24 Project justification and conclusions

The Project requires justification 'on economic, social and environmental grounds, taking into consideration whether' it 'is consistent with the objects of the *Environmental Planning and Assessment Act 1979*' (see Table 1.2). Each aspect is dealt with below.

24.1.1 Economic justification

The Project is justified economically for two reasons: its net economic benefits and the economic stimulus it will provide to the region and NSW.

i Benefits and costs

A detailed comparison of the Project's costs and benefits was made using methods specified by the Department of Planning (2002) and NSW Treasury (2007). This involved estimating the monetary values of costs and benefits associated with the Project's construction and operation and determined the net (or after-cost) benefits would be $2,014 million in present day values.

This estimate includes the costs of significant environmental adverse impacts but not those for which dollar values are not readily available. However, monetary estimates of each of these intangible impacts were made using the results of choice modelling studies for coal projects in NSW and their total cost was $70 m. There are also intangible benefits from more employment opportunities, particularly in this case where there is substantial local unemployment and low risk of disruption to existing enterprises in the locality. The extra job opportunities have been valued at $192 m.

Taking all of the above factors into account, the Project's after-costs benefits to the Australian community are estimated at between $1,937 m and $2,136 m.

ii Economic stimulus

The capital investment and operational expenditure required for the Project will stimulate the local and NSW economies. Such stimulus is normally measured by its effects on the size of the economy (gross output), value adding by local production or provision of services, and changes in household income and employment.

Different levels of stimulus will occur during construction and operations.

Project construction will require an average workforce of 440 people, requiring an annual expenditure of around $123 m. The stimulus effects of this expenditure and employment on the region and NSW in each year will be:

- $218 m and $365 m in additional gross output for the region and NSW;
- $91 m and $162 m in extra value added regionally and for NSW;
- $66 m and $112 m in extra household income regionally and for NSW; and
- 851 and 1,351 extra jobs created in the region and NSW.

The stimulus at a state level is greater than at the local level due to the larger size of the economy and, therefore, the greater capture of activity that occurs across NSW.

Stimulus effects will be much greater during the 21 years of operations when the expenditure and employment created will be more substantial. The representative increased annual stimulus provided to the region and NSW is estimated as follows:

- $714 m and $1,308 m in extra total output regionally and for NSW;
- $184 m and $473 m in extra value added regionally and for NSW;
- $102 m and $267 m extra to household income regionally and for NSW; and
- 1,170 and 3,150 extra jobs created regionally and for NSW.

The Project is clearly justified economically. Its economic benefits to society far outweigh its costs and it will provide substantial economic stimulus, particularly in the region to the north, west and south of the Project where there are no alternative economic opportunities of this scale.

24.1.2 Social justification

The Project is justified on social grounds for three principal reasons. It will help provide affordable electricity in NSW, enhance the capacity of the local and regional economies, and help to arrest population decline and diminishing availability of services and facilities in the locality.

