

# **Sugar Industry Oversight Group Strategic Vision**

---

**A commercially vibrant, sustainable and self-reliant raw sugar and sugarcane derived products industry through:**

- committed cane growers and millers being responsive to international and domestic market forces; and
- operating in an open, deregulated industry environment, within Australia's corporate governance framework.



# SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION



## SUGAR INDUSTRY OVERSIGHT GROUP

---

The Hon Peter McGauran MP  
Minister for Agriculture, Fisheries and Forestry  
Parliament House  
CANBERRA ACT 2600

Dear Minister

We submit the unanimous Report of the Sugar Industry Oversight Group (IOG), *The Strategic Vision for a Commercially Vibrant Sustainable and Self-Reliant Industry in Australia*, including 10 Recommendations to further drive reform and change.

Under the Terms of Reference we are required to develop a Strategic Vision and align regional plans with the Vision. In so doing we have been mindful of the Hildebrand and Industry Guidance Group Reports.

The IOG Vision is

**A commercially vibrant, sustainable and self-reliant raw sugar and sugarcane derived products industry through:**

- committed cane growers and millers being responsive to international and domestic market forces; and
- operating in an open, deregulated industry environment, within Australia's corporate governance framework.

The key message in the Vision is for a self-reliant raw sugar and sugarcane derived products industry to operate in an international and domestic commercial market environment unimpeded by sector specific legislation, in short – deregulated. This will allow clear signals to flow, enabling individual industry participants to respond to real costs and prices.

The Vision includes sugarcane derived products. At this stage it is clear the industry will be raw sugar dependent for some time. Diversification through the development of sugarcane derived products needs a concerted effort.

A critical success factor for export commodity based industries and businesses is a lean value chain efficiently managed throughout. Long run cost reductions are imperative as commodity prices decrease in real terms. An important tool to facilitate this is effectively managed scale. Not scale for scale's sake but rather a scale of enterprise which, through good management (including continual benchmarking) affords more opportunities to reduce operating unit costs and more scope to apply existing and new technology and better purchasing power for goods and services.

In economic terms it has frequently been demonstrated worldwide that effectively managed scale has been a survival mechanism in some industries in both agriculture and non-agriculture. Sometimes scale is misconstrued as a threat to family ownership. Scale does not necessarily have to imply ownership; it can be achieved in a variety of different ways including commercial

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

leasing, share farming, joint ventures and co-operation between those with a common interest. It is a democratic issue of choice. What matters is that the benefits belong to those who want to strive for a viable and sustainable industry and not to those whose real interests lie elsewhere; those who have taken the "lifestyle" option; or those really interested in land banking for development. The costs of those who might choose the latter categories should be borne by themselves and not have any consequential cost burdens averaged across the industry.

It is a cyclical industry, therefore the recent favourable prices will not last. The duration of the upturn is unknown. The industry should, as a matter of urgency during this upturn, take the opportunity to further reform and restructure, build reserves and retire embedded debt.

Chairs and members of the Regional Advisory Groups (RAGs) and support staff have applied themselves and worked many hours in a constructive endeavour to help the industry ensure a good outcome having regard for the regional and community issues and the environment.

We commend this Report to you, strongly believing that should the recommendations be accepted and implemented with purpose, intellectual honesty, vigour and with a sense of urgency, the industry should be better placed to achieve viability and sustainability and be a proud, self-reliant industry, without recourse to the taxpayers of Australia.

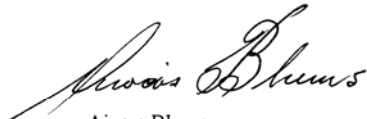
Much remains to be done with a sense of urgency in the implementation phase. Consistent with this Report, the IOG will continue to work with the RAGs in their regions to communicate and drive reform and restructure.

Thank you for your confidence and support.

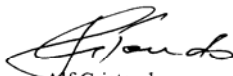
Yours sincerely



Bruce Vaughan AO  
Chairman



Aivars Blums  
Deputy Chairman



Alf Cristaudo  
Member



Geoff Mitchell AO  
Member



Raoul Nieper  
Member



Vivienne Quinn  
Member

9 February 2006

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

**Table of Contents**

Preface	1
Summary and Recommendations	3
Chapter	
1. Issues, Reform Implementation and Recommendations	15
2. Regional Plans	39
3. World Sugar Market	49
4. Brazil	67
5. Australia's Sugar Industry	85
Appendices	
A. Statement of Intent	111
B. IOG Terms of Reference and Members	113
C. RAG Terms of Reference	117
D. Sugar Industry Reform Programme 2004 Summary	119
E. Potential Diversification Opportunities for the Sugar Industry	125
F. Additional Information about Issues in the Sugar Industry	131
Acknowledgements	139
Glossary	141
Bibliography	143

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## **PREFACE**

In April 2004, the Australian Government announced the Sugar Industry Reform Programme (SIRP) 2004, including funding of up to AUD444.4 million, in response to a crisis in Australia's sugar industry induced by a protracted period of low world market prices. The impact of depressed prices was compounded by low production as a result of a few years of unusual seasons and an increased incidence of pests and diseases. Many in the industry were experiencing severe financial difficulty. The government provided assistance for short-term relief while participants considered their options. The package also included assistance for an industry that had committed to reform and restructure, and to driving towards its own viability and sustainability. In addition to the SIRP 2004, the Queensland Government also contributed some assistance up to AUD33 million.

The regional plans confirm the industry will remain raw sugar dependent in the medium term at least. One of the disappointing aspects is that, contrary to commonly held views, genuine diversification options of industry-wide significance are limited at this time.

In mid-2005 futures prices started to indicate what has now become evident as a cyclical upturn, with actual (as opposed to real) prices in 2006 approaching those last recorded 25 years ago. The present favourable prices will not last. What is unknown is the duration of this cycle. This period of high prices should be used to reform and restructure the industry for the benefit of committed cane growers and millers and regional communities. It is a wonderful opportunity to consider and develop other products, explore the benefits of managed scale, reduce or eliminate embedded debt, further exploit existing technologies, seek and adopt new technology, and build reserves. Brazil, the dominant market supplier, has announced plans for significant investment to substantially expand its industry.

Building of reserves is most important. It is clear the industry needs substantial re-investment. To be self sustaining and self-reliant, access to and application of capital needs careful consideration.

It is to be hoped the current prosperity does not lull some into complacency, because of the obvious consequences for many if medium-term viability and sustainability are not achieved.

The regional plans highlight issues, with some proposed solutions – this process is ongoing. The key to success will be implementation of well thought out strategies to achieve viability and then sustainability – this will require well-developed commercial skills and 'leadership' in the full sense of the word.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION



## SUMMARY AND RECOMMENDATIONS

The future viability and sustainability of Australia's sugar industry is inextricably tied to volatile cycles of the freely traded residual raw sugar market. Australia is essentially an exporter of a simply transformed commodity, raw sugar. The relatively small domestic sugar market is deregulated. The prices received are determined by a volatile market and, as for other agricultural commodities, there is a long-term downward trend in real terms.

### Vision

#### Australia's industry

Australia's sugar industry is located in three states and in many respects the three discrete geographical areas can be regarded as three different 'businesses':<sup>1</sup>

- Queensland accounts for around 94 per cent of Australia's production and over 80 per cent of its production is exported, predominantly to Pacific Rim markets.
- New South Wales is primarily focused on the domestic refined white sugar market.
- Western Australia exports raw sugar through links to a related company.

Australia's sugar industry has an annual production base of approximately 38 million tonnes of sugarcane. It is less than one tenth of the size of the expanding industry in Brazil, which is the dominant exporter to the world sugar market.<sup>2</sup>

#### The industry in its markets

The Industry Oversight Group (IOG) has been asked to enunciate a vision for the sugar industry's viability and sustainability. In 2004, the IOG established parameters which included a raw sugar pool price equivalent of \$250 Australian Dollars (AUD250) per tonne as a basis for planning purposes to assess the industry's viability and sustainability, because Brazil (the major competitor on the world market) demonstrated it could viably operate and expand at that equivalent value given the then currency relativity between the Brazilian Real (BRL) and the United States Dollar (USD).<sup>3</sup>

The regional plans indicate that in many areas, as then structured, competing with Brazil against the IOG market parameters is unsustainable. Many participants in Australia's industry are not viable or sustainable at AUD250 per tonne. Some regions believe a sugarcane-derived products industry may improve viability.

Commodity cycles occur due to the dynamics of world market demand and world market supply of sugar. World demand is growing generically, mainly driven by consumption rising from a low base in developing and less-developed countries, because of population increases and income growth. Supply is more complex,

---

<sup>1</sup> The current status of Australia's industry, including its organisational structure and positioning within Australia's agriculture sector, is described in Chapter 5.

<sup>2</sup> An outline of the scale of Brazil's sugar industry, the government policies that encouraged sugarcane production in Brazil, the potential for further industry expansion and an indication of the intrinsic value of sugar production to Brazil's economy are described in Chapter 4.

<sup>3</sup> This is discussed further in Chapter 1.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

determined by factors such as seasonal world agribusiness dynamics and government interventions. The raw sugar market reconciles demand and supply by adjusting prices and, over time, a world price cycle is generated.

Australia's sugar industry is currently experiencing escalating prices for its raw sugar exports. This should be recognised as a phase within a cycle and represents a commodity 'price bubble' and not a longer term trend towards higher prices.

The commodity cycle will turn down (the 'price bubble' will burst) and may be followed by a pronounced deterioration in prices, of prolonged duration, because the response to high prices will include:

- increased supply of raw sugar by producer countries
- contracting demand by consumers
- substitution of sugar by artificial and other sweeteners
- accelerated structural changes, as Brazil brings additional planned production onto the market
- dietary changes away from sugar in middle-class societies.

At the end of 2005 and in early 2006 indicative raw sugar prices on the New York Board of Trade more than doubled. They are now at the levels last recorded 25 years ago. This demonstrates the inherent volatility of the world sugar market against a long-term downward price trend in real terms.

Australia's raw sugar export industry is more exposed to the highly volatile world market than its competitors are. Australia's raw sugar is priced on a residual world market which is distorted by other countries' domestic policies and trade barriers. The local industry cannot influence the price – this is determined by a global commodity market.

The industry must urgently reform and restructure to achieve viability and sustainability during this period of cyclically high prices.

The industry must:

- reduce costs throughout the sugarcane and raw sugar value chain
- evaluate longer term diversification through 'step-outs' which have the potential to generate sufficient additional revenue streams to offset the effect of cyclically deteriorating sugar prices
- accumulate reserves, when 'super-normal' profits accrue to Australia's industry, to be drawn upon when revenues do not cover costs, including through the use of statutory measures such as taxation-effective deposit schemes.

The repeal of sugar industry specific legislation in Queensland should ensure that sugarcane producing regions and milling areas have the commercial flexibility necessary to reform and restructure. The historic response of the industry had been to oppose deregulation. With staged deregulation, the response by some is to seek to maintain the structure and cultures of past regulation. The consequent preservation of practices and delay in adoption of innovative approaches has impeded the industry's drive for international competitiveness. Some industry participants find it difficult to move away from past cultures. The industry requires a cultural shift to develop flexibility to respond to market forces and become self-reliant.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

The IOG Vision for the sugar industry is

### **IOG Vision**

**A commercially vibrant, sustainable and self-reliant raw sugar and sugarcane-derived products industry, through:**

- **committed cane growers and millers being responsive to international and domestic market forces; and**
- **operating in an open, deregulated industry environment, within Australia's corporate governance framework.**

### **Trading environment of the world market**

The global trade in sugar (raw and white) is comprised of two distinct markets – the 'freely traded raw sugar market' and the 'managed market'.<sup>4</sup> The opportunity to trade freely is critical to Australia's, and particularly Queensland's, raw sugar industry. Australia exports in excess of 80 per cent of its raw sugar production and prices against the benchmark of the freely traded market, the New York Board of Trade Raw Sugar Futures Contract Number 11 (NY11).<sup>5</sup> The exception is the very small amount exported to the United States market through a quota.

Access to markets, domestic support and export subsidies are the three pillars in world agricultural trade negotiations. These issues particularly apply to sugar. The Australian Government has actively pursued trade liberalisation through multilateral and bilateral forums.

Most countries have domestic subsidies and/or apply trade barriers to protect their industries, and promote a case that sugar is a 'sensitive product'.<sup>6</sup> Such practices do not support flexibility, innovation and efficient allocation of resources. Australia's sugar industry contends that sugar should not be designated as 'sensitive' within international forums.

### **Recommendation 1**

**The Australian Government continues to pursue trade liberalisation through multilateral and bilateral forums and to strongly challenge the contention that sugar is a 'sensitive' product.**

<sup>4</sup> The world sugar market and Australia's position in that market are discussed in Chapter 3.

<sup>5</sup> The NY11 is traded on the New York Board of Trade. The contract is a deliverable futures contract (albeit involving small quantities), with deliveries accepted from 28 sugar-producing countries. The contract is recognised as a world benchmark for freely traded raw sugar prices.

<sup>6</sup> The definition of a 'sensitive product' is currently being negotiated in the World Trade Organisation. A sensitive product can be nominated on the basis of economic, political or social reasons to sanction slower phased reductions in trade barriers (tariffs) than those that apply to other goods and services. Countries will be able to nominate a certain percentage of their tariff item lines as sensitive products.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### Leadership

Most of Australia's sugar industry has been legislated and regulated for almost 100 years, and this statutory regime is being dismantled relatively quickly. Many industry participants find it difficult to recognise the benefits of deregulation. As the Chairman of the Productivity Commission, Gary Banks, observed in 2005:

Structural reforms have long been recognised as economically desirable by most economists, but have faced strong political obstacles in all countries. This reflects the fact that many of the policies or regulations that have efficiency costs also have pronounced distributional effects. Reform (by definition) is intended to benefit the wider community. But in doing so it typically threatens the privileges or perceived entitlements of a minority, the members of which individually have more at stake – and thus more incentive to be politically active – than the often diffuse beneficiaries.<sup>7</sup>

Deregulation of the industry has removed the requirement for the representative organisations to obtain industry-specific legislative amendments to alter commercial activity through political patronage; nevertheless, traditional attitudes are difficult to change. Services provided by the representative organisations are likely to assume greater importance than lobbying in the future. The representative organisations will presumably be reviewing their appropriateness, efficiency and effectiveness in a market-responsive environment.

Leadership is essential in disseminating the principles of reform and restructure throughout the industry. The IOG considers that a comprehensive leadership group which has a holistic view of the value chain is needed to provide advice on implementation of key industry priorities and to foster a new culture within the industry, based on commercial relationships.

Appointment or election does not, of itself, necessarily imply leadership skills.

### Recommendation 2

**The Australian Government is urged to continue with a leadership advisory group for the sugar and sugarcane-derived products industry. This group would be commercially focused, with membership from Australia's sugar and sugarcane-derived products industry as well as non-industry members. The group, having regard for the deliberations of the Regional Advisory Groups, would advise the Minister for Agriculture, Fisheries and Forestry on implementation of key industry priorities.**

### Regional Advisory Groups

The reform and restructure of the industry is challenging long-term processes because of the complexity of the value chain and the consequences of change for all stakeholders. The implementation of reform and restructure will require mentoring of

---

<sup>7</sup> Banks, G. (2005), *Structural reform Australian style: lessons for others?*, Presentation delivered to the International Monetary Fund and World Bank (United States, 26–27 May) and Organisation for Economic Cooperation and Development (France, 31 May).

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

industry participants and coordination and liaison with local governments and regional communities.

The IOG considers the Regional Advisory Groups (RAGs) are the appropriate vehicle to drive reform and restructure of the industry and ensure that community and industry expectations are taken into account in achieving viability and sustainability. The IOG recognises the importance of the RAGs having appropriate leadership and skills to undertake these priorities and implement regional plans.

### **Recommendation 3**

**The Australian Government ensures the Regional Advisory Groups have the necessary leadership and commercial skills to facilitate the implementation of regional plans, and are appropriately resourced.**

### **Achieving industry reform**

The Hildebrand Report into Australia's sugar industry observed that, to a significant extent, each region and/or mill area needed to identify its own specific requirements and best solutions.<sup>8</sup>

The IOG supports the regional/mill area concept as the appropriate mechanism for implementing reform. The RAGs were established on the basis of the regional and/or mill area concept, and prepared regional plans to identify the key challenges facing the sugar industry and the community at the local level, and the most appropriate solutions, reflecting the unique circumstances of each region. The IOG considers that the RAGs are the appropriate vehicle to develop the ongoing regional and/or mill area concept. However, each RAG needs the support of its local stakeholders and community to capture the benefits of reform and restructure, to achieve viability and sustainability, at the regional and/or mill area level.

In achieving the goals of viability and sustainability the IOG considers that:

- A **viable** (at AUD250 per tonne of raw sugar) raw sugar and/or sugarcane-derived products industry needs sufficient income to cover, on a properly costed basis, based upon a five-year average of adequate earnings, after taking into account compound inflation:
  - cash costs, including labour
  - aggregate net return on investment (less depreciation)
  - re-investment
  - debt servicing (as applicable)
  - reasonable living standards for participants
  - conditions that encourage the younger generation to stay in the industry or attract new participants.

---

<sup>8</sup> Hildebrand, C. (2002b), *Independent assessment of the sugar industry*, report to the Hon. Warren Truss MP, Minister for Agriculture, Fisheries and Forestry. A short history of Australia's sugar industry, the level of statutory regulation of the industry and the chronology leading up to the Sugar Industry Reform Programme 2004 is provided in Chapter 5.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

On average, returns need to be at a level to produce a ‘normal’ profit from activities. The cyclical freely traded raw sugar market will periodically generate ‘super-normal’ profits for Australia’s industry.

- **Sustainability** is viability on a long-term self-reliant basis. The industry is sustainable if it can maintain viability for successive phases of the cycle.

The IOG recognises that each region faces different circumstances with its own range of opportunities, constraints and potential solutions. Nevertheless, in order for the industry to be viable and sustainable there is a need to reconfigure the industry to streamline the value chain, exploit existing technology and seek and adopt new technology to reduce costs.

Regional plans developed by the RAGs propose a number of measures to potentially reduce costs and streamline the value chain.<sup>9</sup> The IOG considers that the regional plans are living documents that require ongoing review and refinement. The future belongs to those who plan for it.

### **Recommendation 4**

**The industry, through the Regional Advisory Groups, strongly supports the regional and/or mill area business concept as the appropriate mechanism to achieve industry reform.**

**and**

**The industry effectively and expeditiously implements regional plans to achieve viability and sustainability.**

### **Self-reliance in the industry**

The volatility of commodity markets means reserves need to be built and retained during upturns, for re-investment and to mitigate downturns. Industry participants should fully utilise existing Australian Government mechanisms to manage income volatility, such as Farm Management Deposits.

The present cyclically higher prices for the 2006 and 2007 seasons provide an excellent opportunity for the industry to reduce and/or eliminate debt and preserve what could be described as ‘super-normal’ profits to re-invest and to draw on during a downturn in the cycle. A collective assessment of how these reserves could be built and held requires serious consideration. It is clear that governments can no longer be expected to be a provider of assistance in cyclical downturns – nor should they.

---

<sup>9</sup> The key points raised in the regional plans are highlighted in Chapter 2.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

### **Recommendation 5**

**The industry, through Regional Advisory Groups, in consultation with the leadership advisory group and having regard for the Australian Government's taxation regime, devises new financial mechanisms to build capital reserves, notwithstanding the difficulties of differing ownership structures and tax considerations.**

**and**

**The industry fully utilises existing mechanisms, such as Farm Management Deposits, to assist industry participants to manage financial risk.**

### **Reform and restructure of Australia's sugar industry**

To achieve the IOG Vision the industry needs to reform. This entails a fundamental change to a new 'cultural' paradigm that achieves real long-term economic benefits. This reform would include changes to the soft infrastructure of the industry, such as: streamlining the corporate and legal frameworks of the value chain and developing the capacity of the industry to manage cyclical market volatility; adopting advanced information technologies to optimise the efficiency of the value chain; developing human capital so that the industry has the skills to be self-reliant and effectively manage its future; and investing in intellectual capital and intellectual property to optimise the benefits of technology for the industry. These reforms should extend to all the participants in the sugar industry's value chain. The necessary prerequisite for the implementation of these reforms is the industry's acceptance of a future, without sector-specific legislation, which allows economic signals to flow along the value chain to ensure there is a proper response to real costs and prices.

The historic, often adversarial, relationship between growers and millers, some of which stems from the precedent of arbitrated decisions, appears a significant barrier to reform within the industry. However, the relationship between sugarcane growers and millers is important. There is more interdependence between the sugarcane-growing sector and the sugarcane-milling sector than in many other agricultural business relationships, for various reasons. In moving towards deregulation, relationships within the industry need to be based on commercial principles and an accurate knowledge of where costs and efficiencies lie throughout the value chain. This could lead to a reduction in costs and to different methods of pricing for various stages in the value chain.

Restructuring is the comprehensive appraisal and improvement of the fundamental commercial relationships and corporate structures that form the sugar industry's value chain, with the intention of enhancing the industry's domestic production efficiencies and its competitiveness as a participant in the cyclically volatile freely traded raw sugar market.

Restructuring needs industry-wide change to ensure optimal and reliable (critical mass) supply of cane to mills, through fundamental improvements to long-run costs throughout the value chain.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

This improvement to long-run costs needs to occur before there is a price downturn – it is difficult to predict the length of the current cycle. There is a long-term downward trend in real prices for raw sugar and all costs need to be continually reviewed and adjusted for Australia's industry to attempt to equal the cost of production of the market leader, Brazil, and achieve and maintain viability.

Costs can be managed through the following:

- i. **Managed scale** – The growing of sugarcane in Australia is predominately undertaken by owner-operated small-scale farming enterprises. Economies of scale that can be generated by increasing the operating size of an enterprise are a key to unlocking improvements in the long-run unit cost of production in the sugar industry. Economies of scale are usually obtained through growth or acquisition. Managed scale provides a less structured alternative and allows sugarcane growers to achieve the cost profile of a larger economic entity without requiring changes of ownership. This can be achieved by enterprises acting in concert through cooperation, unincorporated and incorporated joint ventures, share-farming arrangements, joint management agreements, farming consortia, or by developing an operating structure unique to a group of sugarcane farmers that allows them to act economically as a larger enterprise and reduce the long-run unit cost of production for all members of the group. The prolific number of farming enterprises below 15 000 tonnes provides the opportunity to capture benefits from economies of scale through managed scale.
- ii. **Adopt new and exploit existing technology** – Throughout its history, the industry has adopted new technology – mechanisation and improved agronomic practices are obvious examples – which has made incremental improvements to productivity. However, the adoption of new technologies to achieve significant real productivity gains is essential for the industry to remain competitive. Managed scale and adoption of new technology are linked. Enterprises that have managed scale will usually have the resources to adopt new technology.
- iii. **Real productivity gains** – The costs of inputs generally increase over time. To counter this increase in costs, real productivity gains are needed.

Real productivity gains are achieved from the application of inputs to create:

- increased output from the same use of inputs
- the same output from decreased use of inputs
- or
- a greater rate of increase in output relative to the rate of increase in inputs.

The industry is encouraged to continue to implement productivity improvements through the adoption of existing technology and new technology, and also through investment in human capital.

- iv. **Specific attention to harvesting and transport in the value chain** – About 30 per cent of the costs in the value chain are associated with the harvesting and transport of sugarcane. There appear to be inefficiencies embedded in these components of the value chain. Partially this is a result of the divided responsibility for harvesting and transport. The costs of harvesting are the growers' responsibility and the costs of transport rest with the mills. It is



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

important for the RAGs and industry to fully identify and resolve the segregation of costs for these elements within a region and/or mill area, to increase efficiency in the value chain.

- v. **Seeking and developing diversification opportunities of industry significance (step-outs):** Contrary to commonly held views, genuine diversification options of industry-wide significance are limited at this time. Nevertheless, the development of diversified sugarcane products will be important to the long-term sustainability of the industry, if these products generate additional revenue without transferring costs to other segments of the value chain.

Restructuring requires:

- i. **Efficient and effective application of capital** – Much of the infrastructure, plant and equipment throughout the sugar industry is aging and apart from maintenance and some refurbishment, there is little evidence of significant modernisation. Exploiting existing technology and seeking and adopting new technology to achieve real productivity gains requires capital, as do value adding and diversification.

In the global society there is keen competition for capital, which is attracted to the best propositions. Old and mature businesses have less appeal than dynamic, growth businesses. Clearly there is a need for capital investment in the industry – the issue is how a self-reliant, mature industry can attract, raise and service the new capital.

Nations, businesses and individuals self-generate capital through savings. Savings (reserves) are necessary to fund future growth.

Industry participants need to make wise capital investment decisions, to facilitate restructuring, during the current cyclically high prices for freely traded raw sugar. Individuals need to make informed decisions about the level of reserve that may be necessary and the appropriate allocation of funds during this period.

- ii. **Improved commercial understanding and skills in the industry, and a better understanding by the industry of market signals, customer needs and costs throughout the value chain** – The IOG acknowledges that there are businesses within the industry that have a sound understanding of commercial frameworks that should succeed in a deregulated trading environment. However, it appears that there are industry participants who have not fully developed their business management skills to respond to market and pricing signals for commercial activity across a range of sectors as the industry has moved toward deregulation. As the industry moves towards deregulation there is a need for improved commercial and business skills.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## **Recommendation 6**

The industry, through the Regional Advisory Groups, implements the following priorities as a matter of urgency:

**a. Reform**

- i. Adopt the principle of operating as an industry without sector-specific legislation.**
- ii. Adopt the principle of allowing cost signals to flow to ensure there is a proper response to real costs and prices within the value chain.**

**b. Restructuring to ensure optimal and reliable (critical mass) supply of cane to mills through fundamental improvements to long-run costs throughout the value chain, to be achieved by:**

- i. effective managed scale**
- ii. exploitation of existing and adoption of new technology**
- iii. real productivity gains**
- iv. specific attention to harvesting and transport in the value chain**
- v. seeking and developing diversification opportunities of industry significance (step-outs).**

**and complemented by:**

- i. efficient and effective application of capital**
- ii. improved commercial understanding and skills in the industry**
- iii. a better understanding by the industry of market signals, customer needs and costs throughout the value chain.**

## **Industry structures**

Tensions between growers and millers have been reflected in the institutional structures within the industry, sometimes duplicating functions and embedding additional costs within the value chain.

The removal of vesting in relation to marketing arrangements for sugar from 1 January 2006 will trigger the parties involved to review the arrangement between Queensland Sugar Limited and Sugar Terminals Limited. Applying a regional and/or mill area concept to industry operations may lead to an evaluation and possible change in the use of respective terminals. The industry will have to address the issue of access to terminals, and the cost of access will need to be addressed under the new commercial environment.

The IOG believes that effective research, development and extension activity is fundamental to improved industry viability in the medium to long term. It appears there are an abundance of actual and potential service providers. However, it is less clear whether there has been sufficient or efficient delivery of services. Industry organisations and participants need to positively engage in the rationalisation of

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

research providers, with the objective of efficient delivery of research outcomes from a commercially realistic funding model.

In addition, there is some concern that, in the competition for finite financial resources, funds for long-term basic research are becoming relatively scarce. Funding for frontier research projects should continue to be made available if the industry is to improve the commercial viability of genuine diversification into sugarcane-derived products (step-outs).

### **Recommendation 7**

**The industry, in association with the proposed leadership advisory group, drives the review of the appropriateness, efficiency and effectiveness of industry structures and their relevance in a deregulated, commercial environment.**

**Review should ensure every decision should seek the addition of real value to the industry. At present the structures fall into two groups:**

- a. industry-linked organisations which are currently engaged in providing services (for example, Queensland Sugar Limited and Sugar Terminals Limited)**
- b. research, development and extension organisations (including the Sugar Research and Development Corporation, Bureau of Sugar Experiment Stations Limited, Sugar Research Institute and others).**

**The industry representative organisations will, presumably, continue to review their roles in light of the changing environment.**

### **Domestic benchmarking**

Identifying the break-even cost of production in any enterprise is vital. It appears that many in the industry have not fully segmented their costs to determine the true cost of production at their place in the value chain.

To assist the restructure of Australia's sugar industry it is important that industry participants are capable of assessing the performance of their business. To enable benchmarking and measurement of productivity improvements domestically it is necessary to have relevant and accurate commercial intelligence.

### **Recommendation 8**

**As a matter of urgency, the industry in association with the Regional Advisory Groups undertakes comprehensive surveys of industry business practices and costs to allow for domestic industry benchmarking.**

### **International benchmarking**

In addition to understanding the domestic cost of production, it is important for the industry to understand the capacity and capability of competitors and factors affecting the world market for raw sugar.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

Australia's raw sugar exported to the freely traded raw sugar market is a commodity, and the industry does not have the ability to influence the price. An understanding of the production capabilities and costs of major competitors is fundamental to anticipating future supply and demand in the freely traded raw sugar market.

It is also important to have an understanding of the products competing with sugar. Preferences of consumers have an effect on demand for sugar. The increasing concern about the rising incidence of obesity and other medical conditions, such as diabetes, is impacting adversely on sugar consumption, particularly in developed countries. This concern is leading to a growing promotion of alternative, low-calorie sweeteners, and may become a factor affecting the market for sugar.<sup>10</sup>

Furthermore, there is a point of view expressed that derivatives markets – such as the NY11 – may be overly influenced by speculative investors. A better understanding of supply and demand fundamentals and the long-term movement in prices determined by derivative markets may assist in making informed decisions throughout the industry.

### **Recommendation 9**

**The appropriate organisations undertake international monitoring and evaluation, with particular reference to Brazil and major competitors. This monitoring and evaluation should provide appropriate market intelligence and ongoing monitoring of the international market place so that Australia's industry is better able to position itself for competitiveness.**

### **Diversification**

The regional plans confirm the industry will be raw sugar dependent in the medium term at least. The industry must initially address efficiency improvements that may accrue from exploitation of existing technology. The capacity to move to a lower cost of production through new products is limited in the near term, because proposed new products require further research to fully develop sound business cases.

### **Recommendation 10**

**Given the limited diversification opportunities of industry significance, the industry, with the leadership advisory group and the members of the Regional Advisory Groups, undertakes a comprehensive scoping study to seek realistic and commercial diversification and value-adding opportunities (step-outs) that have broad applicability across the industry.**

---

<sup>10</sup> These issues are further discussed in Chapter 3.

## **CHAPTER 1 – ISSUES, REFORM IMPLEMENTATION AND RECOMMENDATIONS**

### **Purpose**

To summarise and analyse the issues affecting Australia's sugar industry together with the recommendations of the Industry Oversight Group (IOG) to address and, where possible, resolve these issues against the following priorities in the IOG's terms of reference:

- implementation of sugar industry reform, including the refinement of reform priorities
- development of a strategic industry vision
- alignment of regional plans with that vision
- provision of advice to the Minister for Agriculture, Fisheries and Forestry on reform priorities.

### **The industry and the market cycle**

#### **The industry in brief**

Australia's sugar industry is located in three states. In many respects the three discrete geographical areas can be regarded as three different 'businesses'.<sup>11</sup>

The Queensland industry is predominately focused on the raw sugar export market. The New South Wales industry is primarily focused on the domestic refined white sugar market. The Western Australian industry, near the Ord River, exports raw sugar to an associated company within a larger corporate structure in Indonesia.

#### **The market cycle**

The future viability and sustainability of Australia's sugar industry is inextricably tied to volatile cycles of the freely traded world raw sugar market. Australia is essentially an exporter of a simply transformed commodity (that is, a raw material for processing before final consumption), raw sugar. The export prices received are determined by the market, which is cyclical – the price increases and decreases with regularity – and, as for most other agricultural commodities, there is a long-term downward trend in real terms.

Commodity cycles occur due to the dynamics of world market demand and world market supply of sugar. World demand is growing, mainly driven by consumption rising from a low base in developing and less-developed countries, because of population increases and income growth. Supply is more complex, determined by factors such as seasonal world agribusiness dynamics and government interventions. The raw sugar market reconciles demand and supply by adjusting prices and, over time, a world price cycle is generated.

The commodity price cycle has to be referenced against the cost structure of Australia's industry. The IOG used a raw sugar pool price equivalent of \$250 Australian Dollars (AUD250) per tonne as a basis for planning purposes to test the industry's viability and sustainability, because Brazil (the major competitor on the

---

<sup>11</sup> The current status of Australia's industry, including its organisational structure and positioning within Australia's agriculture sector, is described in Chapter 5.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

world market) has demonstrated it can viably operate and expand at that value, given a constant relative exchange rate between the Brazilian Real (BRL) and the United States Dollar (USD). This is discussed further on pages 18 and 19. When the world price cycle for raw sugar generates a pool price equivalent in Australia of AUD250 per tonne, many participants within the industry are not viable. The industry is sustainable if it can maintain viability through successive cycles.

Australia's sugar industry is currently experiencing escalating prices for its raw sugar exports. This should be recognised as a phase within a cycle and represents a commodity 'price bubble' and not a longer term trend towards higher prices.

The commodity cycle will turn down (the 'price bubble' will burst) and may be followed by a pronounced deterioration in prices, of prolonged duration, because the response to high prices will include:

- increased supply of raw sugar by producer countries
- contracting demand by consumers
- substitution of sugar by artificial and other sweeteners
- accelerated structural changes, as Brazil brings additional planned production on to the market
- dietary changes away from sugar in middle-class societies.

Australia's raw sugar export industry is more exposed to the highly volatile world market than its competitors are, and must reform and restructure by adopting measures to manage this exposure. They include:

- achieving cost efficiencies throughout the value chain
- diversifying through 'step-outs' which have the potential to generate sufficient additional revenue streams to offset the effect of cyclically deteriorating sugar prices
- accumulating reserves, when 'super-normal' profits accrue to Australia's industry, to be drawn upon when revenues do not cover costs, including through the use of statutory measures such as taxation-effective deposit schemes.

Industry diversification so far has not been sufficient to offset the effects of cyclical price volatility and off-farm incomes already subsidise the operation of many smaller scale sugarcane enterprises. A summary of the issue of off-farm income is provided at Appendix F.

The industry should therefore develop a robust management culture that encourages enterprises and participants to segregate super-normal profits during the highly favourable phases of the commodity cycle, to provide:

- funding to recapitalise the industry
- an opportunity to retire embedded debt
- a contingency reserve to support the industry during periods when deteriorating cyclical prices cannot sustain 'normal' profits.

These reserves must be liquid and reviewed periodically for adequacy, taking account of structural changes that may influence the volatility of the cycles in the freely traded raw sugar world market.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **The trading environment of the world sugar market**

The global trade in sugar (raw and white) is comprised of two distinct markets – the ‘freely traded raw sugar market’ and the ‘managed market’.<sup>12</sup> The opportunity to trade freely is critical to Australia’s, and particularly Queensland’s, raw sugar industry. Australia exports in excess of 80 per cent of its raw sugar production to the freely traded market. The exception is the very small amount exported to the United States market through a quota.

Australia’s sugar is priced against the benchmark for the freely traded raw sugar market, the New York Board of Trade Raw Sugar Futures Contract Number 11 (NY11). This contrasts with a number of other countries, in which sugar is priced mainly in the managed market and the freely traded raw sugar market largely functions as a residual market. Government interventions in the managed market often result in excess production which is sold into the freely traded raw sugar market, often at less than ‘fair market value’. Therefore, the real costs of government interventions in the managed market are transferred to the freely traded raw sugar market, increasing price volatility.

Access to markets, domestic support and export subsidies are commonly known as the ‘three pillars’ for trade reform in world agricultural trade negotiations. These issues particularly apply to sugar.

Most countries have domestic subsidies and/or apply trade barriers to protect their industries, and promote a case that sugar is a ‘sensitive product’. The definition of a ‘sensitive product’ is currently being negotiated in the World Trade Organisation. A sensitive product can be nominated on the basis of economic, political or social reasons to sanction slower phased reductions in trade barriers (tariffs) than those that apply to other goods and services. Countries will be able to nominate a certain percentage of their tariff item lines as sensitive products. Such practices do not support flexibility, innovation and efficient allocation of resources. It is the strong contention of Australia’s sugar industry that sugar should be treated equally and fairly alongside all other goods, services and agricultural products, and not be designated as ‘sensitive’.

The Australian Government has actively pursued trade liberalisation through multilateral and bilateral forums. From Australia’s sugar industry perspective, the key issue that needs to be pursued through these negotiations is market access. Furthermore, the Australian Government should continue to actively discourage other countries’ government policies and interventions from distorting the world market.

