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# The Barwon Darling Enterprise Zone

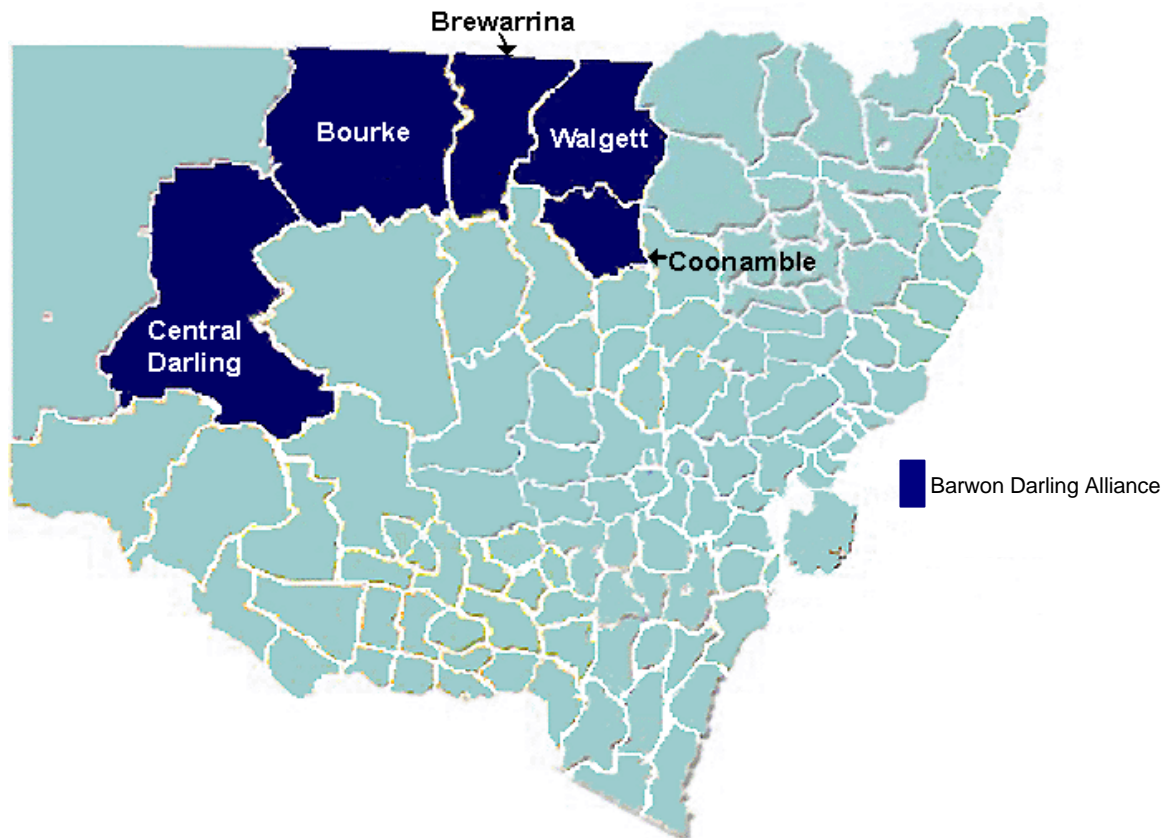
Prepared for the Barwon Darling Alliance by the Western Research Institute

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## THE BARWON DARLING ALLIANCE

The Barwon Darling Alliance was born out of a desire of the Murdi Paaki Regional Council of ATSIC and the participating Shire Councils to address their common regional concerns regarding high unemployment and serious quality of life issues.



### MISSION

The mission of the Barwon Darling Alliance is to combine its members' resources to support and maintain sustainable economic growth and employment in the region and to develop positively the social capital and the lifestyle and culture of its people.

### PARTICIPATING ORGANISATIONS

Murdi Paaki Regional Council of ATSIC  
Bourke Shire Council  
Brewarrina Shire Council

Central Darling Shire Council  
Coonamble Shire Council  
Walgett Shire Council

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## **EXECUTIVE SUMMARY**

- The Barwon Darling Alliance commissioned the Western Research Institute (WRI) to develop an enterprise zone model for the Barwon Darling region, which includes the Bourke, Brewarrina, Central Darling, Coonamble and Walgett Shire Councils.
- The Barwon Darling enterprise zone model was developed on the basis of a literature review, a survey of businesses in the Barwon Darling region and the Western Research Institute's expertise in regional development in Western New South Wales.

### **RATIONALE FOR A BARWON DARLING ENTERPRISE ZONE**

- The general rationale for enterprise zones is to promote employment growth (especially for targeted groups such as indigenous persons and the long term unemployed) and to increase business investment. However, the specific rationales for the implementation of an enterprise zone in the Barwon Darling region are:
  1. To achieve restructuring that will promote the long-term sustainability of the Barwon Darling region.
  2. To alleviate the relatively high levels of economic and social disadvantage in the Barwon Darling region compared to the average for a New South Wales community.
  3. To address the perceived failure of the existing framework of development policies to address the structural and long-term development problems of the region.
  4. To address the failure of the free operation of the market to generate economic development and to provide social opportunities such as a good quality education and employment for indigenous persons and the long-term unemployed.
  5. To allow the Barwon Darling community to form a stronger partnership with government to promote economic development in the region.

### **LITERATURE REVIEW OF INTERNATIONAL EXPERIENCE WITH ENTERPRISE ZONES**

- A literature review of the effectiveness of enterprise zones in the United States and Europe suggests that enterprise zones can be effective in stimulating employment growth and business investment, although there is some contradictory evidence. There is also evidence that remote enterprise zones can support the expansion of existing businesses and the development of 'home grown' businesses managed by local people.
- Enterprise zones are likely to have difficulty addressing social disadvantage for the long-term unemployed and indigenous persons. However, enterprise zones would be expected to lead to a reduction in unemployment, which does alleviate economic and social disadvantage.
- Enterprise zone incentives operate at the margin and tend to be outweighed by other factors (e.g. business costs, labour force characteristics, etc). This suggests enterprise zone incentives are more likely to impact on location decisions between similar locations, where other factors like labour costs and access to markets are equal. Thus, a Barwon Darling enterprise zone is unlikely to be effective in attracting new businesses from city areas and this means new job growth will probably be generated by existing businesses and new business formations.

- The literature review suggests that a Barwon Darling enterprise zone may have a greater chance of success if there are a range of different incentives to encourage: exports, the expansion of existing businesses, the establishment of new business by local people, the clustering of related businesses, networking and innovation. The effectiveness of a Barwon Darling enterprise zone may also be enhanced if it improves the quality of life in the region.

### **ENTERPRISE ZONE INCENTIVES PREFERRED BY BUSINESSES IN THE BARWON DARLING**

- It is plausible to suggest that an enterprise zone could be more effective if the policy incentives match the needs of businesses in the region. Therefore, interviews were conducted with 22 businesses in the Barwon Darling region to identify the policy incentives they would prefer.
- A number of businesses highlighted the point that the specific incentives in an enterprise zone are not as important as whether or not they improve the viability of operating a business in the Barwon Darling region. In other words enterprise zone incentives will only have a significant impact on employment and investment decisions if they can bring about a net increase in the profitability of businesses and promote economic development in the Barwon Darling.
- There was a mix of economic and social incentives in the list of incentives preferred by businesses in the Barwon Darling. Indeed, the results of the interviews suggest that it may be social problems like poor education, drugs and crime that are limiting economic development in the Barwon Darling rather than the inherent lack of profitability of the region's businesses.
- In these circumstances economic incentives such as wage credits and financial support for capital investment may be ineffective if used by themselves, as their impact may still be limited by social problems that make it hard to attract good employees.
- Addressing the problems of education, crime and drugs should improve the lifestyle of residents and make the Barwon Darling region a more attractive place to live for professionals and families. These social improvements could then be expected to flow to the bottom line of businesses in the region. Likewise, the generation of regular work opportunities in the Barwon Darling could also be expected to have social benefits. Indeed, B. Lulham, the Wilcannia magistrate is "absolutely convinced" that an increase in employment opportunities was responsible for a reduction in crime.

### **COMPARISON OF EXISTING GOVERNMENT PROGRAMS**

- A comparison of the policy incentives preferred by Barwon Darling businesses to the range of existing government programs highlights two important points:
  1. In most cases there are existing government programs that provide similar incentives to those that businesses in the Barwon Darling would like as part of an enterprise zone, although a number of existing programs are not available to the private sector.
  2. While existing programs may address the issues raised by businesses in the Barwon Darling, anecdotal evidence suggests that these programs are not highly effective. Specifically, there are concerns at the local level due to grant application fatigue, delays in approval processes and a lack of programs that engage directly with the needs of business.
- Given the broad similarity between the enterprise zone incentives preferred by Barwon Darling businesses and the type of programs provided by government, it may be appropriate to restructure existing programs as the basis for directly supporting private enterprise in the region.

- A restructure of existing government programs to meet the specific needs of businesses in the Barwon Darling region may include: modifications to existing eligibility criteria, improved delivery methods and funding for longer time periods. Greater promotion of available programs to ensure the Barwon Darling community is aware of the government programs that are available to assist the region.

### **THE BARWON DARLING ENTERPRISE ZONE MODEL**

- The objectives of the Barwon Darling enterprise zone are to generate employment, increase business investment, reduce unemployment for indigenous persons and the long-term unemployed and increase the proportion of the population that hold post-school qualifications.
- The results of this study suggest that there are three broad groups of incentives that may help realise the objectives of the Barwon Darling enterprise zone:
  1. **Social incentives** to improve the quality of life, including: increased public support for education to improve basic reading and writing skills; mentoring for unemployed people, especially indigenous persons and the long-term unemployed, to help them make the transition to work; increased crime and drug prevention; an improvement in the quality of childcare; and more family-friendly work policies.
  2. **Economic incentives** to promote employment growth and business investment, including: a 25 percent wage credit for new employees; interest rate grants to reduce the cost of finance; accelerated depreciation grants to encourage capital investment; and grants to offset various government costs and charges that could assist new businesses.
  3. **Capacity building incentives** to strengthen the ability of the Barwon Darling community to drive development, including support for networking and clustering; the establishment of a research partnership with Charles Sturt University; advice from experienced exporters on how to penetrate foreign markets; and priority consideration for government infrastructure development.
- Aside from the incentives the main elements of the Barwon Darling enterprise zone model are:
  1. A **decentralised administration** that is responsible for: community planning, managing the budget; selection of eligible firms; and allocation of funding for enterprise zone incentives. Local government can play a strong role in the administration of the Barwon Darling enterprise zone, as this will promote community empowerment.
  2. There should be **competition** between eligible regions for designation as an enterprise zone and competition between eligible firms for the allocation of funding within a zone. This competition should enhance the effectiveness of enterprise zones as a development tool.
  3. A **local steering committee** should be formed with representation from all three levels of government. This steering committee should provide strategic direction for the Barwon Darling enterprise zone and be accountable for the allocation of public funding.
  4. While it is the responsibility of the local steering committee to monitor the success of the Barwon Darling enterprise zone, the state and federal governments should commission an independent **evaluation** of the overall effectiveness of the zone. As part of this assessment, performance and approval processing times should be regarded as customer service obligations.

## **IMPACT OF THE BARWON DARLING ENTERPRISE ZONE**

- The zone administration will be responsible for managing the budget allocated to the Barwon Darling. Following estimates by the National Institute for Economic and Industry Research (2001:page 10) it is assumed that the budget for the enterprise zone is \$5 million per year and indexed over a five-year period. An option for a further five-year period could also be provided, with funding conditional on a successful evaluation of the Barwon Darling enterprise zone.
- Given a number of realistic assumptions regarding the effect of enterprise zone incentives it was estimated that these incentives could generate about 400 new jobs.
- Although the budget allocated to the enterprise zone may be \$5 million, after accounting for additional income tax, GST and the unemployment benefits saved; it is estimated that the implementation of the Barwon Darling enterprise zone model would require net government expenditure of about \$2.1 million.
- The average public sector cost is about \$5,365 per job created in the Barwon Darling region. However, the marginal cost of job creation in the Barwon Darling enterprise zone model is about \$280 per job. In other words, once the Barwon Darling enterprise zone program is established the net cost of job creation is relatively small.
- In the Barwon Darling enterprise zone model there is no necessary reason why funding should be the sole responsibility of either the state or federal government. In this model funding is provided to the zone administration, which allocates funds to eligible firms. However, assuming each level of government contributes in proportion to the expected benefits received, the modelling results suggest that the NSW Government would contribute about 10 percent and the Commonwealth Government would contribute about 90 percent of the funding to a Barwon Darling zone.
- The economic impact of the enterprise zone model was estimated using an input-output table constructed for the Barwon Darling region. Using this method it was estimated that the economic impact of the Barwon Darling enterprise zone model could be around \$25 million in gross regional product (GRP) and \$11.9 million in household income. Given the estimated gross regional product in 2000-01 of \$529.1 million, this is equivalent to economic growth of 4.7 percent.
- All else being equal the creation of 400 new jobs could be expected to reduce the unemployment rate in the Barwon Darling region from 10.2 percent to 5.9 percent. If this occurs the value of social security benefits flowing into the Barwon Darling region could be expected to decline by 2.8 percent.
- An improvement in the Barwon Darling labour market will encourage more people to enter the labour force, which will increase the participation rate. In these circumstances the reduction in the unemployment rate would be less. For example, if people entering the labour force take 100 of the 400 new jobs the unemployment rate would be expected to fall to 6.9 percent.

# 1 INTRODUCTION

The Barwon Darling Alliance commissioned the Western Research Institute (WRI) to develop an enterprise zone model for the Barwon Darling region. This region includes the Bourke, Brewarrina, Central Darling, Coonamble and Walgett Shire Councils.

## 1.1 PROJECT OBJECTIVES

The objectives of this project were:

1. Develop a rationale for an enterprise zone policy specific to the Barwon Darling region;
2. Review the available literature on European and the United States enterprise zone policies to identify the key success factors of those policies;
3. Identify a system of policy tools that could be applied to the Barwon Darling region;
4. Estimate the potential benefits of an enterprise zone policy to the region's communities; and
5. Outline an enterprise zone model that could be implemented in the Barwon Darling region.