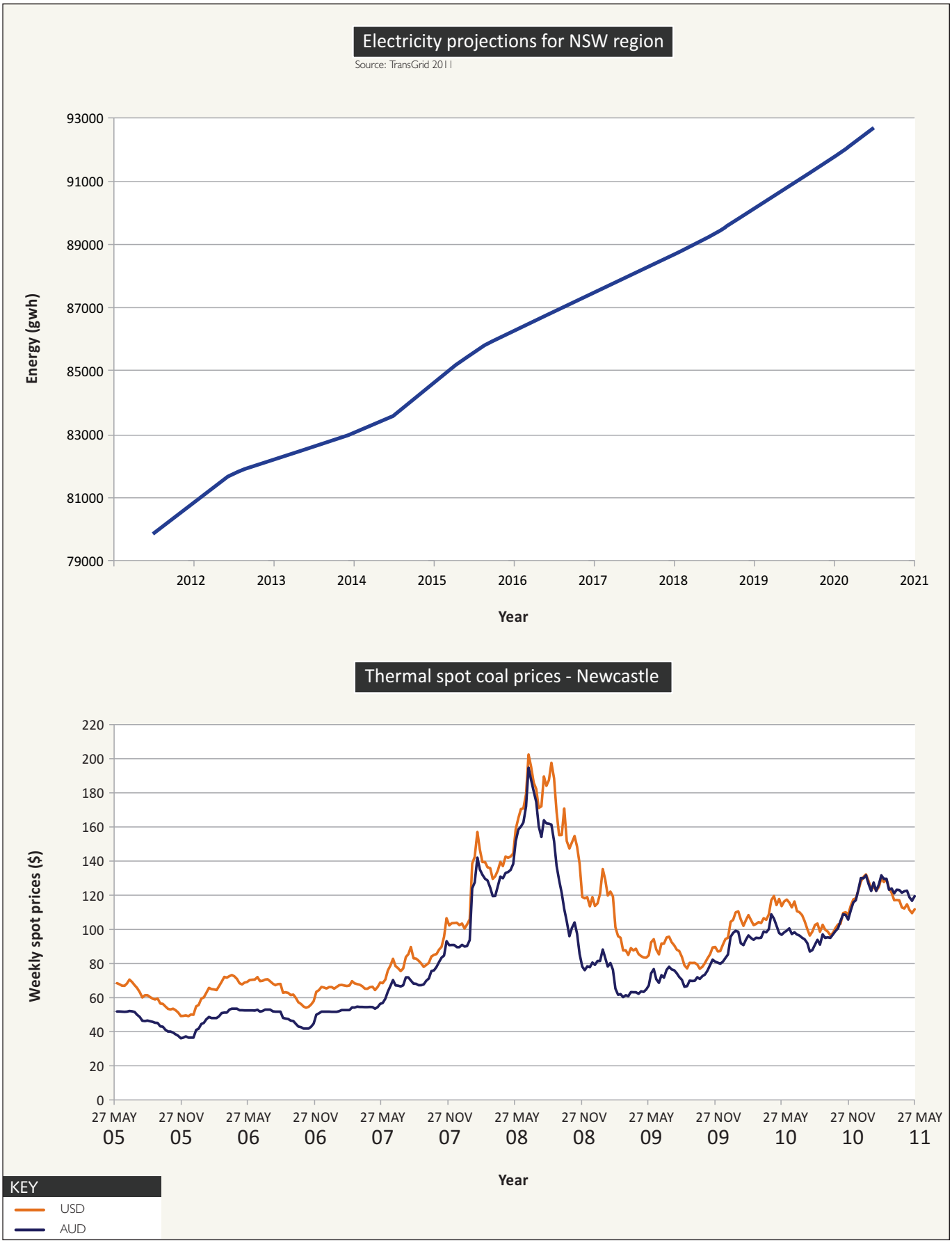
i Affordable electricity

The demand for electricity globally and in NSW will continue to grow. Globally, the International Energy Agency (2008) predicts that energy demands will increase by between 34% and 45% between 2006 and 2030. In the NSW/ACT region, the total electricity use is forecast to grow from 78,800 gigawatt hours (GWh) in 2011 to 92,700 GWh in 2021 (TransGrid 2011) as shown in Figure 24.1.

Nearly 90% of NSW's electricity is generated from coal. All of the generating corporations are investing in other forms of electricity production — gas and renewables — and these alternatives will help to meet growing demands. However, they will not generate enough electricity to replace that produced by coal-fired power stations on a continual basis, and it is probable that coal will continue to fuel a constant proportion of increasing electricity production.

Thermal coal is a globally traded commodity and the export market largely determines its price. Because of the recent strong growth in global energy demands, the price of coal has risen substantially (see Figure 24.1). Coal prices have risen much faster than electricity prices in Australia and future electricity prices will increase, in part, as a result.

Historically in NSW mines that were dedicated to, or owned by, the generators, provided coal for electricity generation. For example, between 1973 and 1991, the NSW Electricity Commission sourced most of its coal from seven mines under its control. In 2002, these mines were sold and replaced by long-term supply contracts (greater than 10 years) that were negotiated when the thermal coal export price was much lower than at present. These contracts are beginning to expire and interest in renewing them has been scant except at prices that are substantially greater, being close to those for export coal.