### **Recommendation 1**

**The Australian Government continues to pursue trade liberalisation through multilateral and bilateral forums and to strongly challenge the contention that sugar is a ‘sensitive’ product.**

---

<sup>12</sup> The world sugar market and Australia’s position in that market are discussed in Chapter 3.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### The market leader

Brazil has expanded to become the world's dominant sugarcane producer and sugar exporter, and has a significant effect on the supply of sugar to the freely traded raw sugar market. Australia does not have a significant effect on the supply of raw sugar to the freely traded market, despite exporting in excess of 80 per cent of its raw sugar production. Due in large part to economies of scale and verticality, Brazil has achieved a low cost of production in its sugarcane and sugarcane-derived products industry.<sup>13</sup>

Anecdotal reports indicate the **average** cost of production of raw sugar in Brazil in early 2006 is in the order of 8 US cents to 9 US cents per pound, given an exchange rate of about USD1 per BRL2.60. The established high-volume and efficient sugar enterprises in Brazil produce significant output and are believed to have a cost of production in the range of 7 US cents to 8 US cents per pound.<sup>14</sup> These lower costs of production must be taken into account as they are likely to be the benchmark for investors in Brazil's sugar industry. Investors continued to support expansion of Brazil's industry when prices indicated by the NY11 were around 7 US cents per pound.

The key message is that sugar producers who compete in the freely traded raw sugar market must restructure their operations to match Brazil's costs of production. Table 1 provides a 'ready reckoner' to identify the value in Australian dollars that the industry needs to target to match Brazil's extrapolated cost of production of raw sugar at constant USD–BRL exchange rates.

**Table 1: Raw sugar values in Australia (AUD)**

USD/ AUD	US cents per pound							
	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00
<b>0.60</b>	220	257	294	331	367	404	441	478
<b>0.65</b>	204	237	271	305	339	373	407	441
<b>0.70</b>	189	220	252	283	315	346	378	409
<b>0.75</b>	176	<b>206</b>	<b>235</b>	<b>265</b>	294	323	353	382
<b>0.80</b>	165	193	220	248	276	303	331	358

If a notional exchange rate is assumed to be USD0.75 per AUD1, the cost of production in Australia that matches Brazil's average costs of 7 US cents to 9 US cents per pound ranges from AUD206 to AUD265. The regional plans developed by the Regional Advisory Groups (RAGs) indicate that Australia's sugar industry has a significant number of participants that are not viable at a raw sugar price of about AUD250 per tonne (and, in some cases, substantially higher).

<sup>13</sup> An outline of the scale of Brazil's sugar industry, the government policies that encouraged sugarcane production in Brazil, the potential for further industry expansion and an indication of the intrinsic value of sugar production to Brazil's economy are described in Chapter 4.

<sup>14</sup> Isaías de Carvalho Macedo (ed) (2005), *Sugarcane's energy – twelve studies on Brazilian sugarcane agribusiness and its suitability*, São Paulo Sugar Cane Agroindustry Union



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

It is difficult to forecast movements in the exchange rate. However, it is unlikely that the scale of Australia's mineral resource reserves and indicator interest rates will be overlooked by currency traders. It would be prudent to consider that the value of Australia's currency could appreciate towards USD0.80 per AUD1. At this exchange rate Brazil's equivalent average cost of production is below AUD250. The anticipated equivalent cost of production for Brazil's established high-volume and efficient sugar producers at this USD/AUD exchange rate needs careful consideration.

### **Vision for Australia's sugar industry**

In early 2006, Australia's sugar industry has a forecast annual production of approximately 38 million tonnes of sugarcane, making it less than one tenth of the current size of Brazil's expanding industry. In addition, Australia's industry is generally water-constrained or landlocked, with attendant environmental issues to manage.

The IOG has been tasked with enunciating a vision for the sugar industry to achieve its viability and sustainability. Assuming a raw sugar pool price equivalent of AUD250 per tonne (for the reasons outlined on page 15), the level of income that may be generated by the industry in its present structure is in broad terms insufficient for a viable industry.

Australia's local industry cannot influence the freely traded price of raw sugar – this is determined by the market. Australia's industry can only respond by reducing its costs throughout the value chain to ensure viability.

Australia's sugar industry needs to be competitive in the world sugar market:

- where other countries use domestic support mechanisms and trade policies to support their sugar industries
- where surplus sugar produced under third countries' domestic support mechanisms and distorting trade policies will be delivered to the freely traded market for raw sugar, increasing the volatility of cyclical prices
- where there is a large, expanding competitor that dominates supply to the world raw sugar market, which affects the world price for freely traded raw sugar
- where, consistent with most other agricultural commodities, there is a long-term downward trend in real prices.

The IOG urges Australia's sugar industry to vigorously implement programmes for reform and restructure, to achieve viability and sustainability, during this period of cyclically high prices.

The repeal of sugar industry specific legislation in Queensland should ensure that sugarcane producing regions and milling areas have commercial flexibility to execute these programmes for reform and restructure, taking advantage of the current cyclically high prices for freely traded raw sugar.

The historic response of the industry had been to oppose deregulation. With staged deregulation, the response by some is to seek to maintain the structure and cultures of past regulation. Consequent preservation of practices and delays in adoption of

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

innovative approaches has impeded the industry's drive for international competitiveness. Some industry participants find it difficult to move away from past cultures. The industry requires a cultural shift to develop flexibility to respond to market forces and become self-reliant.

**The IOG Vision for the sugar industry is**

### **IOG Vision**

**A commercially vibrant, sustainable and self-reliant raw sugar and sugarcane-derived products industry, through:**

- **committed cane growers and millers being responsive to international and domestic market forces; and**
- **operating in an open, deregulated industry environment, within Australia's corporate governance framework.**

### **Leadership**

Most of Australia's sugar industry has been legislated and regulated for almost 100 years and this statutory regime is being dismantled relatively quickly. Many industry participants find it difficult to recognise the benefits of deregulation. As the Chairman of the Productivity Commission, Gary Banks, observed in 2005:

Structural reforms have long been recognised as economically desirable by most economists, but have faced strong political obstacles in all countries. This reflects the fact that many of the policies or regulations that have efficiency costs also have pronounced distributional effects. Reform (by definition) is intended to benefit the wider community. But in doing so it typically threatens the privileges or perceived entitlements of a minority, the members of which individually have more at stake – and thus more incentive to be politically active – than the often diffuse beneficiaries.<sup>15</sup>

Grower and miller organisations were established to represent stakeholders when the industry was regulated through state legislation. The organisations were formed under a culture that encouraged and required political patronage to service legislative requirements which governed commercial activity.

Deregulation of the industry has removed the requirement for the representative organisations to obtain industry-specific legislative amendment to alter commercial activity; nevertheless, traditional attitudes are difficult to change.

Services provided by the representative organisations are likely to assume greater importance than lobbying in the future. The representative organisations will presumably be reviewing their appropriateness, efficiency and effectiveness in a market responsive environment.

Leadership is essential in disseminating the principles of reform throughout the industry. The IOG considers that a comprehensive leadership group which has a

---

<sup>15</sup> Banks 2005.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

holistic view of the value chain is needed to provide advice on implementation of key industry priorities and foster a new culture within the industry, based on commercial relationships.

Appointment or election does not, of itself, necessarily imply leadership skills.

### **Recommendation 2**

**The Australian Government is urged to continue with a leadership advisory group for the sugar and sugarcane-derived products industry. This group would be commercially focused, with membership from Australia's sugar and sugarcane-derived products industry as well as non-industry members. The group, having regard for the deliberations of the Regional Advisory Groups, would advise the Minister for Agriculture, Fisheries and Forestry on implementation of key industry priorities.**

### **Regional Advisory Groups**

The reform and restructure of the industry is challenging long-term processes because of the complexity of the value chain and the consequences of change for all stakeholders. The implementation of reform and restructure will require mentoring of industry participants and coordination and liaison with local governments and regional communities.

The IOG considers that the Regional Advisory Groups (RAGs) will need to provide effective leadership to engage the industry at the regional level and/or mill area level to implement regional plans. This leadership should be enhanced by each RAG having the capacity and capability to assess the commercial impact along the value chain within its region or mill area. The issues that must be addressed in restructuring the industry require sound commercial judgement to be exercised within the regions.

The RAG is the appropriate vehicle to drive reform and restructure of the industry and ensure that community and industry expectations are fully taken into account in achieving viability and sustainability. The IOG recognises the importance of the RAGs having appropriate leadership and skills to undertake these priorities and implement regional plans.

### **Recommendation 3**

**The Australian Government ensures the Regional Advisory Groups have the necessary leadership and commercial skills to facilitate the implementation of regional plans, and are appropriately resourced.**

### **Achieving industry reform**

The Hildebrand Report into Australia's sugar industry observed that, to a significant extent, each region and/or mill area needed to identify its own specific requirements

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

and best solutions.<sup>16</sup> Australian Government assistance to reform and restructure Australia's sugar industry has encouraged active involvement from industry participants at the regional level and/or the mill area level.

The adoption of a regional business approach to industry activities was a function of the Australian Government appointed Industry Guidance Group (IGG). However, Regional Guidance Groups were not appointed during the Sugar Industry Reform Programme 2002. The IGG acknowledged that this inhibited the development of the regional business approach to industry activities described in the IGG Industry Reform Plan.

As previously mentioned, the RAG is the appropriate vehicle to drive reform and restructure and ensure that community and industry expectations are fully taken into account in achieving viability and sustainability. The interdependence of sugarcane growers and millers has been recognised by the RAGs. The regional plans developed by the RAGs for the viability and sustainability of the industry have been based upon the regional and/or mill area concept.

Australia's sugar industry should benefit from planning at the regional and/or mill area level to ensure the viability and sustainability of sugar and, potentially, sugarcane-derived products. As previously mentioned, the IOG considers that the RAGs will be required to provide effective leadership to develop the ongoing regional and/or mill area concept for the benefit of the industry and the regional community. However, each RAG needs the support of its local stakeholders and community to capture the benefits of reform and restructure, to achieve viability and sustainability, at the regional and/or mill area level.

In achieving the goals of viability and sustainability through reform and restructure the IOG considers that:

- A **viable** (at AUD250 per tonne of raw sugar) raw sugar and/or sugarcane-derived products industry needs sufficient income to cover, on a properly costed basis, based upon a five-year average of adequate earnings, after taking into account compound inflation:
  - cash costs, including labour
  - aggregate net return on investment (less depreciation)
  - re-investment
  - debt servicing (as applicable)
  - reasonable living standards for participants
  - conditions that encourage the younger generation to stay in the industry or attract new participants.

On average, returns need to be at a level to produce a 'normal' profit from activities. The cyclical freely traded raw sugar market will periodically generate 'super-normal' profits for Australia's industry.

---

<sup>16</sup> Hildebrand 2002b. A short history of Australia's sugar industry, the level of statutory regulation of the industry and the chronology leading up to the Sugar Industry Reform Programme 2004 is provided in Chapter 5.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

- **Sustainability** is viability on a long-term self-reliant basis. The industry is sustainable if it can maintain viability for successive phases of the cycle.

The sugar industry cannot be financially sustainable without being environmentally sustainable. The RAGs recognised that active management of environmental issues is imperative at the regional and mill area level. Regional plans have universally reflected an increased participation in self-regulation by industry participants to minimise the environmental impact of the regional sugar industry. The RAGs have a community responsibility to overview the implementation of best management practices across each region and/or mill area to integrate responsibility for environmental management throughout the value chain.

The IOG recognises that each region faces different circumstances and its own range of opportunities, constraints and potential solutions. Nevertheless, in order for the industry to be viable and sustainable there is a need to reconfigure the industry to streamline the value chain and exploit existing technology to reduce costs. In addition, the industry must seek new technology to adopt in the future, to either reduce or keep in check costs in the value chain.

In early 2006, the indicative AUD per tonne raw sugar returns in Australia, indicated by the NY11, had increased dramatically. These prices, if realised, would translate into ‘super-normal’ profits for viable enterprises in the industry. The duration of this cyclically high price is difficult to forecast and it is inevitable that the cycle will deteriorate and prices will decrease. Regional plans indicate there were still some enterprises which are not viable at AUD300 per tonne and, in some cases, at higher values. Of significance is the observation that 2003–04 prices were used as a cost base to assess enterprise data when the regional plans were developed. The prices of some inputs appear to have increased markedly above this cost base. Both price inflation and cost base inflation are dynamic and need to be considered with respect to time.

Regional plans developed by the RAGs propose a number of measures to potentially reduce costs and streamline the value chain.<sup>17</sup> The IOG considers that the regional plans are living documents that require ongoing review and refinement.

### **Recommendation 4**

**The industry, through the Regional Advisory Groups, strongly supports the regional and/or mill area business concept as the appropriate mechanism to achieve industry reform.**

**and**

**The industry effectively and expeditiously implements regional plans to achieve viability and sustainability.**

---

<sup>17</sup> The key points raised in the regional plans are highlighted in Chapter 2.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Self-reliance in the industry**

The volatility of commodity markets means reserves need to be built and retained during upturns, for re-investment and to cushion downturns. The present cyclically higher prices for the 2006 and 2007 seasons provide an excellent opportunity for the industry to reduce and/or eliminate embedded debt and preserve what could be described as ‘super-normal’ profits for re-investment, thus reducing current carrying costs of capital (interest and charges) and removing and/or reducing the burden of servicing costs for new investments.

Given the various ownership structures (and taxation considerations) throughout the industry, a collective assessment of how these reserves could be built and held needs to be comprehensively assessed. Other than the 2004 Australian Government package of assistance of up to AUD444.4 million and some state government assistance, it is clear that governments can no longer be expected to be a provider of assistance in cyclical downturns – nor should they.

The Australian Government maintains programmes that allow the agricultural sector to manage income volatility which is caused by seasonal variability of output. Industry participants should fully utilise these existing mechanisms to manage financial risk. These mechanisms include Farm Management Deposits and income-averaging provisions. The industry should also draw on its reserves during a downturn in the cycle of the freely traded raw sugar market.

### **Recommendation 5**

**The industry, through Regional Advisory Groups, in consultation with the leadership advisory group and having regard for the Australian Government’s taxation regime, devises new financial mechanisms to build capital reserves, notwithstanding the difficulties of differing ownership structures and tax considerations.**

**and**

**The industry fully utilises existing mechanisms, such as Farm Management Deposits, to assist industry participants to manage financial risk.**

### **Reform and restructure**

#### **Reform**

To achieve the IOG Vision the industry needs to reform.<sup>18</sup> This entails a fundamental change to a new ‘cultural’ paradigm that achieves real long-term economic benefits. This reform would include changes to the soft infrastructure of the industry, such as: streamlining the corporate and legal frameworks of the value chain and developing the capacity of the industry to manage cyclical market volatility; adopting advanced information technologies to optimise the efficiency of the value chain; developing

---

<sup>18</sup> The current status of the industry, including its organisational structure and positioning within Australia’s agriculture sector, are described in Chapter 5.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

human capital so that the industry has the skills to be self-reliant and effectively manage its future; and investing in intellectual capital and intellectual property to optimise the benefits of technology for the industry. These reforms should extend to all the participants in the sugar industry's value chain. The necessary prerequisite for the implementation of these reforms is the industry's acceptance of a future, without sector-specific legislation, which allows economic signals to flow along the value chain to ensure there is a proper response to real costs and prices.

### **Business relationships**

The needs of stakeholders in the sugarcane-producing sector of Australia's sugar industry vary across regions, and in some cases across mill areas, for a number of reasons, including the various structures of mill ownership (cooperative, unlisted public company, listed public company and proprietary company). The historic, often adversarial, relationship between growers and millers, some of which stems from the precedent of arbitrated decisions, appears a significant barrier to reform within the industry.

The relationship between sugarcane growers and millers is important. There is more interdependence between the sugarcane-growing sector and the sugarcane-milling sector of the industry than in many other agricultural business relationships. This greater interdependence derives from the limitations of transport of sugarcane, the associated costs and the reported deterioration of sugar as measured by commercial cane sugar content (CCS). These factors determine the optimal area and distance from which a mill may viably source sugarcane.

Relationships within the industry need to be based on commercial principles.

### **The principle of choice**

Under the historical approach to sugarcane supply a cane payment system was determined that linked the price of sugarcane to the price of raw sugar. There are some within the industry who believe that this means of establishing a value for sugarcane should extend to other sugarcane-derived products (diversification options).

With progressive deregulation, the milling and growing sectors are able to approach sugarcane pricing linked to the value of sugarcane as a raw material for further processing. An option may be to contrast this with other agricultural industries where a producer accepts a farm gate price that represents the value to the purchaser of the product on the day. It is recognised that the purchaser of the raw material accepts all further risk. It is generally accepted that each side of the transaction will consider the raw material was either over-valued or under-valued on the day; nevertheless, such transactions continue to take place.

There is an interdependence of a miller needing sugarcane and a sugarcane grower needing a mill in close proximity, although a sugar mill in itself provides only another land use option to a farm investor. The interdependence does not necessarily entail a sugarcane grower being involved once the cane has been delivered. It may suit a sugarcane grower to not be involved in sugar as such. It may appeal to some sugarcane growers to be suppliers of a raw material (sugarcane) only, assuming there is a counter party prepared to offer an acceptable price. In that case the sugarcane grower avoids the subsequent risks of world sugar price fluctuations, currency

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

movements and so on. This is an option open to sugarcane growers and is an issue of choice. Legitimate commercial choice is fundamental in a deregulated environment.

Equally, another option could be extended for the sugarcane grower to choose to be involved in further processing of sugarcane. A sugarcane grower could negotiate with a mill to toll crush sugarcane and trade the sugar in the market. This choice may only be truly effective provided the value chain can determine a market value for services and cost signals flow to ensure there is a proper response to real costs and prices.

### **Restructure**

Restructuring is the comprehensive appraisal and improvement of the fundamental commercial relationships and corporate structures that form the sugar industry's value chain, with the intention of enhancing the industry's domestic production efficiencies and its competitiveness as a participant in the cyclically volatile freely traded raw sugar market.

### **Restructuring to ensure optimal and reliable (critical mass) supply of cane to mills through fundamental improvements to long-run costs throughout the value chain**

There is an optimal and reliable critical mass of sugarcane required for milling. This critical mass depends on the size of the mill, the time that the milling assets are used for production, and the value (reflected in the price) obtained from raw sugar and/or sugarcane-derived products. This critical mass of sugarcane also needs to be within an optimal distance of the mill.

There is a long-term downward trend in real prices for raw sugar, and all costs need to be continually reviewed and adjusted to achieve and maintain viability. Examining long-run average costs includes an assessment of both fixed costs (for example, land) and variable costs (for example, fuel) over time. For Australia's industry to attempt to equal the cost of production of the market leader, Brazil, long-run costs need to be continually improved (reduced) throughout the value chain.

### Statutory costs

A consideration in examining costs in the value chain is costs that are imposed on many industries by government-controlled organisations that supply public utilities, such as water, ports, electricity or transport.

Adopting a user-pays approach appears to be an issue for some industry participants. This is demonstrated in the response to proposed increases in prices for utilities associated with cost recovery of assets. Generally, assets were constructed and funded by state governments at an earlier time. Although establishing a value for a product should lead to efficient use of the product in a market economy, the transition to user pays is unpalatable when the product was previously not fully costed in the production system.

In early 2006, the sugar industry participants who access irrigation water are reacting negatively to the statutory weighted average cost of capital that is to be applied in the formulation of a user-pays approach to water resources.



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### Managed scale

The growing of sugarcane in Australia is predominately undertaken by owner-operated small-scale farming enterprises. This dominance can be seen in the sample of regional cane farm sizes in Table 2. Economies of scale that can be generated by increasing the operating size of an enterprise are a key to unlocking improvements in the long-run unit cost of production in the sugar industry. Economies of scale are usually obtained through growth or acquisition. Managed scale provides a less structured alternative and allows sugarcane growers to achieve the cost profile of a larger economic entity without requiring changes of ownership. This can be achieved by enterprises acting in concert through cooperation, unincorporated and incorporated joint ventures, share-farming arrangements, joint management agreements, farming consortia, or by developing an operating structure unique to a group of sugarcane farmers that allows them to act economically as a larger enterprise and reduce the long-run unit cost of production for all members of the group.

**Table 2: Number and proportion of farms in the Burdekin, Mackay and Bundaberg regions/mill areas, by farm output**

Region/mill area	Farm output (tonnes of sugarcane)							
	1 to 5 000		5 000 to 15 000		15 000 to 40 000		Greater than 40 000	
<b>Burdekin</b>	130	22%	292	49%	140	23%	37	6%
<b>Mackay</b>	498	42%	534	45%	134	10%	4	3%
<b>Bundaberg</b>	638	79%	135	17%	32	4%	5	1%

Source: Burdekin RAG, Mackay RAG, Bundaberg RAG

There are, however, limits and constraints in ‘scale’ which must be taken into account when increasing the scale of sugarcane-farming enterprises. Australia’s east coast sugar industry is defined as ‘mature’. If it is not well managed, simply increasing the size of land and input capital may not generate a worthwhile reduction in average enterprise unit costs, and scale will have no benefits.

The empirical long-run average cost (LAC) data and statistical information submitted with the regional plans indicates that generally worthwhile economies of scale are available to enterprises with an annual sugarcane production up to 15 000 tonnes (about 80 per cent of sugarcane farming enterprises). The prolific number of farming enterprises below 15 000 tonnes provides the opportunity to capture benefits from economies of scale through managed scale. That is, increasing the scale of these enterprises through management will allow each group of them to act as a bigger enterprise, which will reduce the average cost of production.

Farms with production ranging from 15 000 to 35 000 tonnes per annum would need to carefully review technology to improve productivity and/or introduce new technology and quality management to achieve higher productivity, if lasting worthwhile reductions in the unit cost of production are to be achieved.

For many mature industries, enterprises that exceed a threshold output need to comprehensively assess the potential benefits of increasing scale, because significant

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

economies of scale will accrue only if a simultaneous productivity increase takes place. This will often require the introduction of new technology.

### **Adopt new and exploit existing technology**

The industry has adopted new technology throughout its history – mechanisation and improved agronomic practices are obvious examples. However, the adoption of new technologies to achieve real productivity gains is essential for the industry to remain competitive. Effective managed scale and adoption of new technology are linked. Enterprises that have managed scale will usually have the resources to adopt new technology.

Existing technologies appear to be making only incremental improvement, if any net improvement, to the productivity of the industry. Anecdotal reports during the regional planning process indicated that current productivity gains barely keep pace with inflation. However, the relationship between managed scale and adoption of technology may be a factor in these reports. The high number of participants operating enterprises below 15 000 tonnes of sugarcane per annum may be hindering the overall productivity of the industry.

Although there are relatively few producers producing more than 15 000 tonnes of sugarcane per annum, these producers are providing a substantial proportion of the industry's output. It is inferred from the lower LAC that these larger producers have the capacity to effectively harness technology to achieve productivity gains. In the long term, new technology and management practices will be required to move the industry to potentially lower costs of production.

### **Real productivity gains**

The costs of inputs generally increase over time. To counter this increase in costs, real productivity gains are needed.

Real productivity gains are achieved from the application of inputs to create:

- increased output from the same use of inputs
- the same output from decreased use of inputs
- or
- a greater rate of increase in output relative to the rate of increase in inputs.

One of the means of managing cost increases over time is the application of technology. The sugar industry appears to be achieving incremental productivity gains. The introduction and adoption of new technologies, such as biotechnologically modified (BM) sugarcane, may achieve substantial gains in productivity.

Investment in human capital through education and training also assists to achieve real productivity gains.

The industry is encouraged to continue to implement productivity improvements through the exploitation of existing technology and adoption of new technology, and also through investment in human capital.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Harvesting and transport in the value chain**

About 30 per cent of costs in the value chain are associated with the harvesting and transport of sugarcane. There appear to be inefficiencies embedded in these components of the value chain. Partially this is a result of the divided responsibility for harvesting and transport. The costs of harvesting are a grower's responsibility and the costs of transport rest with the mills. It is important for the RAGs and industry to fully identify and resolve the segregation of costs for these elements within a region and/or mill area, to increase efficiency in the value chain.

The transport infrastructure in the Queensland industry is predominantly narrow-gauge rail, and is comprised of relatively high levels of capital investment albeit at substantially written down values.

The declining proportion of land devoted to sugarcane production in some regions, and/or competition between mills seeking sufficient sugarcane to optimise throughput, has led to a 'patchwork' layout of cane farms within the established mill areas.<sup>19</sup> In a region where sugarcane transport has developed around narrow-gauge railway systems the dilution and reduction in volume of sugarcane in the landscape increases the average cost of maintaining and operating the network per tonne of sugarcane transported. The patchwork effect is most evident between Mossman and Tully in the Far North Queensland region and within the Bundaberg region.

Within the sugarcane-producing regions this patchwork has a flow-on effect to the spatial economics of sugarcane transport to sugar mills. The spatial economics of sugarcane transport are driven by two conflicting forces. On one side is the efficiency of transport, which is maximised by short distances travelled by high volumes of sugarcane. On the other side is the requirement for a sugar mill to obtain a sufficient reliable volume of sugarcane (critical mass) to sustain its operations. A more detailed discussion of issues surrounding transport in the value chain is provided at Appendix F.

Sugarcane transported from the fringes of a production area to sustain critical mass of milling operations needs to contribute at least enough revenue for the transport and milling components of the value chain to meet the total of the real incremental costs incurred. The cane transport distance largely determines the real cost of cane transport and this does not vary with sugar price. Thus, as price falls in real terms, the net contribution of fringe-area production to sustaining critical mass can rapidly become negative. This can compound what may already be a difficult viability situation for milling in a region, as the limit of economic transport distance contracts.

From the mill's perspective the sugar produced from sourcing additional tonnage at the limit of efficient transport distance is justified, as it contributes to optimal mill supply and increases utilisation of the asset.

The regional plans identified harvesting, together with its agronomic impacts, as the segment of the value chain with the greatest potential productivity gains. Capital, labour and farm layout combined contribute to harvesting inefficiencies. Some areas

---

<sup>19</sup> A discussion of the issues surrounding the loss of cane land to alternative use is at Appendix F.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

within regions are already showing benefits through reducing the number of harvesting units and optimising existing harvesting groups.

It is apparent that the industry is aware of the issues surrounding harvest and transport, given the numerous studies conducted into transport logistics over decades. Implementation of the actions recommended by these studies appears to have been limited.

### **Seeking and developing diversification opportunities of industry significance (step outs)**

Contrary to commonly held views, genuine diversification options of industry-wide significance are limited at this time. A summary of potential diversification opportunities for the sugar industry will be discussed later in this chapter. Nevertheless, the development of diversified sugarcane products will be important to the long-term sustainability of the industry, if these products generate additional revenue without transferring costs to other segments of the value chain.

The low margins that are associated with commodity businesses generally require a high volume of production to achieve efficient use of capital. Common user assets, such as sugar terminals, generally become less cost efficient as the volume of production decreases. Diversification into new sugarcane-derived products that decrease the amount of sugar produced may lead to increased costs in the value chain for the sugar. The production of new sugarcane-derived products within a region or mill area will require consideration and examination, as this will have impacts upon raw sugar within the value chain.

### **Efficient and effective application of capital**

The milling sector has a high level of fixed assets that are currently used for five to six months per year. Apart from maintenance and some refurbishment, there is little evidence of significant modernisation. Furthermore, no conventional milling plants have been built in Queensland in the past 80 years (Brazil has constructed many new mills – for sugar, sugar and ethanol, or ethanol production).

The period of low prices led many in the milling sector to substantially write down the value of the assets, in some cases to land value. Accounting convention requires regular assessment of the ‘carrying value’ of assets – in short, the relativity of earnings to those assets. This is important in assessing true viability. Calculating earnings as a percentage of the value of assets can lead to a misconception of the earnings’ true value, if the assets are run down.

As assessed in 2005, there had been little evidence of any worthwhile investment in farm machinery, in particular harvesting equipment, in the preceding five years.

Changes in transport logistics in, and between, mill areas have left a number of transport assets stranded. In any case, the cane rail transport system, of approximately 4 000 kilometres, is old.

Exploiting existing technology and seeking and adopting new technology to achieve real productivity gains also requires capital, as do value adding and diversification.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

In the global society there is keen competition for capital, which will be attracted to the best propositions. Old and mature businesses have less appeal than dynamic, growth businesses. Clearly there is a need for capital investment in the industry – the issue is how a self-reliant, mature industry can attract, raise and service the new capital.

Nations, businesses and individuals self-generate capital through savings. Savings (reserves) are necessary to fund future growth.

Industry participants need to make wise capital investment decisions, to facilitate restructuring, during the current cyclically high prices for freely traded raw sugar. Individuals need to make informed decisions about the level of reserve that may be necessary and the appropriate allocation of funds during this period.

As scale is considered to be one of the keys to making the value chain more efficient, access to capital may be an issue for those wishing to aggregate by purchasing.

Generally, within Australia's agricultural sector rural land values increase in response to commodity price increases. In addition, the provision of sectoral assistance packages may also have a flow-on affect upon rural land values, which should be considered when providing support for adjusting industries. These factors have been acknowledged as existing within the sugar industry by CANEGROWERS; as stated by Senior Manager – Policy, Benard Milford:

low sugar price expectations in early 2004 depressed land prices to record low levels of around \$3 999 per hectare. The provision of the Sugar Industry Reform Package and more buoyant sugar prices helped push farm sale prices up.<sup>20</sup>

The decision to expand sugarcane production through purchase of land is likely to involve investing at a high point in the rural land price cycle.

### **Improved commercial understanding and skills in the industry and a better understanding by the industry of market signals, customer needs and costs throughout the value chain**

The IOG acknowledges that there are businesses within the industry that have a sound understanding of commercial frameworks that should succeed in a deregulated trading environment. However, it appears that there are industry participants who have not fully developed their business management skills to respond to market and pricing signals for commercial activity across a range of sectors as the industry has moved toward deregulation. As the industry moves towards deregulation there is a need for improved commercial and business skills.

The development of the industry appears to have historically been expanded by existing participants with available land, instead of admitting new businesses. Furthermore, the history of regulation of the sugar industry appears to have inhibited industry-wide active participation in decision making based upon commercial return throughout the value chain. It is acknowledged that in any commercial relationship perfect knowledge of each business's cost and revenue structures is not normal –

---

<sup>20</sup> Milford, B. (2005), 'Cane farm sales prices recover', *Australian Canegrower*, 28 November 2005, vol 27, no. 24, p. 7

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

although a general understanding of each others' margins usually provides a basis for trading goods and services. The capacity to identify net margins to guide investment decisions has not been demonstrated as standard business practice throughout the industry.

### A sense of urgency is needed

There is a large, expanding supplier that dominates supply in the world raw sugar market and affects the world price for freely traded raw sugar. The duration of the present cycle will be difficult to predict. Australia's sugar industry needs to restructure urgently to reduce costs in the value chain before there is a price downturn.

### **Recommendation 6**

**The industry, through the Regional Advisory Groups, implements the following priorities as a matter of urgency:**

#### **a. Reform**

- i. Adopt the principle of operating as an industry without sector-specific legislation.**
- ii. Adopt the principle of allowing cost signals to flow to ensure there is a proper response to real costs and prices within the value chain.**

**b. Restructuring to ensure optimal and reliable (critical mass) supply of cane to mills through fundamental improvements to long-run costs throughout the value chain, to be achieved by:**

- i. effective managed scale**
- ii. exploitation of existing and adoption of new technology**
- iii. real productivity gains**
- iv. specific attention to harvesting and transport in the value chain**
- v. seeking and developing diversification opportunities of industry significance (step-outs).**

**and complemented by:**

- i. efficient and effective application of capital**
- ii. improved commercial understanding and skills in the industry**
- iii. a better understanding by the industry of market signals, customer needs and costs throughout the value chain.**

### **Industry structures**

As previously mentioned, the historic, often adversarial, relationship between growers and millers appears a significant barrier to reform and restructure within the industry. These tensions have been reflected in the institutional structures within the industry, sometimes duplicating functions and imposing additional costs.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

The institutional structures may contribute to embedding costs within the value chain. It is perceived that there is an age (and gender) bias within the primary decision-making groups in the industry. Presumably, the institutions will review their roles to ensure that they are providing 'real value add' to the industry.

The bulk sugar terminals located at the ports were not generally discussed within the regional plans although these assets are important within Australia's sugar industry. For example, the removal of vesting in relation to marketing arrangements for sugar from 1 January 2006 will trigger the parties involved to review the arrangement between Queensland Sugar Limited and Sugar Terminals Limited (STL). STL was established as a company to transfer ownership of Queensland's bulk sugar terminal assets and long-term leases to the growers and millers, as shareholders in the company. The growers and millers paid for the total cost of the terminals through deductions from various pool proceeds from all of Queensland's production. These costs included storage of sugar for year-round supply.

Applying a regional/mill area concept to industry operations may lead to an evaluation and possible change in the use of respective terminals. The industry will have to address the issue of access to terminals, and the cost of access will need to be addressed under the new commercial environment. Access to terminal facilities will require a commercial framework to identify a market price for access to the terminal facility that is mutually acceptable to negotiating parties. The prices charged for marketing and storage in terminals may change if the industry moves towards a region/mill area basis.

The IOG observes that research and development, as opposed to extension at farm level, received little attention in the regional plans other than acknowledgment of the status quo. The service providers are individually undergoing restructure at the present time, in response to removal of secure (regulatory) funding, industry financial pressures and evolving government support priorities. A discussion of the funding interrelationships between the research, development and extension service providers is provided at Appendix F. The IOG believes that effective research, development and extension activity is fundamental to improved industry viability in the medium to long term. It commends to industry organisations and participants that they should be positively involved in the rationalisation of research providers, with the objective of efficient delivery of research outcomes from a commercially realistic funding model.

While there would appear to be an abundance of actual and potential service providers, it is less clear, through measurable outcomes or through research and innovation uptake, that there has been sufficient or efficient delivery of services. Further, there is some concern that, in the competition for finite financial resources, funds for long-term basic research are becoming relatively scarce. Funding for frontier research projects should continue to be made available if the industry is to improve the commercial viability of genuine diversification into sugarcane-derived products (step-outs).

### **Recommendation 7**

**The industry, in association with the proposed leadership advisory group, drives the review of the appropriateness, efficiency and effectiveness of industry structures and their relevance in a deregulated, commercial environment. Review should ensure every decision should seek the addition of real value to the industry. At present the structures fall into two groups:**

- a. industry-linked organisations which are currently engaged in providing services (for example, Queensland Sugar Limited and Sugar Terminals Limited)**
- b. research, development and extension organisations (for example, the Sugar Research and Development Corporation, Bureau of Sugar Experiment Stations Limited and the Sugar Research Institute and others).**

**The industry representative organisations will, presumably, continue to review their roles in light of the changing environment.**

### **Domestic benchmarking**

The regional plans developed by the RAGs indicate that Australia's sugar industry has a significant number of participants that are not viable when the raw sugar pool price equivalent for planning purposes is assumed to be AUD250 per tonne and, in some cases, substantially higher. As discussed, AUD250 is a value at which, when all factors remain constant, efficient enterprises in Brazil can operate and expand. The value established for planning purposes was established to reflect a long-term decline in the real value for sugar and to permit the industry to identify a price point for break-even calculations. Whilst acknowledging differences exist between individual regions and mill areas, there appear to be entire milling and sugarcane producing sectors that are currently not viable at or near this price.

Identifying the break-even cost of production is vital. Despite the use of independent consultants to assist in the development of the regional plans it was difficult to obtain full and meaningful data from all regions. The regional planning process highlighted that many in the industry have not fully segmented their costs to determine the true cost of production at their place in the value chain. If managed scale is to be pursued through purchase of assets, it is essential to identify the cost of production to establish a market value for assets. To enable benchmarking and measurement of productivity improvements domestically it is necessary to have relevant and accurate commercial intelligence.

To assist restructuring within Australia's sugar industry it is important that industry participants are capable of assessing the performance of their own businesses. The mill areas deliver production information to sugarcane growers throughout the crushing season. There is capacity for each business to use this data as one point of reference, among others, for benchmarking. Benchmarking may be enhanced by financial analysis of the production data.



