2012
King Valley	73,230	95,516	227,220	357,300	427,804	620,880	37,500	423,160	2,292,950	468,030	946,480	3,141,050
Glenrowan	7,050	19,575	49,625	116,695	50,850	155,475	0	37,668	57,750	123,745	108,093	262,850
Rutherglen	63,597	72,549	91,820	1,370,503	1,160,182	1,083,080	286,580	572,929	553,400	1,720,680	1,805,660	1,728,300
Alpine Valleys	6,600	1,100	17,875	59,663	117,252	383,375	1,060,603	1,676,684	2,615,500	1,126,866	1,795,036	3,016,750
Beechworth	0	0	0	0	0	0	2,400	5,400	6,600	2,400	5,400	6,600
<b>Volumes by bottling systems (L)</b>	<b>150,477</b>	<b>188,740</b>	<b>386,540</b>	<b>1,904,161</b>	<b>1,756,088</b>	<b>2,242,810</b>	<b>1,387,083</b>	<b>2,715,841</b>	<b>5,526,200</b>	<b>3,441,721</b>	<b>4,660,669</b>	<b>8,155,550</b>
% allocation to bottling systems	4%	4%	5%	55%	38%	28%	40%	58%	68%	100%	100%	100%

**Note.**  
Excluded from survey  
Brown Brothers of Milawa and King Valley Wines.

**Warehousing**

Warehousing Options (L)	Warehousing done with my own warehousing system			Warehousing in my own off site facility in the North East Zone			commercial facility inside the NEVic zone			commercial facility outside the zone			Totals		
	2002	2006	2012	2002	2006	2012	2002	2006	2012	2002	2006	2012	2002	2006	2012
King Valley	455,005	633,603	2,334,005	0	69,040	0	13,025	243,838	739,045	0	0	68,000	468,030	946,480	3,141,050
Glenrowan	87,295	73,037	176,225	0	0	0	36,450	35,056	69,300	0	0	17,325	123,745	108,093	262,850
Rutherglen	453,452	488,924	827,450	350,000	972,924	569,050	630,648	4,200	237,000	286,580	339,612	94,800	1,720,680	1,805,660	1,728,300
Alpine Valleys	1,126,866	1,208,611	1,526,250	0	0	0	0	502,650	1,378,000	0	83,775	112,500	1,126,866	1,795,036	3,016,750
Beechworth	2,400	4,560	5,160	0	0	0	0	840	1,440	0	0	0	2,400	5,400	6,600
<b>Warehouse volumes (Litres)</b>	<b>2,125,018</b>	<b>2,408,734</b>	<b>4,869,090</b>	<b>350,000</b>	<b>1,041,964</b>	<b>569,050</b>	<b>680,123</b>	<b>786,584</b>	<b>2,424,785</b>	<b>286,580</b>	<b>423,387</b>	<b>292,625</b>	<b>3,441,721</b>	<b>4,660,669</b>	<b>8,155,550</b>
Warehouse volumes (Cases)	236,107	267,630	540,996	38,888	115,771	63,226	75,567	87,396	269,414	31,841	47,042	32,513	382,404	517,839	906,150
Warehouse volumes (Pallets)	3,689	4,182	8,453	608	1,809	988	1,181	1,366	4,210	498	735	508	5,975	8,091	14,159
Growth	0%	13%	129%	0%	198%	63%	0%	16%	257%	0%	48%	2%	0%	35%	137%

**Sales**

Sales channel volumes (L)	Cellar door			Direct mail & internet			Direct wholesale (domestic)			Wholesale through a distributor or agent (domestic)			Export		
	2002	2006	2012	2002	2006	2012	2002	2006	2012	2002	2006	2012	2002	2006	2012
King Valley	185,977	313,938	747,540	12,498	90,850	526,025	128,292	346,492	1,057,482	126,869	144,391	370,203	14,395	50,810	439,800
Glenrowan	62,398	34,129	66,005	47,385	29,737	69,907	9,912	22,721	36,790	4,050	17,998	43,600	0	3,508	46,549
Rutherglen	719,111	647,273	614,480	257,335	260,358	224,412	134,985	178,682	180,042	189,196	152,786	263,243	420,053	566,561	446,123
Alpine Valleys	237,110	231,769	262,038	108,525	135,224	157,988	239,177	731,787	1,033,125	436,053	273,828	815,500	106,000	422,428	748,100
Beechworth	180	420	480	780	1,620	2,280	1,440	3,360	3,840	0	0	0	0	0	0
<b>Zone sales by channel (L)</b>	<b>1,204,776</b>	<b>1,227,529</b>	<b>1,690,543</b>	<b>426,523</b>	<b>517,789</b>	<b>980,611</b>	<b>513,806</b>	<b>1,283,042</b>	<b>2,311,279</b>	<b>756,167</b>	<b>589,003</b>	<b>1,492,546</b>	<b>540,448</b>	<b>1,043,307</b>	<b>1,680,572</b>
<b>Growth</b>	0%	2%	40%	0%	21%	130%	0%	150%	350%	0%	-22%	97%	0%	93%	211%
Zone sales by channel (cases)	133,861	136,389	187,833	47,390	57,531	108,954	57,088	142,557	256,802	84,016	65,443	165,834	60,048	115,920	186,725
Zone sales by channel (pallets)	2,092	2,131	2,935	740	899	1,702	892	2,227	4,013	1,313	1,023	2,591	938	1,811	2,918
<b>Growth</b>	0%	2%	40%	0%	21%	130%	0%	150%	350%	0%	-22%	97%	0%	93%	211%