Integrated Design Solutions | 030518 Cobbora Coal Project - EA F24-1 Rev B - 19 September 2012

Electricity Projections for NSW and Thermal Spot Prices

Cobbora Coal Project - Environmental Assessment

Figure 24.1

One consequence of this is reduced coal supply certainty which has reduced electricity output in NSW. Since 1996, when the National Electricity Market was introduced, about 15–20% of NSW's electricity needs have been supplied by other states, especially Victoria and Queensland where the generators have their own sources of coal. This arrangement has major cost and environmental implications. Much of the Victorian electricity is generated by brown coal, which produces much higher greenhouse gas emissions (about 50% higher) than black coal. There are also considerable losses in transmitting electricity over the much greater distances from inter-state generating stations.

The Project will address this situation. It will provide a reliable source of predictably priced coal to NSW generators. The Project can supply about 30% of the coal consumed for electricity production in NSW and will act to moderate and stabilise prices that would otherwise follow the international market. It will also reduce the need for NSW to import electricity from less efficient inter-state sources. The reduction in electricity generation costs over the life of the Project is estimated at $1,856 m (Appendix R). Assuming a competitive electricity supply market, this saving could be passed onto consumers and it would represent a saving of $635 for every household in NSW. Also, these estimates exclude additional transmission cost savings from centrally located NSW generators compared to those applying to distant inter-state ones.

Affordable energy is a prerequisite for any developed economy. Substantial social costs would occur if NSW experiences disproportionate increases in electricity prices compared with other parts of Australia or its peer economies internationally.

ii Stronger regional economy

At present, the Project's host region has a relatively narrow economic base with high dependence on the agriculture and forestry sector. Also, three of the four LGAs in the region have relatively high unemployment.

The Project will diversify and strengthen the region's economic base. It will substantially increase the size (output and value added) of a number of industry sectors — particularly mining, but also mining services, mining and construction machinery, mechanical repairs, utilities, wholesale and retail trade, accommodation and entertainment.

The skills base of the local workforce will be strengthened considerably. CHC is committed to employing local people and supporting them with appropriate training, while protecting the labour pool available to existing local businesses. CHC is already proactively working with service providers in the region to develop training and other education programs for local people, including specific apprentice and Aboriginal employment initiatives.

Businesses in the region will benefit through direct mine expenditure and the extra money injected into the area through mine employment and services catering to the Project.

Infrastructure in and around the PAA will be upgraded. In particular, the regional rail system, local roads, water supply, electricity and communications networks will all increase in capacity.

In combination these factors mean the economy of the Central West region will be more resilient in the short and long term. During operations there will be substantially greater economic activity and employment opportunities than now exist. In the longer term, after the completion of mining, the region will be more attractive to investors because of its strengthened infrastructure and skills base. A more resilient regional economy will be socially beneficial.

iii Arresting population decline

Populations are declining in many parts of rural Australia because of a range of factors, including amalgamation of farms, greater mechanisation, declining competitiveness of smaller rural enterprises like abattoirs and timber mills, and improved transport infrastructure, which is encouraging activity to concentrate in regional centres. As rural populations decline, local retail, community services and employment opportunities are reduced. This combination has a compounding effect resulting in an overall loss of productive capacity, especially youth and working age people, and declining asset values, such as of private residences.

Much of the Project's host region is at risk of these adverse social impacts. All four LGAs are expected to have slower growth than NSW as a whole and two (Wellington and Warrumbungle) could have falling populations. Jobs created through the Project will provide the opportunity for more young people to remain in the region.

The Project will substantially reduce the likelihood of decline by providing economic stimulus, jobs, training and investment in community infrastructure and services.