### **Recommendation 8**

**As a matter of urgency, the industry in association with the Regional Advisory Groups undertakes comprehensive surveys of industry business practices and costs to allow for domestic industry benchmarking.**

### **International benchmarking**

In addition to understanding the domestic cost of production, it is important for the industry to understand the capacity and capability of competitors and factors affecting the world market for raw sugar.

Australia's raw sugar exported to the freely traded raw sugar market is a commodity, and the industry does not have the ability to influence the price. An understanding of the production capabilities and costs of major competitors is fundamental to anticipating future supply and demand in the freely traded raw sugar market. In addition, it is also important to have an understanding of the products competing with sugar as they affect demand for sugar.

Preferences of consumers are one of the factors that influence demand for sugar. The increasing concern about the rising incidence of obesity and other medical conditions, such as diabetes, is impacting adversely on sugar consumption, particularly in developed countries. There is a perception that excess consumption of sugar may lead to diabetes. This may, however, be a misconception, as it is becoming increasingly evident that other high-calorie foods, such as fats and oils, may play a more significant role in causing this medical condition than the consumption of sugar does.

The sugar-based health concerns were further heightened by the World Health Organisation in its 2003 health recommendations on the intake of free sugars, which suggested that sugar should comprise no more than 10 per cent of total calorie intake. The impact of this Advisory is likely to be most significant in developed countries, where it is estimated that sugar consumption is more likely to exceed this level, particularly as sugar is used as a food additive. This concern is leading to a growing promotion of alternative, low-calorie sweeteners, and may become a factor affecting the market for sugar.

Furthermore, there is a point of view expressed that derivatives markets – such as the NY11 – may be overly influenced by speculative investors. A better understanding of supply and demand fundamentals and the long-term movement in prices determined by derivative markets may assist in making informed decisions throughout the industry.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

### **Recommendation 9**

**The appropriate organisations undertake international monitoring and evaluation, with particular reference to Brazil and major competitors. This monitoring and evaluation should provide appropriate market intelligence and ongoing monitoring of the international market place so that Australia's industry is better able to position itself for competitiveness.**

### **Diversification**

The regional plans confirm the industry will be raw sugar dependent in the medium term at least. The industry must initially address efficiency improvements that may accrue from exploitation of existing technology. The capacity to move to a lower cost of production through new products is limited in the near term, because proposed new products require further research to fully develop their sound business cases.

A summary of potential diversification opportunities (step outs) for the sugar industry is provided at Appendix E. Biotechnologically modified (BM) sugarcane is included in this appendix: although it is not a diversification opportunity, it may provide a major productivity improvement.

BM sugarcane, modified to deliver higher CCS, appears to be several years from commercial release. In addition to the costs of achieving commercial release and market acceptance there are costs incurred in segregating raw sugar generated from BM sugarcane within the value chain. Anecdotal reports indicate that the brewing industry, in particular, has expressed concern about the identification of BM sugar within the value chain. Costs of segregating food products manufactured from BM sugarcane will continue to be necessary while there are ongoing negative consumer perceptions about BM raw materials.

The diversification opportunities (step outs) that may be applied by the industry fall into two broad categories. These categories are either 'sugar-diverting' or 'non-sugar diverting'. Ethanol is the principal diversification that would fall into the sugar-diverting category if the industry were to adopt Brazil's ethanol production system. Australia currently produces ethanol from molasses – a process which is non-sugar diverting. Non-sugar diverting diversifications do not require sugar to be used as a raw material and do not reduce the total quantity of raw sugar manufactured. Cogeneration of electricity and production of furfural are examples of diversifications that are non-sugar diverting.

The diversification product opportunities that are non-sugar diverting have less impact upon the quantity of sugar produced and may lead to a reduced cost of production within the industry. These opportunities have unique challenges to overcome before they may be applied by the industry.

Infrastructure consequences for the port terminals within the industry would be likely if the quantity of raw sugar were to decrease significantly.

The renewable energy sector has sought to develop an 'enabling framework' for the enhanced development of cogeneration of electricity based on using renewable fuels

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

and ethanol as a complement to existing liquid fossil fuels. The Mandatory Renewable Energy Target (MRET) was established by the Australian Government to assist in the development of cogeneration of electricity based on renewable fuels. The IOG observes that the Australian Government stated in *Securing Australia's Energy Future* that it would continue to support the uptake of low-emission energy from renewable sources through the MRET, but would not extend or increase the target.<sup>21</sup>

The point of view has been expressed that Brazil has demonstrated that introducing statutory arrangements for ethanol can lead to the establishment of a renewable energy industry. If cogeneration of electricity and ethanol are to provide Australia's sugar industry with significant diversification options in a reasonable timeframe, the renewable energy sector argues that the enabling framework may need to incorporate statutory support mechanisms to encourage the commitment of capital to install further capacity.

A number of stakeholders are evaluating the opportunity to establish a 'carbon credits' trading regime as a part of the abatement programme for carbon dioxide emissions. The Kyoto Protocol recognises the role sugarcane cultivation can perform in sequestering carbon dioxide.<sup>22</sup> There appears to be an opportunity to undertake a comprehensive mapping and due diligence study of the carbon dioxide sequestration capacity of the industry's regions to determine the potential to supply carbon credits to a formal or informal market.

### **Recommendation 10**

**Given the limited diversification opportunities of industry significance, the industry, with the leadership advisory group and the members of the Regional Advisory Groups, undertakes a comprehensive scoping study to seek realistic and commercial diversification and value-adding opportunities (step-outs) that have broad applicability across the industry.**

---

<sup>21</sup> Australian Government (2004), *Securing Australia's Energy Future*, Commonwealth of Australia.

<sup>22</sup> Kyoto Protocol to the United Nations Framework Convention on Climate Change, adopted 11 December 1997.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## CHAPTER 2 – REGIONAL PLANS

### Purpose

To outline the process and overview the regional plans.

### Regional planning

#### Planning process

As a part of the Sugar Industry Reform Programme (SIRP) 2004 the Australian Government established Regional Advisory Groups (RAGs) to develop and implement regionally based plans.<sup>23</sup> Members were tasked with identifying the key challenges facing the sugar industry and the community at the local level, and the most appropriate solutions, reflecting the unique circumstances of each region.

To assist the RAGs to make assessments of viability, the Industry Oversight Group (IOG) provided guidance and assumptions on which each RAG could base its plans. The major parameters suggested to the RAGs for an assessment of regional industries included:

- a price range of 6 US cents to 9 US cents per pound for freely traded raw sugar (using the New York Board of Trade Raw Sugar Futures Contract Number 11 or NY11)
- an exchange rate of 70 US cents to 80 US cents per Australian Dollar (AUD)
- a sugar pool price of around AUD250 per tonne of raw sugar, with a sensitivity of plus and minus 10 per cent
- an annual inflation rate at 3 per cent.

The process of preparing regional plans was often complex and demanding, but it is generally accepted by the RAGs that the process was valuable, because it:

- engendered a better understanding of regional industry issues
- provided for genuine ownership of the plans
- provided a greater awareness of segmented costs, an analytical framework and a methodology which together have improved the industry's understanding of the commercial environment for an internationally traded commodity
- provided valuable data, audit and due diligence to support the plans.

The task of finalising the regional plans was completed in September 2005.<sup>24</sup> These were forwarded to the IOG for consideration and subsequent advice to the Minister.

The Australian Government accepted the plans. The Minister for Agriculture, Fisheries and Forestry, the Hon. Peter McGauran MP, stated in his media release of 19 September 2005, 'the plans were a solid basis for going forward in reforming the sugar industry'.

It is significant that the members of the seven RAGs unanimously endorsed their individual plans. The IOG regards this as an undertaking by RAG members to drive

---

<sup>23</sup> The terms of reference for the Regional Advisory Groups are at Appendix C.

<sup>24</sup> Some information was provided on a commercial in confidence basis; this was treated according to the appropriate principles of board governance.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

reform and restructure in line with the regional plans. The RAGs report to the Australian Government through the IOG on a six-monthly basis, describing progress with implementation, and any subsequent amendments, of their regional plans.

### **Common themes**

The regional plans prepared by the RAGs identified a number of problems and impediments, the solutions to which are imperative to reform and restructure. In the opinion of the IOG the common themes which can be drawn from the regional plans are:

- they rely on significant production, productivity and yield increases and cost reductions
- the viability of many growers dependent solely on cane is questionable at a pool price equivalent of AUD250 per tonne of raw sugar
- transport and harvesting infrastructure, costs and utilisation need to be addressed
- there are value chain issues and impediments to securing optimal mill throughput, for example, reliability of supply and limitations on season length, which also impact inventory holding costs and the timing of supply to markets
- there have been constraints on capital expenditure and it is unclear where capital will be sourced to fund change
- there are limited diversification options (step-outs) at the regional level
- business/commercial skills need to be upgraded so participants can respond effectively to cost and market signals
- understanding and cooperation in the industry needs development, and leadership/champions are needed to take the industry forward.

These issues and others that the IOG has identified are canvassed in Chapter 1. The proposed solutions are discussed with respect to each of the common themes in the regional plans.

The highlighted quotations in this chapter are from the regional plans and reflect the issues the RAGs have identified and need to confront in their regions.

### Productivity, production and yield increases and cost reductions

‘Going forward, the RAG believe that over the next 3–5 years that across the growing sector we should target:

- 10% increase in cane yields
- Sugar yield increases equivalent to a 0.5 unit increase in CCS
- Reduction in growing costs of 15%’

‘Productivity Improvement Target: 3 year average yield increased to 100t/ha’

‘Improve Cane Productivity. Establish a single entity responsible for developing a Regional Business Plan to coordinate RD&E in the area including the adoption of Best Management Practices. Progress the adoption of new technologies such as Precision Farming/Site-Specific Technology and NIR Cane Analysis. Target: Increase productivity by 9 tc per hectare by 2010.’

‘In large part this will come from an anticipated increase in the 2004 average yield across the region from 76 tonnes of cane per hectare to 94 tonnes of cane per hectare by 2009. This yield improvement will be delivered through both an increase in average yields resulting from the retirement of less productive cane lands, and better on-farm practices.’

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

‘... whilst the harvested area relative to the assigned area for cane production has been increasing, cane and sugar production yields per hectare have been declining ... A key initiative ... is to achieve annual increases of three per cent in sugar yield per harvested hectare through implementation of best management practices.’

Many of the regional plans propose that the industry will be viable provided targets for productivity (increases in output with constant inputs), yield (tonnes of cane and sugar per hectare) and absolute production increases, along with unit cost reductions, are met. These goals are of extreme importance to Australia’s industry, given that its raw sugar exports are sold on the freely traded raw sugar market and the industry does not have the ability to influence the price – it is determined by the market. Therefore, Australia’s industry can only work on increasing its productivity and/or yield, and on reducing its cost of production, to ensure viability and sustainability.

The goals targeted in the regional plans are ambitious. In a number of cases the expectation of yield and production increases in regions was optimistic given that, for example, sugar yield per tonne of cane has not improved greatly since the 1930s. Significant productivity increases without new technology are doubtful, and the expectation of year on year gains appears unattainable. To achieve aggregate cost reductions while simultaneously increasing production and productivity will be a challenge, given the need to increase inputs to achieve the proposed improvements. Any increase in productivity or yield should be linked to the cost of inputs needed to achieve the increases. In many cases, the real impact of annual inflation on costs was not taken into account. If inflation is taken into account the likely increases in the prices of inputs, such as fuel and fertiliser, may neutralise the effect of any potential revenue gains from increased production.

Projected productivity and yield improvements to 2009 appear to have been determined using costs of inputs that remain fixed at prices from 2003–04 (or earlier). These productivity improvements cannot be factored in again to counter the effect of inflation. It is, in effect, double-counting the gain.

For illustrative purposes, recognising that costs vary in the industry depending on several factors, Table 3 demonstrates the effect of annually compounded inflation over the next five years if AUD250 per tonne of raw sugar is used as a notional cost of production in the year 2005 and the ratio of inputs remains fixed.

**Table 3: Projected effect of compound inflation on AUD250 over five years**

Calendar year	Indicative inflation rate		
	3 per cent	4 per cent	5 per cent
2005	AUD250	AUD250	AUD250
2006	AUD258	AUD260	AUD263
2007	AUD265	AUD270	AUD276
2008	AUD273	AUD281	AUD289
2009	AUD281	AUD293	AUD304
2010	AUD290	AUD304	AUD319

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

If some of the assumed improvements to achieve viability at AUD250 are not achieved, a higher starting point is necessary. Table 4 demonstrates the inflation effect at a notional cost of AUD275 per tonne of raw sugar.

**Table 4: Projected effect of compound inflation on AUD275 over five years**

Calendar year	Indicative inflation rate		
	3 per cent	4 per cent	5 per cent
2005	AUD275	AUD275	AUD275
2006	AUD283	AUD286	AUD289
2007	AUD292	AUD297	AUD303
2008	AUD301	AUD309	AUD318
2009	AUD310	AUD322	AUD334
2010	AUD319	AUD335	AUD351

Regional plans identified insufficient revenue for viability of many participants in the industry, at an assumed sugar pool price equivalent of AUD250 per tonne. By 2010 the notional starting point of a cost equivalent of AUD250 per tonne could potentially have escalated to AUD350, depending on the rate of inflation. In 2010 the viability of many participants will be challenged if other market and industry dynamics do not adjust to offset cost inflation.

All participants need to adjust their business plans to take into account the accumulated effect of inflation on the base scenario.

### Viability and sustainability

‘Growers in the region are, on average, marginally viable based on the cost data obtained for the region, at a sugar price of \$250 per tonne. This assessment is based on sugar cane only and does not take into account the fact that approximately 48% of growers have off farm income and that 53% of farms grow other crops in addition to cane. The viability of certain growers in the region on a sugar cane only basis is questionable given that the average for the region is only marginally viable.’

‘The data modelling indicates that many growers in the less than 5,000 tonne farms are not viable as sugar cane producers at \$250.’

The plans indicate that, on a fully costed basis, well-managed sugarcane enterprises may generate a wide range of margins, from negative to positive. Fundamentally, the absolute output of a farm imposes a limit on the net income that a grower can generate. Assuming the net margin from sugarcane ranges between AUD1.50 and AUD9.00 per tonne of cane, there is an inherent limit for a small-scale enterprise to generate an adequate level of income, especially if solely dependent on sugarcane for income. This is demonstrated in the matrix of potential margins in Table 5.



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

**Table 5: Matrix of potential margins from sugarcane production**

Margin per tonne	Maximum farm output of sugarcane			
	5 000 tonnes	15 000 tonnes	25 000 tonnes	40 000 tonnes
<b>AUD1.50</b>	AUD7 500	AUD22 500	AUD37 500	AUD60 000
<b>AUD3.00</b>	AUD15 000	AUD45 000	AUD75 000	AUD120 000
<b>AUD5.00</b>	AUD25 000	AUD75 000	AUD125 000	AUD200 000
<b>AUD7.00</b>	AUD35 000	AUD105 000	AUD175 000	AUD280 000
<b>AUD9.00</b>	AUD45 000	AUD135 000	AUD225 000	AUD360 000

Note: Table 5 is based upon the simple assumption that there are neither economies nor diseconomies of scale.

Many smaller growers in the industry rely on non-farm or non-sugarcane income to supplement their sugar income. As presented in Chapter 1, some areas appear to struggle to maintain sugarcane production as growers focus on activities that provide greater income. This has consequences for the total volume of sugarcane that may be produced within an area and the effect this has on the viability of sugar milling. Without sustainable sugarcane growers providing the critical mass of sugarcane the mill area's future is threatened.

'Returns for most industry participants are average to poor and are likely to remain so.'

'... has a viable farming and milling sector at a sugar price of \$250 per tonne that can provide a reasonable return to their owners, although smaller businesses require off-farm earnings to supplement their income.'

'At a sugar price of \$250/tonne industry returns are insufficient to cover operating costs, depreciation and a return on growers' labour. At a sugar price of \$275/tonne the industry's overall financial returns improve only to just more than a break-even basis.'

The regional plans indicate that the industry, as presently structured, does not have a long-term future based on raw sugar alone at the AUD250 price assumption. Some plans indicate that at prices approaching AUD300 there is insufficient income to ensure viability. Some regions will have greater adjustments to make than others to become part of a viable and sustainable sugar industry. The long-term revenue base in the plans does not provide adequate income for many participants in the industry.

### Value chain issues, including harvesting and transport

'The Regional Advisory Group and key stakeholders acknowledge that the sugar industry will have to become a leaner value-chain. A proportion of growers and harvesters has and will continue to exit the industry based on current margins.'

'The number and capacities of the mills on the coast suggest that a case exists for mill rationalisation to occur to provide the benefits of economies of scale.'

'Season length is key to improving returns for the milling sector in the long term ...'

'One major area of change is likely to be greater vertical integration of the growing, contracting and milling sectors ...'

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

‘The harvest sector will continue to restructure.’

‘Farm enterprises are seeking scale benefits, with growers implementing farming consortia to consolidate harvesting and farming enterprises.’

‘A reduction in the number of harvesting units and the associated increase in tonnage processed per unit can increase productivity and achieve economies of scale.’

Many costs in the value chain are averaged across participants. Individuals are not always aware of costs that are incurred at their point in the value chain.

Overall, the dismantling of sector-specific legislation and regulation should encourage the identification and allocation of real costs to the relevant participants in the value chain. Identifying the real costs along the value chain should lead to improved management of these costs.

The capacity to identify net margins from businesses to guide investment decisions has not been a standard business practice throughout the industry. Generally, in other business enterprises, reporting costs by segment is regarded as important to understand, measure and control the business. Understanding the factors influencing cost provides a business with the capacity to make decisions which optimise inputs. This identification of real costs also allows greater emphasis to be placed on those elements that are proportionately of greater relevance in the value chain.

Allowing cost signals to flow through the value chain will provide a proper response to real costs and prices throughout the value chain. This means that participants would be exposed to real costs and make informed decisions about whether the related economic returns are sufficient to justify costs.

A potential outcome could be that the sugarcane grower chooses to become a contracted supplier of the raw material (and not share directly in the value of raw sugar and its price and/or currency risk). This may offer greater certainty to future revenues and may provide the business enterprise with greater capacity to access capital.

Harvesting and transport account for around one-third of the costs in the value chain. It appears that efficiency gains are possible in these components of the value chain. The costs of harvesting are a grower’s responsibility and the costs of transport rest with the mills. It is important for the RAGs and industry to identify cost elements within a mill and/or region to allow their allocation to increase the efficiency of the value chain.

The regional plans highlighted harvesting as one of the most important concerns to be addressed in the value chain. In most regional plans harvesting was clearly identified as the segment of the value chain providing the greatest potential gains in productivity. Some areas within regions are already showing benefits through reducing the number of harvesting units and optimising existing harvesting groups. It appears that some benefits of effectively managed scale are being achieved in some areas.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

Streamlining the value chain is essential to the objective of ensuring optimal mill throughput through a reliable supply of cane. As mentioned, sustainable growers are needed. This will be enabled and their sustainability enhanced through the identification and reduction of real costs. A more reliable supply could be secured through long-term contracts for cane supply, based on a range of factors, including the supply of cane as a raw material, toll crushing, and incentivising performance. Mills may prefer to seek out larger scale committed growers for the mutual benefits of less-frequent negotiations and ensured supply of sugarcane.

### Capital

‘...a lack of funding available to develop new opportunities reflecting competing investment opportunities and the longer implementation times for alternative agricultural opportunities’

‘The Regional Advisory Group sees that a key to the future success of the region is the retention and growth of cane production area and improvements in yield. However, there are a number of factors which may act against the achievement of these objectives: ... lack of available finance.’

‘The industry has sought Commonwealth Government assistance through the Sugar Industry Reform Program Regional and Community Projects (RCP) program for financing of the capital requirements of its business improvement strategy which will be underpinned by a substantial cash and in-kind commitment from the industry itself.’

‘The financial feasibility of these mill diversification projects is dependant upon external funding, the provision of which is not yet finalised.’

Many regional plans have a strong reliance on future capital funding and industry re-investment appears to have been inadequate for many years. Apart from government funding through Regional and Community Projects, there was an absence of identified sources of capital.<sup>25</sup> Reliance on future government funding through Regional and Community Projects is not a basis for sustainable planning.

The milling sector has a high level of fixed assets that are currently used for five to six months per year. Apart from maintenance and some refurbishment there is little evidence of significant modernisation. Furthermore, no conventional milling plants have been built in Queensland in the past 80 years (Many new mills have been constructed in Brazil, for sugar, sugar and ethanol, or ethanol production).

The period of low prices led many in the sector to substantially write down the value of assets, in some cases to land value. Accounting convention requires regular assessment of the ‘carrying value’ of assets – in short, the relativity of earnings to those assets. This is important in assessing true viability. Calculating earnings as a percentage of the value of assets this can lead to a misconception, if the assets are run down.

As assessed in 2005, there had been little evidence of any worthwhile investment in farm machinery, in particular harvesting equipment, in the preceding five years.

Changes in transport logistics in, and between, mill areas have left a number of transport assets stranded. In any case, the cane rail transport system, of approximately 4 000 kilometres, is old.

---

<sup>25</sup> Regional and Community Projects are a component of the SIRP 2004.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

As scale is considered to be one of the keys to achieving efficiencies throughout the value chain, access to capital may be an issue for those wishing to aggregate by purchasing.

Value adding and diversification also require capital.

In the global society there is keen competition for capital, which is attracted to the best propositions. Old and mature businesses have less appeal than dynamic, growth businesses. Clearly there is a need for capital investment in the industry – the issue is how a self-reliant, mature industry can attract, raise and service the new capital.

### Diversification

‘The situation analysis also identified a range of opportunities for the future in relation to optimisation of industry productivity, efficiency and cost, structural reform, value adding and diversification.’

‘The diversification vision is to secure profitable, complementary and alternative revenue streams for the sugar industry. The plan contemplates alternative uses for marginal cane land, complementary use of fallow cane land, and the use of sugar cane to produce a range of products in addition to raw sugar. This potentially could include furfural, stock feeds, ethanol and cogeneration of electricity.’

Diversification options fall into two categories: ‘step-outs’ for the sugar industry, and alternatives to raw sugar.

Most plans refer to diversification or step-outs. The main step-outs identified in the plans include:

- cogeneration of electricity
- stockfeed
- ethanol
- furfural
- biotechnologically modified sugarcane.

A summary of diversification or step-outs for the industry is at Appendix E.

A commonly suggested option – mixed or alternative cropping (as opposed to complementary cropping) – has the potential disadvantage of reducing reliable supply of cane to the mill, which could be critical to those mills where supply is already close to break-even throughput levels.

Some of the suggested step-outs were also diversions away from the raw sugar stream, with attendant consequences for raw sugar exports that were not addressed by their proponents. However, there is no step-out of overall industry-wide significance. While many may prove positive contributions to raw sugar revenues they do not provide short-term solutions. Until these step-outs become widely accessible the industry has to continue its reliance on raw sugar production for its revenue base.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### Skills

‘The Regional Advisory Group believes that further development of business and management skills is crucial to underpinning an economically viable and sustainable sugar industry ...’

A major issue raised in the regional plans is the need for improvement in business skills to enable reform and restructure to be addressed. It appears that there are industry participants who do not have the commercial and business management skills to respond to market and pricing signals for commercial activity. As the industry moves towards deregulation there is a need for further improvement of commercial and business skills.

As generational change occurs, the industry will need to encourage and retain new participants. This may be difficult in some areas, where other industries may offer attractive alternatives to sugarcane growing, along with greater opportunities and benefits. To compete with these alternative sources of employment the sugar industry will have to demonstrate there is a long-term and profitable future for those wishing to enter the sugar industry. For the sugar industry to remain sustainable it needs the next generation of farmers to improve their business and commercial skills, especially in view of the now largely deregulated industry and new marketing arrangements in Queensland. The industry needs to take the initiative and encourage all its participants, particularly its younger participants, to broaden their skills so that they can take up the challenges in the next few years.

### Cooperation and leadership

‘Priority aims to:

- Increase cooperation between growers and millers in the region
- Reach agreement (where practical) between millers to ensure the region moves forward.’

‘... identification of capable leadership within the growing sector to successfully facilitate any transition process.’

Appointment or election does not, of itself, necessarily imply leadership skills.

The often adversarial relationship between growers and millers, some of which stems from historic arrangements which have become institutionalised, appears to be a significant barrier to reform and restructuring within the industry. The sugarcane-producing sector and the sugarcane-milling sector are more interdependent than many other agricultural industries, and prolonging these tensions appears unproductive.

The introduction of new marketing arrangements from 1 January 2006 may stimulate the development of different business relationships within the regions. Such a change will be necessary to ensure the sustainability of an industry where supplier and processor are mutually dependant. There is a need for leaders throughout the industry to overcome their historic attitudes and move to a relationship based on a commercial understanding of their interdependence. Identification and cultivation of key decision makers and ‘champions’ throughout the industry is also important. These decision makers/champions would work with the current industry appointees to encourage a

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

new culture throughout the industry, based on commercial relationships. They could also bring new perspectives to assist in the reform and restructure of the industry.

### **Overview**

The IOG acknowledges that reform and restructure of the industry has occurred to varying degrees and there is a general awareness of the imperative to deepen and widen the scope of regional reform and restructure. The target rate of progress in the current regional plans may not be sufficient to secure the outcomes needed for general stakeholder sustainability. Most regions emphasised optimistic production targets, yield and productivity increases, together with significant cost reductions, as immediate solutions. If any one of these goals is not realised there are likely to be detrimental consequences for many of the value chain participants in those regions.

In addition, incremental restructure, although important, will not provide the necessary paradigm shift that allows the industry to effectively compete against an expanding competitor – the industry in Brazil.

Both the Hildebrand Report and the Industry Guidance Group's Industry Reform Plan recognised similar issues that industry needed to address to achieve real structural reform.

Each RAG is responsible for the implementation of its regional plan.<sup>26</sup> Outcomes for the local industry depend on its preparedness to continually update, refine and further develop and implement regional plans with determination and vigour. Such resolve may secure genuine reform and restructure, which, for a number of participants in the industry, is a survival issue.

### **Points arising**

- Many of the issues identified in the regional plans by the RAGs are recurrent.
- Some regions provided valuable data, audit and due diligence to support the plans.
- There is a better understanding of regional industry issues.
- There was not any 'step-out' of industry-wide significance.
- The planning process has provided for greater awareness of the industry's situation in regional communities.
- Beneficial incremental restructure constitutes an advance but is not a substitute for a paradigm shift.
- It is not clear what corrective actions would be taken if the goals targeted in the regional plans are not achieved – the 'what if' test.
- The members of the seven RAGs unanimously endorsed their individual plans, and this indicates an undertaking by RAG members to drive reform and restructure in line with their regional plans.

---

<sup>26</sup> A copy of each regional plan is available at [www.daff.gov.au/sirp](http://www.daff.gov.au/sirp) or by making enquiries through the Sugar Executive Officer in each sugar region.

## CHAPTER 3 – WORLD SUGAR MARKET

### Purpose

To outline the world sugar market and Australia's position in that market.

### Raw sugar prices are volatile, cyclical and trend downwards

Raw sugar is a traded commodity on the international market with limited product differentiation and an increasing concentration of suppliers. There is a well-developed and active futures market for raw sugar.

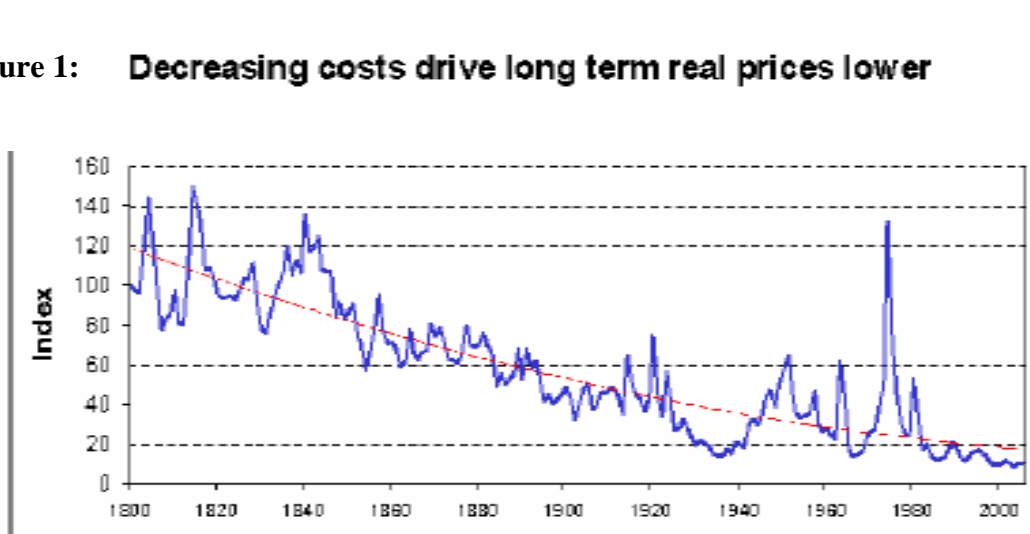
The income for Australia's sugar industry fluctuates significantly and is determined by volatile world prices and relative currency values. World price volatility is caused by changes in production, consumption and trade, and government policies, throughout the world. Protected markets, preferential trade arrangements, export subsidies and domestic pricing policies significantly influence world sugar trade and prices.

There are two distinct markets for sugar – the 'freely traded raw sugar market' and the 'managed market'. The freely traded raw sugar market is characterised by sugar that is priced against the benchmark of the New York Board of Trade Raw Sugar Futures Contract Number 11 (NY11) and is exposed to market signals that bring demand and supply towards balance. The managed market is characterised by government interventions which result in excess production that is sold into the freely traded raw sugar market, often at less than 'fair market value'. Therefore, the real costs of these interventions are transferred to the freely traded raw sugar market, increasing price volatility.

The cycle of innovation and change and subsequent reduced costs of production generally drives the long-term downward trend in agricultural commodity prices. Sugar prices are consistent with this trend, as shown in Figure 1.

**Figure 1 – Sugar prices in real terms, 1800 to 2004**

**Figure 1: Decreasing costs drive long term real prices lower**



Note: The index is the nominal sugar price deflated. The index is set so that the year 1800 is the base period (100). Sugar price data in the early part of the series reflect the prices of raw sugar in

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

London. More recent sugar price data, since the establishment of the New York exchange, use the prompt NY11 raw sugar futures prices.

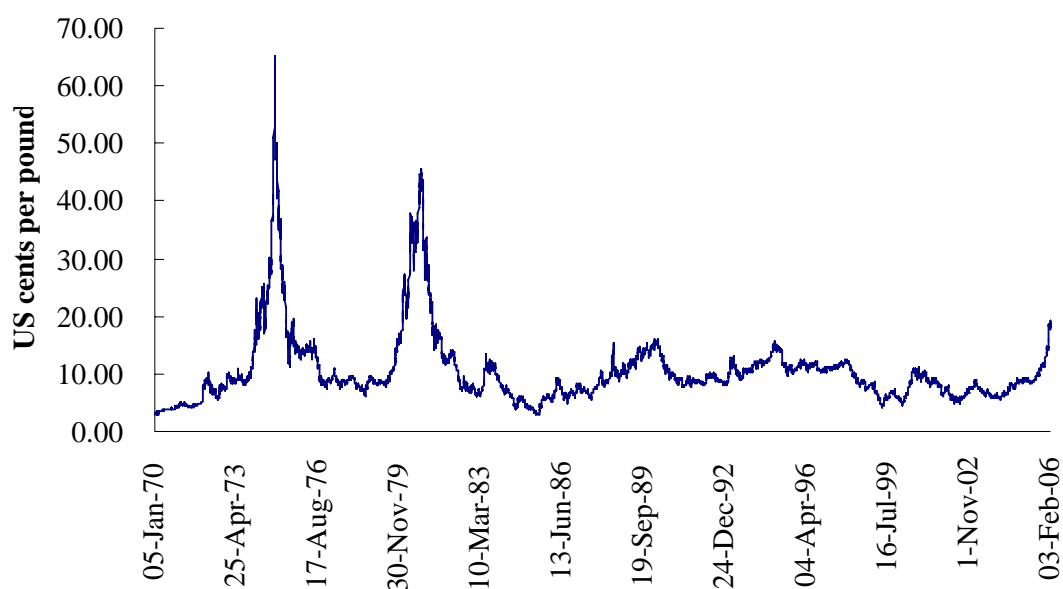
Source: LMC International

### Price volatility

The NY11 is traded on the New York Board of Trade. The contract is a deliverable futures contract (albeit involving small quantities), with deliveries accepted from 28 sugar-producing countries. The contract is recognised as a world benchmark for freely traded raw sugar prices.

Figure 2 indicates the average daily settlement price for the NY11 contract, from its launch in 1970 to February 2006. The raw sugar price has experienced significant volatility and has ranged from 2.79 US cents per pound to 65.20 US cents per pound since 1970.

**Figure 2: NY11 daily price, 1 January 1970 to 10 February 2006 Nominal Prices**



Source: New York Board of Trade

All commodities experience cycles of price fluctuation which are linked to various price determinants, including investment cycles, and the durations of these cycles vary.

The indicative world market prices for raw sugar traded on the NY11 from 1990 to 1998 average over 10 US cents per pound, but for the period from 1999 to early 2006 the average was only 7.77 US cents per pound. This trend in price reflects a number of factors – primarily the increasing and significant influence of Brazil on the world price of raw sugar. Brazil supplies half of the world's raw sugar export market. This sugar is accounted for from one quarter of Brazil's sugarcane. Significant quantities go to the ethanol market and the domestic sugar market. This domination of the market greatly influences the international price of sugar traded and is reflected in the NY11 and sugar pricing that is benchmarked on the NY11.



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### Currency volatility

Exchange rate movements of national currencies have a significant effect on the domestic price received by sugar producers, because futures contracts are in United States currency. Therefore, the price received by producers in each country needs to be converted to local currency. In Australia's case this can mean a large disparity in the pool price for raw sugar. For illustrative purposes, if an exchange rate of 0.60 to 0.80 USD per AUD is anticipated over the short term, and a NY11 price of 10 US cents per pound is nominated, an indicative value for raw sugar can range from approximately AUD367 per tonne to AUD276 per tonne, as shown in Table 6.

**Table 6: Raw sugar values in Australia (AUD)**

USD/ AUD	US cents per pound							
	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00
<b>0.60</b>	220	257	294	331	367	404	441	478
<b>0.65</b>	204	237	271	305	339	373	407	441
<b>0.70</b>	189	220	252	283	315	346	378	409
<b>0.75</b>	176	206	235	265	294	323	353	382
<b>0.80</b>	165	193	220	248	276	303	331	358

To manage exposure to sugar price volatility and exchange rate movements, a range of financial instruments such as futures, forward contracts and currency hedges are available.<sup>27</sup>

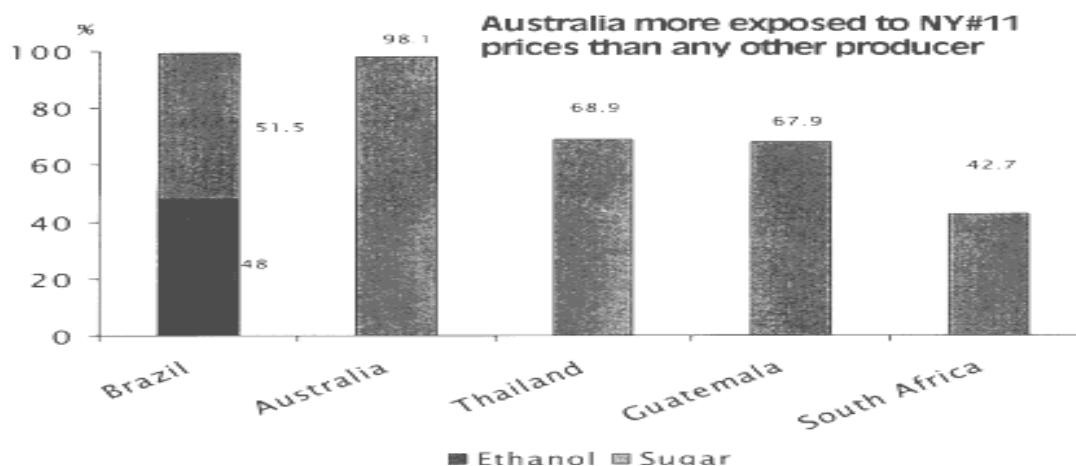
As shown in Figure 3, Australia's sugar industry is highly exposed to the world freely traded raw sugar price. This is a significantly greater exposure than its competitors face, because Australia exports around 80 per cent of its raw sugar production and applies export price parity to the domestic sugar market – this is generally not the case for most of its competitor countries. The impact of the exposure of a sugar-producing country to world prices depends on various factors, including the proportions of domestically traded and internationally traded sugar; the mix of products produced from cane and beet; and the level of domestic intervention and international trading subsidy programs.