## 1.2 RESEARCH STEPS

The research steps followed in this project were:<sup>1</sup>

- **Update Enterprise Zone Index** – In July 2002 the WRI constructed an Enterprise Zone Index (EZI) for the Barwon Darling region, which incorporated the latest data available at that time. The EZI for the Barwon Darling region was therefore updated in May 2003, using information available in the 2001 Census which was released in November 2002.
- **Literature Review** – A literature review of enterprise zone policies in the United States and Europe was conducted. This literature review covered evaluations of enterprise zones and the main rationales for the implementation of enterprise zones.
- **Surveys** – The results of the literature review were used to develop a broad list of policy incentives that have been used in enterprise zones or could be used in a Barwon Darling enterprise zone. Interviews were then conducted with 22 businesses in the Barwon Darling region to assess which incentives may have the greatest impact on their employment and investment intentions. The ultimate objective of these surveys was to test whether the economic incentives that have been used in other enterprise zones (e.g. tax credits for wages and investment) might also work in the Barwon Darling region.
- **Economic Analysis** – Scenarios were constructed to estimate the possible economic impact of an enterprise zone policy on the Barwon Darling region in terms of employment, household income and gross regional product. The benefits of an enterprise zone policy will be estimated using an input output table for the Barwon Darling region. A discussion of how this input-output table was constructed is shown in Appendix B.

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<sup>1</sup> It should be noted that the methodology adopted in this study is described in greater detail in the relevant sections of the text. For example, the methods used to construct the enterprise zone index are described in Section 2.2.2, which discusses economic and social disadvantage.

## 2 RATIONALES

This chapter outlines the general rationales for an enterprise zone, which are increasing employment growth and business investment. This chapter also outlines some specific reasons why an enterprise zone should be implemented in the Barwon Darling region. The main rationale for an enterprise zone in the Barwon Darling is to promote restructuring in order to alleviate economic and social disadvantage in the region.

The level of disadvantage in the Barwon Darling region was measured using the EZI. The final sections of this chapter describe the basic methodology of the EZI and the results for the Barwon Darling region.

### 2.1 GENERAL RATIONALES FOR ENTERPRISE ZONES

An enterprise zone is a geographic area where economic activity is encouraged with a set of policy instruments that are not generally applicable outside the zone. A range of incentives may be used, although the most common are tax credits for new employees, tax deductions for new capital investment and property tax reductions.

The concept of enterprise zones originated in the United Kingdom at the beginning of the 1980's with the aim of promoting physical and economic regeneration in areas with problems that were resistant to solution by market forces or the existing urban and regional policy instruments. The idea was later seized upon by the United States in the mid 1980's.

The basic idea of an enterprise zone is that by offering various incentives it is hoped that the policy will stimulate employment growth and business development. The two general rationales for this type of policy are:

1. **Employment growth** – The primary rationale for most enterprise zones is to create jobs, especially for targeted groups such as indigenous persons and the long-term unemployed. If an enterprise zone is successful in generating employment growth the levels of disadvantage in economically distressed areas should decline, all else being equal.
2. **Business investment** – The second main rationale for enterprise zones is to stimulate business investment. This can occur if businesses from outside the Barwon Darling region relocate at least a portion of their production in the zone, or if existing businesses expand their operations in the zone. An enterprise zone may also create jobs for the local unemployed people if it encourages new business start-ups.

The general objectives of employment growth and business investment by themselves do not justify the implementation of an enterprise zone in a specific location. Every region would like to have higher employment growth and investment. Therefore, in order to justify the implementation of an enterprise zone in the Barwon Darling region there should also be rationales that are specific to the region.

## 2.2 SPECIFIC RATIONALES FOR A BARWON DARLING ENTERPRISE ZONE

There are a number of specific rationales for the implementation of an enterprise zone in the Barwon Darling. The main rationale is to promote restructuring in order to alleviate economic and social disadvantage, as measured by the EZI. However, other rationales for the systemic and region-specific approach embodied by enterprise zones are: market failure; the lack of effectiveness of existing government programs in promoting development; and a desire on the part of the Barwon Darling community to form a stronger partnership with government.

### 2.2.1 Restructuring

The Barwon Darling region has been impacted by a range of factors such as the declining share of primary production in the Australian economy, the migration of people to other regions and, more recently, water reforms. Due to these factors the Barwon Darling region is in need of structural adjustment.

In the Productivity Commission (1999: page XXII) Inquiry, *The Impact of Competition Policy Reforms on Rural and Regional Australia*, the commission argued,

*“Where adjustment pressures develop rapidly and are regionally concentrated, governments may need to consider whether, in addition to generally available assistance measures, specific forms of adjustment assistance are warranted for some people in adversely affected regions.”*

While the declining share of primary production and the migration of people to other regions are long-term changes impacting negatively on the Barwon Darling region, water reforms are rapidly increasing pressure on the region to restructure. Thus, the Barwon Darling region warrants specific forms of adjustment assistance, in addition to the generally available assistance measures. In this case the form of adjustment assistance that the Barwon Darling would prefer is the implementation of an enterprise zone.

An enterprise zone is an example of a regionally concentrated development policy based on the use of incentives to support private enterprise. Although enterprise zones have not yet been implemented in Australia, the idea of region specific policies that aim to promote restructuring or development is not new. Indeed, some current examples of this type of systemic regional assistance by Commonwealth and State Governments include:

- **Commonwealth** – Examples include the *Dairy Regional Assistance Program* and the *Sustainable Region’s* program for the Atherton Tablelands, Wide Bay, Far North-East New South Wales, Campbelltown-Camden, Gippsland, North-West and West Coast Tasmania, Playford-Salisbury and the Kimberley.
- **New South Wales** – Examples include the NSW Department of State and Regional Development’s *Hunter Advantage Fund*, *Illawarra Advantage Fund* and the *Regional Economic Transition Scheme*.
- **South Australia** - The South Australian government plans to implement an enterprise zone policy in the Upper Spencer to promote employment growth and to broaden the region’s economic base. According to the South Australian Labor Party plan, the enterprise zone will give priority development status to the Upper Spencer in the South Australian government’s overall industry assistance programs. The plan also states that the Upper Spencer enterprise zone will be funded from within the existing economic development budget of South Australia.

## 2.2.2 Economic and Social Disadvantage

Enterprise zones are often used as a policy to reduce economic and social disadvantage in a specific region. Disadvantaged regions are selected on the basis of objective criteria, mostly derived from official government statistics. In 2000 the Western Research Institute constructed the Enterprise Zone Index (EZI) to provide an objective measure of disadvantage for use in Australia.

The basic methodology of the EZI and the indicators of economic and social disadvantage that comprise the index are described in Appendix A. In simple terms the EZI is a conservative measure of the level of disadvantage in the Barwon Darling compared to the average for NSW.

Table 2.1 shows the enterprise zone indicators for the Barwon Darling region.<sup>2</sup> For each indicator those regions that score an EZI point are shaded in grey. Assuming a threshold of 5, the Brewarrina, Central Darling and Walgett local government areas would qualify as enterprise zones.

The EZI also indicates that the Barwon Darling region as a whole is experiencing economic and social disadvantage, especially in terms of high unemployment and lack of education. Thus, alleviating economic and social disadvantage, particularly for indigenous persons and the long-term unemployed, is the second main rationale for a Barwon Darling enterprise zone.

**Table 2.1 Enterprise Zone Indicators for the Barwon Darling Region**

Enterprise Zone Indicator	Bourke	Brewarrina	Central Darling	Coonamble	Walgett	Barwon Darling
Total Unemployment	6.5%	9.7%	11.2%	8.2%	13.1%	10.2%
Indigenous Unemployment	3.0%	8.6%	4.5%	3.3%	4.4%	4.3%
Long-Term Unemployment	1.5%	2.2%	2.6%	1.9%	3.0%	2.3%
Youth Unemployment	9.2%	21.9%	16.1%	17.7%	16.1%	15.7%
Employment Growth (1996-2001)	4.5%	-0.1%	-1.0%	1.7%	-4.1%	-0.4%
Poverty – percent of population	28.9%	30.1%	34.1%	32.7%	36.9%	33.6%
Average Income (\$)	467	372	341	366	340	377
Gross Regional Product per Capita (\$)	26,789	23,501	25,163	24,105	26,410	25,553
Qualifications – percent of population	20.3%	15.0%	15.1%	15.0%	18.5%	17.3%
Age – population under 15 or over 65	37.5%	35.0%	28.3%	39.3%	32.5%	34.6%
<b>Enterprise Zone Index</b>	<b>3</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>5</b>

Notes

- 1 The benchmark figures for NSW are: total unemployment 7.2%; indigenous unemployment 0.3%; long term unemployment 1.7%; youth unemployment 13.3%; employment growth 7.2%; poverty 30.8%; average income \$462; GRP per capita \$28,892; qualifications 28.7% and age 33.9%.
- 2 A higher rating on the Enterprise Zone Index indicates a relatively more disadvantaged area.

<sup>2</sup> In July 2002 the WRI constructed an EZI for the Barwon Darling region based on a comparison with Sydney, which incorporated the latest data available at that time. The EZI was therefore updated based on a comparison with the average for NSW and incorporating information available from the 2001 Census of Population and Housing.

There are two important qualifications that should be made regarding the unemployment and GRP per capita figures presented in Table 2.1. These two qualifications are:

1. The Barwon Darling region compares favourably to NSW in terms of Gross Regional Product (GRP) per capita in 2001 due to the good performance of the agriculture industry at that time.<sup>3</sup> However, this good performance is unlikely to have been sustained due to the drought of 2002-03 and the recent water reforms, which are likely to cause a structural decline in the region's economic activity. Therefore, the GRP per capita figures are likely to overstate the normal level of economic activity in the Barwon Darling region.
2. The official definition of unemployment understates the real extent of the unemployment problem in the Barwon Darling for two reasons. Firstly, unemployment is defined as a person who did not work for 1 hour during the week prior to census night. Secondly, indigenous persons who participate in Community Development and Employment Projects (CDEPs) are also classified as employed. Thus, a large proportion of the people in the Barwon Darling region may be under-employed and this is masked by the official unemployment statistics.

### **2.2.3 Other Specific Rationales**

Aside from restructuring and alleviating economic and social disadvantage, other specific rationales for a Barwon Darling enterprise zone are:

- Representatives of the Barwon Darling community believe that the existing framework of policies have not been effective in stimulating development. The reason for this is that existing policies are too fragmented and transitory, and therefore do not address the structural and long-term development problems faced by the Barwon Darling region.
- There is a market failure in the Barwon Darling region in the sense that the free operation of the market alone is unlikely to generate economic and social development in the region. This market failure can be attributed to the fact that regional markets are thin (i.e. there are only a small number of participants in regional capital markets) and this causes a relatively low level of capital liquidity and labour mobility compared to metropolitan areas.
- The Barwon Darling community would like to form a stronger partnership with government to promote economic development in the region. In other words, the community would like to work more with government to promote job creation and business investment in the region.

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<sup>3</sup> The GRP per capita figures for each local government area, and the Barwon Darling region as a whole are within 25% of the Sydney figure of \$30,805 per person. However, the relatively high level of GRP in the Barwon Darling region can be attributed to the good performance of the Australian agriculture industry during that year, and the fact that agriculture directly accounted for between 25% and 45% of the regions production. In comparison, less than 1% of Sydney's GRP is attributable to the agriculture industry.

## **2.3 SUMMARY**

The general objective of enterprise zones is to promote employment growth, especially for targeted groups such as indigenous persons and the long-term unemployed, and to increase business investment. However, the specific rationales for a Barwon Darling enterprise zone are:

1. To achieve restructuring that will promote the sustainability of the Barwon Darling region.
2. To alleviate the relatively high levels of economic and social disadvantage in the Barwon Darling region compared to the average for a New South Wales community.
3. To address the perceived failure of the existing framework of development policies to address the structural and long-term development problems of the region.
4. To address the failure of the free operation of the market to generate economic development and to provide social opportunities such as a good quality education and employment for indigenous persons and the long-term unemployed.
5. To allow the Barwon Darling community to form a stronger partnership with government to promote economic development in the region.

The implementation of an enterprise zone type of policy in the Barwon Darling region would not be entirely new, as the Commonwealth and NSW Governments both have region-specific policies to promote restructuring and development. Moreover, the South Australian Government plans to implement an enterprise zone policy in the Upper Spencer region, and thus, the implementation of the policy in itself is not entirely new to Australia.

### 3 LITERATURE REVIEW

Enterprise zones have a long history in the United States and the United Kingdom. Enterprise zones have also been recently introduced in France and Italy, while the general approach is also used in a number of other European countries such as Ireland, the Netherlands and Hungary. A literature review of enterprise zone policies in the United States and the United Kingdom<sup>4</sup> was therefore conducted to address two questions:

1. **Effectiveness** - Are enterprise zones effective in promoting employment growth and business investment? Answering this question will help assess the likelihood that an enterprise zone policy implemented in the Barwon Darling could support restructuring and alleviate the region's relatively high levels of economic and social disadvantage.
2. **Incentives** - Which specific enterprise zone incentives are the most effective in promoting employment growth and business investment? Answering this question could help to identify the incentives that contribute most to the success of a Barwon Darling enterprise zone.

In general, the results of the literature review can be used to determine whether enterprise zones might be an effective tool for promoting development, and which incentives should be part of an enterprise zone for the Barwon Darling. However, before we examine studies of the effectiveness of enterprise zones we will first outline the methods used in these evaluation studies.

#### 3.1 METHODS USED TO EVALUATE ENTERPRISE ZONES

It should be obvious that to claim any benefits from an economic development policy we should be reasonably sure that the policy works. Accordingly, if an enterprise zone is to be recommended for the Barwon Darling region empirical evidence needs to be shown that demonstrates enterprise zone incentives can reasonably be expected to promote employment growth and investment.

There is a large body of research that attempts to evaluate the success of enterprise zones as a tool for promoting development. To some extent the results of any specific evaluation are shaped by the methodology used in that study. The four main methods used to evaluate enterprise zones, as summarised by Fisher and Peters (1997: 111), are discussed below.

##### 3.1.1 Econometric Models

Econometric models assess the impact of enterprise zone incentives (mostly taxes) on growth. Econometric methods provide a top down evaluation of the overall impact of enterprise zones that can take into consideration a range of other variables that may have also had an influence on development. The most useful aspect of econometric models is that they can generate a numerical estimate of the impact of enterprise zones on economic growth. For example, a model can be used to show whether tax incentives increase economic growth by 1 percent or 5 percent.