24.1.3 Environmental justification

The Project will disturb about 4,300 ha of land over its full life. Nevertheless, after the coal is extracted, rehabilitation will occur progressively and the majority of the land (around 87%) will be returned to agricultural (with the area of Rural Land Capability Class III increasing by 323 ha) and bushland uses. In other words, environmental disturbance will be temporary and, during operations, there will be a number of environmental benefits — reduced greenhouse gas emissions, enhanced biodiversity conservation and improved local environmental management.

i Reduced greenhouse gases

As explained earlier, electricity output in NSW has declined since the National Energy Market was introduced in 1996. Concurrently, there has been substantial growth in the state's electricity consumption and the gap in local supply has been made up by transfers from interstate, with 15–20% of NSW's needs supplied in this way. Much of this electricity comes from Victoria where the principal generating fuel is brown coal, which produces about 50% more greenhouse gases than thermal black coal. In addition, the need to transmit electricity from distant power stations in Victoria and Queensland causes major energy losses compared with supplies being provided by NSW's centrally located coal-based power stations. Thus, these electricity supply arrangements result in higher levels of greenhouse gas emissions compared with those that will come from the Project.

The Project's coal resource has both a low methane content (methane has a greenhouse gas intensity about 21 times that of CO_2) and overburden to coal ratio. This means there will be low methane emissions and energy efficient mining.

In combination, the two preceding factors mean that the project will result in much lower greenhouse gas emissions than continuing with current arrangements.

ii Enhanced biodiversity conservation

The Project will clear 1,867 ha of woodland and regenerate native vegetation. About 79 ha (4%) of this comprises TECs, including three threatened plant species. Threatened bird and bat species will also be affected by the removal of habitat.

Despite these losses, the ecological outcome of the Project over its full life will be a net biodiversity gain. This will be achieved through rehabilitation and establishment of ecological offsets. Progressive rehabilitation will reinstate more than 2,200 ha of woodland representative of the existing vegetation types, and 1,700 ha of pasture grasslands, compensating for the loss of vegetation as a result of the Project. An offset strategy is being prepared for the Project to compensate for any remaining significant impacts to threatened species and their habitat after mitigation. This will provide further compensation for the loss of vegetation, the direct loss of threatened ecological communities, threatened flora and threatened fauna habitat.

The offset package will be further developed in the coming months based on current and future ecological survey results, and in consultation with OEH and SEWPaC. CHC is committed to conserving and enhancing the ecological values of the identified potential offset sites through implementing a biodiversity offset plan. The plan will provide measures to improve and enhance the biodiversity values of the offset lands.

The connectivity of remnant habitat within the locality will be improved through the Project offsets, linking Cobbora SCA and Goonoo SCA in the north-west, through Tuckland State Forest and Goodiman SCA, to Yarrobil NP in the south-east of the PAA. Over 12,000 ha of potential offset areas have been identified within the areas surrounding the Project footprint. Additional offset lands within the locality and region, should these be required, are being identified in consultation with the OEH. Offsets may also involve investing in threatened species management where land-based offsets cannot be identified.

Ongoing ecological management, rehabilitation works and the offset package will improve the connectivity of remnant habitat within the locality. The Project will result in a net improvement to the quality, quantity and protection of biodiversity values within the region in the medium to long term.

24.1.4 Improved environmental management

Environmental management and monitoring of land uses in and around the PAA were not coordinated prior to the CHC property acquisition program. Under the Project an environmental management system (EMS) will be introduced with clear accountability applying to CHC. So, while there will be a much larger number of emission sources, they will all be managed in a co-ordinated way to meet the criteria specified in the Project approval and an environmental protection licence regulated by the Environment Protection Authority.

The EMS and associated environmental plans will be comprehensive, describing control of emission sources, protection of native vegetation, rehabilitation of disturbed areas and protection of cultural resources (landscape and Aboriginal sites).

CHC will produce annual environmental reports. They will outline how relevant commitments made in this EA are being addressed and provide results of environmental monitoring programs, thus improving transparency and public knowledge about environmental issues.

24.2 Objects of the EP&A Act

The Project's consistency with the objects of the EP&A Act is considered below.

i Proper management, development and conservation of resources

The object is: 'To encourage: the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment'.

The PAA contains coal, agricultural land, bushland, waterways, and some residential properties and infrastructure. These constitute the 'natural and artificial resources', which must be properly managed, developed or conserved.

Through the Project, CHC will develop a valuable coal resource by providing the necessary investment capital and operational skills. Without this investment the resource would remain dormant.

Agricultural land, bushland and waterways within and around the area will be properly managed in accordance with the Project EMS. This will ensure the long-term value of these resources is not diminished by the Project.