In some cases Australia's competitors apply domestic support policies, and in other cases they may have a low export propensity compared to total sugar production. Australia's sugar industry is more highly sensitive to incremental changes in world prices. This is unlikely to change in the foreseeable future, as Australia's sugar industry is essentially an export market commodity supplier. Australia is generally a 'price taker' in most agricultural commodities because it is of insufficient scale to significantly influence world prices. This is the case for Australia's raw sugar exports.

<sup>27</sup> Sugar Industry Review Working Party (1996), *Sugar winning globally*, report to the Hon. T.J. Perrett MLA, Minister for Primary Industries, and the Hon. John Anderson MP, Minister for Primary Industries and Energy.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

**Figure 3: Effect of domestic protection on sugar producers with an exportable surplus**



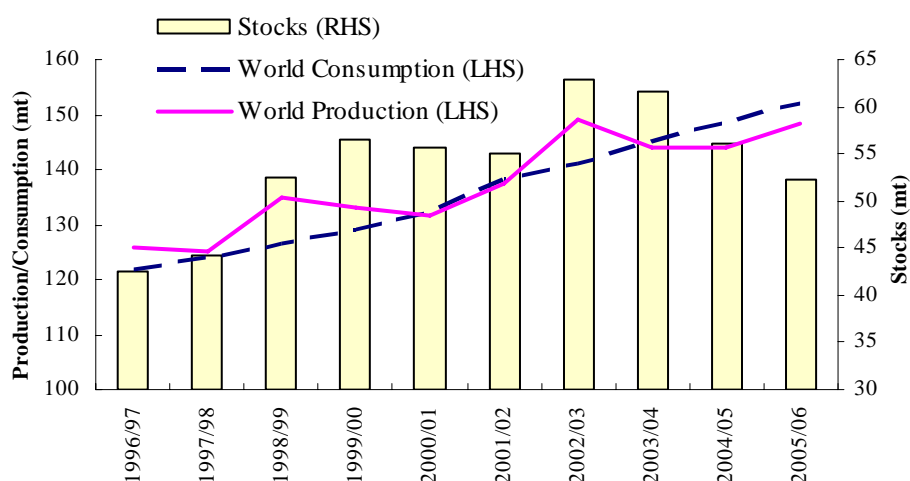
Note: Brazil's cane industry does not receive direct support and approximately half of the cane produced is directed towards ethanol production.

Source: LMC International 2003 – raw data

### Global production and consumption

World production of (raw and white) sugar in 2005–06 is estimated to exceed 148 million tonnes and consumption is correspondingly predicted to reach almost 152 million tonnes. This reflects a converging production and consumption position tending towards a supply deficit. Most recently, importers have been reducing their stocks of sugar in preference to paying higher prices for imports.<sup>28</sup> Czarnikow Sugar's analysis of the sugar market forecasts a draw-down in global stocks of 3.03 million tonnes of sugar in 2005–06.<sup>29</sup> The world trade balance from 1996–97 to 2005–06 is depicted in Figure 4.

**Figure 4: World trade balance of sugar, 1996–97 to 2005–06**



Source: LMC International 2006

<sup>28</sup> Queensland Sugar Limited 2005.

<sup>29</sup> Czarnikow Sugar Review (2005), 14 December 2005, report no. 1983 e 72.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

World annual production varies according to growing conditions, domestic policies in sugar producing countries, and demand from consumers. Government policies such as domestic price support regimes, sugar import restrictions and export subsidies reduce world consumption and stimulate world production. This has a flow-on effect to the freely traded raw sugar market in which Australia's sugar industry participates.

Consumption is driven primarily by population, price and income growth, as well as culture, relative prices of sugar and substitute sweeteners, availability of sugar, preferences of consumers and policies of governments.

Sugarcane can be an attractive commodity for developing and least developed countries (LDC) to cultivate and process for domestic consumption and export. Sugar is a staple food product in many developing countries and LDCs. Many developing and LDC countries have concerns about food security, and their governments encourage sugar production. Sugarcane is also relatively easy to grow and can be produced efficiently in tropical climates by a wide range of technologies from low to high-capital intensive production. Further, sugar can be an important source of foreign exchange earnings for developing and LDC countries. Often these countries are granted access to protected markets at preferential prices – for example, through the African, Caribbean and Pacific (ACP) and Everything But Arms (EBA) policies of the European Union.

Developing countries and LDCs are becoming increasingly influential in world sugar consumption, production and trade. About two-thirds of the world sugar consumption is in these countries. In addition, almost all sugar consumption growth is due to demand generated by these countries as populations and personal disposable incomes rise.

Sugar has a number of competitors, such as calorific sweeteners produced from corn starch, for example high-fructose corn syrup (HFCS). HFCS is used extensively in the United States and Japan as a substitute for sugar in a number of products, such as soft drinks. In the United States, HFCS accounts for almost 50 per cent of calorific sweetener consumption.

In addition, there is increasing concern about the rising incidence of obesity and other medical conditions, such as diabetes, which is impacting adversely on sugar consumption, particularly in developed countries. There is a perception that excess consumption of sugar may lead to diabetes. This may, however, be a misconception, as it is becoming increasingly evident that other high-calorie foods, such as fats and oils, may play a more significant role in causing this condition than the consumption of sugar does.

Sugar-based health concerns were further heightened by the World Health Organisation in its 2003 health recommendations on the intake of free sugars, which suggested that sugar should comprise no more than 10 per cent of total calorie intake.<sup>30</sup> The impact of this Advisory is likely to be most significant in developed countries, where it is estimated that sugar consumption is most likely to exceed this level. This concern is leading to a growing demand for alternative, low-calorie

---

<sup>30</sup> LMC International (2004), *Sweetener analysis*, March.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

substitutes, such as aspartame, as well as a decreased absolute demand for sweeteners, and is likely to slow the rate of growth in global sugar consumption.

Low-calorie substitutes include saccharine, aspartame, cyclamates and sucralose. To date the use of artificial sweeteners has been limited by their poor properties in baking, since most lack the bulk of sugar and do not respond well to high temperatures.

Sucralose overcomes most of these limitations and is increasing its market share. In addition, a new production facility for sucralose is being developed in Singapore. Other new 'natural' sweeteners, such as stevia and thaumatin, are also being revisited in the light of the success of sucralose.

Over the medium term, sugar consumption is expected to rise broadly in line with increases in population and income levels. However, growth in developed countries may be less pronounced, due to the health concerns outlined above as well as declining growth in demand at higher levels of personal disposable income. At higher income levels, rising per capita incomes no longer necessarily have the same positive effect on the growth of sugar consumption.

The sugar industry worldwide is diversifying and evaluating its options. Alternate products that can be commercially manufactured from raw sugar and sugarcane and associated by-products may, if economic, mitigate the likely decline in human sugar consumption.

### **Trade in sugar**

As mentioned, global trade in sugar (raw and white) is comprised of two distinct markets – the 'freely traded raw sugar market' and the 'managed market'. The managed market consists of traded sugar that is insulated from market forces by the intervention of domestic support regimes, export subsidies or preferential access arrangements to countries with import protection. Generally, producers that participate in this market are isolated from international prices, and the intervention distorts the managed market and results in excess production. This oversupply is disposed of at less than 'fair market value' in the freely traded raw sugar market, exacerbating raw sugar price volatility. This in effect means that, in part, the real cost of the trade restraints in the managed market are passed on to producers supplying the freely traded raw sugar market.

Conversely, the market for freely traded raw sugar consists of sugar that is traded against the benchmark of the NY11. It is therefore subject to market signals and economic forces that would, other factors being equal, tend to bring production and consumption towards equilibrium. This may reduce price volatility and allow planning by suppliers.

The world market for freely traded raw sugar functions largely as a residual market. Most producers of sugar prefer to supply their domestic markets and preferential trade markets where they can receive preferential prices and/or guaranteed market share. Around 70 per cent of the world's sugar is consumed in the country of production. Sugar that cannot be placed in these markets is sold into the freely traded raw sugar international market. The government policies of participants in the managed market

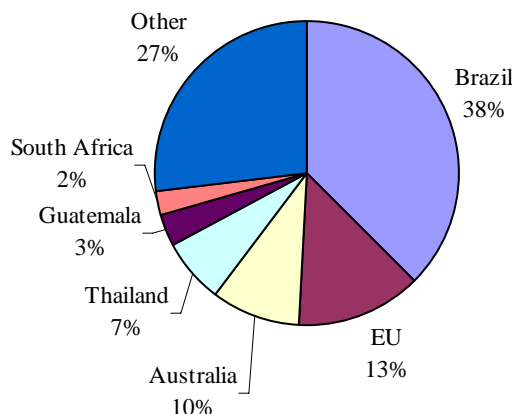
## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

are transmitted to the freely traded raw sugar market through excess demand (buying from the freely traded raw sugar market and inflating the world price) or excess supply (selling into the freely traded raw sugar market and depressing the world price). This increases the amplitude of cyclical price volatility in this global market.<sup>31</sup>

This increased price volatility impacts on the ability of participants who mainly operate in the freely traded raw sugar market to make informed investment decisions.

Brazil, Australia, the European Union, Thailand, Guatemala and South Africa dominate total sugar export trade, which was almost 47 million tonnes of sugar in 2004–05. Around 26 million tonnes was raw sugar and just over 21 million tonnes was white sugar. The composition of world exports is depicted in Figure 5.

**Figure 5: Major sugar (raw and white) exporters' percentages of world exports, 2004–05**



Source: LMC International 2006

The major net sugar importers include Russia, the Middle East, Indonesia, South Korea, Japan, the United States, Malaysia and Canada, with India's status varying depending on domestic production conditions.<sup>32</sup> Many of these countries have preferential arrangements for the importation of sugar, and many countries do not have free access to these markets.

The major export markets for Australia's raw sugar are principally in the Pacific Rim: South Korea, Japan, Malaysia, Indonesia, China, Canada and the United States.<sup>33</sup> Australia is denied open access to the European Union. The composition of world imports is displayed in Figure 6.

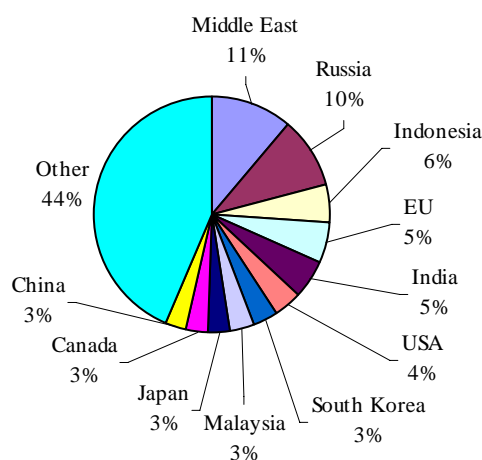
<sup>31</sup> Sugar Industry Review Working Party 1996.

<sup>32</sup> Middle East includes the Persian Gulf, Saudi Arabia, Syria, Iraq, Iran and Yemen.

<sup>33</sup> Access to the United States is through an import quota.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

**Figure 6: Major sugar (raw and white) importers' percentages of world imports, 2004–05**

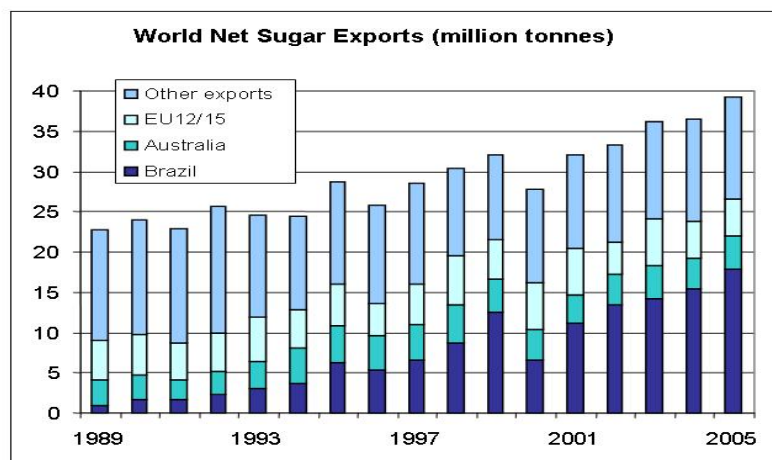


Source: LMC International 2006

### **Increasing concentration**

Major countries trading sugar on the global market are concentrating in number, as shown in Figure 7. In 1990, the five major exporters supplied 60 per cent of traded sugar (raw and white), but they now supply 70 per cent of the same global trade. Since 1990 Brazil has expanded production significantly: in 1990 it exported 1.6 million tonnes of raw sugar, and in 2004–05 it was expected to export around 17 million tonnes, a more than tenfold increase.

**Figure 7: World net sugar exports**



Source: FO Licht 2005

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

As Brazil's share of world supply increases, world prices become increasingly sensitive to incremental fluctuations in Brazil's output. Smaller export suppliers are becoming less relevant to international trade and price determination – they are price takers. To be internationally viable, suppliers need to be competitive against Brazil.

### Raw sugar

Australia's major competitors in the raw sugar market are Brazil, Thailand, South Africa and Guatemala. As shown in Table 7, these countries together supply almost 78 per cent of total raw sugar exports.

**Table 7: Raw sugar exports, 2002–03 to 2005–06**

	2002–03		2003–04		2004–05		2005–06 <sup>(A)</sup>	
	Volume	% world raw sugar exports	Volume	% world raw sugar exports	Volume	% world raw sugar exports	Volume	% world raw sugar exports
Brazil <sup>(B)</sup>	8 967	37.6	10 774	44.0	12 442	46.9	12 160	46.5
Australia	3 984	16.7	3 773	15.4	4 319	16.3	4 122	15.8
Thailand	2 894	12.1	1 958	8.0	1 678	6.3	1 253	4.8
South Africa	1 156	4.9	818	3.3	820	3.1	920	3.5
Guatemala	1 051	4.4	891	3.6	1 323	5.0	1 323	5.1
<b>Total above</b>	18 052	75.8	18 214	74.3	20 582	77.5	19 778	75.6
<b>World</b>	23 826		24 501		26 552		26 157	

Notes:

<sup>(A)</sup> Figures for 2005–06 are estimates.

<sup>(B)</sup> Based on Brazil's raw sugar exports as defined by LMC International. LMC International reports total sugar exports (raw and white) by Brazil as 13 083 tonnes, 14 793 tonnes, 17 639 tonnes and 16 969 tonnes in respective years.

Source: LMC International 2006

### Australia's competitiveness in the raw sugar market

Brazil's effective costs of sugar production were reported to be around 5 US cents to 6 US cents per pound early in the twenty-first century, when its sugar industry expanded and its currency dramatically depreciated against the United States Dollar (USD). More recent information suggests that Brazil's costs may have increased to a level of 8 US cents to 9 US cents per pound in 2005 – although this cost estimate is an average across Brazil's sugar industry, which is mainly concentrated in the centre-south region. There are significant differentials in costs across the sugar producing regions of Brazil. There is significant scope for improved efficiencies in Brazil's industry, through uptake of technology and mechanisation, which would act to mitigate cost inflation in the sugar industry. Brazil's ethanol and sugar industries are examined in greater detail in Chapter 5.

Another issue influencing Australia's competitiveness is the substantial differences between countries in the costs of factors of production including capital (interest rates and capital replacement costs), taxation, labour, land and energy. There are also substantial differences between producing countries when it comes to the compliance costs of environmental, labour and social standards set by national governments. These compliance costs can sometimes be a significant component of an industry's total cost structure. Typically producers in developing countries and LDCs are not exposed to equivalent business overhead costs to those incurred in developed

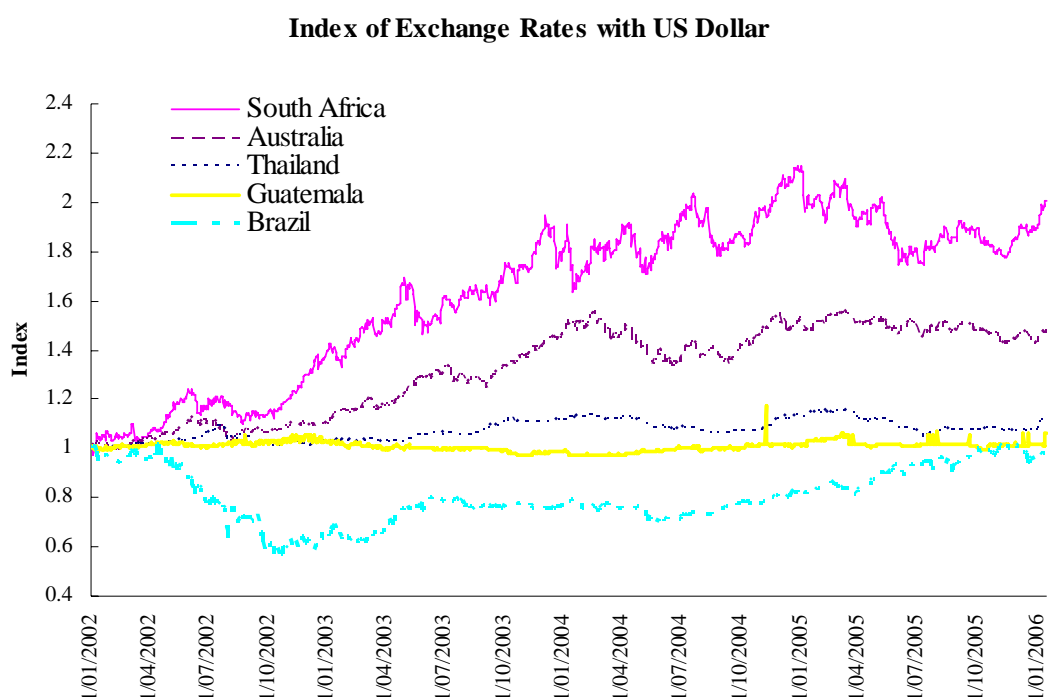
## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

countries. Due to differentials in cost structures many can profitably produce and market sugar at lower world prices.<sup>34</sup>

Australia's comprehensive business regulatory environment imposes overhead costs on industry participants, which are likely to remain for the foreseeable future.

As shown in Figure 8, Australia's currency is one of the strongest amongst its sugar industry competitors. This exchange rate differential reinforces the need to implement continual cost efficiency measures. This is because the higher domestic returns to competitors, due to exchange rate advantages, allow them to participate in the raw sugar market at lower global commodity prices.

**Figure 8: Comparison of relative currency exchange rates**



Source: [www.oanda.com/converter/fxhistory](http://www.oanda.com/converter/fxhistory)

### **Australia's raw sugar customers**

There is unlikely to be a major change in Australia's raw sugar customers. Despite significant efforts by the Australian Government, enhanced access to managed sugar markets is unlikely in the foreseeable future, because of the gradual pace of trade liberalisation.

Australia exports around 4 million tonnes of raw sugar per year. With the expansion of Brazil's sugar industry, Australia is now the world's second largest net exporter of raw sugar, supplying approximately 16 per cent of global annual trade in raw sugar.

Australia's raw sugar customers are refiners of sugar principally in the Pacific Rim: South Korea, Japan, Malaysia, Indonesia, China, Canada and the United States. Potential customers include Russia, Ukraine, countries in north and west Africa, and

<sup>34</sup> Gudoshnikov, S., Jolly, L. and Spence, D. (2004), *The world sugar market*, International Sugar Organisation, p. 147.



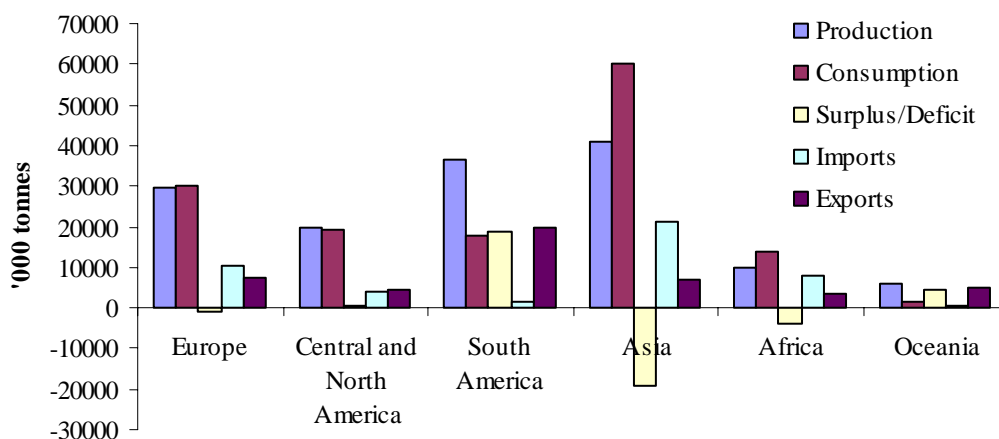
## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

India, depending on their own domestic production. Australia has access to the United States market through a quota system. Australia's small, but high-value (because of the high domestic prices for sugar in the United States), quota is 87 402 metric tonnes. There have been some short-term increases in the quota due to short-term difficulties with the United States's domestic sugar supply. The quota is allocated by the Australian Government based on historic production data. Due to the small quantities involved, the Western Australian and New South Wales industries typically sell their quota allocation to Queensland Sugar Limited (QSL).

Australia has developed strong relationships with its customers in the Asian region. Australia's sugar industry has faced significant difficulties over recent years, and the regular requests by Australia's sugar industry for government financial assistance could be perceived negatively by customers and impact on their perceptions of Australia as a reliable long-term supplier of raw sugar.

Australia, due to its geographical proximity, is well placed to meet the increasing raw sugar supply deficit in Asia, which escalated from around 5 million tonnes to 19 million tonnes between 1995–96 and 2004–05. Figure 9 shows the regional supply and demand balances for 2004–05.

**Figure 9: Regional supply and demand balances for sugar (raw and white), raw value, '000 tonnes, 2004–05 crop year**



Source: LMC International 2005b

Australia's raw sugar industry claims several advantages over its competitors and, conversely, acknowledges some constraints. Australia appears to have a preferred product, because of quality standards, consistency, reliability and timeliness of delivery. QSL has developed strong relationships with major refiners in import markets in Asia. Australia has freight advantages over Brazil in these markets, and a product preference ahead of Thailand.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Factors influencing trade**

Some major sugar-producing countries – China, the European Union, India and the United States – intervene in the market, through government policies which regulate their sugar industries. In particular, they apply trade restrictions (non-tariff barriers) and domestic price support mechanisms which distort raw sugar prices. These major countries use the international freely traded raw sugar market to manage domestic sugar surpluses and shortfalls. In doing so, they pass their production and demand exposures on to the freely traded raw sugar market, adding to the cyclical price volatility in this market.

Some of Australia's major competitors – Thailand, South Africa and Guatemala – intervene in their domestic sugar markets mainly through domestic regulatory policies.

Many other countries intervene in domestic markets and only their small market share prevents government actions from significantly distorting global markets.<sup>35</sup> Cumulatively, their surplus production may act to suppress prices in the freely traded raw sugar market, because they may trade excess production at less than fair value.

The domestic sugar price is higher than the world price in most countries; in some cases it significantly exceeds the world price. These pricing policies encourage sugar production even when a country does not have a competitive advantage, resulting in market distortion because the surplus is sold onto the freely traded sugar market. The sugar market is generally acknowledged to be one of the most distorted global commodity markets, due to the high degree of government regulatory intervention. Sugar is regarded as a highly 'sensitive' agricultural product in world trade negotiations, and is arguably the most sensitive agricultural product in international trade because of its socioeconomic repercussions in many national economies.<sup>36</sup>

Of great concern to Australia is that approximately 80 per cent of world sugar (white and raw) production and 60 per cent of world sugar (white and raw) trade is at subsidised or protected prices.<sup>37</sup>

### **Reform of sugar intervention policies**

Trade and domestic policy reform is a desirable goal for all agricultural commodities, including sugar. Benefits of trade liberalisation include increased market access, lower domestic support mechanisms and the dismantling of export subsidies in sugar-producing countries. The Organisation for Economic Cooperation and Development (OECD) suggests that improved market access will have a greater impact on trade flows than any other element in the current World Trade Organisation (WTO) negotiations. This is because of the continuing incidence of significant market

---

<sup>35</sup> Larson, D.F. and Borrell, B. (2001), *Sugar policy and reform*, World Bank policy, research and external affairs policy research working paper, May, WPS 2602.

<sup>36</sup> The definition of a 'sensitive product' is currently being negotiated in the World Trade Organisation. A 'sensitive' product can be nominated on the basis of economic, political or social reasons to sanction slower phased reductions in trade barriers (tariffs) than those that apply to other goods and services. Countries will be able to nominate a certain percentage of their tariff item lines as sensitive products.

<sup>37</sup> Mitchell, D. (2005), *Sugar policies and opportunity for change*, global agricultural trade and developing countries policy research working paper, February WPS 3222.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

access barriers in both developing and developed countries, and the fact that these policies are distorting.<sup>38</sup>

Sugar has traditionally been viewed and treated as a sensitive product in world trade. Therefore, reform of domestic support and international trade policies relating to sugar has been severely limited in other parts of the world.

Government interventions through domestic and trade policies relating to sugar are often long standing and based on historic trade arrangements (many based on former colonial relationships), food security, and conflicting interests between growers and sugar mills. As a result of these interventions there has been the emergence of large domestic sugar price differentials between countries. This translates into difficulties in harmonising sugar policy positions in bilateral, regional and multilateral trade forums.

Government policies may bias investment decisions in milling and improvements to land, and become embedded in capital costs and other fixed factors of production. Their effects are compounded because they must be maintained to protect these investments. For example, investments are sometimes based on continuing preferential access to protected markets, such as ACP exports to the European Union. For the majority of the ACP countries, export earnings from these sales are important to their national economies, contributing significantly to national incomes, foreign currency reserves and government revenues. Policy changes in destination markets can have significant consequences for the economies of these countries.

The effects of distorting, protectionist policies often lead to the formation of well-defined groups that are dependent on continued interventions. Producer groups often base arguments for government protection of domestic markets on the regulatory regimes of third countries. The domestic sugar industry policies in many countries are shaped by the intervention policies of a few large countries involved in the global sugar market.

Until reforms are initiated by the nations with the most comprehensive support regimes for their sugar industries, it will be difficult for wider reform to be contemplated:

Long-standing government interventions frequently displace both the markets and the institutions required to produce efficient outcomes. In addition, based on long-standing policies, households and firms made decisions that are costly to reverse. The result is a legacy of path-dependent policies, where approaches and instruments are greatly influenced by past agreements and previous interventions. The accumulated effects of these interventions are embodied in the livelihoods, political institutions, capital stocks and factor markets – elements that not only dictate the starting point for reform but also determine which paths are feasible.<sup>39</sup>

### **World Trade Organisation**

The current Doha Round of WTO negotiations seeks further dismantling of trade distorting national behaviours in addition to that achieved during the Uruguay Round.

---

<sup>38</sup> Organisation for Economic Cooperation and Development (OECD) (2005a), *Tackling trade in agriculture*, OECD policy brief, November.

<sup>39</sup> Larson, D.F. and Borrell, B. 2001.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

Reaching a consensus on agricultural trade reform has been fraught with difficulty as sugar is considered a highly sensitive product in world trade terms. The benefit of any agricultural trade liberalisation is unlikely to flow through to the global sugar market in the short term or even the medium term.

The Australian Government is committed to trade liberalisation across the traded goods spectrum and actively supports the WTO negotiations. The Australian Government also strongly endorses the efforts of the Global Alliance for Sugar Trade Reform and Liberalisation (Global Sugar Alliance) and Australia's sugar industry membership of this organisation. The Global Sugar Alliance is made up of sugar producers from exporting and importing countries who are working to build international support for a more equitable global trade in sugar. The group was founded in 1999 with the aim of achieving progressive reform of domestic support programs and international trade policies detrimentally affecting sugar industries worldwide. It is involved in the current WTO negotiations.

### **European Union sugar regime WTO challenge**

Brazil, strongly supported by Australia and subsequently joined by Thailand, successfully challenged the European Union's sugar export subsidies through the WTO dispute settlement mechanism. The European Union dominates world trade in white sugar, which it produces predominantly from sugar beet. In 2004–05 the European Union exported just over 6 million tonnes of white sugar and imported just over 1.8 million tonnes of raw sugar and 0.7 million tonnes of white sugar.

Traditionally, the European Union has operated a highly regulated sugar industry comprising a complex system of quotas, domestic support price regimes, export subsidies and preferential access by developing countries (through the Sugar Protocol with the ACP group of nations and the EBA initiative).

The WTO determined that certain export subsidies applying to sugar were in breach of the European Union's WTO commitments, and a sharp reduction (4 million to 5 million tonnes of white sugar) in exports is required.

The WTO dispute settlement panel found that C quota sugar exports by the European Union benefit from export subsidies by being cross-subsidised with revenues from production under A and B quotas.<sup>40</sup> In addition, the European Union exceeded its export subsidy commitments, through its subsidised exporting of 1.6 million tonnes of sugar, which is equivalent to imports from ACP countries and India.<sup>41</sup>

After May 2006 only the 1.27 million tonnes of white sugar that is bound under its WTO export subsidy commitment will be eligible for export, and payments will be capped at EUR499.1 million. The European Union is required to comply with the WTO decision by 22 May 2006.

---

<sup>40</sup> C quota sugar is over-quota production that is exported outside the European Union. A and B quotas relate to domestic and export production respectively.

<sup>41</sup> European Commission (2005), *The European sugar sector: its importance and its future*, European Commission, June.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

The European Union will institute phased reform proposals. The IOG understands (based on a press release issued by the European Commission on 24 November 2005) that the major elements of the programme are:

- The intervention price for white sugar (currently set at EUR631.9 per tonne of sugar) will be phased out and replaced by a reference price system which is 36 per cent lower. Prices will decline to this new level over four years: EUR505.5 in 2006–07, EUR458.1 in 2007–08, EUR410.7 in 2008–09, and EUR404.4 in 2009–10 and beyond.
- Quotas A and B will be merged and the quota system will remain in place until 2014–15, without review.
- Payments on a per tonne basis over four years of EUR730 in 2006–07 and 2007–08, EUR625 in 2008–09 and EUR520 in 2009–10 will be made to encourage factory closure and renunciation of quota as well as to cope with the social and environmental impact of the restructuring process.
- In those countries giving up at least 50 per cent of their quotas, there may be an additional coupled payment of 30 per cent of the income loss for a maximum of five years, plus possible limited national aid.
- Compensation will be made to sugar beet farmers at an average of 64.2 per cent of the 36 per cent price cut through a decoupled payment. This payment will be included in the Single Farm Payment and linked to environmental and land management standards.
- A private storage system will be introduced as a safety net in case the market price falls below the reference price.
- Developing countries will continue to enjoy preferential access to the European Union market at attractive prices. Those ACP countries which need it will be eligible for an assistance plan worth EUR40 million for 2006, which will pave the way for further assistance.

It is unlikely that additional access for sugar will be granted by the European Union, but additional raw sugar markets may emerge, as white sugar exports from the European Union are predicted to contract. Declining European Union sugar exports mean there will be minimal beet sugar traded in the international market. This may influence the dynamics of the global sugar market. Demand for raw cane sugar could increase, and many refiners are likely to evaluate opportunities to increase their refining capacities to supply the market currently occupied by European Union beet sugar. In the short term, the European Union may seek to dispose of its reserves of sugar onto the freely traded market before the 22 May 2006 deadline.

These decisions will impact on the composition and direction of global sugar trade flows, and there may be opportunities for low-cost cane sugar producers to increase supply to meet changing global sugar market dynamics.

### **Free trade agreements and negotiations**

In addition to the Doha Round of trade negotiations in the WTO, which remains Australia's top trade priority, Australia is involved in an extensive programme of free trade agreement (FTA) negotiations. This is part of the mutually reinforcing multilateral and bilateral trade reform agenda of the Australian Government.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

Australia has announced the commencement of negotiations towards FTAs with three bilateral partners – China, Malaysia and the United Arab Emirates – and towards a regional FTA between Australia, New Zealand and the Association of South East Asian Nations (ASEAN). These negotiations follow on from the FTAs finalised with the United States and Thailand and existing FTAs with New Zealand and Singapore. In addition, Australia and Japan are undertaking a joint study on the feasibility of an FTA. This study is scheduled to be completed by April 2007.

As part of the approach to FTA negotiations the Australian Government is seeking comprehensive agreements that maximise the benefits of the arrangements to all parties to the negotiations. Consequently the Australian Government does not support the exclusion of any sectors or industries, including sugar, from the negotiations or from any final outcome.

Multilateral trade reform and liberalisation is a gradual process. There have been some gains made in the WTO through tariff reductions, liberalised tariff quotas and restrictions on the use of subsidies in previous rounds and, more recently, by successfully challenging the European Union sugar regime. Improved market access, however, is the key goal for trade reform and is harder to secure. The Australian Government's position in the Doha Round aims to deliver the type of substantial improvement in market access being sought by industry.

Australia's sugar industry is working with likeminded countries in the Global Sugar Alliance, and the Australian Government is working in multilateral and bilateral forums, to progress trade reform.

### **Points arising**

- Raw sugar is a simply transformed, internationally traded commodity which many countries can produce easily.
- There are two major markets for traded sugar – the freely traded raw sugar market and the managed market.
- World prices for freely traded raw sugar are cyclically volatile and are characterised by a long-term downward trend.
- Australia's sugar industry is an export commodity supplier and price taker on the world market and will remain so in the foreseeable future.
- There is a concentration of suppliers to the global market and, to be internationally viable, suppliers need to be competitive with Brazil.
- Trade is distorted by domestic and international policies and the trade liberalisation process is gradual.
- Currency exchange rates have an impact on producer returns.
- There are perceived health issues related to excessive sugar consumption, mainly in developed countries.
- Developing countries and LDCs are generating increases in the consumption of sugar.
- Alternative sweeteners to sugar appear to be gaining consumer acceptance.
- The WTO Doha Round may encourage increased sugar production in developing countries and LDCs.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

- Changes to the European Union sugar regime may influence the dynamics of the global sweeteners market.
- Queensland's new marketing arrangements should maintain customer confidence in export sugar supply and service capabilities.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION



## CHAPTER 4 – BRAZIL

### Purpose

To outline the scale of Brazil's sugar industry, summarise government policies that encouraged sugarcane production, review the potential for industry expansion and evaluate the intrinsic importance of sugar production to Brazil's economy.

### Brazil's sugar industry

Figure 10: Regions of Brazil



The IOG considers Brazil fundamental to any discussion about the world's market for sugar. Examination of Brazil's contemporary sugar industry needs to take into account the nation's ethanol production. The focus on ethanol is a prerequisite because Brazil's agricultural policy from 1975 to the mid-1990s actively encouraged ethanol production from sugarcane, through the now-abandoned Proalcohol programme. The planned development of Brazil's ethanol industry through Proalcohol has enhanced Brazil's capacity to dominate the world market for sugar. Potential investors in the sugar industry need to be aware of Brazil's potential to divert cane from ethanol production to crystal sugar milling, and the impact on the commodity's global pricing.

As the world's dominant sugarcane producer, Brazil casts a long shadow across the international sugar market. Brazil is the world leader in the production of sugar and ethanol. With a population of 180 million, and one of the highest consuming nations of sugar per capita, it is also the third-largest sugar consumer in the world.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Brazil's agriculture development policies**

The development of Brazil's agricultural industries has been promoted by government policies since the 1960s. Since 1996 these have included preferential access to capital and exemption from export taxes. These policies have encouraged the formation of 'mega-scale' vertically integrated sugar-based agribusinesses.

On 31 October 2005, the Organisation for Economic Cooperation and Development (OECD) published a comprehensive review of Brazil's agriculture policies.<sup>42</sup> A precis of the policy planning that has encouraged the evolution of Brazil's sugar industry is highlighted below.

Brazil's policy makers traditionally manage domestic agricultural markets through regulation. Price interventions were introduced in the 1940s, amid wartime food security concerns. From the 1950s, Brazil adopted an import substitution, industrialisation economic strategy, which involved wide-ranging controls over supply and prices in the agrifood sector. Prices were both supported for producers and subsidised to consumers.