Sales channel volumes (L)	Total sales (L)		
	2002	2006	2012
King Valley	468,030	946,480	3,141,050
Glenrowan	123,745	108,093	262,850
Rutherglen	1,720,680	1,805,660	1,728,300
Alpine Valleys	1,126,866	1,795,036	3,016,750
Beechworth	2,400	5,400	6,600
<b>Zone sales by channel (L)</b>	<b>3,441,721</b>	<b>4,660,669</b>	<b>8,155,550</b>
<b>Growth</b>	0%	35%	137%
Zone sales by channel (cases)	382,404	517,839	906,150
Zone sales by channel (pallets)	5,975	8,091	14,159
<b>Growth</b>	0%	35%	137%

**Note.** Excluded from survey Brown Brothers of Milawa and King Valley Wines.



## Annex 7.4.4 Winery Questionnaire

### Workshop Questionnaire for Bottling

Please complete the following questions by placing a ✓ in the box signifying your preferred answer. These questions support the workshop discussions.

<b>1</b>	<b>Please provide an indication of the volumes of wine you would bottle at your winery each year.</b>	<b>Less than 20,000 litres</b>	<b>20,000 to 50,000 litres</b>	<b>50,000 to 100,000 litres</b>	<b>100,000 to 200,000 litres</b>	<b>200,000 litres or more</b>
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<b>Please indicate the extent to which you agree or disagree with each statement using a circle.</b>		<b>Strongly Agree</b>	<b>Agree</b>	<b>Not Sure</b>	<b>Mostly Disagree</b>	<b>Strongly Disagree</b>
<b>2</b>	Wineries want the flexibility of bottling when the wines are at their optimum and/or to meet their schedules-rather than being dependent on others.					
<b>3</b>	Regional wineries utilise the mobile bottlers so they maintain control over their product and it is a largely hassle free process.					
<b>4</b>	Mobile bottler's servicing North East wineries have efficient equipment, employ qualified and skilled staff and complete work in good time.					
<b>5</b>	Wineries can get a mobile bottler exactly they want.					
<b>6</b>	Wineries have to book their mobile bottler months in advance.					
<b>7</b>	If wineries change their mobile bottler booking time they will incur a cost penalty.					
<b>8</b>	Getting a mobile bottler to do small batches costs wineries more.					
<b>9</b>	Wineries believe the convenience of a mobile bottler outweighs the extra cost for doing small batches.					
<b>10</b>	Coordinating dry goods to fit with the mobile bottling schedule is easy.					
<b>11</b>	A winery should own its own bottling line so bottling can be done at a time and in a manner that suits.					
<b>12</b>	Shipping wine to other sites for bottling negates the valued "estate" designation.					

Which is more important to your decision to use an external bottling provider?

<b>13</b>	I want the lowest cost option even if it is less convenient and a lower quality product.					
<b>14</b>	I want the most convenient option and I will pay more and accept a lower quality product.					
<b>15</b>	I want the highest quality product and I will pay more and accept less convenience for it.					

<b>16</b>	Do you think a centralised bottling facility can deliver benefits to you?	<b>Strongly Agree</b>	<b>Agree</b>	<b>Not Sure</b>	<b>Mostly Disagree</b>	<b>Strongly Disagree</b>
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17. What benefits would you expect from a centralised bottling facility over and above the current bottling systems you use?

18. How could current bottling systems you use be improved?

19. Will the current bottling systems you use be suitable in the future? (e.g. 2012 - 5 years time).

### Workshop Questionnaire for Warehousing and Distribution

Please complete the following questions by placing a ✓ in the box signifying your preferred answer. These questions support the workshop discussions.

Please indicate the extent to which you agree or disagree with each statement.	Strongly Agree	Agree	Not Sure	Mostly Disagree	Strongly Disagree
1 I consider packing orders for dispatch is time well spent.					
2 Is your present warehousing arrangement fulfilling your requirements for maintaining bottled wine within its optimum temperature range?					
3 Is your present warehousing arrangement fulfilling your requirements for maintaining accurate inventory records?					
4 Is your present warehousing fulfilling your requirements for consolidating orders?					
5 Is your present warehousing fulfilling your requirements for workplace safety?					
6 Is your present warehousing fulfilling your requirements for your brand image?					
7 Is your present warehousing fulfilling your investment requirements e.g. is it tying up the right amount of resources such as labour and buildings?					
8 Is/are your present warehousing(s) located in an area of low warehousing costs?					
9 Will your present warehousing arrangements meet your future needs e.g. next 5 years?					
10 What is your estimate of the level of investment you would undertake in the next 5 years in your own warehousing facilities? <b>Circle one box.</b>	\$0	Less than \$50,000	\$50,000 to \$100,000	\$100,000 to \$200,000	\$200,000 or more
11 My present system of distributing cartons (6 or 12 bottles) provides the most competitive freight rates?					
12 Using my time to transport cartons of wine from our winery to a local pick up point is time well spent?					
13 Is your freight company reflecting the service objectives you seek to have with customers, e.g. courteous, reliable, well presented etc?					
14 Is your transport company offering freight rates that reflect the volume of your business?					
15 I am satisfied with my freight company's response and handling of goods that are damaged when in transit.					
16 Is the working relationship with your transport company as you seek?					
17 My freight company has practices that keep the wine within its optimum temperature range while it is in transit.					
18 My transport company is receptive to suggestions for improving their service.					
19 I see opportunities for improving the working relationship with my freight company.					