The main disadvantage of econometric studies is that they can only establish correlations. Econometric studies cannot ascertain whether or not enterprise zone incentives were the cause of growth. Other disadvantages include the difficulty of using econometric models to evaluate social outcomes and the somewhat unrealistic assumptions needed to construct economic models. Therefore, econometric models are best suited to the measurement of the likely impact of enterprise zone incentives on economic growth.

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<sup>4</sup> We will focus on enterprise zones in the United Kingdom due to the limited amount of information available in English for European enterprise zones located outside of the United Kingdom.

### **3.1.2 Surveys**

Surveys of business can be used to understand the reasoning of people making employment and investment decisions. Surveys of community leaders and enterprise zone coordinators can also be used to assess local perceptions of the impact of enterprise zone incentives. Surveys are useful as they provide direct information about business decisions and perceptions of success. Survey methods also avoid the complex assumptions of econometric models, and to a lesser extent the hypothetical firm model (discussed in Section 3.1.4 below).

Still there are two main limitations of the survey method. Respondents may have a direct interest in saying that enterprise zone incentives are effective in order to maintain those incentives. In addition, while surveys can be used to rank the importance of various incentives they do not provide a precise measure of the impact of enterprise zone incentives on growth. Therefore, surveys are best suited to providing a political assessment of the effectiveness of enterprise zones. The survey method may also provide causal evidence to support econometric work. In other words surveys may help to determine which specific incentives work best.

### **3.1.3 Case Studies**

Case studies of particular enterprise zones can be used to provide detailed examples of the overall effectiveness of the policy and/or specific incentives. Case studies are useful as they can cover a range of different incentives, some of which cannot be measured and incorporated into econometric studies. Case studies can also be used to establish links between enterprise zone incentives and their impact on employment and investment.

Case studies suffer many of the same disadvantages as surveys. In addition, case studies are not highly useful in assessing the overall impact of enterprise zones unless a similar control economy is used as a comparison. Given the difficulty in finding appropriate control economies the case study method, like the survey method, is therefore best suited to providing causal evidence to support econometric work.

### **3.1.4 Hypothetical Firm Model**

The hypothetical firm model looks at the effect of enterprise zone tax incentives on the relative profitability of an average firm located in a zone compared to a similar firm outside that zone. This approach is entirely different to the econometric, survey and case study methods as it estimates the potential impact of enterprise zone incentives on the profitability of a hypothetical firm. This hypothetical firm is based on the average operating ratios, balance sheets and profit and loss statements of real firms.

The main advantage of the hypothetical firm technique is that it provides an estimate of the benefits to firms from accessing enterprise zone incentives. The method can also be used to test different incentives to identify those that are likely to have the greatest positive impact on profitability and may have a greater chance of stimulating employment and investment. The disadvantage of the hypothetical firm model is that it only assesses the potential impact of incentives. In the absence of complementary evidence from surveys or case studies the method cannot be used to demonstrate the actual effectiveness of enterprise zone incentives. Therefore, the hypothetical firm model is most suited to scenario analysis as the method can be used to identify the specific incentives that have the greatest impact on profitability.

### **3.1.5 Which Method of Evaluation is the Most Valid?**

Given the differences in the methods available and the fact that each one tends to have its own advantages and its disadvantages a decision must be made about which method is most valid. Some assessment is needed regarding which research method will generate the most useful insights into the effectiveness of enterprise zones.

Given the problems with each method a range of evidence from each has been included in this study in an attempt to make a general assessment of the effectiveness of enterprise zones. Econometric studies and survey evidence were used to make an overall assessment of the effectiveness of enterprise zones. Survey and case study evidence were then used to provide an indication of the specific impact of different incentives. This combination of evidence from a range of different methods arguably provides a good picture of the effectiveness of enterprise zones.

## **3.2 GENERAL EFFECTIVENESS OF ENTERPRISE ZONES**

We will now address the question of whether enterprise zones are effective in promoting employment growth and business investment. Answering this question will help assess the likelihood that an enterprise zone policy implemented in the Barwon Darling could support restructuring and alleviate the region's relatively high levels of economic and social disadvantage.

One of the key measures of the effectiveness of enterprise zones is employment growth. There are a number of multi-state studies of enterprise zones in the United States that have concluded enterprise zones tend to be effective in stimulating employment and job creation (Erikson, Friedman and McCluskey, 1989; US Department of Agriculture, 1993; Beck, 2002). There is also evidence that enterprise zones in the United Kingdom are effective in stimulating employment growth (PA Cambridge Consultants in Potter and Moore, 2000).

While enterprise zones do appear to be effective in stimulating employment this does not appear to be true in all cases. For example, Collits (2001: 54) cites evidence that shows enterprise zones were not effective in the states of Kentucky, California and New Jersey. However, more recent research than that cited by Collits shows Californian enterprise zones have been effective (O'Keefe and Dunstan, 2001; and Hatamiya, 1999 in Apthorpe, 2002).

In any case, it cannot be concluded from an examination of enterprise zones in three states that the concept has been ineffective in the United States. Firstly, there is evidence enterprise zones have worked effectively, to a greater or lesser degree, in a number of states, such as California, Colorado (Alm and Hart, 1998), and Illinois (Community Research Services, 1989). Secondly, as referred to above there are more comprehensive, multi-state studies that have shown enterprise zones tend to be effective in increasing employment in the United States.

The international evidence therefore indicates that enterprise zones can be effective in stimulating employment growth. However, enterprise zones do not appear to be universally effective, as there is some contradictory evidence. Similar conclusions were reached by the National Institute of Economic and Industry Research (2001), which stated, "the balance of opinion is that there has indeed been net job creation."

One argument that could be made against the effectiveness of enterprise zones in generating employment is that zones simply pirate jobs from other regions. In other words, enterprise zones simply transfer economic activity from one region to another. However, the literature on enterprise zones, as reviewed by Peters and Fisher (2001: 123), consistently finds that enterprise zone incentives are less important than other factors such as availability of labour and access to markets.

Enterprise zone incentives only make a difference at the margin<sup>5</sup>, when these other factors are equal. This finding supports the conclusion of Collits (2001: 35) that government incentives are generally not significant in driving business location decisions.

Given enterprise zone incentives only operate at the margin and are outweighed by other factors, it is likely that zone incentives are more likely to impact on location decisions between similar locations, where other factors like labour costs and access to markets are equal. Thus, while a Barwon Darling enterprise zone may not be effective in attracting new businesses from city areas, zone incentives may attract new businesses considering a range of locations similar to the Barwon Darling.

Survey evidence also suggests that the majority of new business establishments in enterprise zones come from the expansion of existing businesses and from new business formations (Peters and Fisher, 1997: 127; and Klemens, 2002). Less than 20 percent of new business investment consists of relocations of existing establishments or the establishment of a branch plant by a firm outside the zone. This suggests that the focus of an enterprise zone policy in the Barwon Darling should be to support existing business growth and to promote new businesses.

Thus, while enterprise zones may not have an impact on the location decisions of non-local businesses the incentives may be effective in stimulating growth among businesses already located in the zone. Enterprise zones may also be effective in promoting 'home-grown' business formation by people (i.e. the unemployed) who are already living in the zone. In both these cases the expanded or new business is likely to have a greater attachment to the region, and according to research by Potter and Moore (2000), these businesses are more likely to remain in operation after enterprise zone incentives end.

The literature does not conclusively demonstrate the contribution of enterprise zones to employment growth or business investment. It appears that somewhere between 10 percent and 40 percent of the employment growth that occurs in an enterprise zone can be attributed to zone incentives (Peters and Fisher, 2002; and US Department of Housing and Urban Development in American City and County, 2002). Part of the problem in estimating the impact of enterprise zones on employment growth lies in the diverse nature of the zones in terms of their economic characteristics, the range of incentives offered and the administration of these incentives. However, the analysis of tax and spending incentives in enterprise zones by Fisher and Peters (1997, 129) concluded that it is likely enterprise zone incentives will produce measurable gains in employment or business investment in some cases.

As discussed in Section 2.2.2 an important rationale for the implementation of an enterprise zone in the Barwon Darling region is to alleviate economic and social disadvantage. On this issue the available evidence is less clear. A survey of 51 enterprise zones conducted by Beck (2002), showed that nearly all measures of adverse socio-economic conditions increased between 1990 and 2000 in US enterprise zones. For example, the poverty and unemployment rates in the zones either grew at rates higher than the adjacent areas or declined less than the adjacent areas. In addition, enterprise zones continue to struggle with placing the long-term unemployed in jobs. From his analysis, Beck (2002) concluded, "enterprise zones were not successful in their fight to offset or reverse the deleterious trends faced by inner-city or rural residents." Interviews conducted by Klemens (2002), with community leaders, zone administrators and business persons located in enterprise zones also led to the conclusion that while zones are an effective method of promoting economic development, they are not highly effective in targeting distressed areas (Klemens, 2002).

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<sup>5</sup> It should be noted that the fact that enterprise zone incentives have an impact on the margin does not necessarily imply that enterprise zones have a marginal (i.e. small) impact on employment.

Survey evidence therefore suggests that enterprise zones may not be an effective way of addressing disadvantage. While there is little econometric work addressing the issue of disadvantage, Papke (1994 in Peters and Fisher, 1997: 124) conducted an econometric study that found enterprise zones led to a 19 to 25 percent reduction in the number of unemployment claims. While it is not possible to generalise from this result it is fair to assume that if enterprise zones tend to be effective in increasing employment, all else being equal, this would cause the rate of unemployment to fall. Therefore, while enterprise zones are likely to have difficulty addressing social disadvantage for the long-term unemployed and indigenous persons the policy should lead to a reduction in unemployment. In addition, there is evidence from Colorado that enterprise zone programs have a significant positive impact on per capita income in zone areas (Alm and Hart, 1998).

Overall, the international evidence appears to suggest that the implementation of an enterprise zone policy is likely to lead to higher employment and businesses investment, although the zone may be less effective in addressing social disadvantage. However, this conclusion is largely based on evidence from enterprise zones in the United States, which are predominantly located in urban neighbourhoods.

Thus, an important question to address is whether the international evidence is applicable to an enterprise zone established in the Barwon Darling, which is located in a remote part of New South Wales. However, Potter and Moore (2000) have examined the role of inward investment in urban, accessible and rural enterprise zones in the United Kingdom. The results for their sample of rural enterprise zones provide a useful indicator of the possible role of inward investment in a Barwon Darling enterprise zone. The main results that arise from an examination of remote enterprise zones in the United Kingdom are as follows:

- One-third of the businesses in a remote zone were influenced to locate there by enterprise zone incentives. In contrast, over half of the businesses in the United Kingdom enterprise zones were influenced by the incentives. The majority of these new businesses were short-distance transfers, which are businesses influenced by enterprise zone policy to locate in the zone instead of another location within the local area.
- A relatively high proportion of the businesses located in remote zones were new company start-ups relative to the average for UK enterprise zones (i.e. 33% compared to 23%). This suggests enterprise zones may have a greater impact on new business formation in remote areas.
- On average about half of inward investors establish businesses in the manufacturing industry. However, in remote zones nearly two-thirds of inward investors are in the manufacturing industry and no businesses invested in distribution (i.e. wholesale or transport).
- Inward investors in remote enterprise zones were more likely to recruit managers from the local population and to give jobs to people who were previously unemployed. For example, 55 percent of the additional people employed in remote zones were previously unemployed, while the average for UK enterprise zones was 34 percent.
- Businesses that invest in remote areas are more likely to remain in that area once enterprise zone incentives end. This is shown by the fact that 75 to 85 percent of inward investors in urban and accessible zones intend to move off zone upon de-designation, while only 55 percent of inward investors in remote zones intend to move. This result also highlights the fact that attracting inward investment may not be a long-term solution as more than half of new businesses intend to leave enterprise zone areas when the incentives end. In other words, it is more important to support business expansion and 'home grown' business development.

The findings of the Potter and Moore (2000) study suggest that enterprise zones can be effective in both inner city and remote areas. Indeed, remote enterprise zones may be more effective in addressing social and economic disadvantage given the finding that remote zones are more likely to provide jobs for unemployed persons. Moreover, a remote enterprise zone may be more successful in the long-term given that new businesses established in remote zones are more likely to remain after the incentives end.

On the whole enterprise zones appear to have had their successes and their failures, and there is continual debate regarding their general effectiveness as a model for promoting economic development. However, setting aside the academic debate regarding the general effectiveness of the model the fact remains that there is evidence that enterprise zones are successful in some cases. This suggests if an enterprise zone were established in the Barwon Darling region the policy has a good chance of promoting employment growth if there is a sufficient uptake of the available incentives. In addition, a Barwon Darling enterprise zone could stimulate business investment if the available incentives are targeted toward existing businesses and local people who would like to set up their own business. Therefore, a Barwon Darling enterprise zone is likely to be effective in promoting economic development in the region so long as the incentives are substantial enough to cause the desired effects on employment growth and business investment.

### **3.3 EFFECTIVENESS OF ENTERPRISE ZONE INCENTIVES**

The second main question that needs to be addressed is, “which specific enterprise zone incentives could be the most effective in promoting employment growth and business investment?” Answering this question will help to identify the incentives best suited to a Barwon Darling enterprise zone.

The traditional model of enterprise zones is focused on the idea of tax incentives to encourage employment and investment in capital. In a survey of enterprise zones in the United States, Beck (2002) found that tax incentives were the most popular policy instrument among local zone coordinators. All of the zones surveyed used some form of tax incentive, with the most common being property tax reductions and tax exemptions for capital investment and purchases of materials.

A survey of 22 State enterprise zone program coordinators conducted by the US Department of Housing and Urban Development (1989) found that tax credits for hiring new employees and sales/use-tax exemptions for building materials, equipment and machinery are the most effective incentives offered to attract business investment in disadvantaged areas. However, a later survey of businesses by the US Department of Housing and Urban Development (in American City and Country, 2002) found that more than half of the businesses using tax incentives reported that tax credits had little or no influence on their hiring or investing decisions. These, seemingly contradictory, findings suggest that while tax incentives may be important, they do not need to be the centrepiece of an enterprise zone policy.

In his study of US enterprise zones Beck (2002) found that those zones with employment and firm growth rates higher than nearby areas used more incentives than those with lower growth rates. In addition, while zone coordinators in the United States may believe tax incentives are the most effective in promoting growth, Beck’s (2002) research suggests that service and quality of life incentives like; crime and drug prevention, housing rehabilitation and job training can have a greater impact. Beck (2002) concluded that there were few links between different incentives and the resulting growth, so long as incentives in some form are used. This finding is supported by Erikson, Freidman and McCluskey (1989), who found that the enterprise zones that performed better tended to provide a broad range of incentives that appeal to a variety of different businesses.