These policies continued until the late 1980s, when the government began to reform what had evolved into an institutionally rigid agrifood price system. Special marketing regimes existed for sugar, regulated by the Institute of Sugar and Ethanol Marketing Board, which set overall production and marketing quotas and controlled prices and trade. The government retained the regulated market regime until the mid-1990s, when the domestic market was liberalised.

### **Brazil's economic reform**

Brazil's government initiated macroeconomic reforms in the early 1990s in a bid to stem hyperinflation. Annual inflation peaked at about 2 500 per cent in 1993. The Cardoso Administration introduced the Real Plan in late 1993 and by July 1994 inflation and nominal interest rates had declined. With tight monetary and fiscal policy, the indexation system dismantled, and a currency linked to the United States Dollar (USD) driving down domestic import prices, inflation fell to 22 per cent in 1995.

In January 1999, economic difficulties and capital outflows escalated when the governor of the state of Minas Geras suspended that state's debt payments to the federal government. After a managed 8 per cent devaluation of the Brazilian Real (BRL) failed, the central bank floated the currency. By February 1999, the BRL had depreciated 70 per cent against the USD. From February 1999 to July 2001 the BRL further depreciated by the same relative amount.

Contrary to initial fears, the currency float in January 1999 did not generate strong inflationary pressures. Since mid-1994 the macro-economy has stabilised and the micro-economy has generally become more efficient.<sup>43</sup> The devaluation of the BRL

---

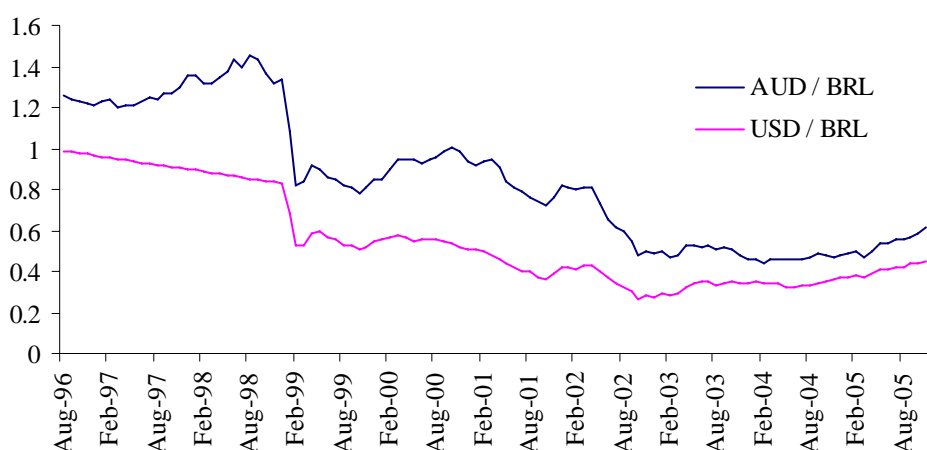
<sup>42</sup> Organisation for Economic Cooperation and Development (OECD) (2005b), *OECD Review of Agricultural Policies – Brazil*.

<sup>43</sup> Austrade (2001), *Investing in Latin American growth – unlocking opportunities in Brazil, Mexico, Argentina and Chile*, Australian Government Department of Foreign Affairs and Trade, Economic Analytical Unit.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

relative to the Australian Dollar (AUD) and the USD is illustrated in Figure 11. It demonstrates the emerging relationship between the exchange rates of the AUD and BRL since early 2004. There may be an informal relationship evolving between Australia's and Brazil's currencies when compared to the United States currency. Any relative change in the exchange rate of the United States currency appears to be transmitted simultaneously to Brazil's and Australia's currencies.

**Figure 11: The effective devaluation of the BRL relative to the AUD and USD**



Source: Prof. Werner Antweiler, University of British Columbia

## **Brazil's agriculture development policies – domestic market regulation**

### **The Former Proalcool programme (1975–1997)**

Brazil's contemporary sugarcane industry developed from 1975 until the late 1990s under the control of Brazil's alcohol programme, known as 'Proalcool'. Proalcool was initially developed to reduce Brazil's dependence on imported liquid fossil fuels and conserve foreign exchange. A secondary objective was to increase the flexibility of the sugarcane-based sector by developing an alternative sugarcane-derived product.

The Proalcool programme was subject to criticism by the World Bank during the early 1990s.<sup>44</sup> Central to this criticism was that the programme encouraged diversion of sugarcane to ethanol instead of sugar at a time when international oil prices were lower in real terms than they had been when the programme was initiated. Subsequently, Brazil's reliance on imported oil had decreased due to the discovery and exploitation of domestic oil reserves.

Under Proalcool, federal government quotas were allocated annually to each of the sugar mills and distilleries. The quotas were earmarked for supply to domestic sugar and ethanol markets on a regional basis, and production exceeding quotas was available for export (but subject to export taxes). Quotas were allocated annually and

<sup>44</sup> Borell, B. (1991), *How a change in Brazil's sugar policies would affect the world sugar market*, World Bank policy, research and external affairs working paper, April, WPS 642; Borell, B., Bianco, J.R. and Bale, M.D. (1994), *Brazil's sugarcane sector – A case of lost opportunity*, World Bank policy, research and external affairs policy research working paper, October, WPS 1363.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

production that exceeded quota was frequently rewarded with an increased quota the following year.

Domestic price points for sugar and ethanol were regulated to divert sugarcane to ethanol production. For most years the world freely traded price of sugar exceeded the regulated domestic price. In addition, differential tax rates on sugar and ethanol retail prices were scheduled on a regional basis. Prior to October 1997, producers in high-cost production regions were taxed at lower rates, to put into effect a price equalisation arrangement.

During the 1990s, market reforms were introduced throughout Brazil's agricultural sector. The reforms included the liberalisation of export sugar production and repeal of sugar price controls in 1995. In 1996 the federal government commenced dismantling the interrelated differential regulatory regimes for the sugar and alcohol markets, by reducing and subsequently repealing the export tax on sugar and deregulating the market for anhydrous ethanol. The aim of these reforms was to limit subsidies to a fixed quota per mill, so that ethanol production excess to quotas would be sold at market prices.

In addition to the liberalisation of sugar prices, ex-factory prices for anhydrous ethanol were deregulated in May 1997 and the monopoly of the state enterprise Petrobras over the exploration of crude oil and refining of petroleum was revoked. By 1999, the government had liberalised prices of anhydrous ethanol and eliminated control over producer prices for sugarcane (although some small direct payments were paid to sugarcane growers in the north-east region until 2002).

By 2002 the Proalcool programme had been completely dismantled. However, the government uses several interventions to influence fuel ethanol demand, which affect the decision by sugar mills to produce ethanol or sugar from cane.

As a consequence of abandoning the Proalcool programme, prices of sugar and ethanol are now market determined, although ethanol continues to benefit from more favourable excise duty treatment than petroleum receives. In addition, the government continues to mandate the percentage of ethanol that must be blended with petroleum for use as transport fuel.<sup>45</sup>

In Brazil, petroleum may not be marketed without the addition of fuel ethanol. The government can vary the blending rate of ethanol in petroleum between a minimum of 20 per cent and a maximum of 25 per cent by volume. In June 2003, the government regulated the percentage of ethanol-based products blended in petroleum at 25 per cent. Other measures to stimulate domestic ethanol demand include banning diesel-powered automobiles for private use, offering ethanol storage credit to millers, maintaining a differential excise tax rate favouring ethanol over petroleum use, and restricting ethanol imports through a 21.5 per cent ad valorem duty and licence requirements.

---

<sup>45</sup> Larson and Borell 2001; LMC International (2005a), *Sweetener analysis*, October 2005; OECD 2005b.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

### **Brazil's industry post Proalcool**

Brazil's industry is significantly greater in scale than Australia's industry. The Agricultural Trade Office in São Paulo has forecast Brazil's total estimated production of sugarcane for the market year 2005–06 (May–April) to be 400 million tonnes, an increase of around 5 per cent from the previous year due to land expansion and favourable weather conditions.

Brazil's Institute of Geography and Statistics (IBGE) and the Agricultural Economics Institute of the State of São Paulo Secretariat of Agriculture (IEA) indicates that the area planted to sugarcane in 2005 was to be 6.455 million hectares. The area of land dedicated to sugarcane cultivation in Brazil since 1996 is summarised in Table 8.

**Table 8: Sugarcane area in Brazil, '000 hectares, 1996 to 2005**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Area</b>	4 831	4 882	5 050	4 975	4 880	5 022	5 207	5 377	6 252	6 455

Sources: IBGE, IEA. USDA Foreign Agricultural Service 2005, *Brazil sugar: semi annual*, Global Agriculture Information Network, 7 October, report no. BR5020.

The area dedicated to sugarcane production has increased by about 1.6 million hectares to nearly 6.5 million hectares since domestic market deregulation in the mid-1990s. This increase is equivalent to around three times the area of land devoted to sugarcane production in Australia.

Furthermore, there is general acceptance that the impact on production of seasonal variability in rainfall and the timing and duration of frost may be as great as plus or minus 15 per cent in an agricultural production system. The scale of Brazil's industry is important when considering seasonal variability. Brazil's 6.455 million hectares of land dedicated to sugarcane cultivation can generate a seasonal variation in production that exceeds the total output of Australia's industry in any season.

Not only was Brazil the world's largest producer of sugarcane in 2005 – it is planning to appreciably expand its sugarcane industry over the next decade. The IOG is aware that Brazil's Ministry for Sugar, Ethanol and Agro-Energy has declared that sugarcane production is targeted to increase from the current output of approximately 400 million tonnes annually to 600 million tonnes by 2013. The projected expansion of Brazil's industry is depicted in Table 9, which indicates a projected increase above 2005 production in Brazil of approximately 216 million tonnes of sugarcane. The sugarcane production levels estimated in this table may have included an assumption of 'normal' seasons throughout its timeline.

By comparison, in 2005, Australia's industry produced some 38 million tonnes of sugarcane.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

**Table 9: Projected expansion of Brazil's sugarcane, sugar and ethanol industry above 2005 production levels, 2006 to 2013**

<b>Year</b>	<b>Sugarcane (tonnes)</b>	<b>Sugar (tonnes)</b>	<b>Ethanol (m<sup>3</sup>)</b>
2006	22 467 000	1 450 000	1 029 000
2007	45 142 000	2 929 000	2 059 000
2008	70 934 000	4 438 000	3 335 000
2009	97 427 000	5 976 000	4 653 000
2010	125 955 000	7 546 000	6 125 000
2011	155 233 000	9 147 000	7 641 000
2012	185 264 000	10 780 000	9 203 000
2013	216 053 000	12 445 000	10 808 000

Source: Compiled by Australia's Embassy in Brazil from statistics provided by DCAA, SPAE and MAPA

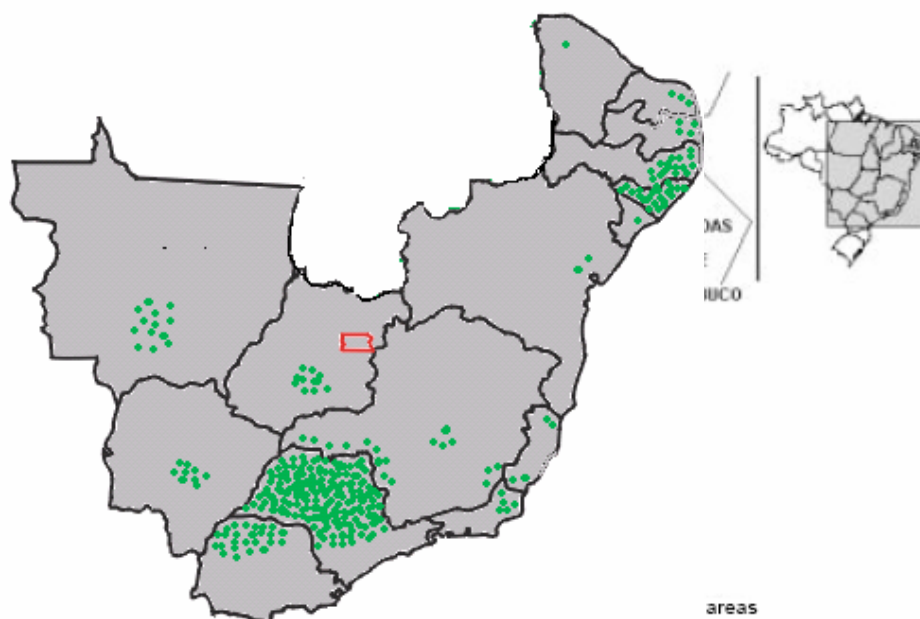
The information displayed in Table 9 was modelled by Brazil's Ministry of Agriculture, Livestock and Supply (MAPA) Sugarcane and Agroenergy Department (Departamento da Cana-de-açúcar e Agroenergia), to estimate the tonnage of sugarcane necessary to supply projected sugar and ethanol demand. MAPA added the caveat that production levels will ultimately be decided by the private sector. Nevertheless, MAPA's understanding of the industry suggests that these forecasts are consistent with the expansion planned for the next few years.

#### **Sugar-producing regions**

Sugarcane is produced in 21 of the 26 states of Brazil; however, there are two discrete sugar producing regions: the centre-south region and the north-east region. The major sugarcane growing areas in Brazil in 2005 are highlighted in Figure 12. Industry expansion previously described has taken place in the centre-south region, predominately in the states of São Paulo and Mato Grosso do Sul.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

**Figure 12: Major sugarcane growing areas within Brazil, 2005**



Source: Czarnikow Sugar 2005

### **North-east region**

Brazil's sugar industry commenced in the north-east region in the seventeenth century. Soils in the region are fertile, but the region is prone to drought and requires irrigation to achieve consistent yields. The region has poorly developed infrastructure and access to capital in the region is limited.<sup>46</sup>

In 2005, the north-east region accounts for less than 20 per cent of Brazil's sugarcane production, approximately 25 per cent to 30 per cent of the country's sugar output and approximately 10 per cent of its ethanol output. The states of Pernambuco and Alagoas dominate production in the region and account for 80 per cent of regional sugar and ethanol production. The crushing season is traditionally at the opposite time of year to that of the centre-south. It appears that the north-east is a high-cost production region within Brazil and, in future, sugar production may contract in this region.

### **Centre-south region**

In contrast to the north-east, the centre-south has good soil, topography and climate which favour sugarcane production. The largest areas of fertile soils in Brazil, called the 'red earth' (terra roxa), are found in the states of Paraná and São Paulo. The Tropic of Capricorn crosses Brazil at the latitude of the city of São Paulo and the centre-south has a semi-temperate climate and reliable high rainfall.

The natural resources of the region support a grouping of 'mega scale' vertically integrated sugar-based agribusiness. In 2005 the OECD reported that the centre-south had more experienced farmers, higher technology and input use and more adequate

---

<sup>46</sup> OECD 2005b.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

infrastructure than the north-east region.<sup>47</sup> The centre-south has large-tonnage cane farms, efficient farming practices, long harvest seasons and large, modern and efficient mills.

Sugarcane production in the region is dominated by the state of São Paulo, where sugarcane production has expanded, displacing citrus production. São Paulo accounted for 21 per cent of Brazil's total cane production, producing 5.5 million tonnes of sugar and 3.5 billion litres of ethanol, in 2004–05. The centre-south region is forecast to produce 355 million tonnes of sugarcane for the market year 2005–06.<sup>48</sup>

In 2001 the centre-south region supplied three-quarters of the country's sugarcane, over 70 per cent of the sugar output and approximately 90 per cent of the ethanol.<sup>49</sup> By 2004, the centre-south had expanded to supply 85 per cent of the country's sugarcane, over 80 per cent of the sugar output and approximately 90 per cent of ethanol production.<sup>50</sup>

Following a recent visit to Brazil, Queensland Sugar Limited reported that Brazil's sugar industry is profitable and is attracting further investment in mills and infrastructure, including ports servicing centre-south exports. However, determining the exact number of mills entering production is difficult, as mill promoters are continually seeking investment capital for projects.

According to Brazil's main private sector agriculture representative, the National Confederation of Agriculture (CNA), and MAPA, 52 additional sugarcane mills are currently planned to be commissioned by 2009. Of these, 32 will be located in São Paulo state and ten will become operational during the 2005–06 cropping season. By comparison, the Mills and Distilleries Association in the west of São Paulo State reports there are at least 33 confirmed new mill projects to be constructed in the state by 2011.

If the projected expansion occurs the region's output could increase to approximately 164 million tonnes of cane by 2010, or 28 per cent of the country's total. Between six and 12 mills could come on line by the 2006–07 harvest and augment cane-crushing capacity by between 12 million tonnes and 24 million tonnes.<sup>51</sup> The crushing season in the region was traditionally May to November; however, since 2000 the region has moved the start of its crushing to April to ease the tight domestic ethanol supply situation.

### **The new frontier**

Accompanying the expansion of the sugarcane industry in the centre-south has been expansion of the industry into the state of Mato Grosso do Sul. The IOG understands the emergence of Brazil's 'new frontier' has led to the reorientation of supply systems

---

<sup>47</sup> OECD 2005b.

<sup>48</sup> USDA Foreign Agricultural Service (2005), *Brazil sugar: semi annual*, Global Agriculture Information Network, 7 October 2005, report no. BR5020.

<sup>49</sup> Bolling, C. and Suarez, N.R. (2001), 'The Brazilian sugar industry: recent developments', Market and Trade Economics Division, Economic Research Service, United States Department of Agriculture, *Sugar and sweetener situation and outlook*, September, SSS-232.

<sup>50</sup> USDA 2005.

<sup>51</sup> Mills and Distilleries Association of the West of São Paulo (UDOP) quoted in FO Licht (2005), *International sugar and sweetener report*, 15 November, vol 137, no 34.



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

within Brazil. New frontier producers are located too far inland to deliver product efficiently to export markets; however, these producers can efficiently displace the current domestic suppliers.

The emergence of the new frontier industry has diverted supply of sugar from producers in São Paulo into the export market. This has led to substantial investment in transport and maritime logistics to service increasing export tonnages.

### Brazil's industry structure

Brazil's government policy has favoured the development of large agricultural holdings to generate export revenues. Despite recent policy programmes to encourage land tenure by small farmers, land ownership remains highly concentrated in Brazil. An outcome of the raft of interrelated government policies, including Proalcool, has been the emergence of the largely vertically integrated Brazilian sugar industry.

According to the São Paulo Sugarcane Agroindustry Union (UNICA), CNA and MAPA, there are a total of 350 mills in Brazil. As previously discussed, the exact number of mills in production is difficult to determine. The milling units within Brazil may be constructed to produce either sugar or ethanol, or both. The distribution of the milling units operating in Brazil in the 2004–05 year is illustrated in Table 10. This shows that 25 per cent of the mills can produce only ethanol and 69 per cent can produce both ethanol and sugar.

**Table 10: Distribution of milling units within Brazil for the crop of 2004–05**

Region	State	Ethanol only	Sugar only	Both
North-east	Alagoas	2	5	18
	Ceará	0	0	1
	Paraíba	7	1	2
	Pernambuco	4	4	19
	Piauí	0	0	1
	Rio Grande do Norte	1	0	2
	Sergipe	2	0	1
Centre-south	Minas Gerais	7	2	12
	Paraná	10	0	17
	Rio de Janeiro	1	1	7
	São Paulo	24	6	111
New frontier	Mato Grosso do Sul	3	0	6
	Mato Grosso	4	0	5
Rest of Brazil		14	0	13
<b>Total</b>		<b>79</b>	<b>19</b>	<b>215</b>
		<b>313</b>		
<b>Percentage of mills</b>		<b>25%</b>	<b>6%</b>	<b>69%</b>

Source: Compiled by Australia's Embassy in Brazil from statistics provided by DCAA, SPAE and MAPA

It is difficult to discern whether large sugarcane growers became sugar millers and distillers, or sugar millers and distillers invested in land to secure a supply of sugarcane. Brazil's sugarcane growing sector, sugar millers and distillers are

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

regarded, for the most part, as effectively being elements of an integrated business. As an example, Brazil's subsidised ethanol storage loans appear to be treated as a de facto support measure for the sugarcane sector, given that ethanol is regarded as a derivative of the primary agricultural activity.

As with estimating the number of mills under construction in Brazil, accurate quantification of the number of growers supplying the industry is inherently difficult. There are significant disparities between MAPA and CNA estimates because a census of growers has not been conducted.

According to CNA, independent growers are responsible for 25 per cent of the country's sugarcane production, with the remaining 75 per cent produced through integrated mill ownership. In 2005 Brazil's industry was reported as having 324 operating sugar mills ranging in annual sugarcane crushing capacity from 600 000 tonnes to 6 million tonnes, and 70 per cent of the sugarcane supply to these mills was under integrated mill ownership.<sup>52</sup>

The concentration of industry production was recognised by a Queensland Sugar Limited study tour in 2005 that reported that a typical Brazilian mill was family owned, may be managed by professional executives, incorporated a large monoculture farm of 12 000 to 20 000 hectares, crushed 1.5 million tonnes to 2.5 million tonnes of cane per season in the centre-south region or 0.8 million tonnes to 1.5 million tonnes in the north-east region, and sourced between 30 per cent and 40 per cent of its sugarcane from independent growers. Queensland Sugar Limited also reported that the large, family-controlled integrated milling businesses produce millions of tonnes of dedicated sugarcane and supplement supply from smaller independent growers.

There are differing opinions surrounding the proportion of land allocated to sugarcane production by independent growers. These views appear to reflect the diversity of Brazil's farm industry, which ranges from the subsistence-sized farming units predominant in the north-east, to the broadacre agribusiness units more common in the centre-south and the large-scale enterprises in the new frontier.

In Brazil the grower is responsible for the cost of transporting sugarcane to the mill, as is the case in most other countries, except Australia. Accordingly, the distance to a mill is an important factor influencing the decision whether or not an independent grower will grow sugarcane.

### **Brazil's economies of scale**

The IOG recognises that Copersucar is a dominant sugar business in Brazil and that, arguably, it is the largest sugar and ethanol producer in the world. Copersucar produces a diversified range of sugarcane-derived products, utilising modern facilities, and owner-operates a port terminal. Copersucar is one of the largest sugar-exporting entities in Brazil. This conglomerate consists of 91 associated production units, 29 of which are sugar and ethanol production units located in the states of São Paulo, Minas Gerais and Paraná. Within the centre-south region in 2004–05, Copersucar accounted for 18 per cent of the sugarcane (58.4 million tonnes),

---

<sup>52</sup> Dr Luíz Cortez, Faculdade de Engenharia Agrícola/Center for Energy Planning, State University of Campinas.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

17 per cent of the sugar (3.7 million tonnes) and 19 per cent of ethanol (2.63 billion litres).

Copersucar reveals on its website that in 2004–05 it generated USD1.6 billion in revenue. The domestic market accounted for 65 per cent of Copersucar's revenue, and Copersucar exported 2.27 million tonnes of sugar during the same period, highlighting the scale of Brazil's industry.

Other significant sugar businesses include Cosan, Crystalsev and Nova America. These business entities have the production capacity in their own right to significantly vary the supply of raw sugar to the world market. The continued growth in the scale of these businesses appears likely to increase the exposure to the world sugar price. Accordingly, Brazil has emerged as a strong voice in world forums advocating liberalisation of the world sugar market.

According to CNA, the level of foreign investment and participation in Brazil's industry is approximately 5 per cent of total capitalisation. However, it should be noted that MAPA has advised there are currently two major French companies investing in the sugarcane sector in Brazil: The Louis Dreyfus Group, which invests in Brazil through its subsidiary Coinbra; and the Tereos Group, which invests through its subsidiary company Guarani and a joint-venture company with Cosan. The IOG is also aware that the major international commodity trader, Cargill, owns and operates a sugar export terminal at the port of Santos.

### **Asset utilisation**

The vertical integration of the industry has allowed streamlining of the value chain within Brazil's industry. In many cases the growing and milling sectors appear to present as a single business and, in the centre-south region in particular, sugarcane production has become a relatively profitable investment stimulating expansion of the industry.

Queensland Sugar Limited reports that most of the sugarcane in Brazil is hand cut after burning. Dr Luíz Cortez substantiates this, reporting that 70 per cent of cane is hand harvested after burning and 3 per cent of the crop is hand harvested without burning. Mechanised cane harvesting accounts for 20 per cent to 27 per cent of the overall crop, but may be up to 45 per cent for some mills. Where the cane harvest is mechanised the operations are conducted on a 24-hour basis to optimise the capital invested.

A side effect of the development of the ethanol product stream has been the evolution of a longer crushing season and increased utilisation of milling assets. Brazil's mills may crush from April until early January, depending upon cane supply and the duration of the wet season. A mill has an economic incentive to commence crushing to maximise the production of ethanol soon after the end of the wet season and continue operations until the commencement of the following wet season.

Duration of season length is a factor in determining the relative amount of capital required to construct a mill. A mill commissioned in Brazil to crush 1.4 million tonnes of sugarcane in around nine months requires less capacity measured in tonnes of cane per hour than a mill commissioned in Australia that will crush the same volume of

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

cane in a five-month to six-month season. Accordingly, the construction of smaller capacity milling trains and boilers can be achieved with a smaller capital contribution by investors.

The Proalcool programme actively encouraged investment in capacity for ethanol production along with raw sugar production in Brazil's sugar mills. As indicated in Table 10, there are a small proportion of Brazil's mills that exclusively produce sugar. The amount of molasses produced by Brazil's sugar industry is minimal because the non-sucrose content of cane juice that is associated with molasses production is diverted to the ethanol production stream by mills with dual production capabilities.

Investors in Brazil's mills therefore have the opportunity to incorporate an extra 10 per cent capacity into the production of the sugar and/or ethanol, with a relatively low impact on the total capital investment in the mill. As a result of the 10 per cent surplus capacity in the mill there is some capacity to divert a proportion of sugar juice to either ethanol distillation or raw sugar production, depending on the relative price points in the two commodity markets.

In addition, cogeneration of electricity has been relatively cheap to install in new sugar mills in Brazil. The prices received for electricity exported from mills favour this investment, as the mills have extended season length during which electricity may be generated and the mills do not compete with local coal for base load electricity generation.

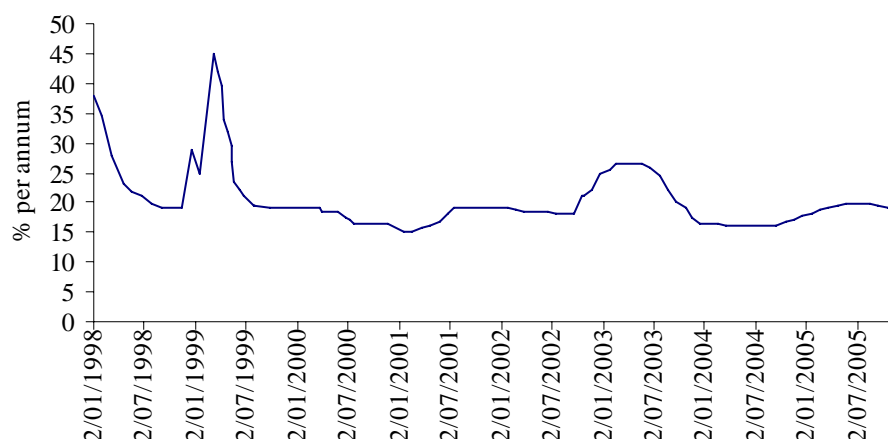
### **Impact of economic growth**

Observers of the industry are aware of the impact of the relativity of the exchange rates between the USD, the BRL and the AUD, which is displayed in Figure 11. However, given the scale of depreciation in value of the BRL against the USD since January 1999, the appreciation from early 2004 has been relatively small and appears to have been offset by appreciation in the AUD over the same period. The impact of recent exchange rate variation does not appear to be giving a material advantage to Brazil's producers. Brazil's currency is fundamentally sensitive and its value in late 2005 may be attributed to a relatively high official interest rate regime.

Inflation-adjusted interest rates in Brazil have been decreasing since 1997. The November 2005 meeting of the Banco Central do Brasil's Monetary Policy Committee decided to reduce the Selic reference rate from 19.00 per cent to 18.50 per cent per annum. This interest rate setting is at lower end of values reached in recent years, as illustrated in Figure 13.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

**Figure 13: Brazil's indicator interest rate (Selic)**



Source: Banco Central do Brasil

The interest rates displayed in Figure 13 do not appear to have inhibited the increase in sugarcane production area of about 1.5 million hectares in Brazil since the mid-1990s.

Brazil's sugar industry has the capacity to exploit production cost savings that are not as readily available to Australia's industry. An example is the potential to increase the mechanisation of the cane-harvesting process. The high percentage of hand harvesting within the industry maintains employment within rural areas but can be progressively substituted by adjusting the capital-labour ratio of Brazil's industry.

Clearly there is scope for more mechanisation of cane harvesting in Brazil. However, every mechanical cane harvester displaces 80 jobs for hand cutters, making this a contentious issue between mills and labour groups. It is believed that a hand cutter in the centre-south earns considerably more than the minimum wage in Brazil.<sup>53</sup> However, other sources indicate that a lower income figure may actually apply.

Any assessment of rising costs of sugar production in Brazil should address start-up costs. Queensland Sugar Limited has reported that the average cost of producing sugar for export from mills in the centre-south of Brazil was approximately 4.5 US cents per pound in 2002. Queensland Sugar Limited has also reported that the average cost of production has been rising in Brazil since 2002 – due to a number of factors, including rising land values and labour costs – towards 8 US cents to 9 US cents per pound in 2005. Hyperinflation is no longer a threat to or a feature of Brazil's economy and *The Economist* in November 2005 reported that 'inflation in Brazil rose to 6.4 per cent in the year to October.'

The IOG accepts that this is an estimate of the average cost of production and differentials exist between the efficiency levels of various participants in Brazil's industry. In the past, the industry has demonstrated that it can achieve efficiency improvements when challenged to remain competitive. Irrespective of rising costs of production in Brazil since 2002, the allocation of further investment funding into

<sup>53</sup> Reuters 8 September 2005 22:06:59 GMT.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

sugar production in the centre-south has been justified by the world sugar price indexed on the New York Board of Trade Raw Sugar Futures Contract Number 11 (NY11) rising from 5 US cents per pound towards 14 US cents per pound.

The participants within Brazil's industry are competing amongst themselves. UNICA reported in 2005 that 'a consideration that has been made is the equilibrium prices for sugar may be between US 8 and 9 cents per pound in the future' and 'the sugar from the Centre-South has had the world's lowest production costs for many years now, amounting to US\$125 per tonne, for US\$1 = BRL 2.8 for the more efficient mills'.<sup>54</sup> Since the date of publication the currency exchange rate has changed, affecting the value in USD terms, but the take-home message remains the same. As the new frontier develops, a greater proportion of the low-production cost sugar from the centre-south is directed to the export market.<sup>55</sup>

### **Influence of Brazil on the NY11**

The NY11 sugar futures contract provides an indication of the surplus from domestic sugar production that is available for international trade. The scale of Brazil's raw sugar production is such that the percentage of annual sugar production that Brazil exports to the freely traded market (around 50 per cent of total sugar exports) has the capacity to influence the international price of freely traded sugar (that is, the NY11).

The IOG acknowledges that Brazil's capacity to 'switch' between ethanol and sugar production is currently limited to approximately 10 per cent of production. This capacity constraint may, however, be overcome by further investment in the mills. Nevertheless, the existing capacity to switch 10 per cent of Brazil's sugarcane production between sugar and ethanol is equivalent to the total of Australia's annual production of sugarcane.

It is worth contemplating the impact on the supply of raw sugar to the world market a 'good' season in Brazil would have if it was combined with mills operating at full capacity. Seasonal fluctuations of plus or minus 10 per cent in Brazil are equivalent to Australia's total raw sugar production. The expansion in area committed to sugarcane production in Brazil could be expected to have a significant future impact upon the NY11 price index for freely traded raw sugar.

### **Brazil's petroleum, ethanol and sugar inter-relation**

Sugarcane production in Brazil increased in the late 1970s in response to the domestic demand created for ethanol. Initially the ethanol programme prescribed the use of mixtures or blending of anhydrous ethanol with petroleum. This mandate was extended by the end of the 1970s to include the use of hydrous ethanol as a petroleum substitute for use in cars fuelled exclusively by ethanol.

At the start of the Proalcool programme, the government fixed the price of petrol above that for ethanol. With the easing of oil prices in the late 1980s, and following a period of hyper-inflation, government subsidies for ethanol production declined and

---

<sup>54</sup> Isaías de Carvalho Macedo (ed) 2005 .

<sup>55</sup> Because of the high transport cost to port, the new frontier production is directed to domestic markets.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

demand for ethanol-fuelled cars fell sharply. As a result, ethanol production steadied after 1985, and peaked in 1998, as the fleet of ageing ethanol-fuelled cars became obsolete and was phased out.

Interest in ethanol production re-emerged in 2002, in part due to the substantial devaluation of Brazil's currency and the attendant increase in imported crude oil costs and escalating domestic petroleum prices. An additional factor was the introduction of 'flex-fuel' automobile engines, which are capable of running on either pure hydrous ethanol or blends of anhydrous ethanol and petroleum.<sup>56</sup> With a favourable price of ethanol for domestic consumers, the growth in sales of flex-fuel cars in Brazil has exceeded the decline of hydrous fuel cars, creating additional domestic demand for fuel ethanol.

### **The inter-relationship of sugar, oil and ethanol?**

The relationship between sugar, ethanol and the value of crude oil has been proposed as an index of the intrinsic value of sugar. The intrinsic value of sugar appears to be increasingly linked to the oil price, although this relationship appears to have developed due to the scale of Brazil's sugar industry and its potential ability to deliver sugar to the world market.

As described previously, Brazil's sugar industry has developed the capacity to produce either sugar or ethanol from cane juice. Accordingly, the margins obtained from producing ethanol or sugar influence the proportion of juice directed to manufacture either product within the capacity constraints of each mill.

Brazil produces its ethanol requirements from sugarcane and has a significant domestic market for ethanol, due to its population of 180 million and government intervention to maintain domestic demand for ethanol. The increasing proportion of flex-fuel vehicles in Brazil appears to be developing a new dynamic in Brazil's domestic demand for ethanol.

It appears Brazil's ethanol market has both a price insensitive and a price sensitive demand for ethanol.<sup>57</sup> The demand for ethanol is now influenced by the relative consumer cost of petroleum in Brazil, which is linked to the prevailing world price for crude oil.

The price insensitive demand for ethanol within Brazil arises from the mandated 25 per cent ethanol content in domestic petroleum and the demand for anhydrous ethanol from owners of exclusively ethanol-fuelled vehicles. The supply of ethanol to this market is independent of the price of petroleum, which is indexed to the price of crude oil.<sup>58</sup>

The price sensitive demand for ethanol in Brazil is generated where ethanol is priced to substitute for petroleum. The demand for ethanol increases where:

---

<sup>56</sup> Hydrous ethanol includes approximately 4 per cent water content. When ethanol is first fermented from sugars, it contains water. Anhydrous ethanol contains no water.

<sup>57</sup> LMC International 2005a.

<sup>58</sup> LMC International 2005a.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

- fuel distributors incorporate anhydrous ethanol in addition to the mandated 25 per cent content of gasohol
- drivers of conventionally fuelled vehicles add hydrous ethanol when refuelling the vehicle
- drivers of flex-fuel vehicles use additional hydrous ethanol instead of petroleum when the price of hydrous ethanol is less than 60 per cent of the petroleum price.<sup>59</sup>

The relative price differential between ethanol and petroleum affects consumer demand for ethanol supply that exceeds the off-take required by the statutory mandated domestic market.

An additional factor influencing Brazil's ethanol and sugar production is increasing capacity to supply ethanol to international customers. This market is an emerging market and the international demand for ethanol is still being quantified. However, Brazil appears to hold a favourable position to meet international ethanol trade should this develop.

The supply of sugar from Brazil's industry is now linked to price signal awareness about demand for ethanol and sugar in the domestic and export markets. The nature of ethanol demand in the domestic market is likely to encourage production of ethanol when crude oil prices are high.

It appears that the demand for ethanol in Brazil is causing more cane juice to be diverted to ethanol production and less to be used for sugar production. Brazil's sugar industry may derive an unexpected bonus from increasing ethanol production. As Brazil's supply of sugar to the world freely traded raw sugar market has contracted, the price of raw sugar has increased, improving the relative returns on crystal sugar production.