20 Please estimate the percentage of your orders by unit size?	% of Sales
<b>Bottle sales</b>	
<b>Half case sales (6 bottles)</b>	
<b>Full case (12 bottles)</b>	
<b>Full pallets</b>	
<b>Containers (20 foot)</b>	
	100%

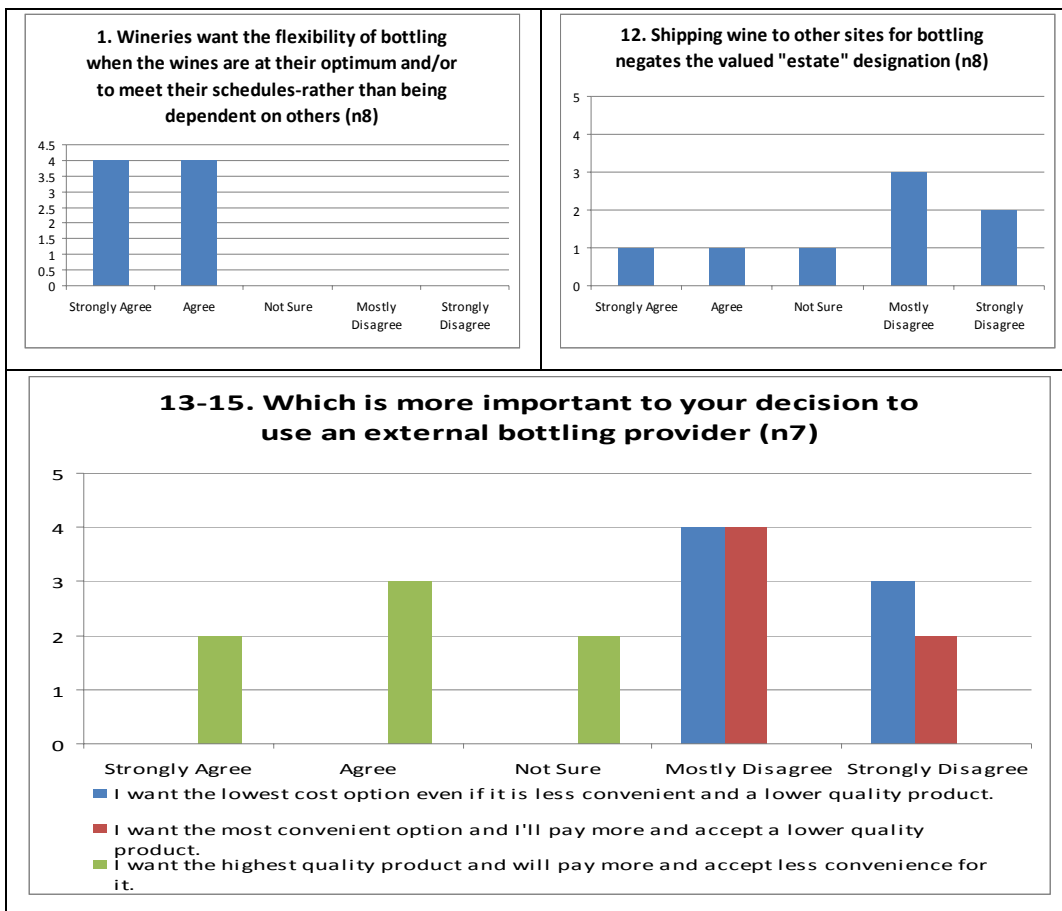
### Annex 7.4.5 Winery questionnaire findings

The questionnaire was used at three meetings. In the King Valley seven responses were received with five at Glenrowan and six at Rutherglen, resulting in 18 questionnaires. Analyses were undertaken of eight questionnaires where the bottling exceeded 50 000 litres per year - four wineries in the King Valley and Rutherglen Region. Excluding the smaller wineries helps to avoid data that distorts the larger winery responses.

The following figures summarise the key findings on bottling and on warehousing.