The value of bushland and cultural resources in the PAA and in the biodiversity offset areas will be conserved or improved by active management. There will be a net biodiversity gain over the Project's life.

For the reasons given above and as explained in Chapter 20, the Project will improve 'social and economic welfare' and achieve 'a better environment'.

ii Orderly development

The object is: 'To encourage the promotion and coordination of the orderly and economic use and development of land'.

The Project's planning and design has taken into account all potential impacts and incorporates measures to avoid, minimise or compensate for these impacts. Thus, it will be an orderly development.

The Project will have net benefits to society of between $1,937 m and $2,138 m compared with continuing the area's existing uses. It will, thus, be 'economic use and development of land'.

iii Communication and utility services

The object is: 'To encourage the protection, provision and co-ordination of communication and utility services'.

The Project's impacts on all potentially affected infrastructure have been examined. Measures to either maintain or, where necessary, improve its capacity have been incorporated into its design, meaning all utility services will be protected.

iv Land for public purposes

The object is: 'To encourage the provision of land for public purposes'.

The 3,600 ha of offsets will be conserved in perpetuity, possibly by way of transfer to a suitable public authority. The land will be managed for a public purpose — conservation of biodiversity. Some public access may be possible provided it is compatible with the overriding conservation objective.

Also, CHC will enter into voluntary planning agreements with the affected local councils so they can provide the necessary services and facilities. The councils may use some of these funds to provide more land for public purposes. The economic stimulus associated with the Project will protect and probably enhance the councils' rate base, again providing funds that could be used to buy public land.

v Community services and facilities

The object is: 'To encourage the provision and co-ordination of community services and facilities'.

As discussed above, the Project involves direct and indirect financial support to local councils, which will let them provide services and facilities. There will also be considerable payments ($407 m) to the NSW Government in royalties and to the Commonwealth in company and minerals taxes. A proportion of these funds will be available to provide or finance the provision of necessary facilities.

This EA describes the population growth that will be associated with the Project, which is information that will allow the relevant authorities to provide facilities in a coordinated way.

vi Protection of the environment

The object is: 'To encourage the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats'.

Progressive project planning has allowed a range of impacts to be avoided and others to be minimised. Reducing the scale of the original Project and redesigning the pits avoided the impacts associated with the creek diversions that formed part of the original proposal and allowed valuable environmental resources to be protected, such as the corridor along Laheys Creek. Changes to infrastructure, particularly removing a coal conveyor, have avoided fragmenting the wildlife corridor north of Project.

The design also incorporates safeguards to control emissions and other impacts such that all will be managed to meet regulatory criteria. The Project's performance in relation to the above will be confirmed in annual environmental reports.

The Project will conserve native animals and plants in four ways: through avoiding valuable areas, progressive rehabilitation, establishing offsets and providing better links between bushland areas. In selecting offsets, particular emphasis will be placed on compensation for threatened species and communities with significant ecological offsets.

vii Ecologically sustainable development

The Commonwealth's *National Strategy for Ecologically Sustainable Development* defines ESD as 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'.

The Project will use 'community resources' — mineral, human, financial and physical — to help NSW meet its energy requirements in an affordable way. This will help maintain 'the total quality of life' for the NSW community. The Project's economic stimulus will provide higher incomes and more job opportunities, particularly regionally but also at a state level. This will enhance the quality of life.

Conservation of ecological resources will be achieved through avoiding valuable areas, offsetting and rehabilitation. The Project will lessen risks to ecological processes by reducing greenhouse gas emissions compared with continuing existing electricity supply arrangements.

There are four principles of ESD and the Project's compatibility with each is considered below.

Precautionary principle: this means that if there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In this context the precautionary principle requires two things. First, that the proponent properly assesses all potential impacts using plausible worst case assumptions and, either, avoids them in project planning or incorporates effective safeguard measures into the project design. Second, that the relevant authorities make a well-informed decision about the proposed development based on a sound knowledge of the Project's implications and impacts, including any limitations on the accuracy of impact predictions.

The Project's planning and design meets the first test above. The second test will be satisfied by the comprehensive decision-making processes to be followed by NSW and Commonwealth and regulators.