Still it should be noted that incentives should be kept to a manageable few to avoid unnecessary complications.

On the whole there are few significant findings that can be identified regarding the enterprise zone incentives that are most effective in stimulating economic and social development. The main conclusion seems to be that an enterprise zone may be more effective if a range of incentives is available rather than just tax incentives, and that quality of life incentives may enhance the effectiveness of an enterprise zone policy. However, other relevant findings identified during the literature review were as follows:

- After an evaluation of the Syracuse enterprise zone the Department of Public Administration (1988) argued that enterprise zone incentives should be focused on increasing exports, in order to improve the zone's economic circumstances by bringing money into the community. Incentives to promote exports from the Barwon Darling region would address the key constraint to regional business investment identified the McKinsey (in Collits, 2001) report on *Business Investment and Regional Prosperity*, a lack of demand. Ninety-five percent of firms surveyed by McKinsey (in Collits, 2001) also saw their markets as local. These findings suggests that promoting exports to other regions and overseas should be an important part of an enterprise zone policy in the Barwon Darling.
- Successful enterprise zones tend to have a coherent local plan for economic development, qualified administration staff and strong local cooperation (Community Research Services, 1989; Erikson, Freidman and McCluskey, 1989; and Rubin and Richards, 1992, in Peters and Fisher, 1999: 121). The more successful enterprise zones also maintain closer ties between the public and private sectors (Roger Tym and Partners, 1984).
- After examining the case for enterprise zones the New York Legislative Commission on Public-Private Cooperation (1985) found that the policy seems to be more effective when areas must compete for designation rather than qualify automatically after meeting the set criteria. The Commission then recommended that enterprise zones should be competitively designated by a non-partisan panel. Thus, if enterprise zones were to be implemented more broadly than just the Barwon Darling region the zones should be encouraged to compete for designation, as this is likely to produce better outcomes.

As discussed in Section 2.2.1 restructuring is a key rationale for the implementation of an enterprise zone policy in the Barwon Darling region. However, the traditional model of enterprise zones is focused more on tax and expenditure incentives than supporting structural change. In other words, the traditional model of enterprise zones is focused on growth, but little consideration is given to ensuring that this growth is sustainable in the long-term. Thus, if an enterprise zone model were to work in the Barwon Darling it would need to contain added incentives to support the sustainability of the region.

One method of fostering long-term development is suggested by the 'knowledge industry model', which was a key component of the enterprise zone proposal put forward by the National Institute of Economic and Industry Research (NIEIR). According to the NIEIR (2001: 5) the essence of the knowledge industry model is, "to cluster production of particular goods and services within particular regions, and develop strong networks between enterprises in each region. Therefore a network of independent but co-ordinated enterprises is created, mixing competition and collaboration."

The analysis provided by NIEIR (2001) suggests that the adoption of the knowledge industry model should improve the international competitiveness of businesses in the Barwon Darling region. The

model should also promote innovation in the Barwon Darling, which is increasingly becoming the key source of economic growth around the world. Therefore, the incentives in a Barwon Darling enterprise zone should be structured so as to promote the knowledge industry model.

### **3.4 SUMMARY**

The main aim of this literature review was to assess the general effectiveness of enterprise zones. A range of different methods have been used to evaluate the effectiveness of enterprise zones in the United States and Europe. On balance, the international evidence indicates that enterprise zones can be effective in stimulating employment growth. Enterprise zones located in inner city areas of the United States also appear to be effective in promoting business investment. There is also evidence that remote enterprise zones can support the expansion of existing businesses and the development of 'home-grown' businesses managed by local people. However, enterprise zones are likely to have difficulty addressing social disadvantage for the long-term unemployed and indigenous persons, although the policy should lead to a reduction in unemployment.

Enterprise zones have been effective in attracting business investment in some cases. However, enterprise zone incentives operate at the margin and tend to be outweighed by other factors (e.g. business costs, labour force characteristics, etc). This suggests enterprise zone incentives are more likely to impact on location decisions between similar locations, where other factors like labour costs and access to markets are equal. Thus, while a Barwon Darling enterprise zone may not be effective in attracting new businesses from city areas, zone incentives may attract new businesses considering a range of locations similar to the Barwon Darling.

It should be noted that enterprise zones may not be universally effective, as there is some contradictory evidence. However, setting aside the academic debate regarding the general effectiveness of enterprise zones as a policy, the fact remains that there is evidence that enterprise zones were successful in some cases. This is an encouraging sign, as it means that an enterprise zone has some chance of working successfully in the Barwon Darling.

The second aim of this literature review was to identify which specific enterprise zone incentives could be the most effective in promoting employment growth and business investment. A review of incentives resulted in the following conclusions:

1. Tax incentives for labour and capital do not need to be the centrepiece of an enterprise zone. Indeed, enterprise zones seem to be more effective when a range of incentives is available.
2. Quality of life incentives such as crime and drug prevention may enhance the effectiveness of an enterprise zone policy, especially in terms of alleviating social disadvantage.
3. Incentives should be structured to encourage businesses in the Barwon Darling region to export their products to other parts of Australia and overseas.
4. The mix of incentives should be targeted to established businesses and local people who may need support to establish their own business in the Barwon Darling region.
5. The incentives should be structured so as to promote the knowledge industry model, which supports the clustering of related businesses, networking and innovation.
6. Enterprise zones tend to be more effective in regions with coherent local development plans, qualified administration staff, strong local cooperation and close ties between the public and private sectors.

7. Competition between eligible regions for enterprise zone designation and competition between eligible firms may lead to a more effective allocation of enterprise zone funding. The evidence suggests that an enterprise zone policy based on automatic entitlement may be less effective.

## **4 POLICY TOOLS**

This chapter examines the question of what policy tools, or incentives, could be part of an enterprise zone for the Barwon Darling region. The main sections of this chapter are as follows:

1. An outline of the overall results from interviews conducted with businesses in the Barwon Darling region;
2. A detailed discussion of the potential enterprise zone incentives preferred by businesses in the Barwon Darling; and
3. A comparison of the incentives preferred by businesses in the Barwon Darling to the assistance offered as part of existing government programs.

### **4.1 OUTLINE OF INTERVIEW RESULTS**

Although there is no conclusive proof as to which enterprise zone incentives are the most effective in stimulating economic and social development, it is plausible to suggest that an enterprise zone could be more effective if the policy incentives match the needs of businesses in the region. Therefore, interviews were conducted with businesses in the Barwon Darling region to identify the policy incentives they would prefer.

A broad list of policy incentives that have been used in enterprise zones or could be used in a Barwon Darling enterprise zone policy was put together based on the results of the literature review. Interviews were conducted with 22 businesses in the Barwon Darling region to assess which incentives may have the greatest impact and the form these incentives should take.

The businesses were asked to rank these incentives on a scale of 1 to 10, where 1 is no impact and 10 is a significant impact. The ratings for enterprise zone incentives were summarised in two ways:

1. Ratings were grouped into 'yes' and 'no' responses. A 'yes' response refers to an enterprise zone incentive that is expected to have a medium to significant impact on a businesses employment or investment decisions (i.e. a rating of 5-10). A 'no' response is one where an enterprise zone incentive has a minimal or no impact on employment and investment decisions. A 'no' response also includes incentives that were not applicable to a specific business (i.e. a rating of 1-4 or not applicable).
2. Ratings were ranked into first, second and third preferences. A first preference is the enterprise zone incentive that was expected to have the most significant impact on a respondent's employment and investment decisions. The second and third preferences were the next two most significant incentives. In some cases businesses ranked two or more enterprise zone incentives as equal. In these cases one respondent may have two or more first, second or third preferences. For example, if a respondent's highest ratings were 10, 7, 7, and 5 then that business would have one first preference, two second preferences and one third preference. Thus, the total number of preferences is greater than 66 (i.e. 22 respondents multiplied by 3 preferences).

Table 4.1 shows the enterprise zone ratings surveyed by the WRI. A detailed discussion of the interview results is shown in Section 4.2, on the following pages.

**Table 4.1 Ratings for enterprise zone incentives (number of respondents)**

Enterprise Zone Incentives	Significant Impact (i.e. 'yes')	First Preference	Second Preference	Third Preference
Greater public support for education and training	18	7	3	3
Mentoring support for long-term unemployed and indigenous persons to help them make the transition to work	18	4	3	3
Exemption from various taxes (e.g. stamp duty, permit fees, business licence fees, and construction taxes)	18	4	2	5
Wage credit for additional employees	18	3	7	3
Increased crime and drug abuse prevention	17	5	2	2
Low cost finance for new investments	15	4	1	5
Accelerated depreciation allowances for new equipment	15	0	5	3
Increased government investment in local infrastructure	14	4	3	0
Grants to offset council rates for expanding businesses	12	1	1	3
Increased public provision for child care	12	0	1	3
Increased assistance with exports	11	4	0	4
Funding for professional services to assist with networking facilitation of industry networks and clustering	11	0	1	7
Payroll tax concessions for expanding businesses	7	1	2	1
Facilitation of industry networks and clustering	5	0	0	1
Property tax concessions for new property investments	2	0	0	2

Source: Interviews conducted with 22 businesses in the Barwon Darling region.

## 4.2 DISCUSSION OF INCENTIVES PREFERRED BY BARWON DARLING BUSINESSES

This section discusses the enterprise zone incentives that were considered most important by businesses in the Barwon Darling region.

This section also includes a discussion of whether or not there are equivalent incentives that could be accessed as part of existing government programs. Existing government programs are mainly state programs provided by the NSW Department of State and Regional Development (DSRD) or commonwealth programs provided by the Department of Transport and Regional Services (DOTARS). Information on government programs was obtained from the following sources:

- Representatives of the NSW Department of State and Regional Development and the Commonwealth Department of Transport and Regional Services;
- The Commonwealth *Regional Information Directory* for 2002-03; and
- *Australia's Regions: Working in Partnership 2003-04*, a statement by the Honourable John Anderson MP, Deputy Prime Minister and Minister for Transport and Regional Services.

#### **4.2.1 Education and Training**

The most notable result from the interviews is that 18 respondents (82%) would like greater public support for education and training this incentive was the first preference for 7 businesses (i.e. 32%). Therefore, greater public support for education and training could be considered the incentive that could be expected to have the greatest impact on employment and investment decisions in the Barwon Darling region.

The main points that businesses made regarding education and training were:

- If the quality of education and training services was improved respondents believe it will help to attract families and professionals to the Barwon Darling region.
- The quality of primary and secondary education needs to be improved as some employees cannot read and write properly. Indeed, a small number of respondents argue that some employees think that they do not need to be able to read and write because they will work as manual labourers. However, the lack of reading skills makes it difficult for these employees to perform tasks that require good comprehension skills (i.e. working with dangerous chemicals).
- Assistance is needed to develop the life skills of some employees, as a number lack punctuality, do not take care of their health and do not wear appropriate clothing (i.e. protective clothing in a factory workplace).
- Many businesses believe that assistance with short accreditation courses (e.g. forklift licences) would be useful, as compliance with regulations is increasingly becoming an issue.

The importance of greater education and training in the Barwon Darling is highlighted by the fact that only 17.3 percent of the population holds some form of post-secondary qualification. In contrast, 28.7 percent of the NSW population has post-secondary qualifications.

DOTARS provides funding to improve the literacy and numeracy outcomes of educationally disadvantaged students. DOTARS also provides education support to rural families under the Assistance for Isolated Children Scheme, the Indigenous Education Program and the Country Areas Program. The NSW Department of Education and Training also provides education support to young long-term unemployed people who require additional training.

#### **4.2.2 Mentoring for Indigenous and Long-Term Unemployed**

Eighteen respondents (82%) would like mentoring support for long-term and indigenous persons to help them make the transition to work. Four of the 22 respondents (i.e. 18%) rated this incentive as their first preference. The main points that businesses made regarding mentoring were:

- Mentoring programs will require the cooperation of the indigenous community, as their leadership is essential to the successful development of the Barwon Darling region.
- One respondent suggested that mentoring programs to help indigenous persons could be based on the most successful approaches adopted by the various Community Development and Employment Programs (CDEPs).

A successful mentoring program could be good for business and the community of the Barwon Darling, as it would address the relatively high levels of indigenous and long-term unemployment among the labour force compared to the average for NSW.

At present the Commonwealth Government provides funding for mentoring through third party agencies, such as Binaal Billa Regional Enterprise Employment Training Aboriginal Incorporated (BREETAC). The Commonwealth Government Jobs Pathway Program also helps young people make a successful transition from school to work, but not from unemployment to work.

#### **4.2.3 Exemptions from Minor Taxes**

Eighteen of the businesses interviewed (82%) would like exemption from various minor taxes. Four of the 22 respondents (i.e. 18%) rated this incentive as their first preference. The main points that businesses made regarding exemptions from minor taxes were:

- Small taxes and charges are one of the things that are holding people back from employing new people and making investments. There is a perception that there is too much ‘red tape’ and that compliance with small regulations (and charges) is a waste of time and money.
- A number of small businesses therefore wanted exemptions from permits and licence fees. While these exemptions may have a small impact on business profitability, they could be viewed as a psychological inducement as they demonstrate the government’s commitment to helping the Barwon Darling region to develop.
- Some businesses also argued that exemptions from stamp duty, fringe benefits tax, electricity and water charges would also be good for their business.

DSRD contributes funding to pay for stamp duty under the Regional Business Development Scheme.

#### **4.2.4 Wage Credits for Additional Employees**

Wage credits for additional employees were considered a significant incentive by over 80 percent of the businesses interviewed. While wage credits were the first preference for only 3 businesses, this incentive was the second preference for 7 respondents (i.e. 32%). The general comment that businesses made regarding wage credits were:

- There are some existing programs that effectively provide wage credits, such as traineeships. However, these incentives need to be provided for a longer time period and for a larger amount.
- On average respondents suggested wage credits need to be about 25 to 30 percent of the total cost of a new employee (i.e. including superannuation and workers compensation). The maximum wage credit that was suggested was around 50 percent.
- Businesses argued that wage credits are most important during the first years of employment, as it takes time for new employees to learn about the business and to make themselves valuable. It was suggested that about 18 months to two years is required before an employee could make a productive contribution to a business.
- In some circumstances a wage credit may need to be provided for a short period of time. For example, seasonal businesses employ workers when necessary and would not want to be tied to employing a certain number of people for a set period of time.