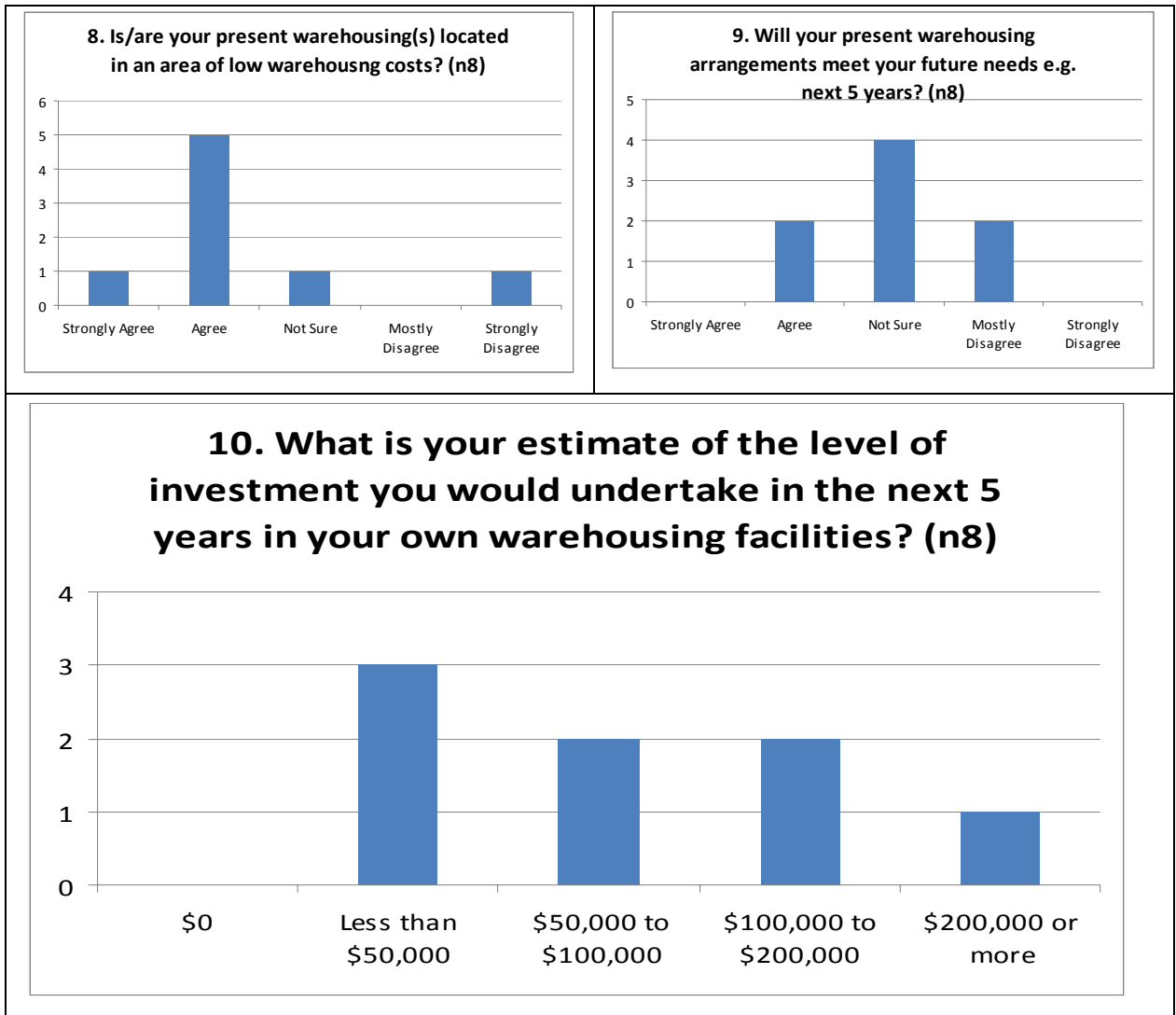
#### Bottling

- Flexibility. Wineries are expressing a desire for a situation where they are able to bottle their wine at a time that best suits their requirements such as when fulfilling a sales schedule.
- Bulk wine. There is a spread of responses on shipping wine in bulk to a bottler with more wineries perceiving no negative impacts upon the image of their wine.
- Bottling values. A bottler that offers a high quality service is sought with a lessening of convenience representing an acceptable trade off. On the other hand, wineries expressed strong disapproval with those bottlers offering lowest prices at the expense of quality and convenience.



## Warehousing

- Warehouse facilities. Most wineries viewed their warehousing arrangements in a positive light with respect to temperature control (6 from 8); in record management (7) and in reflecting their brand (5).
- Warehousing for the future. Most wineries viewed their present warehouse was located in a low-cost area (6); but for the future some changes were required (6) with five projecting the undertaking of investments exceeding \$50 000 each over the next five years.



**ANNEX 7.5 WINERIES NORTH EAST WINE ZONE****Annex Table 7.11: Wineries North East Wine Zone Victoria**

<b>Alpine</b>	<b>Beechworth</b>	<b>Glenrowan</b>	<b>King</b>	<b>Rutherglen</b>
Annapurna Estate	Amulet Vineyard	AuldstoneCellars	Avalon Vineyard	All Saints
Bactizar Winery	Battely Wines	Baileys of Glenrowan	Boggy Creek Vineyards Pty Ltd	Anderson Winery
Bogong Estate	Beechworth Wine Estates	Booth's Taminick Cellars	Burgoyne Wines	Buller's 'Calliope' Vineyard
Boyntons Feathertop Winery	Bowman's Run	Goorambath	Brown Brothers Milawa Vineyard	Campbells Wines
Buckland Valley Road	Castagna Vineyard	Granite Range Estate	Chrismont Wines	Chambers Rosewood Winery
Ceccanti-Kiewa Valley Wines	Cow Hill Oxenbury Vineyard	H J T Vineyards	Ciavarella Wines	Cofield Wines
Eagle Range Wines	Fighting Gully Road	Judd's Warby Range Estate	Ciccone Estate Wines	Gehrig Estate Wines
Folino Estate Wines	Giaconda Vineyard	Morrisons of Glenrowan	Dal Zotto Estate Wines	Jones Winery & Vineyard
Gapsted Wines	Golden Ball	Mt Pilot Estate	Francesco Wines	Lake Moodemere Vineyards
Grange of Everton	Havelock Hill	Nooramunga Wines	John Gehrig Wines	Lilliput Wines
Kancoona Valley Vineyard & Wines	Indigo Vineyard		Gracebrook Vineyards	Morris Wines
Mayford Wines	Pennyweight Winery		King River Estate Wines	Mount Prior Vineyard
Michelini Wines	Savaterre		Koombahala Wines	Pfeiffer Wines
Mountain Breeze Vineyard	Smiths Vineyard Beechworth		La Cantina King Valley	Rutherglen Estates
Mt Buffalo Vineyard	Sorrenberg Vineyard		Sam Miranda Wines	Scion Vineyard & Winery
Park Wines	Star Lane Vineyard		Paul Bettio Wines	St. Leonards Vineyard
Ringer Reef Winery	Tinkers Hill Winery		Pizzini Wines	Stanton & Killeen Wines
Souters Wines	Weeping Grass Creek		Politini Wines	G Sutherland Smith & Sons
Tawonga Vineyard & Winery	Woolshed Creek Vineyard		Reads Oxley Winery	Warrabilla Wines
			Rosehill Estate Wines	Watchbox Wines
			Station Creek Wines	
			Wood Park Wines	
<b>Alpine Region 19</b>	<b>Beechworth Region 19</b>	<b>Glenrowan Region 10</b>	<b>King Valley Region 22</b>	<b>Rutherglen Region 20</b>

Sources. Vigneron/winemaker associations within the North East Wine Zone with supplementation from Internet searches, May 2007.