Social equity, including inter-generational equity: much of the subject region suffers from relatively high unemployment and limited opportunities because of a narrow economic base. The Project will strengthen the regional economy and provide more jobs and a greater diversity of job opportunities, thus lessening inequity with more prosperous parts of NSW.

The Project will extract a non-renewable mineral resource and could be seen as reducing inter-generational equity. It could also be seen as harming future prospects by hastening climate change. However, an alternative view is that the mineral resource will be transformed into physical, human and financial capital through applying the necessary investment and technology. Tangible outcomes from such a transformation will be better local infrastructure, a more skilled workforce and large payments to governments for public purposes. In regard to climate change, the Project is beneficial compared with maintaining the status quo.

Given that the area's mineral resources are dormant and making little if any contribution to human wellbeing, their transformation will, most likely, enhance intergenerational equity.

Conservation of biological diversity and maintenance of ecological integrity: the Project will increase the area and quality of land conserved for biodiversity protection. It will also improve the integrity of the area's ecological resources by strengthening links between them.

Improved valuation and pricing of environmental resources: the EA includes a full comparison of the Project's costs and benefits. Monetary values for intangible factors have been estimated using proven techniques. The overall result is an inclusive comparison that provides decision makers and other interested parties with a reliable indication of the Project's overall merits.

Having considered all aspects of ESD, the conclusion is that the Project is consistent with the concept generally and with its specific components.

viii Affordable housing

The object is: 'To encourage the provision and maintenance of affordable housing'.

The Project will create demands for additional housing at construction and operation. During construction, the temporary accommodation village will meet the forecast accommodation demand.

During operations, a number of measures will reduce housing pressures. The first is to favour local recruitment to the greatest extent possible, with an estimated 50% being sourced from the area within a one hour drive of the mine. Local resident workers will not require new housing. The second measure is to encourage relocating workers to reside in those towns that have the capacity to accommodate forecast demands. The towns located generally to the west of the Project area (particularly Dubbo and Wellington) are experiencing relatively little mining-related development and can house the Project's workforce needs. Road upgrades and new infrastructure will favour commuting from these towns. Assuming the high predicted proportion of local recruitment and nominated residential distribution are achieved, the Project's operations should not exacerbate housing affordability.

ix Sharing of responsibility

The object is: 'to promote the sharing of the responsibility for environmental planning between the different levels of government in the State'.

All interested commonwealth, state and local government agencies have been consulted during the EA's preparation. Further consultation will occur during the response to submissions following exhibition and pre-determination phases. Thus all levels of government have been involved to date and this will continue through to determination.

x Increased public involvement

The object is: 'to provide increased opportunity for public involvement and participation in environmental planning and assessment.

A comprehensive stakeholder and community consultation program has accompanied this EA. It will culminate in public exhibition, consideration of submissions and release of the DP&I's separate assessment report. After this, it is probable the Planning Assessment Commission will hold public meetings about the Project.

These processes ensure a high degree of transparency and public involvement in the assessment.

24.3 Conclusions

There is a sound and broadly based justification for the Cobbora Project. It will provide a secure supply of competitively priced electricity to the NSW community and do so in a way that reduces greenhouse gas emissions.

It will provide substantial stimulus to a region in need and with few equivalent economic opportunities.

At the same time, the Project will displace some agricultural activities and residents for its 21 year duration and will result in local environmental impacts. However, these impacts will be temporary and the land will be rehabilitated to enable future use for agriculture and conservation. In the long term, the biodiversity offset package will increase overall biodiversity values in the region.

A range of commitments is proposed in this EA to meet regulatory environmental standards during construction and operations. The proposed measures will be further detailed in a comprehensive series of management plans. Through the commitments made in this EA, the management plans and operational practices, the Project will use leading practices to recover the coal efficiently, while minimising any potential environmental and social impact.

The clearest indication of the Project's overall worth to society is shown by the results of the comparison of costs and benefits. This includes all positive and negative impacts using a common measure — dollar values. The result shows after-cost benefits of between $1,937 m and $2,138 m, meaning there is a compelling case for the Project to proceed.