Apprentices and trainees are effectively eligible for a wage credit under the Commonwealth Government New Apprenticeship program. The Commonwealth Wage Assistance program also provides wage assistance as an incentive to employers who provide ongoing work to eligible indigenous persons. However, a large proportion of the funding for employing long-term unemployed and indigenous persons is currently paid to job network members rather than employers.

#### **4.2.5 Increased Crime and Drug Prevention**

Seventeen of the twenty-two businesses (i.e. 77%) believed that increased crime and drug prevention would have a significant impact on employment and investment decisions. In terms of first preferences this incentive also ranks second highest with 5 respondents stating that increased crime and drug prevention would have the greatest impact on their business. The main reasons why crime and drug prevention was considered important were:

- Businesses find it difficult to attract managers and professionals due to perceptions that there is a relatively high level of violence and crime in the Barwon Darling region, which makes the region an unattractive place to live.
- Businesses believe that drugs and alcohol are a big problem in some, but not all, parts of the Barwon Darling region.
- If drugs and crime were not as large a problem it would be easier to encourage families, managers and professionals to live in the area. In general skilled labour and families do not want to live in a region that is seen to have a high level of crime and violence.
- Some specific recommendations on how to reduce crime and drug use are: promoting activities for young people and supporting church and clubs for children.

The NSW Attorney Generals Department provides grants for crime prevention under the *Safer Communities Development Fund*, although the method used must be applicable in other areas of NSW. The *Drugs and Community Action Scheme* set up by the NSW Government aims to address illicit drug problems, but while a Community Drug Action Team has been established in Western NSW, only one is located in the Barwon Darling region (i.e. Walgett).

#### **4.2.6 Accelerated Depreciation and Low Cost Finance**

Incentives to reduce the cost of capital investments are a key part of many enterprise zone policies. In terms of capital incentives low cost finance for new investments and accelerated depreciation allowances for new capital equipment were each considered significant by 15 respondents (i.e. 68%). While low cost finance was a first preference for 4 respondents none of the businesses interviewed thought that accelerated depreciation allowances would have the most significant impact on their employment and investment decisions. However, accelerated depreciation was considered the second most important enterprise zone incentive by 5 businesses (i.e. 23%).

In terms of capital incentives the main points made by respondents were:

- The depreciation allowance should be approximately double the existing allowances.
- Greater investment allowances would have a big impact on improving the productivity and profitability of businesses, especially for firms that have to replace equipment frequently.

- A discounted interest rate of about 2% below the average rate would help to attract new businesses and reduce the risks of failure due to repayment problems. The interest rate should also be fixed over a long time period to give the business greater certainty.

DSRD provides grants (but not loans) to some businesses under the Regional Business Development Scheme to offset the costs of establishing a new business in a regional area. DOTARS also provides interest rate relief of up to \$5,000 per year for 2 years for small businesses affected by the current drought. However, there does not appear to be a scheme to allow businesses in specific regional areas to access loans at concessionary rates of interest.

There does not appear to be a government program that allows for greater depreciation allowances in disadvantaged regions undergoing structural adjustment.

#### **4.2.7 Increased Government Investment in Local Infrastructure**

Increased government investment in local infrastructure was considered significant by 14 respondents (i.e. 64%) and was the first preference for 4 respondents (18%). The main point made by respondents was that the quality of infrastructure in the Barwon Darling should be equivalent to that of larger cities.

DSRD provides funding toward the costs incurred in providing external infrastructure to a regional business location in the Regional Business Development Scheme. Some funding is also provided by DSRD under the Regional Economies in Transition Scheme. DOTARS provides funding for a range of regional infrastructure initiatives (e.g. Mobiles for Towns Over 500 Program).

#### **4.2.8 Grants to Offset Council Rates for Expanding Businesses**

Grants to offset council rates for expanding businesses was considered significant by 12 respondents (i.e. 55%) and was the first preference for 1 respondent (5%). In general, council rates are not a significant barrier to expansion for most businesses in the Barwon Darling as rates are not a significant operating cost. However, some respondents argued that grants to offset council rates might provide a psychological incentive to local businesses (i.e. “a nice sweetener”). Indeed, there is evidence in US that the creation of enterprise zones can generate a considerable psychological boost to a regional community.

While grants to offset rate payments could be made to some businesses there do not appear to be any commonwealth or state government programs that provide grants for reduced council rates.

#### **4.2.9 Increased Public Provision for Childcare**

Increased public provision for childcare was considered significant by 12 respondents (i.e. 55%). However, no respondents rated this incentive as their first preference. While some respondents believed the level of childcare services in the Barwon Darling was adequate, others argued that the services needed to be improved to attract families into the region. At present, some families are discouraged by the level of childcare in some parts of the region and therefore do not wish to live and work in the Barwon Darling.

The main problem appears to be the availability of childcare facilities that are separated from pre-schools. For example, there seems to be a sufficient number of women trained in Walgett as carers. However Walgett needs a new building for use as a childcare centre.

The Commonwealth Government provides support for childcare in rural and regional areas under the Child Care Support Program. The Commonwealth Government Jet Child Care program also helps parents on Centrelink payments to access childcare so that they can participate in education, training and employment.

#### **4.2.10 Increased Assistance with Exports**

Increased assistance with exports was considered significant by 11 respondents (i.e. 50%) and was the first preference for 4 respondents (18%). The main form of export assistance that businesses would like is help from experienced exporters in setting up new markets in other parts of Australia and internationally.

The NSW DSRD provides three programs to assist businesses to export. These programs include the Regional Business Development Scheme, the Australian Technology Showcase and the Trade Mission and Market Visit program. DOTARS also provides assistance to regional exporters under the Tradestart program. While these programs may assist some exporters, they do not provide the kind of assistance that potential exporters in the Barwon Darling region would prefer (i.e. advice from experienced exporters).

#### **4.2.11 Funding for Professional Services and Facilitation of Industry Networks**

Funding for professional services was considered significant by 11 respondents (i.e. 64%), while facilitation of industry networks was considered significant by 7 respondents (i.e. 32%). No respondent rated either incentive as his or her first preference. Still, there were some businesses who recognised the value of networks and clustering, although they believed that transport and communications were limitations.

DSRD provides funding for professional services and for facilitation of industry networks under the Developing Regional Resources Program, the Technology Diffusion Program and the High Growth Business Program.

#### **4.2.12 Payroll Tax Concessions**

Payroll tax concessions were considered significant by 7 respondents (32%) and were the first preference for 1 respondent (5%). It was argued that the payroll tax threshold should be raised to \$1 million in enterprise zones, as this should encourage larger businesses to the Barwon Darling region. However, it was recognised that payroll tax incentives by themselves would not entice businesses to locate in the Barwon Darling region.

Payroll tax concessions are available to some businesses under the DSRD Regional Business Development Scheme and the Country Industries Payroll Tax Rebate Scheme.

#### **4.2.13 Property Tax Concessions**

Property tax concessions were considered significant by 2 respondents (i.e. 9%). No respondents rated this incentive as their first preference. However, there was some interest in using property tax concessions as a way of promoting investment in the agriculture industry. Specifically, property tax concessions could be provided to agriculture firms to promote more efficient use of water and other environmentally friendly initiatives. Land tax concessions are also available under the DSRD Regional Business Development Scheme.

### 4.3 COMPARISON WITH EXISTING PROGRAMS

A comparison of the policy incentives preferred by Barwon Darling businesses to the range of existing government programs highlights two important points:

1. **Similarity** - In most cases existing commonwealth and state government programs provide the kind of incentives that businesses in the Barwon Darling would like as part of an enterprise zone. The one exception is accelerated depreciation, where there does not appear to be a program offering higher depreciation allowances to targeted groups.
2. **Program effectiveness** - While existing programs may address the issues raised by businesses in the Barwon Darling, anecdotal evidence suggests that these programs are not highly effective.<sup>6</sup> The interviews also suggest there is a low take-up of existing programs due to the complicated application procedures required to obtain funding (i.e. excessive 'red tape') and a lack of awareness of the available programs due to the complexity of program-based assistance in Australia.

Given the broad similarity between the enterprise zone incentives preferred by Barwon Darling businesses and the type of programs provided by government it may be appropriate to use these existing programs as the base for a Barwon Darling enterprise zone. In other words, existing government programs could be restructured to meet the specific needs of businesses in the Barwon Darling region. This restructure may include:

- Modifications to existing eligibility criteria to allow the Barwon Darling greater access to relevant government programs. For example, government programs could extend funding under the existing indigenous mentoring programs to the long-term unemployed and any business in the region that employs an additional worker (and would like a mentor).
- New delivery methods, such as the appointment of a dedicated field official located in the Barwon Darling region to provide advice on which government programs to access and to assist with application procedures and compliance. This official should be located in the field to ensure that they have an adequate understanding of the Barwon Darling region.
- Funding for longer time periods (i.e. 5 to 10 years) to demonstrate Commonwealth and State Government support for development in the Barwon Darling region. Indeed, interview responses suggest that the existing system of relatively short-term program assistance was insufficient to address the long-term structure problems of the Barwon Darling.
- Greater promotion of available programs to ensure the Barwon Darling community is aware of the government programs that may benefit the region.

A restructure of existing government programs in the manner outlined above could be a key component of an enterprise zone model for the Barwon Darling region. This form of systemic assistance, targeted to the development needs of a specific region, is not without precedence. Indeed, the Commonwealth Government Sustainable Regions program and the NSW Government Hunter and Illawarra Advantage Funds are examples of systemic assistance for specific regions.

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<sup>6</sup> A similar conclusion was made by the NIEIR (2001: 36), which concluded that "current regional policies are inadequate to the task" of promoting development in Australia's regions.

#### 4.4 SUMMARY

A number of businesses highlighted the point that the specific incentives in an enterprise zone are not as important as whether or not they improve the viability of operating a business in the Barwon Darling region. In other words enterprise zone incentives will only have a significant impact on employment and investment decisions if they can bring about a net increase in the profitability of businesses and promote economic development in the Barwon Darling. This conclusion is supported by the work of Peters and Fisher (2002) who argue that enterprise zone incentives must generate a sizable improvement in profitability if they are to influence investment decisions.

It is also important to recognise the mix of economic and social incentives in the list of incentives preferred by the Barwon Darling businesses. By themselves economic incentives such as wage credits and financial support for capital investment may be ineffective. While these economic incentives may appear to increase profits, this increase may still be limited by social problems that make it hard to attract good employees. However, an enterprise zone may become more viable when economic incentives are synchronised with social incentives such as greater education and training, mentoring and crime and drug prevention. This conclusion is also supported by the literature as Beck (2002) found that service and quality of life incentives like crime and drug prevention, housing rehabilitation and job training were more effective than tax concessions.

Therefore, the results of the interviews suggest that it may be social problems like poor education, drugs and crime that are limiting economic development in the Barwon Darling rather than the inherent lack of profitability of the region's businesses. Therefore, economic development in the Barwon Darling may be enhanced more through social incentives than through direct economic incentives. In other words, addressing the problems of education, crime and drugs should improve the lifestyle of residents and make the Barwon Darling region a more attractive place to live for professionals and families. These social improvements could then be expected to flow to the bottom line of businesses in the region.

The generation of regular work opportunities in the Barwon Darling could also be expected to have social benefits. This conclusion is supported by B Lulham, the Wilcannia magistrate who wrote the following in a letter to express his support for Federal Government work programs (i.e. Newstart),

*"I have noticed a very marked downturn in the number of matter coming before the court. Whereas in years gone by there were over 100 fresh charges each month before the court the figures lately have been approximately 10 or less each month. I am absolutely convinced that, the fact that so many persons usually unemployed are now gainfully engaged in work is the main factor contributing to the marked decrease in crime."*

## **5 BARWON DARLING ENTERPRISE ZONE MODEL**

Careful consideration has been made to developing an enterprise zone model that can promote sustainable development in the Barwon Darling region. The final model incorporates the results of each research step including the: rationale, literature review, interviews with Barwon Darling businesses and the comparison with existing government programs. An attempt has also been made to put together a model that builds on existing government programs, as this is expected to increase the likelihood of the policy being adopted by government.

This chapter outlines an enterprise zone model that could be implemented in the Barwon Darling region. The beginning sections outline the objectives, incentives and administration of the Barwon Darling enterprise zone.

### **5.1 POLICY OBJECTIVES**

The rationale for a Barwon Darling enterprise zone is to promote restructuring that will improve the long-term sustainability of the region and reduce the level of economic and social disadvantage. The specific objectives of the Barwon Darling enterprise zone are as follows:

1. Achieve a rate of employment growth of 5 percent, or 75 percent of the average employment growth for New South Wales (whichever is lower);
2. Achieve private business investment by existing businesses and ‘home grown’ businesses at least equal to the public funding provided for a Barwon Darling enterprise zone;
3. Reduce the official rate of unemployment in the Barwon Darling to less than 9 percent, or less than 1.25 times the average unemployment rate for New South Wales (whichever is higher);
4. Reduce the rate of indigenous and long-term unemployment among the Barwon Darling population by at least 25 percent; and
5. Increase the proportion of the Barwon Darling population that hold post school qualifications from 17.3 percent to at least 25 percent over the next 10 years.

### **5.2 RECOMMENDED ENTERPRISE ZONE INCENTIVES**

The results of this study suggest that there are three broad groups of enterprise zone incentives that may promote restructuring and the alleviation of economic and social disadvantage in the Barwon Darling region. Note that there is no significance in the order that incentives are discussed.

1. Social incentives aim to promote social development by improving the quality of life for residents living in the Barwon Darling region.
2. Economic incentives aim to promote economic development (i.e. employment growth and business investment) by improving the profitability of expanding/establishing a business in the Barwon Darling region.
3. Capacity building incentives aim to promote sustainable development by strengthening the ability of the Barwon Darling community to drive development.

We will now discuss the specific incentives that fall under each of these three broad groups.

### 5.2.1 Social Incentives

Social incentives aim to promote social development by improving the quality of life for residents living in the Barwon Darling region. An improvement in the quality of life could be expected to improve the attractiveness of the region as a place to live for families and professionals. As discussed in Section 4.4 social incentives may also enhance the level of economic development.