The increased profitability generated from the largely vertically integrated sugar industry can be expected to lead to higher investment in Brazil's industry. As previously mentioned, Brazil's Ministry of Sugar, Ethanol and Agro-Energy anticipates investment to increase sugarcane production by 50 per cent to 600 million tonnes by 2013. To achieve this increase in production a significant capital investment will be required, and Brazil has a relatively high cost of financial capital. The production of sugar and ethanol from further investment may alter the dynamic of Brazil's domestic sugar and ethanol markets.

The propensity with which additional capital investment in Brazil's sugar industry generates either ethanol or sugar supply may uncouple the informal indexation of freely traded raw sugar and crude oil prices. If the supply of sugar and ethanol exceeds demand in Brazil the surplus will be traded on the world market independent of the crude oil price regime.

The freely traded world raw sugar market has to contend with two unspecified dynamics determining the modality of the future supply of sugar from Brazil from 2005 onwards. The first is the rate at which additional sugarcane production is commissioned in Brazil and the propensity of this incremental production to exceed

---

<sup>59</sup> LMC International 2005a.



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

future demand for ethanol and sugar. The second dynamic is Brazil's domestic ethanol fuel demand response to any decline in crude oil prices. An easing in demand for ethanol, caused by a drop in the relative price of petroleum from a decrease in crude oil prices, may increase the quantity of sugar diverted onto the world freely traded raw sugar market.

There is considerable uncertainty about forecasts of future movements of world crude oil prices. The August 2005 Report of the Biofuels Taskforce indicates that a reasonable range for the long-term world trade-weighted oil price (in 2004 dollars) appears to be USD25 to USD45 per barrel.<sup>60</sup> A return to these prices for crude oil may lead to an uncoupling of the informal indexation of sugar and crude oil prices and, consequently, a diversion of Brazil's surplus raw sugar on to the global market.

### **Points arising**

- Brazil is the dominant supplier in the global traded raw sugar market. Its sugar industry is the 'price maker' for that market and will continue to influence the world price through:
  - its significant influence on the NY11, due to its size of crop and industry scale
  - expanding sugar production capacity
  - Brazil's large domestic market for sugar and ethanol, with a mandated market for ethanol
  - diversification of product supply, including bagged sugar, bulk sugar, refined sugar and ethanol
  - some capacity for short-term diversion of feedstock in response to prices
  - vertical integration producing efficient asset utilisation
  - modern port facilities.
- Brazil's sugarcane-based agribusinesses have favourable investment and market conditions for cogeneration of electricity.

---

<sup>60</sup> Biofuels Taskforce (2005), *Final report*, report to the Prime Minister the Hon. John Howard MP, Commonwealth of Australia

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## CHAPTER 5 – AUSTRALIA’S SUGAR INDUSTRY

### Purpose

To provide a short history of Australia’s sugar industry, the level of statutory regulation of the industry and the chronology leading up to Sugar Industry Reform Programme 2004, and to define the current status of the industry, its organisational structure and positioning within Australia’s agriculture.

### Industry history

In 1864 sugarcane cultivated near Brisbane became a viable crop and in 1865 the first raw sugar mill in Australia commenced operation, at Ormiston near Brisbane.

Sugarcane was also established in northern New South Wales. After 1870 the focus shifted to the Clarence, Richmond and Tweed River valleys.

By 1885 there were 102 mills in New South Wales and 166 in Queensland. Many of the smaller mills were affected by the depression of that year and ceased operations.

The Colonial Sugar Refining Company established its first mills in 1869 and adopted a production model whereby numbers of independent growers entered into forward supply contracts for sugarcane. The success of this venture resulted in the central-milling model becoming the industry norm in New South Wales; the Colonial Sugar Refining Company eventually incorporated that model into its Queensland operations.<sup>61</sup>

Initially Maryborough was the focus of the Queensland sugar industry, but the centre of the sugar-growing industry soon shifted to Mackay. By 1874 Mackay had 16 mills in operation and nearly 2 000 hectares of land under sugarcane. Cane growing in the Herbert River region developed between 1869 and 1872.

The Queensland *Land Act 1876* encouraged a number of farmers to take up small-scale homesteads in the sugar districts, generally replacing the plantation system of growing and milling. This process was hastened by the introduction of new technologies to the milling process, which required increasing capital outlays. This consolidated the central mill system as the optimum industry configuration.

In 1891 the Colonial Sugar Refining Company divided its north Queensland Homebush estate into farm-sized blocks and leased them to farmers, with an option to purchase the title. This land model was eventually taken up in other regions.

It is estimated that in 1894 all but 110 of Queensland’s 1 387 sugarcane growers were on farms of less than 36 hectares each. By the turn of the twentieth century, the majority of cane in the Herbert district was produced by independent farmers on blocks of around 65 hectares.<sup>62</sup>

Major changes occurred to the industry in the early part of the twentieth century, due in part to labour unrest and the sugarcane-pricing regime. More labour was turning to

---

<sup>61</sup> Biofuels Taskforce 2005.

<sup>62</sup> Newton, R. (1897), *Work and wealth of Queensland*, p. 56.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

sugarcane for employment opportunities, and new mills opened in Far North Queensland, while a change of state government in Queensland and the outbreak of World War I also had a significant impact. An important outcome of these changes was the imposition of greater legislation and regulation by the state government; some of this statutory framework continued into the twenty-first century.

Between the world wars there was further expansion of the industry, facilitated by better transport; prices rose and fell; and Australia's inaugural major export of raw sugar occurred. After World War II, mechanisation in the industry increased, first with the bulk handling of raw sugar at selected ports and later, from the 1960s, with the expanding use of mechanical harvesting. This resulted in increased productivity through to the 1990s, when prices, production and exports were generally high. Towards the end of the 1990s the Australian sugar industry was producing around 5.45 million tonnes of raw sugar per annum from a crush of around 40 million tonnes of sugarcane.

### Legislative and review timeline

- 1893** *Sugar Works Guarantee Act* authorises the funding of central sugar mills with financial backing by the Queensland Government.
- 1901** Australian Government places protective import duties on sugar.
- 1915** Queensland Government passes *Sugar Acquisition Act* and *Regulation of Sugar Cane Prices Act*, which legislate and establish regulatory controls over production levels, marketing and pricing. Though not to the same extent, regulatory controls are also imposed on wages and working conditions within the sugar industry.
- 1923** Sugar Board in Queensland, established under the *Sugar Acquisition Act 1915*, takes over the authority to acquire and market all raw sugar produced in Queensland.
- 1925** Queensland legislation establishes the basis for the future CANEGROWERS organisation.
- 1937** First International Sugar Agreement is negotiated, but does not come into force due to World War II.
- 1951** Commonwealth Sugar Agreement is reached with the United Kingdom.
- 1969** International Sugar Agreement commences for a five-year term, Australia still participates in the International Sugar Organisation.
- 1974** Commonwealth Sugar Agreement is terminated.
- 1978** Industries Assistance Commission (IAC) conducts an inquiry into the industry.
- 1983** IAC conducts a second inquiry into the industry and concludes that government assistance to the industry should be substantially reduced; recommendations were not accepted by Australian Government.
- 1985** Sugar Industry Working Party undertakes a review and makes recommendations similar to those of the IAC. The flexibility of some regulatory controls is increased.
- 1986** Report by the Bureau of Agricultural Economics, *Efficiency of transport, milling and handling in the sugar industry*; states' regulatory regimes are considered to have inhibited the efficiency of the Australian sugar industry.
- 1989** Embargo on sugar imports is dismantled and customs tariff is imposed. Senate standing committee inquiry is conducted into tariff levels on future sugar imports.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

- 1990** Queensland State Sugar Industry Working Party is convened; its recommendations are handed down in June.
- 1991** Australian Government begins phased reduction of tariffs on sugar from AUD115 to AUD55 per tonne.  
Queensland's *Sugar Acquisition Act* and *Regulation of Sugarcane Prices Act* are superseded by the *Sugar Industry Act 1991*. This Act removes the authority of the Central Board, replacing the Sugar Board and the Central Sugar Cane Prices Board with the Queensland Sugar Corporation, which is given the responsibility to develop and implement policy relating to management of the Queensland industry. Also under the aegis of the *Sugar Industry Act 1991*, the Queensland Sugar Corporation is established, on 15 July, 'to provide comprehensively for all matters relating to the promotion and regulation of the sugar industry in Queensland'. Although the 'old' Acts are repealed, many of the practices born of the previous legislation remain and, with the discretionary powers provided to the Queensland Sugar Corporation, the industry remains, in effect, one of the most highly regulated in Australia. Industry Commission review into production, institutional and regulatory arrangements in the sugar industry is established.
- 1992** Industry Commission report is finalised; the main finding of the report is that 'the regulatory controls applying to the production and marketing of raw sugar in Queensland' are the major factor reducing efficiency of the Australian sugar industry.<sup>63</sup>  
Sugar Industry Task Force is established by the Australian Government Minister for Primary Industries and Energy.
- 1993** Sugar Industry Task Force reports to the Australia Government Minister for Primary Industries and Energy. The Joint Sugar Industry Infrastructure Programme is announced, with assistance of up to AUD20 million; of this, AUD19 million is allocated to Queensland projects and the balance to New South Wales projects.
- 1994** Queensland's *Sugar Industry Act 1991* is amended, making some changes to pool prices paid to sugar mill owners in subsequent years and providing for quality standards to be set by the Queensland Sugar Corporation.
- 1995** Council of Australian Governments reaches agreement on an ambitious plan to enhance competition in Australia, designated as the National Competition Policy. This has a significant effect upon all agricultural industries. To meet its obligations, the Queensland Government establishes the Sugar Industry Review Working Party (SIRWP) to review the *Sugar Industry Act 1991* and import tariff on sugar.
- 1996** SIRWP reports in November 1996, concluding that the Queensland *Sugar Industry Act 1991* restricts competition in a variety of ways. Over 70 recommendations are made by the SIRWP review. In part they recommend that:
1. the Queensland Government
    - continue the compulsory acquisition of all raw sugar produced in Queensland
    - retain the single-desk seller of domestic and export sugar, subject to the pricing of domestic sales at export parity prices

---

<sup>63</sup> Industry Commission (1992), *The Australian sugar industry*, report no. 19, Commonwealth of Australia.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

- permit growers to negotiate individual agreements with mills and transfer their supply to alternate mills, when collective supply agreements expire
  - 2. the Australian Government remove the customs tariff on raw sugar imports.
- 1998** Sugar Terminals Limited is established as a special purpose vehicle to transfer the beneficial interests in Queensland's bulk sugar terminals and long-term leases to the growers and millers, who actually pay for them through deductions from sugar pool prices.
- 1999** New Sugar Industry Act is passed (effective 1 Jan 2000). CANEGROWERS loses its compulsory levy capacity.
- 2000** *Sugar Industry Amendment Act 2000* establishes Queensland Sugar Limited to replace the Queensland Sugar Corporation.
- 2002** *Independent assessment of the sugar industry* (the Hildebrand Report) is released by the Australian Government Minister for Agriculture, Fisheries and Forestry.
- 2003** Sugar Industry Guidance Group is established to prepare an overarching Industry Reform Plan.
- 2004** The Queensland *Sugar Industry Reform Act 2004* partially deregulates the industry to dismantle statutory cane production areas and permits sugarcane growers to enter supply contracts with the mill of their choice. It also provides for exemption of the compulsory vesting powers when raw sugar is used for specified alternatives, such as ethanol and direct consumption. The Sugar Industry Guidance Group draft industry report is released.
- 2005** The Queensland Government repeals the vesting powers of Queensland Sugar Limited (effective from 1 January 2006) and deregulates the marketing of Queensland's raw sugar exports.

The 2005 repeal of 'vesting' should provide the Queensland industry with greater options in servicing export markets. Most Queensland mills have entered into supply contracts for three years with Queensland Sugar Limited (QSL). In that timeframe, participants in the Queensland industry are expected to graduate from a statutory relationship to a contractually-based commercial relationship with QSL or a marketing entity of their choice.

Given the new marketing arrangements, the role of Sugar Terminals Limited will change as lease arrangements expire in 12 months.

As can be seen from the legislative and review timetable, over a 100-year timeframe, the industry has been highly regulated. Legislation has historically governed most aspects of the industry. Development and commercial activity was premised on a remunerative price and 'grower equity'. Prescriptive government regulation can have benefits as it establishes rules to manage the behaviour of industry participants. It provides certainty, because of the recourse to legal sanctions, and possibly reduces compliance costs. It also has potential drawbacks, however, as it may be standardised and inflexible and may not adequately allow for a diversity of conditions or changes

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

over time. It may also impede progress and innovation. Over time it can generate further regulation.<sup>64</sup>

The industry-specific regulations and arbitrated decision making have had widespread ramifications for the behaviour of industry participants, allowing certain behaviours to become regarded as ‘conventional’. Ideally, the move to a deregulated industry means that these ‘conventions’ will hopefully become part of the industry’s history, rather than its future, and will not become enduring precedents in Australia’s sugar industry.

### **Taxation concessions that apply to primary producers**

Australia’s taxation laws apply uniformly to all Australian businesses irrespective of their size or nature of business. There are few exemptions, one of which is the long-standing concessions available to primary producers.<sup>65</sup> These concessions recognise the unique circumstances of farming (that is, susceptibility to extreme climatic conditions and the vagaries of primary produce markets), and provide additional risk management opportunities to alleviate the volatility of primary production. The concessions include:

- Income averaging – allows primary producers to calculate their tax liabilities from primary production based on the average income of the current year and four preceding years. Averaging is restricted to individuals (that is, persons who carry on business as a sole trader, as a partner in a partnership or as a beneficiary in a trading trust).
- Farm Management Deposits – assist primary producers to manage income fluctuations caused by climatic and market conditions. Deposits are tax deductible in the year of deposit and assessable in the year of withdrawal.
- Deductible Capital Expenditure – allows primary producers accelerated deduction of certain categories of capital expenditure.
- Cooperatives – provide business structures for primary producers that are taxed as companies and pay tax at the company rate (currently 30 per cent). However, they are allowed deductions that are not available to other business or incorporated entities.
- The Energy Grants Scheme – provides credits against the excise paid on a range of fuels used by a variety of industries, including primary producers.

These measures provide sugarcane growers the opportunity to manage revenue volatility and a means of providing greater stability and certainty to their revenue streams over a period of years.

Where income is not mainly derived from primary production, there are economic benefits from retaining an interest in agricultural production. This has had more of an impact on Australia’s eastern coastal strip due to the industry’s location and the general size of the cane farms. Investment in land may not be solely for its cane-growing potential but also because ‘sea-changers’ and ‘tree-changers’ find these locations desirable. This has increased, in relative terms, the number of farmers who produce sugarcane in low tonnages, which has had an overall effect on costs throughout the supply chain and consequences for the region as a whole.

---

<sup>64</sup> Office of Regulation Review (1998), *A Guide to regulation* (second edition), Commonwealth of Australia.

<sup>65</sup> *Income Tax Assessment Act 1997*, Division 995.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Recent government assistance**

A documented history of legislative and financial support provided by Australian Government and state governments to the sugar industry includes:

- In 1985, a joint Australian Government–Queensland Government price support programme commenced, but operated for only one season. It guaranteed a minimum price of AUD230 per tonne of raw sugar in 1985. Up to AUD19 million was provided and expended. This funding was repaid by industry.
- In 1987, the Australian, Queensland and New South Wales governments agreed on a three-year industry assistance and restructure package. Total funding of up to AUD100 million was made available to those who met the qualification criteria for grants, loans and interest rate assistance under certain circumstances.
- In 1993–94, the Sugar Industry Infrastructure Programme offered assistance of up to AUD20 million. This involved Australian Government expenditure of AUD20 million, with AUD19 million allocated to Queensland projects and the balance to New South Wales projects. It was matched by the state governments and supplemented by industry contributions.
- In 1998, the Sugar Export Package offered assistance of up to AUD1 million. The Australian Government approved funding of AUD1 million to help the New South Wales sugar industry develop a greater export focus. The funding, paid in June 1999, was a contribution to a joint venture with Grainco to provide sugar export shipping facilities by constructing a multi-purpose bulk storage and ship-loading facility at Fisherman Island near Brisbane. The facility was commissioned on 29 July 1999.
- In 1998, the Sugar Research Package offered assistance of up to AUD13.45 million over four years for priority research in the sugar industry, particularly into ways of increasing the sugar content of cane, and a AUD3 million Australian Government–New South Wales Government infrastructure fund to assist the New South Wales sugar industry. The programme was fully expended.
- In 2000, the Sugar Industry Assistance Package offered assistance of up to AUD83 million. In excess of AUD60 million was provided under this programme during the 2000–01 and 2001–02 financial years. The package included:
  - significant interest assistance on loans of up to AUD50 000 used to plant cane crops over two seasons
  - interest assistance on new or existing loans of up to AUD100 000 associated with the business of producing cane
  - family relief payments to assist cane farmers and their families
  - vouchers of up to AUD1 000 per farmer to provide access to financial counselling services, where these services were not already provided
  - Farmbis programs to target the cane industry, offering assistance with farm skills and business management training.



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

- In 2002, the Sugar Industry Reform Programme offered assistance of up to AUD120 million. The funding was for various measures, including specific income support, business plans, replanting interest rate subsidies, exit assistance, regional initiatives and the formation of an Industry Guidance Group. Just over AUD26 million was made available under this programme in the 2002–03 and 2003–04 financial years before it was superseded by the Sugar Industry Reform Programme 2004. A domestic levy was introduced on 1 January 2003, with a sunset date of 31 December 2007, to fund the reform programme. The levy was collected at 3 cents per kilogram on sugar at the point of first sale or transfer from the refinery following the refining process.
- In 2004, the Sugar Industry Reform Programme 2004 offered assistance of up to AUD444 million. As at 13 January 2006, approximately AUD225 million had been provided. This comprises expenditure for income support, restructuring grants, re-establishment grants, business planning, sustainability grants, industry groups, crisis counselling and intergenerational transfer components, and funding for Regional and Community Projects.

The Australian Government is also involved in recurrent funding to the industry through the following:

- Under long-standing research and development (R&D) arrangements, the Australian Government matches industry levy contributions up to a level of 0.5 per cent of the Gross Value of Production (GVP). The Australian Government's contributions to the Sugar Research and Development Corporation were AUD4.463 million in 2002–03, AUD5.12 million in 2003–04 and AUD4.3 million in 2004–05.
- Other indirect funding is available to agriculture industries in Australia, including the sugar industry, such as various project grants, natural resource management funding, ethanol excise rebates, renewable energy credits, and rural financial counselling.

The Queensland Government also provided financial assistance on 28 April 2004 when it passed the *Sugar Industry Amendment Bill 2004*. This included a AUD33 million sugar reform package comprising:

- up to AUD13 million for the Sugar Industry Change Management Programme, a programme to work with industry at the regional level to identify opportunities for change, manage these opportunities and access government services
- up to AUD10 million for the Sugar Industry Innovation Fund, to assist participants to adopt innovative management systems and technologies, increase production of value-added products from sugar, and develop more efficient supply chains
- up to AUD10 million for the Farm Consolidation Loan Scheme, available through the Queensland Rural Adjustment Authority.

While these funds were, and in some cases remain, available, it is not correct to assume that they have been fully expended or can be further drawn down.

The sugar industry has been afforded a wide range of periodic assistance and has been extensively reviewed on a number of occasions. These reviews have all essentially identified the challenges facing the industry and the difficulties of devising

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

comprehensive solutions. The complexity of the international trading environment and the need to accommodate rapid changes in circumstances makes the development of strategic solutions an extremely challenging task. However, given the background of a regulatory and/or legislative management structure, the Australian sugar industry has tended to rely on government intervention and assistance to address its changing circumstances.

The industry needs to seek its own answers, as some of the solutions lie largely within the remit of the industry. There is a need for Australia's sugar industry to take ultimate responsibility for managing its future.

The adoption of regionally based plans formulated by the Regional Advisory Groups (RAGs) is an important development in defining strategies to address future needs of the sugar industry, because it demonstrates acceptance of responsibility for the development of industry regions.

### **Sugar Industry Reform Programme 2002**

In February 2002, an independent assessment of the sugar industry was conducted by Mr Clive Hildebrand, the then chair of the Sugar Research and Development Corporation. This was an undertaking by the Australian Government as part of the 2000 Sugar Industry Assistance Package. The package allocated up to AUD1 million for an independent study to evaluate the future viability of the sugar industry.

The *Independent assessment of the sugar industry* report covered a broad range of issues and evaluated a wide range of options. The report concluded there was not a single or simple pivotal action that would provide a 'solution' to the challenges of the sugar industry. The report identified that preconditions for a successful industry included active industry leadership based on regional rather than sectorial interests, planning, and commitment to implement reform with limited scope for government intervention to significantly contribute to the resolution of the challenges the industry faced.

There were a number of conclusions and recommendations presented by Mr Hildebrand, some of which were already in the process of being addressed. At the time of the release of his report Mr Hildebrand observed:

there is too much reliance on a State-wide approach to industry matters. It is clear that the effective operation of each mill area, or mill region, lies almost entirely in the hands of the local co-dependent participants. And it is important that this responsibility is accepted without resort to wider loyalties. There is no reason why most decisions cannot be made independently and locally, and industry and government should take all the necessary steps to encourage a greater regional focus.<sup>66</sup>

Mr Hildebrand, in his media release of 28 June 2002, emphasised several key recommendations, including:

- rationalising the growing sector of the industry into larger farms or cooperatives
- implementing a systems approach to all operations, particularly harvest and transport logistics

---

<sup>66</sup> Hildebrand, C. (2002a), 'Hildebrand presents the reports of the Australian sugar industry assessment to the Federal Government', Media release, 28 June.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

- further encouraging product diversification, particularly through government assistance and partnership arrangements
- urgently improving the industry's business management skills, especially at the local level.

The Hildebrand Report broadly indicated a future direction for the sugar industry but with the proviso that a 'one size fits all' approach did not appear the 'best solution'. The report observed that, to a significant extent, the industry needed to identify its own specific requirements and best solutions for each region.

After evaluating the Hildebrand Report findings the Australian Government agreed to fund the 2002 Sugar Industry Reform Programme and established the Sugar Industry Guidance Group (IGG) to drive the reform process, oversee the adoption of a regional business approach to industry activities, maintain appropriate communications with the Australian Government, and develop a cohesive policy direction for the structural adjustment necessary to ensure long-term sustainability of the sugar industry.

Part of the IGG's terms of reference required it to present an overarching Industry Reform Plan. The IGG's Industry Reform Plan looked at the key drivers that were likely to impact most on the industry in the future, and put forward a series of goals and strategies to achieve an internationally competitive and sustainable sugar industry. The IGG's Industry Reform Plan was not unanimously supported, although it was supported by representatives of the industry's major stakeholders, emphasising the inability of the disparate sectoral interests to agree on important issues for industry viability and sustainability. The IGG's draft Industry Reform Plan proposed the following recommendations:

- The government should implement the recommendations outlined by the Sustainable Energy Task Force in its 2001 report.
- The government should increase the rate of introduction towards the 2 per cent Mandatory Renewable Energy Target to encourage further investment, and that the 2 per cent renewable target should be increased to 5 per cent.
- The government should commit to delivery of an initial 2 per cent renewable transportation fuel target by 2006, increasing renewable fuel targets to 5 per cent by 2010.
- Renewable fuel certificates be introduced, to help achieve these targets, along the lines of the renewable electricity certificates. Renewable fuel certificates should be phased in as the ethanol production subsidy expires.
- The industry should encourage links with other industries to fully explore and promote the potential for agricultural industries to contribute to alternative fuel and electricity options and Australia's greenhouse gas reduction commitments.
- The industry should further develop links with established national organisations (for example, Bioenergy Australia) to promote sustainable energy policy settings.
- Applicants for regional projects are responsible for demonstrating the business case for diversification options. When examining diversification proposals, Regional Guidance Groups should consider whether applicants can demonstrate a secure sugarcane supply and a market demand for the product.
- The industry should explore all options for on-farm diversification and encourage, at the mill area, options for diversifying into other crops, especially those that may

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

contribute to soil health and economic viability, without taking land out of cane production.

- The industry should identify niche diversification opportunities – on-farm, alternative uses for cane and its by-products.

Between 1999 and 2003 Australia's sugar industry experienced a sharp decline in sugar prices, a drought, and sugarcane disease and pest outbreaks in parts of Queensland. This combination of events had a dramatic impact on the incomes of sugarcane growers and sugar producers. There was also a negative view held by industry participants of a perceived 'failure' to have the issue of the United States's sugar import quotas remedied in the free trade agreement between Australia and the United States, and the implied consequences this appeared to have for overall reform of the world sugar trade.

### **Sugar Industry Reform Programme 2004**

Following extensive consultations, the Australian Government and the chairs of the Australian Sugar Milling Council and CANEGROWERS jointly agreed on the need for significant reform across all sectors, in a statement of intent (provided at Appendix A). The industry agreed to: undertake structural change; promote the longer term prospects for the industry as a whole; work to improve its commercial viability; rationalise and restructure; support regionally based plans; and explore new opportunities. In support of those aims the Australian Government, in April 2004, announced the Sugar Industry Reform Programme (SIRP) 2004, with funding up to AUD444.4 million available over five years, for a comprehensive range of measures to assist with and facilitate industry reform. The SIRP 2004 is detailed at Appendix D.

The SIRP 2004 built on the 2002 programme, and responded to the sugar industry's commitment to support and promote comprehensive reform and restructure.

In announcing the SIRP 2004 the Australian Government stated that its aims were to give the sugar industry the decision-making tools to help individuals determine their own futures. It also affirmed that the driver for positive change is in the hands of committed individuals working together at the community and regional levels. The Australian Government expects industry participants to take advantage of the support measures it is providing, work to better position individuals to make informed decisions about their future – inside or outside the sugar industry – and act on those decisions.

The SIRP 2004 established the Industry Oversight Group (IOG) to oversee progress on the implementation of sugar industry reform, including refinement of reform priorities, developing a strategic industry vision and aligning regional plans with an industry vision.<sup>67</sup> The IOG is to also advise the Australian Government Minister for Agriculture, Fisheries and Forestry on Regional and Community Projects that are an integral component of the SIRP 2004.

The minister announced the appointment of the IOG on 5 August 2004. The IOG comprises both industry representatives and independent members.<sup>68</sup>

---

<sup>67</sup> The IOG terms of reference are at Appendix B.

<sup>68</sup> A list of IOG members is at Appendix B.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

Consistent with its commitment to maintaining a regional focus, the Australian Government designated six sugar-producing regions in Queensland and one in New South Wales for delivery of the SIRP. These are:

- Far North (including all mill areas from Mossman to Tully)
- Herbert
- Burdekin
- Mackay (including Proserpine and Plane Creek mill areas)
- Bundaberg (including Isis mill area)
- South (including Maryborough, Moreton and Rocky Point mill areas)
- New South Wales, covering all the mill areas in northern New South Wales.

The Ord River region in Western Australia is also recognised as a separate growing region under the programme.

The Regional Advisory Groups (RAGs) were formed, based on this regional structure.<sup>69</sup> The appointments to the RAGs for each sugar region were completed by the end of August 2004. Membership of the RAGs consists of local sugar industry representatives and community members. The RAGs were responsible for identifying the key challenges facing the sugar industry at the local level, and the most appropriate solutions, reflecting the unique circumstances of each region. These priorities were brought together in a regional plan for each region.

The SIRP Sustainability Grant was a single grant paid in two instalments. The AUD73 million first-tranche payment of the Sustainability Grant was made in June 2004 upon the execution of the Statement of Intent. Acceptance of the regional plans by the Australian Government was one of the prerequisites for payment of the second tranche of the Sustainability Grant.

Following the submission of finalised plans in September 2005, the Minister for Agriculture, Fisheries and Forestry accepted the regional reform plans as a solid basis for going forward in reforming the sugar industry. The minister stated:

I am satisfied that the reform process has progressed sufficiently to warrant the second payment of the Sustainability Grants, and that these regional plans provide the basis to help secure the industry's future viability.

The Australian Government has stated its desire to secure the development of a sustainable and self-reliant industry capable of attracting the people, ideas and capital to maintain this industry at the forefront of Australia's agricultural exports. The sugar industry holds the key to its own future and, as a largely deregulated industry, must now operate in the global free market system like many other agricultural industries.

### **Geographic location**

At the beginning of the twenty-first century, Australia's sugar industry cultivates sugarcane in regions along 2 100 kilometres of Australia's north-eastern coast, ranging from Mossman in Far North Queensland to Grafton in northern

---

<sup>69</sup> Terms of reference for the RAGs are at Appendix C.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

New South Wales. Since 1996, an emerging sugar industry has been developed in the Ord River region of Western Australia.

Approximately 94 per cent of Australia's sugarcane is grown in Queensland, 5 per cent in New South Wales and 1 per cent in Western Australia.<sup>70</sup>

In many respects the three discrete geographical areas can be regarded as three different 'businesses' within Australia's overall sugar industry:

- Queensland's sugar industry is predominately focused on the export of raw sugar; around 85 per cent of production is sold overseas
- New South Wales's industry is primarily focused on the refined white sugar domestic market
- Western Australia's total output of raw sugar produced by CJ Ord River Sugar Proprietary Limited is exported to associated companies within a larger corporate structure in Indonesia.

Each of the three areas has a different perspective on production and marketing. Queensland operates almost exclusively in the international raw sugar market and therefore is exposed to its volatility; New South Wales is mainly a supplier of refined sugar to the domestic market; while the Western Australian producer acts as a managed supplier to a manufacturing arm of its Korean parent company.

Australia has in excess of 545 000 hectares primarily dedicated to cane cultivation, with around 420 000 hectares harvested annually. Since 1988 the area of sugarcane harvested in Queensland has increased by over 45 per cent; it now totals more than 396 500 hectares harvested. Sugarcane growing represents approximately 20 per cent of Queensland's total arable area. Most sugarcane is grown within 50 kilometres of the coastline, mainly in high-rainfall areas and around coastal river systems. The sugar industry remains important to the economic prosperity of many coastal communities, although the economic dependence on sugar-generated income has declined for a number of regions.

Sugarcane-growing areas are distinct, located within districts serviced by the regional centres of Cairns, Townsville, Mackay, Bundaberg, Maryborough and the Gold Coast area in Queensland; and between Grafton, Ballina and Murwillumbah on the north coast of New South Wales. The developing sugar industry in Western Australia is in the Ord River region.

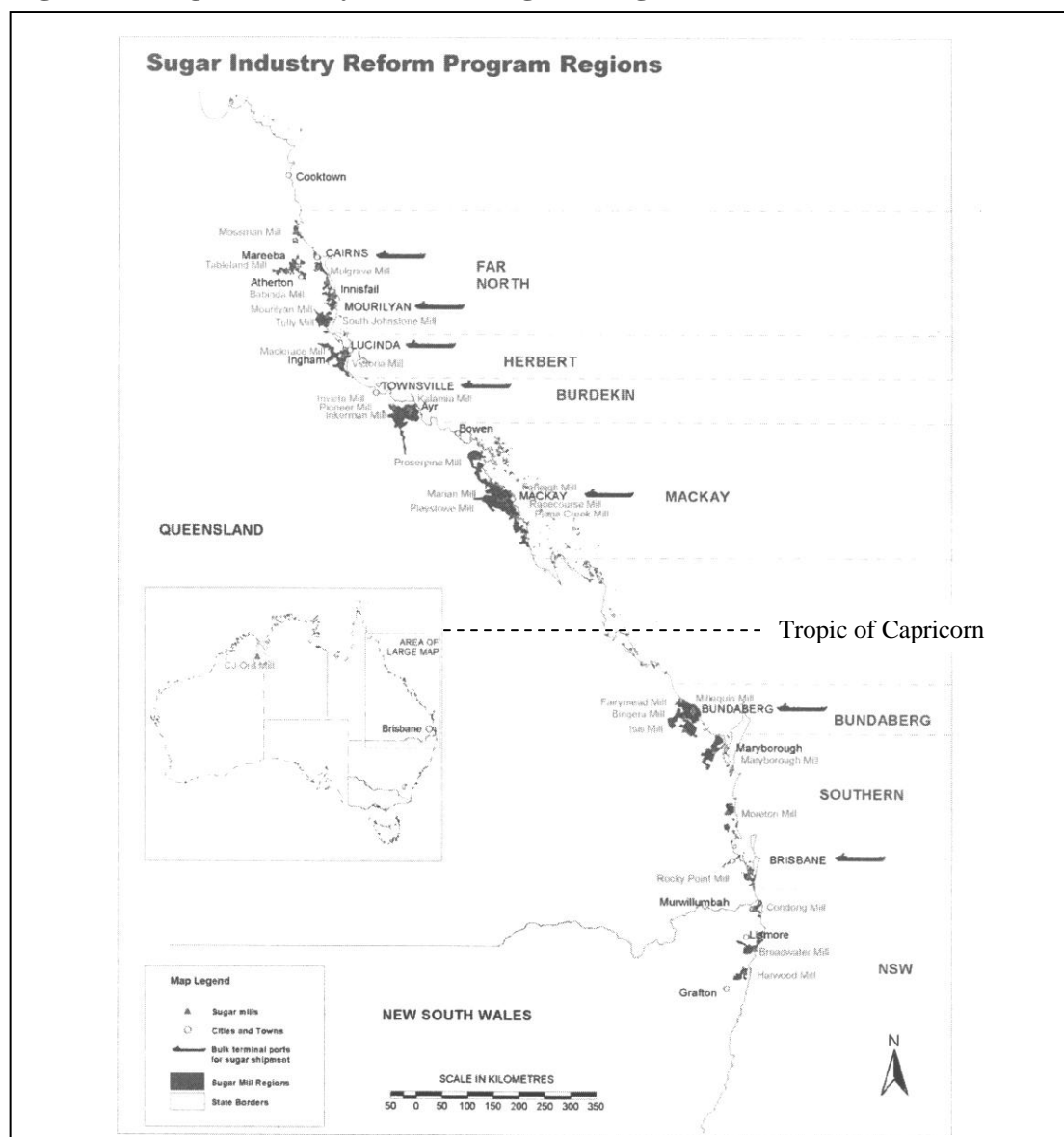
Reliable rainfall or irrigation water is critical to sustainable cane growing. Sugarcane accounts for 40 per cent to 45 per cent of total irrigation in Queensland. About 55 per cent of cane land receives some form of irrigation. It is essential for crop growth in the Burdekin area and on the Atherton Tableland in Queensland, and in the Ord River region in Western Australia.

---

<sup>70</sup> Australian Bureau of Agriculture and Resource Economics (ABARE) (2004), *Australian Commodity Statistics 2004*, Commonwealth of Australia.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

**Figure 14: Sugar Industry Reform Program Regions**



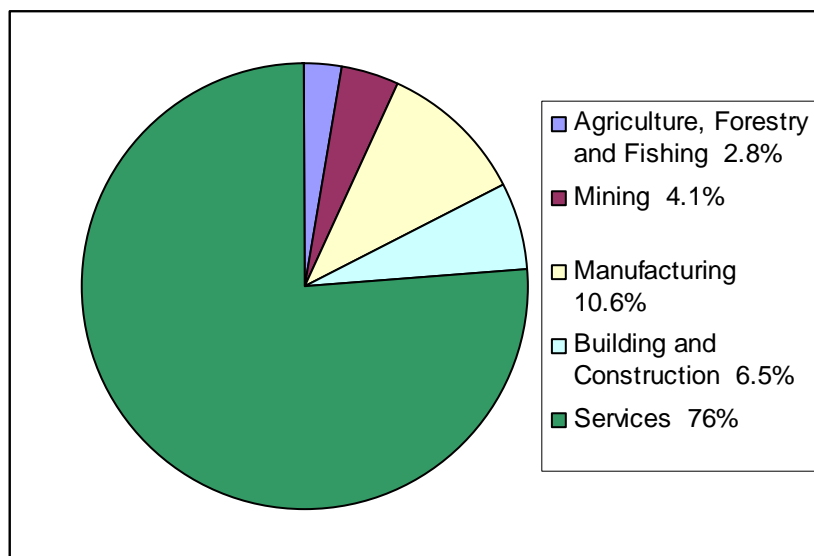
In most sugar-growing regions the majority of sugarcane is still grown on family-based units, usually between 65 hectares and 80 hectares – a scale which can be traced back to Queensland’s *Land Act 1876*. There are disparities: for instance, in Queensland’s north there are a number of locations where some farms exceed 200 hectares. While the total number of cane growers in the Ord River is small, at around 20, the average area under cane per farm is in excess of 200 hectares.