Note. Whilst the consultants have sought to be as accurate and comprehensive as possible, no responsibility is taken for any errors or omissions.

**Annex Table 7.12: Wineries North East Wine Zone, three size groups**

Winery group	Alpine	Beechworth <sup>4</sup>	Glenrowan	King	Rutherglen	Total
Large <sup>1</sup>	Gapsted Wines			Pizzini Wines	All Saints	
	Michelini Wines			Sam Miranda Wines	Chambers Rosewood Winery	
					Cofield Wines (Drinkmoor)	
					Pfeiffer Wines	
					Rutherglen Estates	
<b>Sub total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>9</b>
Medium to large <sup>2</sup>				Boggy Creek Vineyards		
				Chrismont Wines		
				Politini Wines		
				Dal Zotto Estate Wines		
				Station Creek Wines		
<b>Sub total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>5</b>
Small to medium <sup>3</sup>	Annapurna Estate	Fighting Gully Road	AuldstoneCellars	Avalon Vineyard	Anderson winery	
	Bogong Estate		Booth's Taminick Cellars	Ciavarella Wines	Buller's Callope Vineyard	
	Boyntons Feathertop Winery		Goorambath	Cicccone Estate Wines	Campbells Wines	
	Ceccanti-Kiewa Valley Wines		Granite Range Estate	Gracebrook Vineyards	Gehrig Estate Wines	
			Morrison's of Glenrowan	King River Estate Wines	Jones Winery & Vineyard	
			Mt Pilot Estate	La Cantina King Valley	Lake Moodemere Vineyards	
				Paul Bettio Wines	Morris Wines	
				Reads Oxley Winery	Mount Prior Vineyard	
				Wood Park Wines	St. Leonards Vineyard	
					Stanton & Killeen Wines	
					Warrabilla Wines	
<b>Sub total</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>9</b>	<b>11</b>	<b>31</b>
<b>Total</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>16</b>	<b>16</b>	<b>45</b>

Note 1. Wineries with production exceeding 100 000 litres in 2006 as per survey (5 in number).

Note 2. Wineries with production between 50 000 and 100 000 in 2006 as per survey (5 in number).

Note 3. Remainder of identifiable surveyed wineries (17 in number) plus wineries with output assessed as exceeding 50 000 litres as per Wine Directory.

Note 4. Two unidentified survey responses excluded.

Sources. Survey of wineries with supplementation from Wine Directory, 2004 and 2006.

Note. Whilst the consultants have sought to be as accurate and comprehensive as possible, no responsibility is taken for any errors or omissions.

## ANNEX 7.6 BOTTLING SYSTEMS

### Annex 7.6.1 Pros and cons of contract bottling

Two recent papers provide some insights into contemporary thinking on bottling systems. The papers represent views from Australian consultants and one from the USA.

#### Australian consultants

There are a number of questions commonly asked by many medium to small wineries on whether to purchase a bottling line and to bottle and label as they want, or to contract the work out to a specialist. These questions are addressed in a recent article by Gary Baldwin, Robert Paul and Rachael Gore, wine making consultants with Wine Network, Oakleigh Victoria (Baldwin *et al*) who developed a listing of pros and cons for owning a bottling or using a contract bottler. Their advice is summarised below.

The authors summation is it is better to use a contract bottling facility where one is available that satisfies your QA procedures and provided the operator has state-of-the-art equipment, has trained, experienced labour and bottles in a manner with little or no compromise.

#### Owning a bottling system

Pros and cons of a winery having its own bottling plant

Pros (Advantages)	Cons (Disadvantages)
Timeliness - bottling undertaken at a time and in a manner to suit winery.	Financial - underutilisation of plant where only used for a few weeks of the year.
Wine quality - control over quality resides with the winery.	Wine quality - chance of procedures not being good enough.
Market differentiation - the wine is grown, made and bottled on the property.	Bottling manager - either winemaker be a skilled operator or employ one.
Financial - plant subject to depreciation; contract packaging reduces payback time on purchase.	Competitors - contract rate may not fully recover costs nor achieve a profit. Contract bottling reveals a businesses quality control practices.
	Technology - a specialist bottler has state-of-the-art equipment and skilled staff.
	Regulatory requirements - plant and procedures required to comply at all time with state food regulations and occupation, health and safety requirements.