The enterprise zone incentives that could contribute to social development in the Barwon Darling region are as follows:

1. **Education** - Increased public support for primary and secondary education in the Barwon Darling region is needed to ensure that all residents have basic competencies in reading and writing. This support could be provided by extending existing Commonwealth Government programs (i.e. the Country Areas Program) that aim to improve literacy and numeracy outcomes for educationally disadvantaged students. In addition, funding should be provided to secondary schools in the Barwon Darling region to teach basic life skills before students leave school.
2. **Mentoring** - Mentoring support should be supplied to unemployed people when they start a new job to help them make the transition to work. This mentoring support should be targeted to indigenous persons and the long-term unemployed, although the service could be made available to any employer in the Barwon Darling region when they hire a new worker. Mentoring support could be provided through the extension of existing commonwealth government programs.
3. **Crime and drug prevention** - The Barwon Darling community should be protected from drug-related anti-social and criminal behaviour through crime and drug-abuse prevention. This objective could be achieved if the NSW Government established Community Drug Action Teams in Bourke and Wilcannia. In addition to the team in Walgett, these three teams could cooperate to develop and implement a crime and drug prevention strategy for the Barwon Darling region.
4. **Childcare** - Childcare centres in the Barwon Darling region should be separate from preschools and funding should be allocated to increase the quality of services they provide, so as to make the region a more attractive place for families. This incentive could be provided under the Commonwealth Government's Child Care Support Program, if that program were extended to childcare providers in the Barwon Darling region. In addition, businesses in the Barwon Darling could also adopt more flexible, family-friendly work policies to make it easier for working parents to participate in paid employment.

The above social incentives could be implemented in the Barwon Darling region by extending existing government programs. Thus, the programs could be administered by existing government agencies, although information and advice regarding local issues should be sought by the enterprise zone administration.

## 5.2.2 Economic Incentives

Economic incentives aim to promote economic development (i.e. employment growth and business investment) by improving the profitability of expanding/establishing a business in the Barwon Darling region. The specific incentives to promote economic development are:

1. **Wage credit** - A credit of 25 percent of total labour costs (i.e. wages plus on-costs) should be provided to any business in the Barwon Darling region that increases the number of workers that they employ compared to the average over previous years. Thus, the subsidy could be provided to existing businesses that expand their total employment or to new businesses, including the person who manages the business. The total amount of wage credits available to a business should also be limited to the amount of tax paid by a business, and any additional credits may be banked for future use. This wage credit should be provided for 3 years to allow time for new workers to make a productive contribution to the business. Although wage credits are effectively available in some circumstances a new program should be developed that is purpose built for the Barwon Darling enterprise zone.
2. **Low cost finance** - To promote capital investment a base interest rate grant equivalent to 2 percent of annual interest costs should be provided to businesses that invest in new machinery or equipment. This interest rate grant should be provided for a maximum of 3 years, at a maximum of \$5,000 per year. The threshold should be increased to \$10,000 per year for investing businesses that intend to export at least 85 percent of their output to other regions of Australia and overseas. Low cost finance for capital investment in the Barwon Darling region could be provided by extending the Regional Business Development Scheme program administered by the NSW Department of State and Regional Development.
3. **Depreciation** - As an added incentive for capital investment the accelerated depreciation allowances available to businesses in the Barwon Darling region should be at least 1.5 times the average for each asset class. An increased allowance at least double that currently available could be provided to investing businesses that intend to export at least 85 percent of their output to other regions of Australia and overseas. Increased depreciation allowances should be available for businesses investing in property, plant and equipment. Given additional depreciation allowances do not appear to be provided under existing government programs a new program should be developed that is purpose built for the Barwon Darling enterprise zone.
4. **Grants to offset council rates** – Businesses that expand their total employment levels by at least 5 full-time equivalent jobs should be given a grant equivalent to about 25 percent of their annual council rates in the following year. In addition, all new businesses should be given a grant to offset 25 percent of their council rates during their first two years of operation. Reduced council rates should be provided by the enterprise zone administration or by the NSW Department of State and Regional Development through the extension of the Regional Business Development Scheme.
5. **Exemptions from various government costs and charges** – New businesses established in the Barwon Darling region should be provided with funding to offset the cost of small taxes such as stamp duty, fringe benefits tax, electricity, permit fees, business licence fees, and so on. Payroll tax concessions could also be provided to businesses that expand their employment above the threshold level of payroll. To reduce the administration cost of providing exemptions from minor government costs and charges the program should be managed by the enterprise zone administration.

In most cases the above economic incentives should be implemented by the enterprise zone administration, although both the commonwealth and the state governments could provide funding for this administration. The operation of the enterprise zone administration is discussed in more detail in Section 5.3.

### 5.2.3 Capacity Building

Capacity building incentives aim to promote sustainable development by strengthening the ability of the Barwon Darling community to drive development. These capacity building incentives are also important for promoting restructuring in the Barwon Darling region.

The capacity building incentives that could be provided as part of a Barwon Darling enterprise zone are as follows:

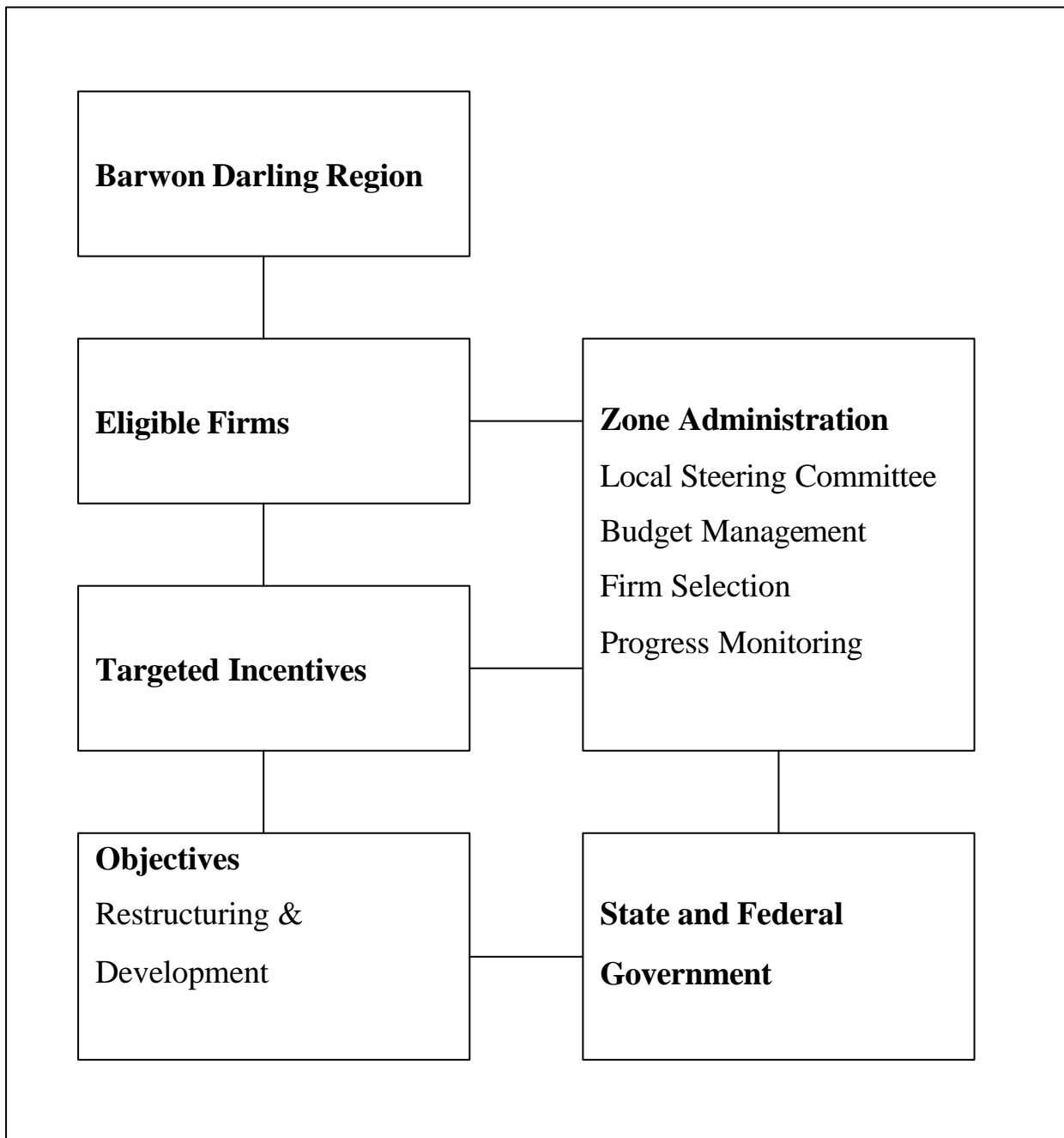
1. **Industry development** - Initial funding should be provided to the Barwon Darling region to develop an achievable community development plan that will promote industry restructuring throughout the region. Once this plan has been developed funding should be provided for activities to strengthen regional networks and to support innovation and clustering. The implementation of the community development plan should be the responsibility of the zone administration, with money allocated to activities such as workshops, industry seminars and economic research.
2. **Community partnership** - The Western Research Institute is part of a pilot Community Partnerships Program (CPP) that aims to increase economic development in Parkes and Blayney through closer links with Charles Sturt University (CSU). The Barwon Darling region could also benefit from the range of, relatively untapped, expertise at CSU. Therefore, the zone administration should be responsible for liaising with Charles Sturt University to support development in the Barwon Darling region.
3. **Exports** - Advice on establishing new markets should be provided by experienced exporters to businesses that intend to increase their overseas exports. These experienced exporters should be business people who have successfully penetrated new export markets themselves. The enterprise zone administration can also play an additional role in export promotion by helping firms in the Barwon Darling region to access existing commonwealth and state government programs.
4. **Infrastructure investment** – The Barwon Darling region should be given priority consideration for government infrastructure investment to make the region's infrastructure more equivalent to that in city areas.

Of the above capacity building incentives, industry development and exporting should be administered by the enterprise zone administration, in most cases. However, infrastructure investment is the responsibility of the commonwealth and state government.

### 5.3 ENTERPRISE ZONE ADMINISTRATION

To manage the Barwon Darling enterprise zone an administration should be established, with the responsibility for managing the allocation of funding to eligible businesses and ensuring that the objectives of the policy, and the community development plan, are achieved. Diagram 5.1 shows how the zone administration relates to the other parts of the Barwon Darling enterprise zone model.

**Diagram 5.1 The Barwon Darling Enterprise Zone Model**



Some of the noteworthy elements of the Barwon Darling enterprise zone model are discussed below.

1. **Decentralised administration** - The administration of the Barwon Darling enterprise zone would be decentralised, with the zone administered by local people with a good understanding of the issues that need to be addressed in their region. Local government can play a strong role in the administration of the Barwon Darling enterprise zone, as this will promote community empowerment.

The zone administration would be responsible for the selection of eligible firms and the allocation of funding for the relevant incentives. For example, the funding for wage credits, accelerated depreciation and other grants are allocated by the zone administration and applications are not made through the Australian Tax Office. The objective of this separation is to give the local community more power to promote development and to reduce the 'red tape' that may arise if the incentives were administered from a centralised government agency in Sydney or Canberra. However, where programs provided to the Barwon Darling region are administered by existing government agencies the enterprise zone administration will play a role in facilitating access to government programs, providing advice on which programs to access and basically streamlining the regulatory process.

2. **Budget** - The zone administration will be responsible for managing the budget allocated to the Barwon Darling. It is assumed that the budget for the enterprise zone is \$5 million per year and indexed over a five-year period.<sup>7</sup> An option for a further five-year period could also be provided, with funding conditional on a successful evaluation of the Barwon Darling enterprise zone.

In the Barwon Darling enterprise zone model there is no necessary reason why funding should be the sole responsibility of either the state or federal government. In this model funding is provided to the zone administration, which allocates funds to eligible firms. Therefore, the state and federal government may contribute funding to a Barwon Darling enterprise zone.<sup>8</sup>

3. **Eligibility** - The allocation of funding to eligible firms will be made at the discretion of the enterprise zone administration. Once a business has qualified for support within an enterprise zone the business is then eligible for targeted assistance under all relevant programs. In cases, where the demand for incentives exceeds the supply of funding eligible firms may need to compete for enterprise zone funding. In these circumstances the allocation of funding should be made on the basis of a firm's likely contribution to restructuring the Barwon Darling region and reducing economic and social disadvantage. This competition between eligible firms should improve the effectiveness of the Barwon Darling enterprise zone.<sup>9</sup>
4. **Local steering committee** – A local steering committee should be formed with representation from the Bourke, Brewarrina, Central Darling, Coonamble and Walgett councils and representatives of the state and federal government funding agencies (i.e. members of the local Regional Development Board and Area Consultative Committee). This committee should provide strategic direction and promote accountability for the allocation of public funding.

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<sup>7</sup> This estimate is sourced from the NIEIR (2001: 10) study of enterprise zones.

<sup>8</sup> Assuming each level of government contributes to the Barwon Darling enterprise in proportion to the expected benefits, the results estimated in Table 6.1 suggests that the NSW Government would contribute about 10 percent and the Commonwealth Government would contribute about 90 percent of the funding to a Barwon Darling zone.

<sup>9</sup> If the Barwon Darling enterprise model were adopted more widely across Australia there would also need to be competition between eligible regions for a fixed amount of enterprise zone funding. In this model both designation as an enterprise zone and the allocation of funding to eligible firms is not an automatic entitlement or right if objective criteria are met. The literature suggests that this competition enhances the effectiveness of enterprise zones as a development tool.

5. **Monitoring and evaluation** – While it is the responsibility of the local steering committee to monitor the success of the Barwon Darling enterprise zone, it is the responsibility of the state and federal governments to commission an independent evaluation of the overall effectiveness of the zone. This evaluation should assess whether the policy has achieved its stated objectives and the extent to which the Barwon Darling enterprise zone has promoted restructuring and the alleviation of social and economic disadvantage in the region.

## 5.4 SUMMARY

The specific objectives of the Barwon Darling enterprise zone are to generate employment, increase business investment, reduce unemployment for indigenous persons and the long-term unemployed and increase the proportion of the population that hold post-school qualifications.