### **Australia’s agriculture**

The total sugar industry is a relatively small contributor to the Gross Domestic Product (GDP) of Australia. Agriculture, forestry and fishing industries contribute less than 3 per cent of Australia’s GDP, as illustrated in Figure 15.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

**Figure 15: Estimated sectoral contribution to Australia's Gross Domestic Product in 2004–05**



Source: ABARE 2005

In the 2004–05 financial year the sugar industry contributed AUD1.55 billion to Australia's economy, of which sugarcane production contributed AUD873 million, or a modest 2 per cent of Australia's agricultural production.<sup>71</sup> In Queensland, sugarcane represents a higher proportion of the state's agricultural sector; it was around 8 per cent of state domestic product, or approximately AUD840 million, in 2004–05.<sup>72</sup>

Around 80 per cent of the total production of the raw sugar industry is exported in any one year; this proportion is quite high when compared with exports of other agricultural commodities. The value of raw sugar exports was AUD1.37 billion in 2004–05, this figure amounts to around 5 per cent of gross agricultural exports for that year, one of the higher figures of recent years.<sup>73</sup>

The contribution of agricultural production to the national economy has contracted in comparison to the increased performance of the mining and tourism sectors. The sugar industry's contribution to regional domestic product was more substantial in the past. In relative economic terms, while the sugar industry remains important to many of the regional coastal towns of Queensland, particularly the northern regions, the introduction of alternative cropping along with growth in the mining and tourism industries has reduced the relative importance of the sugar industry to a number of the regional centres.

<sup>71</sup> ABARE (2005), *Australian commodities*, vol 12, no. 3, Commonwealth of Australia.

<sup>72</sup> Department of Primary Industries and Fisheries (2005), *Prospects for Queensland's primary industries*, Queensland Government

<sup>73</sup> It should be noted that exports for 2004–05 may include stock on hand from prior years. Gross exports include unprocessed commodities and manufactured products (freight on board).



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Industry status**

Raw sugar in Australia is produced from sugarcane in three states. Approximately 94 per cent of total production is in Queensland, 5 per cent in New South Wales and 1 per cent in Western Australia. There are currently 24 raw sugar mills in Queensland (including one mill that processes sugarcane to the syrup stage), three in New South Wales and one in Western Australia. Australia, on average, produces an estimated 5 million tonnes of raw sugar annually, from 35 million to 40 million tonnes of cane (depending on conditions) harvested from 420 000 hectares of land. For example, in the 2004 season approximately 5.1 million tonnes of raw sugar was produced, generating a gross value of around AUD1.3 billion.

Raw sugar is the basic material from which further processing produces speciality sugars for human consumption, of which white sugar is the predominant product. Australia produces and exports these refined sugars. Four Australian raw sugar manufacturers are aligned with sugar refiners, two of which are integrated with their raw sugar operations. There are two refining operations in Queensland (Mackay and Bundaberg), one in New South Wales (Harwood), and one in Victoria (Melbourne). Refined sugar is a separate business supplying a differentiated market to that of raw sugar.

The raw sugar industry has in the order of 6 000 business entities, including growers, service providers and millers.<sup>74</sup> The sugar industry regions vary in numbers of growers, scale of farms, yields, harvester numbers and numbers of mills. Raw sugar production is confined almost exclusively to the sugar industry of Queensland. Therefore, the industry in that state carries the risks and volatility inherent in the global freely traded raw sugar market.

### **Growing sector**

The growing sector is comprised of between 5 000 and 5 500 owner-operated cane-growing enterprises. A considerable number of these produce less than 5 000 tonnes of sugarcane per annum. In Queensland these relatively small units account for 55 per cent of enterprises, while in New South Wales the figure is 75 per cent. Enterprise scale varies between regions in Queensland: for example, in the Burdekin region small-scale units with production less than 5 000 tonnes comprise 22 per cent of entities, and in Bundaberg the corresponding number is 79 per cent.

Overall, cane growers of up to 5 000 tonnes per annum are the numerically dominant industry participants. However, growers harvesting between 5 000 tonnes and 15 000 tonnes (38 per cent of total enterprises) supply the majority of cane in many regions – up to 50 per cent of the total cane supply. There are, however, regional variations.

For planning purposes and as a basis of comparison across regions, the IOG sought information on the financial status of cane-growing enterprises based on a pool price equivalent of AUD250 per tonne of raw sugar. This produced a hypothesis that sugarcane growers in the Burdekin region have the highest number of farms with

---

<sup>74</sup> The IOG was unable to obtain empirical data but believes that these figures reflect the industry's composition.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

positive earnings before interest and tax (EBIT), though they appear to have relatively high debt. However, EBIT does not take debt servicing into account, and average indebtedness levels are relatively high in regions which have recently expanded production. A considerable number of small-scale producers in other regions have either a negative return or a small positive return; it is clear that off-farm income from sectors including the mining and tourism industries provides necessary income support for many participants.

The total value of Australia's sugarcane crop has declined in recent years. The gross value of production during the 1990s averaged AUD1 007 million; conversely, between 2000 and 2005 the average has contracted to AUD877 million. This represents around a 13 per cent reduction in the value of sugarcane delivered for crushing. In real terms this is a substantial reduction in what was already a relatively low gross income per farming enterprise when compared to other agricultural pursuits in Australia and general business enterprise earnings.

Based on the available data and having regard for the RAGs' regional plans, the IOG is of the view that in general terms many of the smaller tonnage enterprises need to consider their long-term future in the sugar industry.

The crushing season (harvesting and processing) is confined to a period of about five to six months, mainly June to November, depending on regional climatic conditions and arrangements. In recent years the numbers of harvesting enterprises has declined but there remain around 1 000 units still in operation in Australia. The Hildebrand Report estimated that by implementing efficient utilisation and best management practice this could be reduced to 600 units.<sup>75</sup> Productivity rates in the harvesting sector range from around 13 000 tonnes per harvester to 148 000 tonnes per harvester, depending on a number of factors, including topography, historic structure of the enterprise, and equipment type, age and configuration. Prices per tonne harvested charged to growers are generally averaged by harvesting groupings, with variations reflecting the haulage distance – that is, the delivery point of the mill transport system.

Harvesting is mostly carried out during daylight hours, whereas mills operate a 24-hour day. The rostering and scheduling system also creates inefficient transportation of machinery and utilisation of assets and capital. This results in sub-optimal utilisation of harvesters, ancillary equipment, delivery infrastructure (sidings), rolling stock and locomotives. Bins are often required to function as buffer storage for the mill when harvesters are not operating. This can result in protracted 'cut-to-crush' delays, with detrimental impacts on sugar quality and recovery.

These factors cumulatively result in a cost penalty to the value chain at the harvesting stage. This penalty is transmitted to cane transport costs and further compounds the transport cost impacting on the value chain.

### **Milling sector**

Sugarcane is crushed at 28 Australian mills, 24 in Queensland, three in New South Wales and one in Western Australia. Ownership of the mills has become

---

<sup>75</sup> Hildebrand 2002b, p. 25.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

more concentrated in recent years. In 1980, 19 companies operated 33 mills, whereas today 12 companies operate 28 mills. Farmers' cooperatives or companies predominantly owned by growers (for example, Tully Sugar Limited) currently control 13 mills producing 40 per cent of Australia's raw sugar. Operating sugar mills in 2005 are detailed in Table 11.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

**Table 11: Operating sugar mills in 2005**

<b>Mill</b>	<b>Region</b>	<b>Approximate proportion of Australian crush</b>	<b>Current ownership</b>	<b>Structure</b>
Mossman	Far North	<b>1%</b>	Mossman Central Mill Company Ltd	Australian Public Company. Limited by shares.
Mulgrave		<b>3%</b>	The Mulgrave Central Mill Company Ltd	Australian Public Company. Limited by shares.
Tableland Babinda Mourilyan South Johnstone		<b>9%</b>	Bundaberg Sugar Ltd	Australian Public Company. Limited by shares. [Wholly owned by Finasucre since 2000, a family-owned company incorporated in Belgium.]
Tully		<b>6%</b>	Tully Sugar Ltd	Australian Public Company. Limited by shares.
Macknade Victoria	Herbert	<b>14%</b>	CSR Ltd (CSR)	Australian Public Company. Limited by shares. [CSR Ltd is a manufacturing company; it has three principal businesses of which CSR Sugar through subsidiaries owns and operates its sugar mills.]
Invicta Kalamia Pioneer Inkerman	Burdekin	<b>22%</b>		
Plane Creek	Mackay	<b>4%</b>		
Proserpine		<b>5%</b>	Proserpine Cooperative Sugar Milling Assoc Ltd	Registered Australian Body.
Pleystowe Farleigh Marian Racecourse		<b>17%</b>	Mackay Sugar Cooperative Assoc Ltd	Registered Australian Body.
Millaquin Bingera	Bundaberg	<b>5.5%</b>	Bundaberg Sugar Ltd	Australian Public Company. Limited by shares. [Owned by Finasucre since 2000, a family

**SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION**

				owned company incorporated in Belgium.]
Isis	Bundaberg	<b>3%</b>	Isis Central Sugar Mill Company Ltd	Australian Public Company. Limited by shares.
Maryborough	South	<b>2%</b>	The Maryborough Sugar Factory Ltd	Australian Public Company. Limited by shares.
Rocky Point		<b>1%</b>	WH Heck and Sons Pty Ltd	Australian Public Company. Limited by shares. Privately owned.
Condong	New South Wales	<b>5.5%</b>	New South Wales Sugar Milling Cooperative Ltd	Cooperative Society.
Broadwater				
Harwood				
Ord River	Western Australia	<b>1%</b>	CJ Ord River Sugar Pty Ltd	Australian Proprietary Company. Limited by shares. [Wholly owned by the parent company, Cheil Jedang, a South Korean company.]

Note: These profiles are based on the Australian Securities and Investment Commission index and the companies' own information.

In respect of the above table differential taxation regimes apply to the cooperative and corporate business structures although essentially they are all conducting similar businesses.

In the last 20 years, seven Queensland mills have ceased to operate – Qunaba (1985), Goondi (1987), North Eton (1988), Cattle Creek (1989), Hambledon (1991), Moreton (2003) and Fairymead (2005). The causes of the closures varied, and included low prices and insufficient cane supply; ultimately, there was a loss of viability for the mills. Only one of these closures resulted in the loss of cane growers to the industry; in all other cases the cane supply was diverted to another mill.

Two new mills have been constructed, one in the Ord River region (1995), and one in the Atherton Tablelands (1998) that processes only to the syrup stage.

The majority of Australia's mills are dated in terms of their basic structures and production facilities. The oldest mill operating commenced crushing in 1874; the majority of the current operating mills commenced operations in the period 1875 to 1925.<sup>76</sup> Though investment has occurred over the years, and updates to the operating

<sup>76</sup> Some mills were moved from their original sites to their present locations, dates refer to their current locations.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

plant have taken place, this has generally been in response to cane land expansion and necessary maintenance. While there has been extensive automation of mills and technical enhancement to some mills, there has been limited replacement of installed plant, due to capital constraints. Cogeneration of electricity has been used as an independent special purpose vehicle to finance the replacement of boiler capacity and improvements in thermal efficiency in older mills. The return on investment on cogeneration of electricity can capitalise the replacement of boiler assets as part of the renewable energy value chain.

The milling sector in Queensland has a significant infrastructure investment in a series of cane railway track networks and rolling stock. There is approximately 4 000 kilometres of narrow-gauge track in Queensland. As the cost of cane transport continues to be borne by the mill, there is little incentive for growers to assist in optimising the cost and utilisation of this infrastructure. For example, a farm producing 1 200 tonnes of cane may have a dedicated siding, as may a farm producing 80 000 tonnes, though the respective costs to the mill are vastly different. This is historically based, as traditionally sidings were provided without regard to the economies of scale, and there remains a resistance to reducing the number of sidings to gain efficiencies in transport. Some regions are addressing this issue but there is the opportunity to capture efficiency gains in many regions.

The dedicated sugarcane rail infrastructure provides a net contribution to the broader community by diverting cane transport from public transport infrastructure to a less community-intrusive form of logistics. There are sugar regions which rely solely on road transport and this is likely to increase as cane growing areas become isolated.

### **Sugar industry organisations**

The Australian sugar industry has a number of organisations that provide services and/or advocacy on behalf of the sugar industry. Following is a listing with a brief profile of each.

#### **Australian Cane Farmers' Association**

Established in 1987, the Australian Cane Farmers' Association (ACFA) is a voluntary and independent association dedicated to protecting its members' interests. Its members comprise cane farmers from New South Wales and Queensland. It maintains communication to members through regional meetings and the Australian Sugar Digest.

#### **Australian Sugar Milling Council**

The Australian Sugar Milling Council (ASMC) was established in 1987 to represent Australian raw sugar mill owners in domestic and international forums. All of Queensland's raw sugar mills are currently members of this voluntary organisation.

The ASMC is a policy forum for mill owners. Services provided to mill owners include industry statistical data; industrial relations; workplace health and safety; professional advice, including legal and taxation; public relations; and representation to government and statutory bodies. The ASMC draws on representatives from all Queensland sugar regions to determine policy and to appoint mill staff to professional/advisory committees. The ASMC works with relevant industry organisations to develop policies to enhance the progress of the raw sugar industry.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Bureau of Sugar Experiment Stations**

In addition to a head office located in Brisbane, the Bureau of Sugar Experiment Stations (BSES) operates seven sugar experiment stations and ten extension centres in major cane-growing districts. The functions of the organisation are:

- to conduct research into cane growing, with the aim of improving the efficiency of sugar production
- to communicate the results of research to cane growers and sugar millers
- to administer regulations concerning plant quarantine and pest and disease control.

As one of the Australian sugar industry's providers of R&D and extension, BSES is committed to increasing the productivity, profitability and sustainability of the industry and the transfer of technology to sugarcane-growing practices and raw sugar milling.

### **Caneharvesters**

Caneharvesters incorporates the Queensland Mechanical Caneharvesters Association and is the representative of cane harvesters and haulers. The association, which was established over 25 years ago, is a voluntary organisation. The membership currently represents 43 per cent of the crop harvested annually in Australia, and consists of persons or organisations involved with the harvesting or hauling of sugarcane by mechanical means. The major objectives of the association are:

- to promote the general and material welfare of members
- to establish and promote harvesting contracts to ensure the security of all parties
- to keep members up to date with the latest technology in harvesting and hauling
- to improve the representation of members at the industry level.

### **Cane Protection and Productivity Boards**

Cane Protection and Productivity Boards (CPPBs) were set up in all cane-growing districts of New South Wales and Queensland except the Atherton Tablelands. Each board consisted of representatives from the milling and growing sectors and BSES, and employed staff to assist with disease and pest control. Staff were also involved in assisting growers to improve their productivity. The CPPBs and BSES worked closely together to achieve the best results possible for the industry.

A CPPB provides advice and help to cane growers within its area about the prevention, control and eradication of pest infestation of cane or any other matters that adversely affect the quantity or quality of crops of cane. Each board helps and cooperates with other organisations involved in cane pest and disease research, and the production, harvesting, transport and processing of cane. CPPBs also provide advice and information about the preservation and enhancement of the capacity of land to sustain crops of cane.

Changes have taken place to the structures of CPPBs in Queensland with legislation in 2000 allowing for their incorporation into non-statutory entities. A number have taken this path and others have amalgamated and taken on a more commercial focus.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Cooperative Research Centre for Sugar Industry Innovation through Biotechnology**

The Cooperative Research Centre (CRC) for Sustainable Sugar Production was established in 2003 as a cooperative research network designed to enhance the future sustainability of Australia's sugar industry. This superseded the CRC for Sustainable Sugar Production which was established in 1995.

The current CRC's research, education and commercial efforts are aimed at combining Australia's strengths in molecular genetics, sugarcane biology, agriculture, and industrial extraction, to construct the essential platform of scientific understanding, intellectual property and commercial linkages that will underpin a value-added sugarcane industry.

### **New South Wales Cane Growers' Association**

The New South Wales Cane Growers' Association was formed during the 1920s and comprises three separate branches (Clarence River, Richmond River and Tweed River), which act independently within their legal structures. All assignment holders in New South Wales are required to be financial members of the appropriate branch for their production area entitlement. The objectives of the New South Wales Cane Growers' Association include:

- protecting the interests of cane growers
- promoting combined action for all parties interested in growing sugarcane for the advancement of the industry
- advising on any question in relation to the industry
- liaising with the Australian Government and New South Wales Government on regulatory/legislative issues affecting the industry
- acting as an intermediary between members and the New South Wales Sugar Milling Cooperative Limited in all matters affecting the wellbeing and stability of the sugar industry in New South Wales
- disseminating information to all cane growers.

The council of the association consists of four representatives from each branch executive.

### **Queensland Cane Growers' Organisation Limited**

The organisation was established in 1925 under state legislation and funded through a compulsory levy system. Under the *Sugar Industry Act 1999*, the statutory compulsory levying arrangements were repealed, and in 2000 the organisation became a private entity with a voluntary membership. The organisation is a public company limited by guarantee, representing the majority of growers of cane, and is more commonly known as CANEGROWERS. It provides a wide range of services on behalf of its members, such as collective bargaining with mill owners at local and industry levels. It also makes representations to the Australian Government and Queensland Government and formulates submissions when and where necessary. It represents the majority of growers in domestic and international forums.

### **Queensland Sugar Limited**

Located in Brisbane, QSL is one of the world's largest raw sugar marketers. QSL markets Queensland's annual production of between 4 million and 5 million tonnes of



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

raw sugar to domestic and export customers. QSL is a company limited by guarantee, with millers and cane growers equally represented on the board.

The Queensland Government's legislated vesting authority in QSL ceased from 1 January 2006, and marketing of raw sugar from the 2006 crushing season will be subject to commercial contractual arrangements.

### **Sugar Research and Development Corporation**

The Sugar Research and Development Corporation (SRDC) funds R&D projects aimed at producing outcomes that benefit Australia's sugar industry and, more broadly, Australia's community. Areas of interest include sugarcane improvement, improved crop management and protection systems, improved harvesting and transport, enhanced efficiency of sugar manufacture, enhanced marketability, improved environmental and natural resource management and improved whole-of-industry competitiveness.

SRDC takes a strategic view of the needs and opportunities for R&D in the sugar industry and is a conduit for focused research funding. SRDC does not take a direct role in research.

### **Sugar Research Institute**

The Sugar Research Institute (SRI) was founded in 1949 and is the major provider of sugar milling R&D in Australia. SRI was a commercial R&D company, controlled by the majority of raw sugar mills in Australia, who are its members. SRI's activities included fundamental, strategic and commercial research projects, which addressed the short-term and long-term needs of the member sugar mills. It also provided consultancy and design services and manufactured a limited range of equipment for the industry.

SRI's staff consists mainly of engineers and chemists, supported by technicians and administrative staff. Most staff members have professional qualifications in chemical, mechanical, civil or electrical engineering, chemistry or microbiology. SRI has well-equipped facilities, including laboratories, electronics workshops and computing facilities.

SRI has now linked with the Queensland University of Technology in Brisbane. This has involved a change of name, to Sugar Research and Innovation. The move was a response to a reduction in research funding from members, and a need to maintain critical research capability.

### **Sugar Terminals Limited**

Sugar Terminals Limited (STL) is a public company and presents as a service utility. It is controlled by Queensland growers and millers. STL was incorporated in 1998 and started commercial operations in August 2000. It was established as a vehicle to transfer Queensland's bulk sugar terminals and long-term leases to the growers and millers, who actually paid for them through deductions from sugar pools over time.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

STL, according to its 2005 annual report, has current assets (depreciated present value) of around AUD380 million in seven bulk sugar terminals in Queensland.<sup>77</sup> It owns the bulk sugar terminal buildings, fixed plant and equipment at each terminal and leases bulk sugar terminal land at Cairns, Mourilyan, Lucinda, Townsville, Mackay, Bundaberg and Brisbane. QSL is charged commercial rent for the use of these facilities. The STL Board has a current policy to pay shareholders annually, from the net profit for the period, as high a dividend as possible, having regard to the company's cash position.

### **Research and development**

As previously indicated, there are a number of R&D organisations dedicated to the sugar industry. In conjunction with governments there has been heavy industry investment in R&D and extension programmes. The aggregate level of R&D and extension expenditure within Australia's sugar industry is estimated to be in the range of 3 per cent to 5 per cent of the gross value of raw sugar production.

The IOG notes, however, that despite the resources invested in developing all aspects of cane growing, sugar yields both per tonne of cane and per hectare appear to have reached a plateau. In particular, sugar content has not improved on levels achieved in the 1930s.

The existing service providers have focused the majority of resources on activities relating to sugarcane growing and supply. The recent falls in income to industry stakeholders and rationalisation of services have brought about a number of changes amongst the providers of R&D programmes.

The BSES was established in Queensland in 1900 to provide R&D and extension services to the industry. In more recent decades, the BSES's involvement in milling-related research has largely ceased and the focus has been on the development of a sustainable sugarcane production system and reliability of supply. The Queensland Government, through the Department of Primary Industries and Fisheries, has traditionally assisted in the financing of the BSES.

The SRI has joined with the Queensland University of Technology in Brisbane and has undergone a name change. The Sugar Research and Development Corporation is an Australian Government statutory authority, funded through a compulsory sugar levy with dollar for dollar matching, up to 0.5 per cent of GVP, by the Australian Government. The CRC for Sugar Industry Innovation through Biotechnology is funded by industry and commercial groups and the Australian and state governments.

These R&D agencies are competing for fewer funding dollars and there may be a need to consider further rationalisation to ensure that industry obtains the optimum return on its R&D capital investment and contributions.

---

<sup>77</sup> Sugar Terminals Limited (2005), *Annual Report 2004–2005*, Sugar Terminals Limited, p 15.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Points arising**

- Australia's sugar industry has a history of legislation and regulation.
- Regulation tends to mask commercial market and economic signals.
- The past 20 years have seen nearly all of the industry's production exposed to cyclically volatile world market prices.
- There has been a succession of reviews and protracted assistance packages from governments.
- The outcomes of the sequence of reviews and reports into the industry have identified the complexity of the challenges the sugar industry faces and agreed that comprehensive solutions are difficult to identify and effect.
- The sugar industry in total is a relatively modest, declining contributor to Australia's GDP.
- Around 95 per cent of Australia's raw sugar is produced in Queensland and the majority of that is exported through Queensland's sugar terminals.
- Industry production and location is constrained in part by geography, climate and infrastructure.
- Many smaller tonnage enterprises need to consider their long-term future in the sugar industry.
- Harvesting inefficiencies, and how they are transmitted to cane transport costs and compound cost penalties in the value chain, need to be considered.
- In many cases the mills' installed plant is dated and capital for re-equipment and restructure is difficult to justify, source and service.
- There are a large number of organisations in the sugar industry but there is an absence of an overarching body representative of the value chain.
- Sugar price is determined in a cyclical, volatile world commodity market.
- As statutory vesting authority ceased from 1 January 2006, QSL needs to consider reviewing its structure and its relationship with suppliers.
- R&D bodies need to consider a more commercial approach to ensure the cost-effective allocation of scarce funding.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## APPENDIX A

### REFORM OF THE AUSTRALIAN SUGAR INDUSTRY STATEMENT OF INTENT

The Australian sugar industry and the Australian Government recognise that the industry will actively pursue long term economic, social and environmental sustainability by

- undertaking significant reform across all sectors;
- comprehensively rationalising and restructuring its operations;
- diversifying its economic base; and
- adapting to its new operating environment.

The industry agrees that:

- It will undertake structural change, crucial to the industry's future, based on a strong mill area and regional focus of operations.
- Some industry participants will need to re-establish themselves in the new operating environment and that this in turn will promote the longer-term prospects for the industry as a whole.
- Growers, harvesters and millers will critically examine their businesses and work to improve their commercial viability.
- Rationalisation and restructuring, which will enhance revenue and cost efficiency and facilitate environmental and social sustainability, will be undertaken through a "whole-of-system" regional approach.
- It will support the adoption of regionally-based plans to be developed and implemented through Regional Advisory Groups. These plans will strongly reflect local priorities and help achieve the necessary changes to sustain regional communities.
- Raw sugar continues to be the industry's core business, however there will be a serious exploration of new opportunities for the alternative uses for sugarcane, current sugarcane land and value adding opportunities.

In recognition of the above, the Australian Government will authorise first payment of a Sustainability Grant, which will help industry through a transition phase.

The Australian Government will also put in place a comprehensive range of other assistance measures to assist with and facilitate industry reform – through diversification, re-establishment and restructuring. The *Sugar Industry Reform Program 2004* will be in addition to more than \$80 million in assistance provided since 2000, as well as ongoing research and development support and assistance provided through other Australian Government programmes. The Australian sugar industry endorses these assistance measures.

The Australian sugar industry recognises that payment of the second instalment of the Sustainability Grant scheduled for January 2005 will occur once the Australian Government is satisfied with progress on industry reform, including development of regional plans.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

Industry leadership commits to:

- Ensuring the broader industry takes ownership of and drives the reform process.
- Actively communicate the options available to industry participants.
- Encourage all industry participants to avail themselves of the further opportunities being provided, to work to better position the industry's future and to act upon reform-based decisions.

## **APPENDIX B**

### **Industry Oversight Group**

#### **OVERVIEW**

1. The Industry Oversight Group will oversee progress on the implementation of sugar industry reform, including the refinement of reform priorities, development of a strategic industry vision and alignment of regional plans with that vision.
2. The Industry Oversight Group will liaise with Regional Advisory Groups and assess proposals from regions for Regional and Community Projects, making recommendations to the Minister for Agriculture, Fisheries and Forestry on projects to be supported under this program.
3. The Australian Government will make available resource funding for the Industry Oversight Group to discharge its responsibilities within the terms of reference, including undertaking or commissioning priority work as identified.
4. The Australian Government will provide a small secretariat service to the Industry Oversight Group and facilitate ongoing high-level advice as required.

#### **MEMBERSHIP**

5. Membership of the Industry Oversight Group will be at the invitation of the Minister for Agriculture, Fisheries and Forestry.
6. The Group will comprise up to seven persons, including the Chair, with capabilities including:
  - strong business expertise at a senior level, including investment and strategic planning;
  - a demonstrated capability to increase the profitability, competitiveness and sustainability of Australian agri-business;
  - proficiency in change management and capacity building, including innovation and diversification; and
  - an understanding of the linkages between industry competitiveness and a sustainable natural resource base and stronger rural and regional communities.
7. One member will be selected to provide the perspective of the cane growing sector.
8. One member will be selected to provide the perspective of the milling sector.
9. The remaining members will be selected on the basis of their strength in the capabilities set out in item 6 above and will provide an independent and arm's length perspective to the Group;
10. The Chair will be an experienced person from the commercial sector with strength in the capabilities set out in item 6 above.

**SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION**

**TERMS OF REFERENCE**

11. The Industry Oversight Group will oversee progress on the implementation of sugar industry reform, including the refinement of reform priorities, development of a strategic industry vision and alignment of regional plans with that vision.
12. The Industry Oversight Group will drive reform and change, including the alignment of regional business priorities and plans against the following priority areas:
  - An integrated production systems approach to industry reform
  - Appropriate business structures that streamline industry operations, improve efficiencies and/or economies of scale to facilitate improved competitiveness
  - Innovation and diversification, focussing on both on-farm revenue diversification and on products derived from sugar cane, which can contribute to sugar regions' longer-term economic, social and environmental health
  - Enhancing the sustainability of the industry's natural resource base.
13. The Industry Oversight Group will work with Regional Advisory Groups to develop regional priorities and plans aligned with the above over-arching priorities.
  - Regional Advisory Groups must report progress on the development of regional priorities and plans by 30 September 2004 and 30 November 2004;
  - The Industry Oversight Group will then provide advice to the Minister on progress with industry reform.
14. The Industry Oversight Group will examine proposals from Regional Advisory Groups for funding under the Australian Government's Regional and Community Projects assistance and make recommendations on these to the Minister for Agriculture, Fisheries and Forestry.
15. The Industry Oversight Group will provide advice to the Minister on priorities and key programmes as necessary.



SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

**Industry Oversight Group Membership**

NAME	MEMBER
<b>Bruce Vaughan AO</b>	<b>Chair – Independent</b>
Aivars Blums	Deputy Chair – Independent
Alf Cristaudo	Member – Representing the perspective of the cane growing sector
Geoff Mitchell AO	Member – Representing the perspective of the milling sector
Vivienne Quinn	Member – Independent
Raoul Nieper	Member – Independent

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## **APPENDIX C**

### **Regional Advisory Groups**

#### **OVERVIEW**

1. Regional Advisory Groups will be appointed to identify the key challenges facing the sugar industry and the community at a local level and the most appropriate solutions which reflect the unique circumstances of each region.
2. Regional Advisory Groups will initially develop regional industry priorities with the subsequent view to developing a regional business plan.
3. Regional Advisory Groups will examine Regional and Community Projects proposals and provide advice to the Industry Oversight Group on projects to be supported under Regional and Community Projects.
4. Whilst acting for the Regional Advisory Groups, members will uphold the best interest of the region over the commercial, professional or private interest of any individual or stakeholder group.
5. An Australian Government Sugar Executive Officer will provide advice and secretariat support to the Regional Advisory Groups.

#### **MEMBERSHIP**

6. Membership of Regional Advisory Groups will be at the invitation of the Minister for Agriculture, Fisheries and Forestry.
7. Each group will comprise approximately seven persons and may be drawn from:
  - existing successful regional industry reform initiatives
  - the local Area Consultative Committee
  - other local industry and community groups
8. Membership will be based on skills including:
  - financial and strategic planning
  - change management and capacity building, including innovation and diversification and economic development
  - environmental and natural resource management
  - understanding of local industry issues and priorities
  - understanding of local community issues and priorities

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### TERMS OF REFERENCE

9. Regional Advisory Groups will develop regional industry priorities and plans, in consultation with the Industry Oversight Group. These will include:
  - a framework that will deliver improved environmental, social and economic outcomes in the region;
  - a program for ensuring the adoption of a whole of industry systems approach for pursuing efficiency, productivity and profitability gains;
  - a realistic assessment of a region's capacity to produce and export raw sugar against "worst case scenario" forecasts;
  - examination of the alternatives for the sugar industry, including alternative crops and alternative economic activities; and
  - a program for developing the business skills and capacity of industry participants.
10. In articulating its regional priorities and plans, each Regional Advisory Group must identify the actions that local stakeholders are currently undertaking, and will in future undertake to implement them, including specific and measurable milestones, timeframes, and performance indicators.
11. Regional Advisory Groups must report progress on the development of regional priorities and plans to the Industry Oversight Group by 30 September and 30 November (and before funding under Regional and Community Projects can proceed).
  - once the Industry Oversight Group and the Australian Government have approved the Regional Business Plan, each Regional Advisory Group will be required to oversee its implementation and, as appropriate, further development.
12. Regional Advisory Groups will maintain communication with the Industry Oversight Group.
13. Regional Advisory Groups will report on progress in achieving reform in regional industry operations to the Industry Oversight Group at 31 December and 30 June each year from the commencement of Regional and Community Projects.
  - beyond 2004-2005, provision of further Regional and Community Projects assistance will be contingent upon demonstrable progress towards implementation of regional plans.
14. An Australian Government Sugar Executive Officer will provide support to the Regional Advisory Groups including:
  - administrative support with processing of Regional and Community Project proposals;
  - advice on Australian Government programs and objectives; and
  - secretariat support.

## APPENDIX D

### Sugar Industry Reform Programme 2004

#### Overview

The Australian Government recognised the continuing importance of the sugar industry to rural and regional Australia. It agreed to provide a comprehensive range of measures to help the industry reform and assist individual cane farmers and their families who are in need.

The industry is a significant exporter and a major focus of the economies of many regional towns. The Government and the industry agreed on the need for significant reform in several areas. The industry has undertaken to develop and implement genuine, realistic and regionally based reforms that strongly reflect local priorities, to help achieve the needed changes and ensure the industry's long-term economic, social and environmental sustainability.

#### Sugar Industry Reform Programme 2004

The Sugar Industry Reform Program 2004 builds on the 2002 program, and responds to the sugar industry's commitment to support and promote comprehensive reform and restructure as formalised through the Statement of Intent signed by industry leaders and the Australian Government in April 2004.

It provides up to **\$A444.4 million** for a range of measures to assist the Queensland, New South Wales and Western Australian sugar industries. Importantly, all industry stakeholders have the opportunity to participate in the reforms. Assistance is provided through a combination of short-term measures to help sustain the industry through its immediate difficulties, and longer-term measures to help the industry undertake necessary reform.

The Sugar Industry Reform Program 2004 gives the industry the decision-making tools to help individuals determine their futures. The driver for positive change is in the hands of committed individuals working together at the community and regional level. The Australian Government expects industry participants to take advantage of the appropriate measures it is providing, work to better position themselves to make informed decisions about their future – inside or outside the sugar industry – and act on those decisions.

In acknowledging the critical role of industry and communities in determining their own priorities, the Australian Government established the Industry Oversight Group (IOG) as well as seven Regional Advisory Groups (RAGs) with support funding of up to **\$A8 million**.

- The IOG oversees progress on the implementation of sugar industry reform, including the refinement of reform priorities, development of a strategic industry vision and alignment of regional plans with that vision.
- RAGs consists of local sugar industry and community members and are responsible for identifying the key challenges facing the sugar industry at a local level and the most appropriate solutions which reflect the unique circumstances of each region.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

- Each of the seven sugar producing regions (Far North Queensland, Herbert, Burdekin, Mackay, Bundaberg, South Queensland and New South Wales) is represented by an RAG. The Ord River region in Western Australia reports directly to the Australian Government Department of Agriculture, Fisheries and Forestry.

The Australian Government also has Sugar Executive Officer (SEOs) in the sugar producing regions in Queensland, to work with local stakeholders on industry reform activities. SEOs provide an important support role for the RAGs.

### **The components of the Sugar Industry Reform Programme 2004 are:**

#### **Sustainability Grant**

Recognising the industry's immediate difficulties and to sustain it through a transition phase towards further reform, the Australian Government provided a one-off Sustainability Grant of up to **\$A146 million**. This will be divided between operating mills and their growers, according to industry payment arrangements.

The Sustainability Grant was provided in two instalments – the first tranche of \$A73.05 million was paid in June 2004 after the Statement of Intent was signed. The second tranche of \$A73.05 million was paid in September 2005 upon the Australian Government being satisfied with industry's progress on reform, including the development of regional plans.

#### **Income Support**

The Australian Government provided up to 12 months further Income Support payments to eligible growers and harvesters from 2 March 2004 to 1 March 2005, to help farming families most in need. Payments were made fortnightly, and were equivalent to the applicable rate of Newstart Allowance. They were subject to income and assets tests similar to those for the Newstart Allowance (farm assets are excluded from the assets test). Cane growers and cane harvesters in Queensland, New South Wales and Western Australia were eligible to apply.

All eligible customers were required to undertake business planning activities within six months of being granted Income Support. Up to **\$A21 million** (including Centrelink administration) was allocated for Income Support.

#### **Crisis Counselling**

The Australian Government recognised the sugar industry's downturn was affecting many farmers and their families. The Government provided additional funding through the Department of Family and Community Services of up to **\$A5 million** over four years for crisis counselling services for families in the industry. This is to increase the capacity of existing financial counselling and family support services in sugar growing regions, such as Cairns, Townsville, Mackay and Bundaberg, to respond flexibly to client needs in local communities.

The services are delivered through the established Commonwealth Financial Counselling and Family Relationships Services programs. The programs' officers have substantial experience and expertise in providing financial counselling or family support services. More than 9 000 people from the sugar industry are able access to these valuable financial counselling and family support services.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Business Planning (growers and harvesters)**

The Australian Government has provided up to **\$A14 million** (including Centrelink administration) in funding to help growers and harvesters undertake Business Planning.

Growers and harvesters receiving income support are provided with assistance of up to \$A2 500 in value to develop business plans, to ensure they fully assess their situation and can better position their operation for the future or consider alternatives outside the industry. The funding enables them to obtain advice from accredited professionals on improving their sugar operation's financial position or help them move to some form of alternative operation. They also receive assistance to develop and implement an activity plan to improve future enterprise viability.

Growers and harvesters not receiving income support are eligible to obtain advice to the value of \$A1 500 to help them fully assess their situation and options for the future. The funding enables them to analyse their business situation, identify and implement appropriate strategies to improve their sugar operation's financial position, or consider alternatives.