#### Contract bottling facility - pros and cons

Pros (Advantages)	Cons (Disadvantages)
Technology - has state-of-the-art equipment and staff skilled in operating the plant on a daily basis.	Timeliness - difficulties in gaining a slot for bottling that meets wineries requirements.
Flexibility in service - bottler comes to winery or wine taken to bottler.	Matching bottling to dry goods - Winery has responsibility for ensuring all dry goods, i.e. cartons, liners, labels etc are with the bottler.
Quality control - procedures at level or exceed industry best practice.	Batch size - cost of bottling and/or labelling small batches may make contract bottling uneconomic.
Timeliness - bottlers have equipment that enables bottling to occur in the shortest time.	Winery trade-offs - the winery loses control over flow of wine from bulk to bottle in exchange for a superior bottled and packaged product.
Winery input - bottler assumes responsibility for ensuring customer satisfaction.	
Regulatory requirements - an assumption of plant and procedures meeting state food regulations and occupation, health and safety requirements.	

### **USA consultant**

A paper by Paul Franson (Franson) reports on the responses of owners of monoblocs or compact bottling plants, located in a range of wine growing regions of the United States of America.

The following comments are additional or expand upon those provided by the Australian-based consultants.

Estate designation. Transporting wine from a winery to a bottler negates the valued 'estate' designation.

Flexibility. Owning a bottling line enables bottling to occur when the wine is at an optimum or to meet a schedule.

Cost not an issue. Some high-end winery owners operate where cost is not an issue or are able to charge prices that render the cost of a bottling line irrelevant.

Manufacturers responding to market. Companies producing bottling equipment have responded by offering from inexpensive manual fillers through to fully automated compact lines that replicate the large systems on a much smaller scale.

Capacity. Bottling speed is variable where capacity can be as low as 1 000 bottles per hour or 17 per minute (Ozpak at Nagambie have two, 6 000 bottles per hour lines which equates to 100 bottles per minute, each).

Labour. A plant with an output of 500 to 600 cases a day (12, 750 ml bottles) requires three staff: one places the bottles on the line, one stacking the filled bottles and another operating a forklift truck.

Cost. An Italian manufacturer from Siem has an automated unit capable of filling glass bottles from 375 ml to 1.5 L with an output of 18 bottles per minute which costs \$US62 000.



**Annex 7.6.2 Bottling services**

The following businesses are potential providers of contract bottling services within the NEWZ.

**Annex Table 7.13: Contract bottling services in northern Victoria**

<b>Bottling service</b>	<b>Company</b>	<b>Location</b>	<b>Contact person</b>	<b>Processing rate bottles per hour (750 ml)</b>
<i>Mobile</i>	Mobile Wine Processing	1 Faraday Street Avoca	Keith Dunlop (Managing Director)	Around 2 400
	Portavin Estate Bottlers	28 Bramble Street Bendigo	Ian Matthews (MD) Eddie Price (General Manager)	Two units: #1 Up to 1 680 #2 Up to 2 400
	Vinifill Australia	10 Volk Road Cranbourne	Jeff Estpkovic	Up to 3 000
<i>Centralised<sup>1</sup></i>	Best Bottlers Pty Ltd	Corner Cowra Ave and Bathurst Court Mildura	Ken Henderson (GM)	Two units: #1 Up to 5 000 # 2 Up to 7 200
	Ozpak Pty Ltd	Goulburn Valley Highway Nagambie	Andrew McPherson (CEO) Paul Stratford (GM)	Two lines of up to 6 000
	Portavin Integrated Wine Services	114-118 Talinga Road Cheltenham	As per mobile	Two units #1 Up to 4 500 #2 Up to 6 500

Note 1. No wine making occurs within centralised bottlers. Some businesses offer warehousing.

**ANNEX 7.7 PROJECT TIMELINE**

Wine Bottling, Warehousing and Distribution Feasibility Study				
	MONTH 2007			
TASK	April	May	June	July
<b>Stage I</b> <b>Management briefing</b> * Confirm project scope * Planning timeline * Collecting reports				
<b>Stage II</b> <b>Regional grape production</b> * Historical perspectives * Trends: area, production & types				
<b>Stage III</b> <b>Research wine processing</b> * Winery interviews * Wine bottling, logistic services				
<b>Stage IV</b> <b>Pilot survey methodology</b> * Design survey * Pilot survey				
<b>Stage V</b> <b>Stakeholder survey</b> * Conduct survey * Compile major findings				
<b>Stage VI</b> <b>Identify business models</b> * Value proposition framework * Discussion paper drafted				
<b>Stage VII</b> <b>Stakeholder feedback</b> * Wineries * Mobile bottlers, other services * Logistic services * Workshop				
<b>Stage VIII</b> <b>Reporting on project</b> * Draft report * Draft marketing package				

## ANNEX 7.8 GLOSSARY

**Cluster** according to Michael Porter, is a geographical proximate system of interconnected companies and associated institutions linked by commonalities and complementarities.

Business clusters emerge from:

- A process that starts with an initial natural advantage or chance use of a location, leading to collaboration among several companies.
- These companies attract common suppliers (or service providers) or prove to be a magnet for the attraction of customers who can go to one location to find a group of companies who offer similar products.
- Over time the companies within a cluster develop relationships which depend on close proximity and trust and improves productivity and innovation and attracts further participation by more companies.
- At the same time research and training facilities develop around the cluster which serve to enhance the inventiveness and productivity of existing companies.
- Eventually a cluster may stop growing or decline as the customer and knowledge base changes.

Porter argues that conditions affecting competitiveness are not always cost related factors or natural resources. Instead he suggests four determinants of competitiveness from case studies from around the world as follows:

1. Factor conditions; such as specialised labour pool, specialised infrastructure and sometimes selective disadvantage that drive innovation
2. Home demand; or demanding local customers who push companies to innovate
3. Related and supporting industries; internationally competitive local supplier industries who create business infrastructure and spur innovation and spin off industries
4. Industry strategy, structure and rivalry; intense local rivalry among local industries that is more motivating than foreign competition and local 'culture' which influences individual industries attitudes toward innovation and competition, (Porter).