The three broad groups of incentives that may help realise these objectives are:

1. **Social incentives** to improve the quality of life, including: increased public support for education to improve basic reading and writing skills; mentoring for unemployed people, especially indigenous persons and the long-term unemployed to help them make the transition to work; increased crime and drug prevention; an improvement in the quality of childcare; and more family-friendly work policies.
2. **Economic incentives** to promote employment growth and business investment, including: a 25 percent wage credit for new employees; interest rate grants to reduce the cost of finance; accelerated depreciation grants to encourage capital investment; and grants to offset various government costs and charges that could assist new businesses.
3. **Capacity building incentives** to strengthen the ability of the Barwon Darling community to drive development, including: support for networking and clustering; the establishment of a research partnership with Charles Sturt University; advice from experienced exporters on how to penetrate foreign markets; and priority consideration for government infrastructure.

Aside from the incentives the main elements of the Barwon Darling enterprise zone model are:

1. A **decentralised administration** that is responsible for: community planning, managing the budget; selection of eligible firms and allocation of funding for enterprise zone incentives.
2. Businesses that qualify for support within an enterprise zone are **eligible** for targeted assistance under all relevant programs, except where budget constraints require the allocation of funding to businesses in order to generate the greatest benefit.
3. A **local steering committee** should be formed, with representation from all levels of government, to provide strategic direction and promote accountability for public funding.
4. While it is the responsibility of the local steering committee to monitor the success of the Barwon Darling enterprise zone, the state and federal governments should commission an independent **evaluation** of the overall effectiveness of the zone. As part of this assessment performance and approval processing times should be regarded as customer service obligations.

## 6 IMPACT OF THE BARWON DARLING ENTERPRISE ZONE MODEL

This chapter analyses the possible fiscal and economic impact of the Barwon Darling enterprise zone. The fiscal impact was estimated on the basis of some reasonable assumptions regarding the effect of enterprise zone incentives on employment in the Barwon Darling region. The economic impact of the enterprise zone model was estimated using an input-output table constructed for the Barwon Darling region.

### 6.1 FISCAL IMPACT

As discussed in Section 5.2 the Barwon Darling enterprise zone model contains 13 different incentive programs. Some of these incentives are extensions of existing government programs and could be administered by the relevant agency. Some incentives, mainly the economic incentives, would be funded from the total budget allocated to the enterprise zone. In these circumstances it is difficult to estimate the aggregate impact of the Barwon Darling enterprise zone on government finances. However, it is possible to estimate the fiscal impact of wage credits based on some realistic assumptions.

The assumptions underlying this estimate of the fiscal impact are as follows:

1. In its report on enterprise zones the National Institute for Economic and Industry Research (2001: 10) estimated that the budget for an enterprise zone could be about \$5 million per annum. For the purposes of this analysis it is assumed that the budget for a Barwon Darling enterprise zone could be a similar amount. Ten percent of the enterprise zone budget of \$5 million is used to fund the zone administration. This means the funding available for incentive programs is \$4.5 million.
2. Sixty percent of the enterprise zone budget is made available for wage credits. This means the funding available for wage credits is \$3 million.
3. Wage credits of 25 percent of total labour costs are provided to firms that increase their employment levels and for all employees of new businesses.
4. The average labour costs of employees eligible for a wage credit is \$29,655<sup>10</sup>, which is the average figure for the compensation of employees (i.e. wages plus on-costs) in the Barwon Darling input-output table<sup>11</sup> constructed by the Western Research Institute.
5. Given total labour costs of \$29,655 the average wage credit would be about \$7,415 per eligible employee. With a budget of \$3 million this means the employers of about 400 new workers could receive a wage credit.
6. If the wage credit and other enterprise zone incentives do create 400 new jobs the public sector cost per job would be about \$12,500 (i.e. \$5 million divided by 400). This figure is within the range estimated by the National Institute for Economic and Industry Research. After a survey of state enterprise zone programs the NIEIR (2001: 44) estimated that the public sector cost per job created was in the range of 1,000 to 13,000 US Dollars.

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<sup>10</sup> It should be noted that the average full-time adult ordinary time earnings in the private sector in February 2003 was about \$45,600. Given average on-costs of 15 percent of earnings the average labour costs for full-time adult ordinary workers are about \$52,463. These estimates were sourced from ABS *Labour Costs* 1996-97 (Catalogue number 3648.0) and ABS *Average Weekly Earnings* (Catalogue number 6302.0).

<sup>11</sup> Refer to Appendix B for details on the construction of the Barwon Darling input-output table.

7. The annual Centrelink payment to an unemployed person is equal to \$8,940. This is the Newstart payment, which was obtained from the Centrelink website,<sup>12</sup> and made to partners. It is a conservative figure for unemployment benefits saved, although there would be higher savings for unemployed individuals and those working in Community Development and Employment Projects (CDEPs).
8. With on-costs of 15 percent and total labour costs of \$29,655 the average wage for employees eligible for a wage credit is about \$25,790. Given the tax rates for 2003-04 the income tax paid by new employees in the Barwon Darling enterprise zone would be approximately \$4,330 per year, which is equivalent to about 17 percent of their average earnings.<sup>13</sup>
9. After tax employees have a disposable income of about \$21,460 per annum. New employees in an enterprise zone have a marginal propensity to consume of 0.8. In other words the new employees consume 80 percent of the disposable income they receive above their previous Newstart payments. The Goods and Services Tax (GST) of 10 percent is applied to this additional consumption expenditure. Thus, the additional GST paid is \$1,000 per annum.
10. Evidence from the United Kingdom suggests that 55 percent of the additional people employed in remote enterprise zones (i.e. similar to the Barwon Darling) were previously unemployed. Thus, it will be assumed that unemployment benefits are saved for only half of the people who receive wage credits. Likewise, the additional income tax and GST benefits are only received for half of the new jobs created in the enterprise zone.

Table 6.1 shows the fiscal impact of the Barwon Darling enterprise zone on government expenditures and receipts, based on the assumptions outlined above. Given the assumptions above the Barwon Darling enterprise zone would result in net expenditure for the state and federal governments of about \$2.1 million per year. As discussed above this estimate does not include extra funding commitments made as part of existing government programs.

**Table 6.1 Fiscal Impact of Barwon Darling Enterprise Zone**

<b>Government Budget</b>	<b>Expenditures (\$)</b>	<b>Receipts (\$)</b>
Barwon Darling enterprise zone funding	5,000,000	
Additional income tax <sup>1</sup>		866,000
Additional GST <sup>2</sup>		200,000
Unemployment benefits saved <sup>3</sup>	(1,788,000)	
<b>Total</b>	<b>3,212,000</b>	<b>1,066,000</b>
<b>Net fiscal impact</b>	<b>2,146,000</b>	

Notes

- 1 Additional income tax is equal to the additional income tax of \$4,330 (assumption 8) paid by 400 new employees (assumption 6) multiplied by 50 percent (assumption 10).
- 2 Additional GST is equal to the additional GST of \$1,000 (assumption 9) paid by 400 new employees (assumption 6) multiplied by 50 percent (assumption 10).
- 3 Unemployment benefits saved are equal to \$8,940 (assumption 7) multiplied by 400 new employees (assumption 6) multiplied by 50 percent (assumption 10). As unemployment benefits saved are a cost foregone they can be considered as a negative expenditure and not a receipt for the government.

<sup>12</sup> [http://www.centrelink.gov.au/internet/internet.nsf/payments/pay\\_how\\_nsa.htm](http://www.centrelink.gov.au/internet/internet.nsf/payments/pay_how_nsa.htm) accessed on June 11<sup>th</sup> 2003.

<sup>13</sup> Income tax was calculated using the Australian Taxation Office online tax withheld calculator, and assuming that the employee receives no rebates or offsets. The calculator can be accessed at [www.ato.gov.au](http://www.ato.gov.au) [accessed 1<sup>st</sup> August 2003].

## 6.2 NET MARGINAL COST OF JOB CREATION

Given the assumptions in Section 6.1 it is possible to estimate the net marginal cost of each job created in the Barwon Darling enterprise zone.<sup>14</sup> The net marginal cost is equal to the wage credit less the sum of additional income tax and GST plus the unemployment benefits saved.

Table 6.2 shows that the net marginal cost per job created in the Barwon Darling enterprise zone is \$280. In other words, once the ‘fixed costs’ of establishing the Barwon Darling enterprise zone are incurred, it only costs \$280 to create each job.

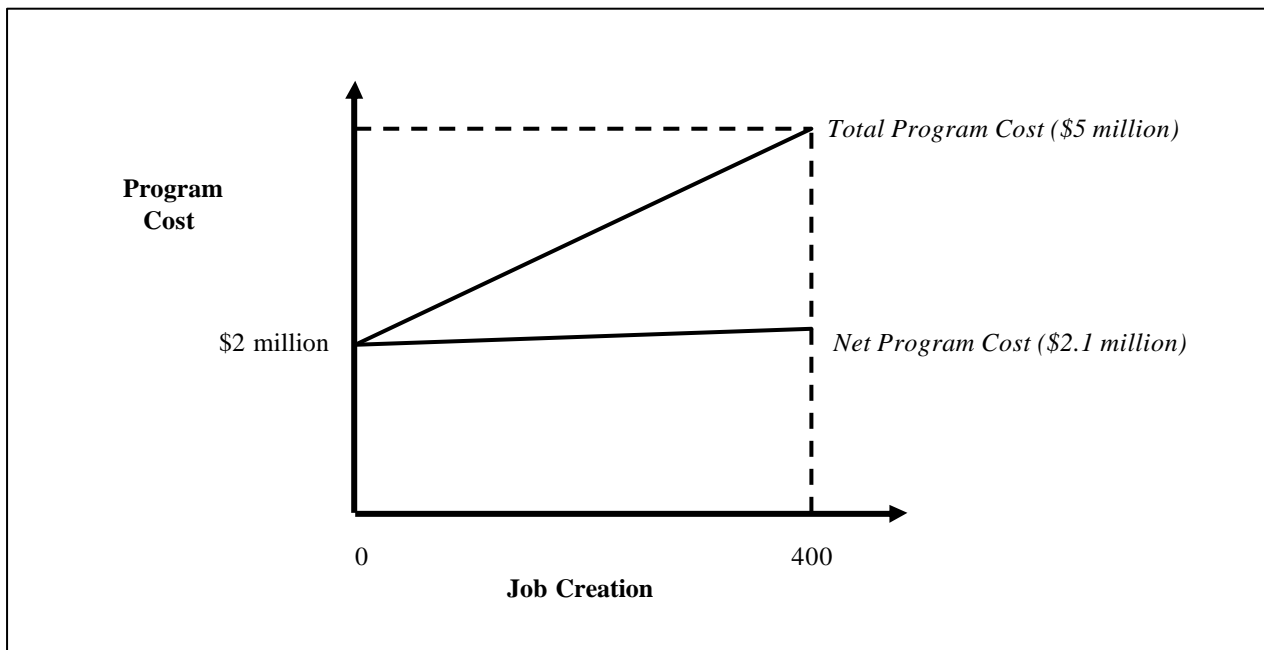
**Table 6.2** *Net marginal cost per job created*

Item	Amount
Wage Credit per Employee	\$7,415
Less: Additional Income Tax	\$2,165
Extra GST	\$500
Unemployment Benefits Saved 1	\$4,470
<b>Net Marginal Cost per Job Created</b>	<b>\$280</b>

Note: It is assumed that only 50 percent of the jobs created are filled by people who were previously unemployed.

Figure 6.1 shows the relationship between the cost of the Barwon Darling enterprise zone program and the employment generated by the program. The net marginal cost is equal to the slope of the lower curve (i.e. \$280), while the nominal marginal cost of the program is equal to the slope of the upper curve (i.e. \$7,415).

**Figure 6.1** *The relationship between program cost and job creation*



<sup>14</sup> The net marginal cost of each job created is in addition to the ‘fixed costs’ of \$500,000 in administration and \$1,500,000 spent on the other economic incentives (i.e. excluding wage credits).

### 6.3 ECONOMIC IMPACT

An input-output table for the Barwon Darling region was constructed using the Generation of Regional Input-Output Tables (GRIT) system and balanced using the RAS technique. Appendix B describes in detail how the Barwon Darling input-output table was constructed.

Given the limited amount of data available the economic impact of the Barwon Darling enterprise zone model was estimated on the basis of the following assumptions:

1. Enterprise zone incentives lead to the creation of about 400 full-time equivalent jobs.
2. The productivity of the 400 new employees is equal to the average of \$62,522 per worker for the Barwon Darling region, as determined by the Barwon Darling input-output model.
3. The compensation of the 400 new employees is equal to the average of \$29,655 per worker for the Barwon Darling region, as determined by the Barwon Darling input-output model.

Table 6.3 shows the possible economic impact of the Barwon Darling enterprise zone model is \$25 million in gross regional product (GRP), \$11.9 million in household income and 400 full-time equivalent jobs given the above assumptions. Given the estimated gross regional product in 2000-01 of \$529.1 million, additional GRP of \$25 million is equivalent to economic growth of 4.7 percent.

All else being equal the creation of 400 new jobs could be expected to reduce the unemployment rate in the Barwon Darling region from 10.2 percent to 5.9 percent. If this occurs the value of social security benefits flowing into the Barwon Darling region could be expected to decline by 2.8 percent.<sup>15</sup> It is likely that an improvement in the Barwon Darling labour market will encourage more people to enter the labour force, which will increase the participation rate. In these circumstances the reduction in the unemployment rate will be a smaller magnitude. For example, if people entering the labour force take 100 of the 400 new jobs the unemployment rate would be expected to fall to 6.9 percent.

**Table 6.3 Economic Impact of Barwon Darling Enterprise Zone**

<b>Economic Indicator</b>	<b>Barwon Darling Region <sup>1</sup> (2000-01)</b>	<b>Economic Impact of Enterprise Zone <sup>2</sup></b>
Gross Regional Product	\$529.1 million	\$25.0 million
Household Income	\$250.9 million	\$11.9 million
Employment	8,462 jobs	400 jobs

Notes

- 1 Values for gross regional product, household income and employment in 2000-01 were estimated from the Barwon Darling input-output table.
- 2 The economic impact of the Barwon Darling enterprise zone was estimated on the basis of the assumptions in Section 5.4 and the average ratios for productivity and wages in the Barwon Darling input-output table.

<sup>15</sup> The National Institute for Economic and Industry Research (2002) estimates the value of social security flowing into the Far and North Western areas of NSW is about \$3,025 per person. Given a population of 21,464 in the 2001 Census the value of social security flowing into the Barwon Darling is about \$63.1 million. Thus, with unemployment savings of about \$1.8 million the value of social security flowing into the Barwon Darling, per person, all else being equal, would be about \$2,945, which is a decline of 2.8 percent.