### **Business Planning (Mills)**

The Australian Government provided up to **\$A1.2 million** in funding for cooperative and smaller single site mill businesses to obtain advice from accredited professional advisers on their financial viability and develop comprehensive business plans.

Eligible mills received up to \$A100 000 for a business situation analysis and to identify an appropriate strategy to improve their financial position. This enabled mills facing financial difficulties to better manage the change process. It will also help mills prepare for the new operating environment following regulatory changes in Queensland.

Eight Mills took up this assistance.

This element was originally to cease on 30 June 2005 but was extended to 31 December 2005.

### **Grower Restructuring Grants**

The Australian Government has provided up to **\$A40 million** (including Centrelink administration) for Grower Restructuring Grants at the individual farm level for growers who choose to remain in the industry. The grants are available to sugar farm enterprises to undertake significant operational restructuring within the industry. They are paid in two instalments over two years for a range of activities, including:

- improving farm management practices;
- enhancing productivity and reducing cost of production;
- engaging in alternative business structures; and
- assisting in diversifying the enterprise base.

Grants are paid at a rate of \$A75 per hectare under cane (capped at \$A15 000 or \$A7 500 an instalment). First-year payments were available until 30 June 2005 and second-year payments are available until 30 June 2006.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

For the first instalment, growers were required to indicate, from a 'menu' of restructuring activities, the activities they intended to undertake. Growers are then required to demonstrate their use of funds in the first year to qualify for a payment in the second year.

Before accessing restructuring grants, growers are required to undertake Business Planning to develop an activity plan and identify appropriate strategies to maximise the anticipated benefits from the grant.

### **Regional and Community Projects**

The Australian Government has provided up to **\$A75 million** over three years for the Regional and Community Projects discretionary granting program, to assist medium and longer-term restructuring of the sugar industry. This will help provide regionally based, targeted projects to facilitate needed change.

Projects are determined on a competitive basis and need to be consistent with agreed reform priorities. They will be developed to:

- promote cross-sectoral partnerships and adoption of whole-of-system solutions;
- enhance revenue and cost efficiency; and
- facilitate environmental and social sustainability across the industry chain.

Funding is available for projects to pursue options for diversification and alternative uses for cane, such as ethanol and biofuels, co-generation and bio-plastics. Regional and Community Projects also supports initiatives that help regional communities adjust to changed circumstances through economic diversification, attracting new businesses and expanding social infrastructure.

Overall, projects are to complement the implementation of reform priorities identified by the IOG and RAGs and these groups each play a role in providing advice on project proposals to the Minister for Agriculture, Fisheries and Forestry. The process undertaken by the RAGs and the IOG is designed to provide a filtering method for project proposals to ensure that the Minister considers those project proposals of the greatest regional significance, highest priority and endorsed by industry.

### **Intergenerational Transfer**

Many industry stakeholders have emphasised a need to ensure farms can more readily be handed from one generation to the next. The Australian Government has introduced a sugar industry Intergenerational Transfer scheme through a three-year 'holiday window' from normal gifting provisions that apply to the age pension. Up to **\$A23 million** (including administration) is available over four years.

This scheme provides sugarcane growers who satisfy certain criteria with a window of opportunity to gift their farm without attracting the disposal (gifting) of assets rules that apply to income support payments paid by Centrelink and the Department of Veterans' Affairs.

To be eligible for this assistance, the net value of the farm must be no more than \$A500 000. The transfer must be a gift and divest the farmer of all legal interest (the home is an exception). The income test is equivalent to that for the aged pension for singles and couples. The next generation must have had an active involvement in the



## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

farm for three years before transfer, and retiring farmers must have owned the property for at least 15 years or been actively involved in farming for 20 years. Farmers accessing the Intergenerational Transfer scheme are not eligible to receive a Re-establishment Grant.

The Departments of Family and Community Services and Veteran's Affairs have legislative responsibility for this scheme which is governed by the *Social Security Act 1991* and the *Veterans' Entitlements Act 1986*.

### **Re-establishment Grants**

The Australian Government has provided generous re-establishment grants for growers and harvesters who wish to leave the industry.

Originally, one-off grants were available for growers for three years on a sliding scale:

- up to \$A100 000 until 30 June 2005;
- up to \$A75 000 from 1 July 2005 to 30 June 2006;
- up to \$A50 000 from 1 July 2006 to 30 June 2007.

After review this has been changed to allow the \$A100 000 to be accessed until 30 June 2006 after which the grant will reduce to \$50 000 as originally intended. In addition, some of the eligibility criteria have changed.

- Growers and harvesters are now able to off-set their various assets within one over-arching limit. For example, partnered home owners can now access to maximum grant if their combined net assets are less than \$A445 000. Previously, the value of the family home, after exit, was considered under a separate category to the value of all other assets.
- Cane farmers who narrowly failed to meet the asset limits now also qualify for a reduced grant. In these cases, the value of the Re-establishment Grant is reduced by \$A2 for every \$A3 in assets above the relevant asset limit.

One-off grants of up to \$A50 000 for sole harvesters are also available for three years from 1 July 2004 to 30 June 2007.

Under this assistance, growers are asked to choose whether they wish to leave the sugar industry for at least five years, perhaps to diversify into other crops, or sell their properties and leave agriculture altogether.

Re-establishment grants will be paid once the farm property has been sold or retired from cane production, or the farmer has ceased to be involved in the sugar enterprise. Customers must also have disposed of their sugar terminal and mill shares.

Customers do not have to qualify for Income Support to gain access to the Re-establishment Grant. Up to **\$A96 million** (including Centrelink administration) over three years has been allocated for Re-establishment Grants.

### **Retraining**

The Australian Government also recognised that reform of the sugar industry will displace some industry participants, such as growers, mill workers and other industry employees. Accordingly, the Government has provided up to **\$A7 million**, including

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

administration for retraining support for harvesters and mill workers made redundant through the reforms, as well as for growers who leave the industry.

The assistance is delivered through programs administered by the Departments of Employment and Workplace Relations, and Agriculture, Fisheries and Forestry. Existing programs in sugar regions will receive extra funding over three years.

## APPENDIX E

### Potential Diversification Opportunities for the Sugar Industry

Additional information about potential diversification opportunities for the sugar industry.

#### **Cogeneration of Electricity**

Electricity cogeneration is a form of renewable energy supply through the simultaneous production of heat and electricity for internal process use and external sale using a renewable fuel which in the sugar industry's case is bagasse (sugarcane fibre residue). Bagasse is combusted in a boiler to produce steam which is passed through a steam turbine/generator set that produces electricity. Some low pressure steam from the turbine is used for process heating in the production of raw sugar. Cogeneration for on-site energy use, as opposed to external sale, is well established in Australia's sugar industry.

*The Renewable Energy (Electricity) Act 2000*, created a Mandatory Renewable Energy Target (MRET) of 9 500 Gigawatt hours (GWh) of renewable energy generation per year by 2010. This Act also created Renewable Energy Certificates (RECs) which are a new form of "currency", used to demonstrate compliance with the requirements of the Government's MRET and can be traded. It appears in early 2006 that enough RECs have been generated to meet the MRET target.

Additional cogeneration of electricity could provide a useful contribution to the income stream of raw sugar mills through:

- Sale of surplus electricity (by installing capacity excess to mill requirements) into the distribution grid; and
- the added value created through RECs – although the market for RECs appears to be fully satisfied.

The bulk of the industry operates steam and electricity generating plant that is essentially designed to make the sugar mill self sufficient for its energy needs while also eliminating any potential problem with the disposal of excess bagasse. To become efficient producers of cogenerated electricity the installed facilities within many mills need to be upgraded with more efficient steam generating units, condensing turbine electricity generating sets and more efficient processing plant. The capital cost associated with this can be high and impacts the economic viability of cogeneration of electricity.

The sugar industry contends that the current MRET scheme while supportive of bagasse based cogeneration schemes, does not provide sufficient incentive for larger scale developments to proceed, unless they are on the back of a factory expansion or a necessary upgrade of boiler plant.

Another factor affecting the economic viability of electricity cogeneration for the sugar industry is that bagasse is generated for only 5 to 6 months of the year. Further examination of the industry's capability to supply electricity on a year round basis with flexibility to increase and decrease the supply of electricity in line with the

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

demands of the electricity market is needed. The level of generation required to compete efficiently with existing and proposed power stations may be considerably larger than the plants currently under consideration by the sugar industry.

As relatively small suppliers within the electricity market, sugar mills have been price takers as opposed to price makers in this industry. In the medium term sugar mills will continue to be price takers in the electricity market unless the mills invest capital and restructure operations to become large and active participants in the electricity market. The simple economics of supplying electricity cost effectively to compete with large coal-fired generators would seem to dictate that sugar mills need to have the capability to produce electricity on a year round basis.

To be a significant diversification option cogeneration of electricity requires a statutory market.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Stockfeed from Sugarcane**

At present a number of Australian companies are exploring opportunities to manufacture and market stockfeed from sugarcane “waste” products including cane tops. Some whole of sugarcane products are also being trialled.

The stockfeed market is extremely competitive domestically and internationally. Japan imports around 2.4 million tonnes of stockfeed annually. Australia supplies 25 per cent of this market in competition with the USA and Canada.

The Australian stockfeed and lot feed industries suggest that export is the only volume market available for stockfeed based on sugarcane or bagasse. Australia’s market appears to be fully serviced as adequate supplies of grain and hay are available for the most part except in periods of extreme drought. Extensive research over a number of years has been conducted to develop specific rations for grain and hay stockfeeds for different types of cattle and different markets. It does not yet appear that this level of specificity has been developed for sugarcane based feeds.

Various claims have been made about the markets for sugarcane based stockfeed in Japan and Korea but the volume, quality and price sensitivity of these markets are not fully known or tested.

The 1999 stockfeed feasibility study commissioned by Fibretek, (now known as Cane Fibre Products) concluded that:

- stockfeed production is a low margin, capital intensive commodity business;
- Australian stockfeed operations have had limited profitability, with a low and declining earnings before interest and tax which may have been affected by drought;
- in 1999, the Queensland market was essentially a duopoly, between Ridley and Riverina;
- any new entrant would need;
  - an anchor client to provide base volume;
  - capacity to deliver a full range of total mixed rations and supplements; and
  - diversification across segments to overcome industry cycles;
- the stockfeed market in Japan was mature with well developed customer relationships. Any new product would need a special edge. There is a volume supply of sugarcane and sugar beet fibre available from China.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Fuel Ethanol**

In 2001, the Australian Government announced the objective that fuel ethanol and biodiesel produced in Australia from renewable sources will contribute at least 350 million litres (ML) to the total fuel supply by 2010, up from the existing 40 ML capacity. Progress towards this objective will be reviewed in 2006.

The Australian Government has not mandated a particular proportion of biofuels in fuel products to reach its target. Rather, it is aiming to achieve the target through the Biofuels Capital Grants Programme, excise and other assistance arrangements.

Australia's main ethanol producers are CSR, Manildra and Bundaberg Distilling Company (supplies mainly potable alcohol). In 2004 proposed new entrants for grain based ethanol production included Lemon Tree Pty Ltd, Millmerran QLD and Primary Energy Ltd, Gunnedah New South Wales. In November 2005, the Dalby Bio-Refinery Ltd announced it will commence Stage One construction of an ethanol plant, worth \$A54 million, near Dalby QLD during the first half of 2006.

Two major studies carried out by CSIRO/ABARE have examined the economic viability of the Australian biofuels industry. ABARE concluded that the production of ethanol from sorghum or molasses is viable in the long term under the current excise arrangements.

On 22 September 2005, the Prime Minister released a Report by the Taskforce on Biofuels commissioned in May 2005. The Prime Minister reaffirmed the Australian Government's commitment to achieving the 350 ML biofuel target and to work closely with the biofuels industry to develop Industry Action Plans to underpin the achievement of the target.

### Excise Arrangements

The excise duty is set at 50 per cent of ethanol's energy content (12.5 cents per litre). The current excise arrangements for ethanol are:

- excise duty on domestically produced ethanol is rebatable; and
- the rebate of excise duty will decrease from 1 July 2011, with the rebate to be completely phased out from 1 July 2015.

### Ethanol Labelling

On 20 February 2003, the Australian Government announced the introduction of mandatory labelling of ethanol blends under the *Fuel Quality Standards Act 2000* (the Act). The Minister for the Environment and Heritage made a determination under the Act which specifies the labelling requirements for the sale of ethanol-petrol blends in Australia. The Information Standard commenced on 1 March 2004.

### 10 per cent Ethanol Content

On 11 April 2003, the Australian Government announced that it would set a maximum 10 per cent limit of ethanol blends in petrol. This took effect from 1 July 2003. The Queensland Government has encouraged, where possible, the use of ethanol fuel blend of 10 per cent (E10) across the Queensland Government fleet. BP commenced marketing E10 ethanol blend fuel in south-east Queensland in 2002.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Furfural**

Furfural is an industrial chemical derived from a variety of agricultural by-products, including corncobs, cereal bran, sawdust and bagasse. Its main application is as an input used for the manufacture of resins in the foundry industry, as a solvent in the refining of lubricating oils, in the manufacture of certain plastics and other intermediates including pharmaceutical and veterinary drug production and dye production. There is potential for furfural to be substituted for a number of chemicals used as timber treatments and nematicides.

During the early 1990s, world production of furfural reportedly shifted from developed countries to developing countries. Western European production significantly reduced while at the same time production in China increased. The United States, Europe (excluding Russia) and Japan are all net importers of furfural.

Furfural manufacturing is understood to be increasing in a number of countries. China and the Dominican Republic are understood to manufacture a significant quantity of furfural. China has several production facilities which in total are understood to manufacture the largest volume of furfural in the world. The Dominican Republic's Central Romana Corporation is reported to manufacture the second largest volume of furfural.

China's producers are understood to rely primarily on corncobs for input materials. It is understood the Dominican Republic's and South Africa's furfural production is based upon bagasse as the feed stock.

A new process developed in South Africa (SupraYield<sup>®</sup>) is claimed to improve on existing production methods with higher yields, less inputs and improved environmental outcomes.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Biotechnologically Modified Sugarcane**

The Australian sugar industry recognises that strong negative consumer perceptions about biotechnologically modified (BM) sugarcane could prevent its successful commercialisation.

One of the main causes for public concern about biotechnological engineering is the lack of knowledge about the process. Consumers appear wary of these “new” products and without widespread consumer acceptance the commercial development of BM sugarcanes would not appear possible in the near term.

Nonetheless, the successful development of biotechnologically modified sugarcane could play a role in improving the productivity in Australia’s sugar industry. BM sugarcane is considered the easiest and most cost-effective way of creating multi-fold increase in productivity.

A significant amount of work has already been undertaken through the use of biotechnology to develop applications to sugarcane plant improvement. Such applications to plant improvement may enable the sugarcane plant to store high levels of sucrose or to produce and store new products for wider markets than sugar and may include:

- higher production levels, (through higher sucrose content and longer harvest seasons);
- reduced environmental impact through varieties that use water and nitrogen more efficiently;
- reduced dependence on applied chemicals to control pest and diseases; and
- potential for the creation of biodegradable end products (such as bio-plastics and pharmaceuticals).

Various trials being undertaken include higher yields, delayed flowering, resistance to pests (such as borers) and mosaic disease.

The Cooperative Research Centre for Sugar Industry Innovation through Biotechnology (SIIB), established in 2003, aims to promote the use of sugarcane as a renewable bio-factory and, thereby, provide a sustainable, competitive advantage for a value added sugarcane industry.

As part of its alliance with the SIIB, the University of Queensland has been permitted to release, under limited and controlled conditions, a BM sugarcane expressing the enzyme – *sucrose isomerase*. The university will trial up to 120 BM sugarcane lines at two sites in the Burdekin Shire in Queensland between February 2005 and December 2010. The main aim of the proposed trial is to determine the agronomic performance of the BM sugarcane lines under Australian field conditions. The results of these preliminary trials will be used to further improve effectiveness of the gene constructs for future development.

Brazil is also investigating BM sugarcane (April 2005). Brazil's Centre for Sugar Technology (CST), a research lab, has begun field trials of herbicide-resistant BM sugarcane.



## APPENDIX F

### Additional Information about Issues in the Sugar Industry

#### Off-farm Income

As the industry operates in early 2006 the sugarcane grower and the miller are both exposed to volatility in the freely traded world market for raw sugar. This exposure to price volatility by the mills and growers affects the value chain. The restricted capacity of sugarcane growers and the millers to manage finances due to price uncertainty is compounded by the inherent seasonal variability in production. In contrast, service providers to the industry are operating in an environment in which their input and output prices are influenced by the domestic market and are relatively inflexible. A number of participants in the sugarcane growing sector of the industry appear to have attempted to overcome the volatility in income from the world price of raw sugar through off-farm income.

Off-farm income may be obtained by personal exertion or from non-farming investments. The point of difference between these income sources is the proportion of time the grower works on the property. A grower who chooses to obtain off-farm income through personal exertion will usually have to be absent from the property for a period of time to obtain the income. A grower who supplements income through investments usually remains on the property, however the capital invested to earn the income is off the property and may not be of direct benefit to the industry.

The tourism and mining industries have developed adjacent to or near many sugarcane producing regions. This appears to be bringing an increasing number of relatively affluent people into the coastal region stimulating economic development. A side effect of this is the growth in demand for smaller properties for lifestyle reasons<sup>78</sup>.

The impact of coal mining within the Bowen basin is apparent in the Mackay region, although it has affected the industry throughout North Queensland. The development of tourism, mining and services sectors in proximity to sugarcane regions provide an opportunity for sugarcane growers to generate off-farm income through personal exertion to supplement sugarcane income.

The opportunity to supplement off-farm income from these sectors has a knock on effect by drawing upon the supply of labour to the sugarcane industry. The present resources boom has provided the mining industry with the potential to attract employees to the sector through the ability to pay higher wages. This has drawn the labour pool away from the sugar industry.

The ability to attract both skilled technicians and less skilled labour towards employment in the sugar industry is compromised by the seasonal nature of sugar milling in comparison to permanent employment in another industry. Anecdotal reports indicate the industry is facing real difficulty in retaining employees with electrical trade qualifications.

---

<sup>78</sup> This issue is influencing the demand for land in some sugarcane regions.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

The second effect of the development of off-farm employment and investment within sugarcane regions has led to the phenomenon of the non-sugarcane dependent grower. The non-sugarcane dependent grower has emerged because of the uncertainty of income generated from sugarcane production. This uncertainty may be associated with the number of family members attempting to share income from a sugarcane farm.

The supplementary income provided by off-farm investment and/or employment in the mining, tourism and services sectors may provide sugarcane growers with an effective hedge against variable sugarcane income. The earnings provided from off-farm income are effectively a transfer of revenue from these sectors to the variably priced sugarcane sector within a region. The relatively stable income generated by the non-sugarcane dependent grower with off-farm income may provide the smaller producer with the opportunity to secure finance to develop the property and capture the benefits of scale. In this case the part time sugarcane grower may increase aggregate production within the region or mill area.

Alternatively the non-sugarcane dependent grower may choose to transfer the income generated from off-farm employment into another investment. This may be facilitated by taxation treatment that applies to primary production. This grower may not choose to make investments in the sugarcane growing property.

It is hypothetically possible for a land holder in the agriculture sector to generate transfer payments within the tax system which would not be available if the land holder were to leave the agricultural sector. Although the size of these transfer payments may provide a marginal benefit to the individual it may be a factor contributing to the high proportion of small scale sugarcane enterprises in the industry.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Contestable Resource Allocation – Land Use**

Both the sugarcane dependent and non-sugarcane dependent sugarcane producer are generating capital gain through land banking. The rate of capital gain varies between and within regions. Land banking by investors for future development has a latent effect on sugarcane production. Investors retaining land in anticipation of future development opportunity appear to be a factor inhibiting the development of large scale sugarcane enterprises. The land will ultimately be withdrawn from sugarcane production and will have an impact upon the sugarcane available for optimal mill supply.

A decrease in the amount of sugarcane production as land is diverted to another economic activity has three main impacts upon a region or mill area. The first is the decrease in the total volume of sugarcane available. The second is to dilute the volume of sugarcane across the region or mill area which may impose costs on the transport of sugarcane to a mill. Thirdly, optimal mill throughput is affected, which may lead to mill closure.

The ad hoc substitution of plantations of perennial crops or subdivision for urban and peri-urban development for sugarcane land has been evident in the industry for some time.

Land traditionally allocated to sugarcane production is under challenge as the net margin from sugarcane production competes with the net margin that may be generated from other crops. Within regions the diversion of sugarcane for alternative crops has happened to a greater or lesser extent depending on the natural resources of the region and proximity to markets for products. A sugar mill in itself only provides another land use option to an agricultural investor.

The benefits from rotations in cropping systems are widely accepted and apply to the inclusion of rotational crops in the sugarcane production system. In many areas the industry appears to be adopting rotational cropping for agronomic purposes to supplement sugarcane production. However, as skills in producing various crops develop sugarcane production may decline as growers divert resources to the most profitable activity.

Within a region or mill area there are two conditions that must be met before land traditionally allocated to sugarcane is diverted to another crop. The first condition is the provision of infrastructure to support a new industry. For example, without the provision of storage and handling facilities for alternative crops it is difficult to encourage the production of these crops. The second condition is the availability of traders to transact alternative crops. Generally when condition one and two are both met the dominance of sugarcane as the primary agricultural activity within a region begins to decrease. Nevertheless, the market for the alternative crop or activity usually needs a threshold scale of production at the farm and/or regional level for the activity to be viable.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Transport in the Value Chain**

There is an optimal period between the time sugarcane is cut at harvest and the time at which sugarcane is processed at a mill. It is believed that there is an optimum period of about 16 hours available for transport of cut sugarcane before the product may begin to deteriorate significantly. This 16 hour period between harvesting and processing could hypothetically allow sugarcane to be transported a very long distance using modern transport systems. This implies that a sugar mill located in Mackay could road transport sugarcane harvested north of Mossman for processing before the sugarcane would begin to significantly deteriorate.

However, the economics of moving a bulky but low value product do not translate into sugarcane being transported close to these distances, and fifty kilometres or less may well be the limit. As an indicator of the capacity to meet the cost of sugarcane transport it is worth considering the value of a truck load of sugarcane. At a raw sugar pool price equivalent of \$A250 per tonne the approximate value of a semi-trailer load of sugarcane may be \$A400. If the raw sugar pool price equivalent increases to \$A300 per tonne the value of the same load of sugarcane increases to approximately \$A480. In comparison, the approximate value of a semi-trailer load of raw sugar may be approximately \$A6 250 at a raw sugar pool price equivalent of \$A250 per tonne and approximately \$A7 500 at a raw sugar pool price equivalent of \$A300 per tonne. Regardless of a road or light rail transport system sugarcane may only be cost effectively transported over relatively short distances.

Most of Queensland's sugar industry has developed a narrow gauge rail transport system that imposes upon the milling sector a capital demand to operate and maintain. The networks are a consequence of the industry's history and were usually established as part of the mill infrastructure. Accordingly the rail networks were built to accommodate the needs of the industry because they were cost effective and practical in comparison with road transport infrastructure at the time of construction. As road transport infrastructure has improved since cane railways were constructed road transport is now an alternative. However, the transfer of sugarcane from narrow gauge rail to road appears to be a highly emotive community issue within sugar regions and has therefore attracted local and state government intervention through regulation. The Bundaberg region provides an example of local community concern with transfer of sugarcane to the road.

As cut sugarcane occupies a high volume with a low weight a prime mover with one attached semi-trailer can legally carry approximately 16 tonnes of sugarcane to remain within the height and length limits applying to this vehicle. By comparison, in raw sugar configuration this vehicle would not approach the height or length limits but would be limited by the gross mass that the vehicle may carry. The same vehicle may be configured to legally transport approximately 25 tonnes of raw sugar, increasing the gross mass of the vehicle by approximately 9 tonnes above the gross mass when transporting cut sugarcane. Accordingly, semi-trailer vehicles transporting cut sugarcane appear to be very large vehicles, but are in fact relatively lightly laden. As these vehicles are relatively lightly laden they have less capacity to damage road surfaces than the vehicles transporting raw sugar. This issue appears to be omitted from discussion about road transport of cut sugarcane.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

An important issue when comparing narrow gauge rail to road transport of sugarcane is that roads are a public good and cane railway is a private good. The public good has now duplicated private infrastructure. There appears to be a conflict between the community and the industry regarding the use of historical infrastructure of cane railways or the use of modern public road infrastructure and transport systems. This conflict is impeding an industry to determine its cost effective transport options.

A cane railway is the lowest variable cost sugarcane transport system provided the network matches the distribution of sugarcane within a region or mill area. However, given the change in sugarcane distribution in regions the mills may have stranded capital in track, locomotives and wagons. To restructure the rail networks the mills needs significant capital.

The current milling areas have generally committed capital to transporting and milling when the potential return from sugarcane was at its highest. This is exacerbated by the relatively short milling season in Queensland. The loss of sugarcane land to alternative uses, coupled with the volume required to economically operate a sugar milling business and the limit from which cane may be profitably transported have imposed a relatively high cost structure upon the milling sector.

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

### **Research, Development and Extension Expenditure**

The aggregate level of research, development and extension expenditure within the Australian sugar industry is estimated to be in the range of three to five per cent of the gross value of raw sugar production. The existing service providers focus most resources upon activities relating to sugarcane growing and supply. However, the IOG has become aware that, despite the resources invested in developing all aspects of cane growing, sugar yields per tonne of cane and per hectare appear to have levelled off. This is particularly the case for the sugar content which has not improved on levels achieved in the 1930's.

The traditional research, development and extension providers are experiencing increasing difficulty in sourcing funding as the industry adopts a more commercial and less general levy based approach. An extreme example is the Sugar Research Institute, the Mackay based milling research organisation, which is undergoing a fundamental restructure with research activities relocating to within the Queensland University of Technology.

With progressive deregulation, the remaining compulsory collection of funds for research and development via levies on production is conducted through the Australian Government on the recommendation of industry representative bodies, for the Sugar Research and Development Corporation (SRDC). Accordingly, the SRDC's research plan and activities must meet the requirements of the Australian Government's *Primary Industries and Energy Research and Development Act 1989* to receive industry endorsement. SRDC will work with its stakeholders to deliver the following outcomes:

- An increasing and more reliable cane supply, primarily through the implementation of robust farming systems that enhance economic and environmental performance, and are less vulnerable to the impacts of adverse factors such as disease and climate variability;
- Facilitation of change which promotes adoption of whole-of-system solutions to enhance revenue and cost efficiency across the value chain at mill area and regional levels;
- Demonstration of environmental sustainability to the satisfaction of all stakeholders;
- Diversification of the income stream from products derived from sugarcane;
- Enhancement of human capacity and partnerships between industry, research and regional communities to underpin change, learning and innovation; and
- An effective Research and Development capability underpinning industry futures.

SRDC funding for the year ending 30 June 2005 included \$A4.8 million from the Australian Government and \$A5.1 million from industry levies on growers and millers.

The Bureau of Sugar Experiment Stations (BSES) was established in Queensland in 1900 to provide research, development and extension services to the industry overall. In more recent decades, the BSES involvement in milling related research has largely ceased and the focus is on a sustainable sugarcane production system and reliable supply. The annual cash expenditure of the BSES is of the order of \$A20 million and the organisation employs 160 staff. Industry contribution is in the form of a voluntary service fee per tonne from growers and millers and is currently of the order of

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

\$A7 million and projected to increase significantly in future years. The State of Queensland, through the Department of Primary Industries and Fisheries' budget has traditionally provided financial support to the BSES and this support has been subject to formal review in late 2005 as the BSES is now an independent corporate entity.

In addition the CSIRO, Universities, Co-operative Research Centres, regional Productivity Boards and commercial enterprises provide research, development and extension services to the industry.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION



SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## **ACKNOWLEDGEMENTS**

The Industry Oversight Group wishes to acknowledge the assistance and contribution provided by:

- past and present members of the Regional Advisory Groups (RAGs), lead by the Chairs
  - Bill Stainlay, New South Wales RAG
  - Tony Nioa, South RAG (Former)
  - David Braddock, South RAG
  - John Bell, Bundaberg RAG
  - Greg Sutherland, Mackay RAG
  - Sherry Kaurila, Herbert RAG (Former)
  - Russ McNee, Burdekin RAG
  - Robert Blanckensee, Far North Queensland RAG.
- Sugar Executive Officers
- Queensland Sugar Limited
- PricewaterhouseCoopers
- financial institutions, Australian and international.

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## GLOSSARY

ABARE	Australian Bureau of Agriculture and Resource Economics
ACP	African, Caribbean and Pacific
ACFA	Australian Cane Farmers Association
ASEAN	Association of South East Asian Nations
ASMC	Australian Sugar Milling Council
AUD	Australian Dollar
BM	biotechnologically modified
BRL	Brazilian Real
BSES	Bureau of Sugar Experiment Stations (now BSES Ltd)
CANEGROWERS	Registered business name of the Queensland Cane Growers Organisation Ltd
CNA	National Confederation of Agriculture – Brazil
CCS	commercial cane sugar content of cane
Compass	BSES program COMbining Profitability And Sustainability in Sugar
CPA	Cane Production Area
CPPB	Cane Protection and Productivity Board
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CST	Centre for Sugar Technology – Brazil
E10	fuel containing 10 per cent Ethanol
EBA	Everything But Arms initiative of the European Union
EBIT	earnings before interest and tax
EBITDA	earnings before interest, tax, depreciation and amortisation
EU	European Union
FTA	free trade agreement
GDP	Gross Domestic Product
Global Sugar Alliance	Global Alliance for Sugar Trade Reform and Liberalisation
GVP	Gross Value of Production
GWh	gigawatt hours
HFCS	high-fructose corn syrup
Hildebrand Report	Report of the independent assessment of the sugar industry conducted by Clive Hildebrand in 2002
IAC	Industries Assistance Commission
IBGE	Institute of Geography and Statistics – Brazil
IEA	Agricultural Economics Institute of the State of São Paulo Secretariat of Agriculture
IGG	Industry Guidance Group
IOG	Industry Oversight Group
ISO	International Sugar Organisation
KPI	key performance indicator
LAC	long-run average cost
LDC	least-developed country
MAPA	Ministry of Agriculture, Livestock and Supply – Brazil
MI	million litres
MRET	Mandatory Renewable Energy Target
MWh	megawatt hours

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

NIR	near-infrared spectroscopy
NSWSMC	New South Wales Sugar Milling Cooperative Ltd
NY11	New York Board of Trade Raw Sugar Futures Contract Number 11
OECD	Organisation for Economic Cooperation and Development
QDPI&F	Queensland Department of Primary Industries and Fisheries
QSL	Queensland Sugar Limited
RAG	Regional Advisory Group
REC	Renewable Energy Certificate
R&D	research and development
RD&E	research, development and extension
ROI	return on invested capital
RCP	Regional and Community Projects, component of the SIRP 2004
SEO	Sugar Executive Officer, RAG Secretariat
SIIB	Cooperative Research Centre for Sugar Industry Innovation through Biotechnology
SIRP 2004	Sugar Industry Reform Programme 2004
SIRWP	Sugar Industry Review Working Party
SRDC	Sugar Research and Development Corporation
SRI	Sugar Research Institute
STL	Sugar Terminals Ltd
tc	tonnes of cane
t/ha	tonnes per hectare
UNICA	São Paulo Sugarcane Agroindustry Union
US	United States
USD	United States Dollar
WTO	World Trade Organisation

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

## BIBLIOGRAPHY

Adams, J., Fereday, N., Forber, G., Jackson, D., Midgeley, C., Powell, N. and Tood, M. (2005), 'Are energy prices influencing sugar prices?', LMC International Limited, *Sweetener Analysis*, October

Austrade (2001), *Investing in Latin American growth – unlocking opportunities in Brazil, Mexico, Argentina and Chile*, Australian Government Department of Foreign Affairs and Trade, Economic Analytical Unit

Australian Bureau of Agriculture and Resource Economics (ABARE) (2004), *Australian commodity statistics 2004*, Commonwealth of Australia

ABARE (2005), *Australian commodities*, vol 12, no. 3, Commonwealth of Australia

Australian Government (2004), *Securing Australia's Energy Future*, Commonwealth of Australia

Banks, G. (2005), *Structural reform Australian style: lessons for others?*, Presentation delivered to the International Monetary Fund and World Bank (United States, 26–27 May) and Organisation for Economic Cooperation and Development (France, 31 May)

Biofuels Taskforce (2005), *Final report*, report to the Prime Minister the Hon. John Howard MP, Commonwealth of Australia

Bolling, C. and Suarez, N.R. (2001), 'The Brazilian sugar industry: recent developments', Market and Trade Economics Division, Economic Research Service, United States Department of Agriculture, *Sugar and sweetener situation and outlook*, September, SSS-232

Borell, B. (1991), *How a change in Brazil's sugar policies would affect the world sugar market*, World Bank policy, research and external affairs working paper, April, WPS 642

Borell, B., Bianco, J.R. and Bale, M.D. (1994), *Brazil's sugarcane sector – a case of lost opportunity*, World Bank policy, research and external affairs policy research working paper, October, WPS 1363

Czarnikow Sugar Review (2005), 14 December 2005, report no. 1983 e 72

Department of Primary Industries and Fisheries (2005), *Prospects for Queensland's primary industries*, Queensland Government

European Commission (2005), *The European sugar sector: its importance and its future*, European Commission, June

FO Licht (2005), *International sugar and sweetener report*, 15 November, vol 137, no 34

SUGAR INDUSTRY OVERSIGHT GROUP  
STRATEGIC VISION

- Gudoshnikov, S., Jolly, L. and Spence, D. (2004), *The world sugar market*, International Sugar Organisation
- Hildebrand, C. (2002a), 'Hildebrand presents the reports of the Australian sugar industry assessment to the Federal Government', Media release, 28 June.
- Hildebrand, C. (2002b), *Independent assessment of the sugar industry*, report to the Hon. Warren Truss MP, Minister for Agriculture, Fisheries and Forestry
- Industry Commission (1992), *The Australian sugar industry*, report no. 19, Commonwealth of Australia
- Isaias de Carvalho Macedo (ed) (2005), *Sugarcane's energy – twelve studies on Brazilian sugarcane agribusiness and its suitability*, São Paulo Sugar Cane Agroindustry Union
- Larson, D.F. and Borrell, B. (2001), *Sugar policy and reform*, World Bank policy, research and external affairs policy research working paper, May, WPS 2602
- LMC International (2004), *Sweetener analysis*, March
- LMC International (2005a), *Sweetener analysis*, October 2005
- LMC International (2005b), *Sugar and sweeteners quarterly*, fourth quarter, November
- LMC International (2006), *Sugar and sweeteners quarterly*, first quarter, February
- Milford, B. (2005), 'Cane farm sales prices recover', *Australian canegrower*, 28 November, vol 27, no. 24
- Mitchell, D. (2005), *Sugar policies and opportunity for change*, World Bank global agricultural trade and developing countries policy research working paper, February, WPS 3222
- Newton, R. (1897), *Work and wealth of Queensland*
- Oanda.com: the currency site (2006), *FX history: historical currency exchange rates*, [www.oanda.com/converter/fxhistory](http://www.oanda.com/converter/fxhistory)
- Office of Regulation Review (1998), *A Guide to regulation* (second edition), Commonwealth of Australia
- Organisation for Economic Cooperation and Development (OECD) (2005a), *Tackling trade in agriculture*, OECD policy brief, November
- Organisation for Economic Cooperation and Development (OECD) (2005b), *OECD Review of agricultural policies – Brazil*, OECD
- Queensland Sugar Limited (2005), *Raw sugar market prospects*, July

## SUGAR INDUSTRY OVERSIGHT GROUP STRATEGIC VISION

Sugar Industry Review Working Party (1996), *Sugar winning globally*, report to the Hon. T.J. Perrett MLA, Minister for Primary Industries, and the Hon. John Anderson MP, Minister for Primary Industries and Energy, Commonwealth of Australia

Sugar Terminals Limited (2005), *Annual Report 2004–2005*, Sugar Terminals Limited

USDA Foreign Agricultural Service (2005), *Brazil sugar: semi annual*, Global Agriculture Information Network, 7 October, report no. BR5020

World Bank (1994), *Brazil: the management of agricultural, rural development and natural resources*, report no. 11783-BR

World Bank (2002), *Brazil – growth and poverty reduction in Pernambuco: developing a sustainable policy framework*, report no. 20754-BR