An analysis of recent literature on clustering shows there is a lack of consensus as to the existence of clear causative links between clustering and economic development, (Lowe & Miller).

**Cross-docking** (or flow-through distribution) is a practice in logistics of unloading materials from an incoming truck trailer or rail car and loading these materials in outbound trailers or rail cars. With trucks, cross-docking involves a docking area at which trucks arrive and exchange products (usually in boxes which are in turn on pallets) and leave again to distribute the products. This may be done to change type of conveyance, or to sort material intended for different destinations, or to combine material from different origins, (Wikipedia).

Cross-docking requires the integration of warehouse and transportation management systems, warehouse networks and proprietary communication architectures. Cross docking also requires accurate forecasting of consumer demand and radio-frequency (Global Positioning Systems for tracking movement of trucks) data technology to sort and track individual items.

**Food and wine tourism** encompasses a variety of winery, cuisine and agricultural / produce experiences which demonstrate tremendous diversity arising from varied landscape, climate and multiculturalism. Food and wine experiences allow visitors to participate in a cultural discovery that represents unique regional history, characteristics and flavours. In Victoria, food and wine tourism experiences include:

- Winery cellar doors and winery tours
- Experiencing Melbourne's diverse range of restaurants, cafés and bars
- Dining in Victoria's regional restaurants
- Festivals and events that feature local food and wine
- Farmers' markets
- Agri-tourism activities, such as fruit picking.

**Geographic regions** within Australian Geographic Indicator zones refer to official descriptions of areas of land. The naming of the areas is used to protect the use of the regional name under international law, limiting use to describing wines produced from fruit grown within a particular Geographical Indication (GI) area.

A (GI) is an official description of an Australian wine zone, region or sub-region. It takes the form of a textual description (i.e. a list of grid references, map coordinates, roads and natural landmarks which can be traced to outline the regional boundary) along with a map.

A Geographic Indication can be likened to the Appellation naming system used in Europe (e.g. Bordeaux, Burgundy) but is much less restrictive in terms of viticultural and winemaking practices. In fact the only restriction is that wine which carries the regional name must consist of a minimum of 85% of fruit from that region. This protects the integrity of the label and safeguards the consumer, ([www.wineaustralia.com/Australia](http://www.wineaustralia.com/Australia), 24 May 2007).

**Just-in-time inventory management (JIT)** is an approach to managing inventory in which materials are delivered to the manufacturer by suppliers mere hours before they are needed for processing, significantly reducing the cost of maintaining large stock levels. Achieving this goal requires that materials be delivered at the right time, at the best price and at 100% quality, (Swatman).

**Logistics** can be defined as the process of planning, implementing and controlling the efficient, effective flow and storage of materials, finished goods, services and related information from origin to the location where they are used or consumed, (Cashmore and Freeman).

**Mid-sized winery** is a winery with annual output of 50 000 litres in 2006 or a projected output by 2012. Excluded are the Zone's two large wineries of Brown Brothers of Milawa and Baileys of Glenrowan on the basis of their operations being on a National scale where in the foreseeable future there is little likelihood of gains arising from participating in a regional facility.

**Pick-n-pack systems** encompass the identification of the goods to be dispatched, physically picking them from stock or warehouse shelves, printing invoices, wrapping and packaging the goods and producing shipping manifests. There are facilities that fulfil the three activities of warehousing, to pick-n-pack and dispatch, e.g. Woolworths at the Wodonga Logic Centre.

**Sparkling wines** are made from both red and white grapes. Sparkling wines may be produced from a simple infusion of carbon dioxide into the base wines to the more complex Methode Champenoise or Traditional Method developed in the Champagne region of France where the sparkle is created in the same bottle in which the wine is sold, e.g. Seppelt's Great Western Salinger. Cool climates are considered ideal for sparkling wine production due to grapes having higher natural acidity and their development of higher varietal characteristics at lower sugar levels.

**Supply Chain Management** is a network of facilities and distribution operations to perform the functions or procurement of materials, transformation of these materials into intermediate and finished goods and the distribution of these finished products to customers, (Cashmore and Freeman).

The real benefits which can be derived from Supply Chain Management (SCM) and just-in-time inventory management in particular, depend on efficiency improvements being achieved

right along the supply chain. Suppliers must be able to respond quickly, flexibly and efficiently; delivering small quantities directly and frequently to the point of use. For a supplier to be able to achieve these objectives without maintaining large quantities of inventory, the supplier too must adopt JIT. It is therefore critical that SCM not just be viewed between an organisation and its suppliers, but rather viewed as an integrated supply chain from raw materials suppliers through to retailers, (Swatman).

There are some critical aspects and views toward SCM approaches. Some points are made as follows;

- The concept of the integrated approach to SCM relies on the premise that;
  - These is potential to improve customer service levels and,
  - reduce costs and,
  - achieve a competitive advantage that will be sustained for a sufficient time period.
- These three aspects can only be achieved if parties within the chain adopt
  - Shared goals and strategies and,
  - co-ordinate their functions (optimise their activities) that lead to,
  - mutual benefits for the parties involved.
- The concept of the strategic alignment approach to SCM relies on the premise that;
  - Alignment long a supply chain is valid only in specific competitive conditions and,
  - alignment with a supply chain challenges the culture and leadership styles of the participating organisations and,
  - alignment within a supply chain can be reactive or proactive because,
  - SCM approaches are designed to meet customer needs.
- The alternative is an independent supply chain where;
  - Each business acts and makes decisions independently and,
  - each business has a local focus and is driven by cost optimisation and,
  - the supply is a segregated association of businesses pursuing their own goals, (Cashmore and Freeman).