## 6.4 SUMMARY

Given the assumptions outlined in this chapter it is estimated that the incentives contained in the Barwon Darling enterprise zone model could generate about 400 new jobs. Although the budget allocated to the enterprise zone may be \$5 million, after accounting for additional income tax, GST and the unemployment benefits saved it is estimated that the implementation of the Barwon Darling enterprise zone model would require net government expenditure of about \$2.1 million.

The average public sector cost is about \$5,365 per job created in the Barwon Darling region. The marginal cost of job creation in the Barwon Darling enterprise zone model is about \$280 per job. In other words, once the Barwon Darling enterprise zone program is established the net cost of job creation is relatively small.

The economic impact of the enterprise zone model was estimated using an input-output table constructed for the Barwon Darling region. Using this method it was estimated that the economic impact of the Barwon Darling enterprise zone model could be around \$25 million in gross regional product (GRP) and \$11.9 million in household income. Given the estimated gross regional product in 2000-01 of \$529.1 million, this is equivalent to economic growth of 4.7 percent.

All else being equal the creation of 400 new jobs could be expected to reduce the unemployment rate in the Barwon Darling region from 10.2 percent to 5.9 percent. If this occurs the value of social security benefits flowing into the Barwon Darling region could be expected to decline by 2.8 percent. An improvement in the Barwon Darling labour market will encourage more people to enter the labour force, which will increase the participation rate. In these circumstances the reduction in the unemployment rate would be less. For example, if people entering the labour force take 100 of the 400 new jobs the unemployment rate would be expected to fall to 6.9 percent.

## APPENDIX A THE ENTERPRISE ZONE INDEX

The Enterprise Zone Index (EZI) is made up of ten indicators of disadvantage, which were chosen because they capture some element of regional disadvantage. Disadvantage is defined as a relative lack of economic resources, amenities and productive activities compared to a community standard. Thus, disadvantage refers to the economic inequality experienced by those who possess a relatively low level of economic power in a market society.

The EZI can be divided into two types of indicators: prevalence indicators, which show the extent of disadvantage in a region (i.e. the unemployment rate); and at-risk indicators, which show the demographic groups more likely to be disadvantaged (i.e. people over 65 years of age). The ten EZI indicators used are as follows:

1. **Total unemployment** - The Australian Bureau of Statistics (ABS) defines an unemployed person as an individual who, during the week prior to census night, did not have a job but was actively looking for work and was available to start work. In other words an unemployed person is one who did not work for 1 hour during the week prior to census night. The total unemployment rate shows the proportion of the labour force (i.e. people over 15) in each region that satisfies this definition. Unemployment rates were obtained from the ABS Census of Population and Housing in 2001.
2. **Indigenous unemployment** - The indigenous unemployment rate shows the proportion of indigenous Australians that satisfy the ABS definition of unemployment. The unemployment rate has been calculated as total indigenous unemployment divided by the total labour force and not just the indigenous labour force. This method shows the total extent of unemployment in a region, not just the incidence of unemployment within the indigenous population. Indigenous unemployment rates were sourced from the ABS Census of Population and Housing in 2001.
3. **Long-term unemployment** - Long-term unemployment shows the level of continuing unemployment in a region and it is measured as the proportion of people unemployed for 52 weeks or longer as a proportion of the labour force. Long-term unemployment is indicative of the structural, rather than cyclical, sources of unemployment. Long-term unemployment statistics for local government areas were not available and thus the aggregated statistic for the Northern, Far West, North Western and Central West was used for this comparison. These long-term unemployment rates are for May 2000 and were obtained from the ABS *Labour Force New South Wales* publication (Catalogue number 6201.1).
4. **Youth unemployment** - The rate of youth unemployment measures the proportion of the labour force aged between 15 and 25 that satisfy the ABS definition of unemployment. The youth unemployment rates used in this study were obtained from the 2001 ABS Census.
5. **Employment growth** - The growth of employment, *ceteris paribus*, indicates the extent of economic growth or development in a region. Employment growth was calculated between the 1996 and 2001 Census of Population and Housing.
6. **Poverty** - The incidence of poverty in a region indicates the proportion of the population living below a prescribed poverty line. The poverty line is based on the benchmark income level established by the Henderson poverty inquiry in 1973. The poverty line is updated by the Melbourne Institute of Applied Economic and Social Research on the basis of changes in per capita household disposable income (HDI). The current estimate of the Henderson poverty line including housing, for individuals, is about \$300 per week. The proportion of the population living in poverty was estimated using individual income data from the 2001 ABS Census.

7. **Average income** - The average level of income shows the general level of affluence in a region. The average level of income was estimated by the WRI using data on income distribution in the Barwon Darling region from the ABS Census of Population and Housing in 2001.
8. **Gross regional product per capita** – Gross regional product (GRP) per capita provides a second measure of the general level of affluence in a region. GRP was estimated as the sum of industry value added for each region. Industry value added was calculated by multiplying industry employment levels in each region by the average value added per worker in each industry. Industry employment figures were obtained from the 2001 ABS Census of Population and Housing, while estimates of average value added per worker was obtained from the ABS National Accounts 2000-01 (Catalogue number 5204.0).
9. **Qualifications** - The proportion of qualifications in the population indicates the education level of the population and the general skill level of the workforce. Education has a strong influence on the quality of life of an individual, and is thus a prevalence indicator of disadvantage. Further, as labour market outcomes are partially determined by education, the level of qualifications in a region provides an at risk indicator of disadvantage. The total number of qualifications achieved, as a proportion of the population, was the statistic used for comparison. No distinction was made between the various types of qualifications. Qualification statistics were obtained from the ABS Census of Population and Housing in 2001.
10. **Age** - The proportion of people in the population who are under 15 or over 65 years old provides an at-risk measure of disadvantage. Those over 65 years old are more likely than the average individual to live in poverty. People over 65 also require more medical services and other care services than the average population. Thus, the proportion of people over 65 in a region is indicative of a regions disadvantage. The proportion of people under 15 is also an indication of disadvantage, as households must pay for education and medical expenses. These expenses typically occur at a time in the life cycle when household earnings are low. The age distribution of the population was obtained from the ABS Census of Population and Housing in 2001.

For each indicator an EZI point is scored if that region is disadvantaged, relative to the benchmark level according to a specified decision rule. The benchmark used in this study was New South Wales and the decision rule used was 25%. Thus, if an enterprise zone indicator is less than 75% of a positive benchmark, where higher levels are an improvement (i.e. median household income), then that region scores 1 EZI point. Likewise, if an indicator is more than 125% of a negative benchmark, where lower levels are an improvement (i.e. unemployment rates), then that region scores 1 EZI point.

The sum of EZI points for each region provides a measure of disadvantage relative to the average for a New South Wales Community. For example, a region is classified as an enterprise zone if its total EZI score is greater, or equal to, a particular number of EZI points. The EZI point threshold for enterprise zone designation in this report is 5 points.

## **APPENDIX B INPUT-OUTPUT METHODOLOGY**

An input output table for the Barwon Darling region was constructed using the Australian Bureau of Statistics (ABS) 1996-97 national input-output table and the Generation of Regional Input-Output Tables (GRIT) technique. The resulting input-output table was used, along with the marginal coefficients model and survey data on investment and employment intentions, to estimate the likely economic impact of an enterprise zone on the Barwon Darling region.

### **B.1 INPUT-OUTPUT TABLES**

Input-output tables are part of the Australian national accounts. An input-output model provides a very detailed picture of the structure of an economy at a particular point in time. It includes all the transactions that occur during a specific period, usually one year.

- The rows of an input-output table show the disposal of the output of an industry to itself and to other industries as well as final demand categories (i.e. exports and household consumption); and
- The columns show the origin of inputs into production, whether they are intermediate inputs (i.e. intra- and inter-industry purchases) or primary inputs (i.e. labour and capital).

One of the main attractions of input-output models is their relative ease of use and the level of detail obtained concerning the structure of the economy. Indeed, the Australian Bureau of Statistics (ABS) notes the usefulness of input-output tables in their Information Paper: Introduction to Input-Output Multipliers,

*“Input-output tables provide detailed information about the supply and disposition of commodities in the Australian economy and about the structure of, and inter-relationships between, Australian industries. Detailed data on supply and use of commodities, inter-industry flows and a range of derived data, such as input-output multipliers, are provided for economic planning and analysis, and construction of models for forecasting purposes.” (ABS Introduction to Input-Output Multipliers, Cat. 5246.0)*

The main use of input-output tables is economic impact analysis, where the tables are used to estimate the benefits generated by new initiatives on each and every sector of an economy. For example, if there is a change in the purchasing or sales pattern of any industry, the flow-on, or multiplier, effects on upstream industries can be calculated. An input-output table is also very useful for estimating the direct and indirect contribution of a final demand impacts, such as those that could be generated by an enterprise zone policy.

### **B.2 ASSUMPTIONS OF THE INPUT-OUTPUT MODEL**

The use of an input-output table in economic impact analysis requires a number of explicit assumptions. The specific assumptions are as follows:

- The inputs purchased by each sector are a function only of the level of output of that sector. The input function is generally assumed linear and homogeneous of degree one, which implies constant returns to scale and no substitution between inputs. The technology is also assumed constant.

- Each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies that there is only one method used to produce each commodity and that each sector has only a single primary output. In other words, there are no joint products.
- The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the additivity assumption.
- The system is in equilibrium at given prices.
- In the static input-output model, there are no capacity constraints so that the supply of each good is perfectly elastic. Each industry can supply whatever quantity is demanded of it and there are no capital restrictions.

In terms of applied input-output analysis, the focus of these assumptions comes down primarily to the linearity property. The assumption of a linear relationship between the input coefficients and output unrealistically implies that supply is infinitely elastic. This limitation generally leads to an over-estimation of the multiplier effects generated by any initial change in expenditure.

The over-estimation of impacts can occur in the short run, when a firm has excess capacity and in the long run if a firm is experiencing increasing returns to scale. In both cases an increase in output can occur that is less than proportional to the necessary increase in inputs, and the linear coefficients assumption is violated.

### **B.3 METHODOLOGY OF TABLE CONSTRUCTION**

The application of input-output analysis to estimate the economic impact of an enterprise zone policy in the Barwon Darling region involves 4 basic steps:

1. Construction of an input-output table for the Barwon Darling region using the GRIT technique;
2. Balancing the Barwon Darling input-output table using the RAS method;
3. Estimate the level of additional investment and employment that is likely to be generated by an enterprise zone in the Barwon Darling region; and
4. Apply estimates of additional investment and employment to the Barwon Darling input-output table using the marginal coefficients model in order to identify their economic impact.

#### **B.3.1 Table Construction**

The input-output tables used in this study were constructed using the Generation of Regional Input-Output Tables (GRIT) system. GRIT uses a series of non-survey steps to produce a prototype regional table from the national table, but provides the opportunity at various stages for the insertion of "superior data". The system is "variable interference" in that the analyst is able to determine the extent to which they interfere with the mechanical processes by introducing primary or other superior data.

The GRIT system is designed to produce regional tables that are:

- Consistent in accounting terms with each other and with the national table;
- Capable of calculations to a reasonable degree of holistic accuracy; and
- Capable of being updated with a minimum effort as new data becomes available.

The GRIT technique is basically a hybrid method of deriving state and regional input-output tables from the National input-output table while at the same time allowing for the insertion of superior data (i.e. information collected from surveys of pig processors) at various stages in the construction of the tables. The GRIT procedure was developed by Associate Professor Guy West and Professor Rod Jensen of the University of Queensland and is the most widely used method of constructing input-output tables in Australia. The GRIT method is also widely used in America and Europe.

The Barwon Darling regional input-output table was constructed by aggregating information for the Bourke, Brewarrina, Central Darling, Coonamble and Walgett local government areas. This aggregation was done to make the economies represented by the regional input-output table of sufficient size, as this improves the validity and reliability of the resulting table.

### **B.3.2 Table balancing**

The final input-output tables were balanced using the RAS technique.<sup>16</sup> The RAS technique is a bi-proportional iterative adjustment method designed to modify a base input-output matrix to fit new row and column totals. The rows and columns are simply adjusted proportionally to the new row and column totals in turn, and the cycle repeated until the actual row and column totals converge to the specified values. After the Barwon Darling table was balanced its consistency was checked to identify any large discrepancies or obvious anomalies.

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<sup>16</sup> The RAS technique is explained in Appendix A of the ABS *Input-Output Tables 1996-97* publication (Cat. 5209.0).

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## THE WESTERN RESEARCH INSTITUTE

The Western Research Institute (WRI) is a non-profit economic, business and social research organisation located on the Bathurst campus of Charles Sturt University. The WRI is based in regional Australia and the staff hold a wealth of knowledge and experience on employment, industry development and investment issues affecting regional Australia. The research team for this project was comprised of the following staff members.

### **Tom Murphy – Chief Executive Officer** *B.Ec. (Hons I) MSc. (Econ) Lancaster*

Tom has been the CEO of WRI since its inception and brought with him a strong reputation built on private and public sector experience. Previously Tom held senior academic positions in the Faculty of Commerce, Charles Sturt University, as a senior lecturer and as Director of the Regional Economics Research Unit. He was an Economic Analyst with the Office of National Assessments in Canberra, with responsibility for the ASEAN economies and Senior Consultant with KPMG Peat Marwick Management Consultants. Tom has frequently been invited to participate in National and State regional economic development conferences and provide input to government policy. Tom was pivotal in establishing the WRI and his vast experience provides strong leadership to the WRI team.

### **Matthew Brooks – Senior Economist** *BBus. (Econ/Psych) CSturt. M.Ec. (SocSc) (Hons 2/1) Syd.*

As senior economist at the WRI Matthew is responsible for the integrity of the economic research. Matthew possesses strong economic modelling skills, especially input output table construction and economic impact analysis. His excellent written communication skills are demonstrated by the clear and simple language, which characterises WRI research reports. Matthew also participated in an AusAid capacity building project in Papua New Guinea where he assisted the University of Papua New Guinea to externalise their Public Policy and Management courses in the areas of Government and Politics, Public Administration and Development.

### **Luciana Mazzotti – Research Assistant** *BBus (Marketing) CSturt.*

Luciana, with a background in marketing adds a new dimension to the WRI team. With her strong understanding of data analysis and ability to apply context to figures, she provides research support to other team members. Luciana has experience in the retail, hospitality and advertising industries and brings a diverse range of skills to the WRI.