**Warehouses** are premises designed and built for the purpose of bulk storage of raw materials or finished or partly finished goods, pending either onward transit or division into smaller batches and subsequent distribution.

**Wine zones (and regions)** in Victoria are North West Victoria (Murray Darling and Swan Hill regions); North East Victoria (Alpine, Beechworth, Glenrowan, King Valley [interim] and Rutherglen); Central Victoria (Bendigo, Goulburn Valley, Heathcote, Strathbogie Ranges and Upper Goulburn); Western Victoria (Grampians, Henty and Pyrenees); Gippsland and Port Phillip (Geelong, Macedon Ranges, Mornington Peninsula, Sunbury and Yarra Valley), ([www.wineaustralia.com/Australia](http://www.wineaustralia.com/Australia), 24 May 2007).

**Wineries** are facilities where fruit, usually grapes, is processed into wine. Some wineries are located on the same site as the vineyard where processing occurs of owners grapes, while at others processing occurs of grapes purchased from other vineyards. Many wineries also give tours and have tasting rooms where customers can sample their wines before they make a purchase, (Wikipedia).

## ANNEX 7.9 ACKNOWLEDGEMENTS

### Winery principals

#### Alpine Region

Boynnton, Kel, Boynnton Wines, Porepunkah  
Cunningham, Shayne, Gapsted Wines, Myrtleford  
Michelini, Dino, Michelini Wines, Myrtleford  
Michelini, Llarío, Michelini Wines, Myrtleford  
Tynan, Bill, Bogong Estate, Mount Beauty

#### Glenrowan Region

Bath, Geoff, Goorambath Wines, Goorambat  
Bath, Lyn, Goorambath Wines, Goorambat  
Dahlenburg, Paul, Baileys of Glenrowan, Glenrowan  
Long, Maureen, Granite Range Estate, Wangaratta  
Long, Tim, Granite Range Estate, Wangaratta  
Morrison, Bob, Morrisons of Glenrowan, Glenrowan  
Morrison, Dianne, Morrisons of Glenrowan, Glenrowan  
Reid, Michael, Auldstone Cellars, Glenrowan  
Reid, Nancy, Auldstone Cellars, Glenrowan

#### Rutherglen Region

Brown, Eliza, All Saints Wines, Rutherglen  
Buller, Andrew, Buller's 'Calliope' Vineyard, Rutherglen  
Campbell, Colin, Campbells Wines, Rutherglen  
Campbell, Prue, Campbells Wines, Rutherglen  
Campbell, Susie, Campbells Wines, Rutherglen  
Chamberlain, Phil, Rutherglen Estates, Rutherglen  
Hepburn, Paul, All Saints Wines, Rutherglen  
Jones, Mandy, Jones Winery, Rutherglen  
Pfeiffer, Chris, Pfeiffer Wines, Rutherglen  
Sheer, Joel, Cofield Wines, Rutherglen  
Smith, George, G Sutherland Smith & Sons, Rutherglen

#### Wine Services

Bascomb, Glenda, Winemakers of Rutherglen, Rutherglen  
Bascomb, Kevin, Wines of the King Valley, Wahgunyah  
Bourne, Russell, Beechworth Vignerons Association, Beechworth  
Butterworth-Gray, Joanne, Victorian Wine Industry Association, Melbourne  
Estpkovic, Jeff, Vinifill Australia, Cranbourne  
Fruedenstein, Michael, Alpine Valley Vignerons Association, Myrtleford  
Garraway, Jim, Joss Distribution, Albury  
Gibson, Peter, Merriwa Industries, Wangaratta  
Green, Tony, Green Freight, Wodonga  
Henderson, Ken, Best Bottlers, Mildura  
Houston, James, Fosters Group, Melbourne  
Lawford, Rick, Merriwa Industries, Wangaratta  
McGrath-Kerr, Stuart, NSW Wine Industry Association, Griffith NSW  
McNamara, Bob, Alpine Valley Vignerons Association, Myrtleford  
McPherson, Andrew, Ozpak, Nagambie  
Matthews, Ian, Portavin, Melbourne  
Morrison, Dianne, Glenrowan Vignerons Association, Glenrowan  
Price, Eddie, Portavin, Melbourne  
Sindair, Ric, King Valley Vignerons Association, King Valley  
Snell, Graeme, Australia Post, Melbourne  
Stratford, Paul, Ozpak, Nagambie  
Taylor, James, Beechworth Vignerons Association, Beechworth

#### Beechworth Region

Smith, Stuart, Vinelea Wines, Beechworth  
Taylor, James, Tinkers Hill Winery, Beechworth

#### King Region

Groom, Doug, Avalon Wines, King Valley  
Maples, Dave, Gracebrook Vineyards, Whitfield  
Pizzini, Amie, Chrismont Wines, Whitfield  
Pizzini, Fred, Pizzini Wines, Whitfield  
Politini, Sam, Politini Wines  
Proft, Warren, Chrismont Wines, Cheshunt  
Ray, Graeme, Boggy Creek Wines, Myrree  
Wahlquist, Roland, Brown Brothers, Milawa  
Wall, Garry, King Valley Wines, Whitfield

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