

## EXECUTIVE SUMMARY

### Background to Proposed Development

On 15 November 2001, the then Department of Urban Affairs and Planning (now the Department of Planning or "PlanningNSW"), received a development application from Australian Silicon Operation Pty Ltd (the Applicant) for the construction and operation of a wood processing and metallurgical carbon facility. The Applicant proposes to locate the development on a site currently the subject of quarry operations. The site is located approximately midway between Batemans Bay and Moruya, in the Eurobodalla local government area.

The proposed development forms the third component of the Australian Silicon Project, which also includes a silicon smelter at Wallerawang, near Lithgow and a quartz mine near Cowra. The Minister for Urban Affairs and Planning (now the Minister for Planning) granted consent to both the silicon smelter and the quartz mine on 2 November 2000, subject to conditions. The silicon smelter approval is subject to deferred commencement provisions which require the Applicant to demonstrate to the satisfaction of the Director-General of Planning that an appropriate carbon reductant source for the silicon smelter has been identified and assessed. The subject development application seeks approval for such a carbon reductant source (in this case the reductant would be charcoal).

Some 50 construction jobs and 25 operation jobs will be generated by the proposed development. The proposal will require a capital investment of approximately \$15 million. The Australian Silicon Project as a whole requires a capital investment of \$160 million. The Project will create a total of 150 permanent, full-time jobs during operation, and 330 jobs during construction.

The proposal includes processes for the production of fluxwood (essentially wood chips) for use at the silicon smelter, as well as for the production of charcoal (carbon reductant). Timber received at the site would be sawn into billets and carbonised (converted to charcoal) in one of five retorts to be constructed. Retorts (34 metres in height) would operate at approximately 450°C and would act to drive volatile compounds (such as acetone, methanol and phenolic compounds) from the timber, leaving charcoal. Timber would also be chipped to produce fluxwood. The proposed site layout includes storage areas for incoming timber and out-going product, as well as administrative structures including offices, amenities and carparking. Process water would be managed through a biological treatment process, while surface water would be collected and managed with dams to be constructed on the site. The Applicant proposes to retain and maintain a vegetated buffer around the perimeter of the site.

The Minister declared the proposal to be "State significant development" under section 76A of the *Environmental Planning and Assessment Act 1979* (the Act) on 13 August 2001, mainly because it is integrally linked to the silicon smelter at Lithgow, which is State significant development under *State Environmental Planning Policy No. 34 - Major Employment-Generating Industrial Development* (SEPP 34). The Minister is the consent authority for State significant development and will determine the development application. The proposal is also designated development, therefore an Environmental Impact Statement was prepared by the Applicant and advertised, notified and exhibited in accordance with the Act. In response to requests from the public, the Minister extended the period for submissions, allowing almost two months for public comment (compared with the statutory requirement of 30 days). The proposal is also integrated development as it requires an Environment Protection Licence from the EPA under the *Protection of the Environment Operations Act 1997*. The EPA has issued General Terms of Approval, indicating that it would be prepared to issue the Licence, should development consent be granted.

The development application and accompanying Environmental Impact Statement were exhibited, notified and advertised in accordance with the *Environmental Planning and Assessment Act 1979*. In response to requests from the public and Eurobodalla Shire Council, the Minister extended the period for public comment to almost two months (compared with the statutory requirement of 30 days). The exhibition of the development application and Environmental Impact Statement generated extensively strong opposition and concerns, with substantial community outrage.

The proposed development generally accords with the relevant provisions and objectives of applicable local, regional and State planning instruments. The Minister has declared the

proposal to be exempt from the 14-metre height limit specified under the *Lower South Coast Regional Environmental Plan No.1*, in accordance with the provisions of that Plan.

The Department has assessed the proposed development in accordance with provisions of the Act. As part of this assessment, the Department has considered issues raised in submissions by the public, local councils and State Government bodies. Key considerations of the Department's assessment are briefly summarised below, with full details included in this report, which documents the Department's independent assessment of the proposal. The Department concludes that the proposed development can be constructed and operated on the subject development site within acceptable environmental limits.

### **Issues Raise in Submissions**

The Department received 1530 public submissions from 1220 individuals and groups in response to the exhibition of the subject development application and Environmental Impact Statement. Key issues of concern raised in public submissions are summarised below. Issues are listed in approximate order of perceived public importance, based on the frequency of a particular concern being raised (percentages are in relation to the total number of issues raised).

- **21.6%** - socio-economic impacts, including negative impacts on tourism (10.0%), devaluation of land (2.2%) and resultant job losses in the region (9.4%);
- **12.9%** - inconsistency of the proposed development with the nature of the region (8.3%), land use conflicts (3.8%) and impacts on sensitive land uses such as schools (0.8%);
- **10.5%** - impacts of air emissions (5.7%), particularly on human health (4.8%);
- **10.3%** - the negative effects of traffic generation (10.3%), particularly the road safety implications of additional heavy vehicle movements;
- **8.5%** - impacts on water, including water quality (6.1%), water supply (1.9%) and impacts on groundwater (0.5%);
- **7.1%** - ecological impacts, including impacts on threatened flora and fauna (4.3%) and wetlands (2.8%);
- **6.8%** - impacts associated with forestry operations;
- **6.0%** - concerns related to the Applicant and EIS, including EIS quality (4.2%) and the Applicant's lack of effective consultation with the community (1.8%); and
- **3.0%** - noise impacts on surrounding land uses.

Submissions were also received from five local councils. Eurobodalla Shire Council (the council for the local government area in which the development is proposed to be located) objects to the proposed development based on similar issues to those raised in public submissions. Council specifically identifies impacts on tourism as being of concern, particularly as a result of the proposal's inconsistency with the nature and image of the region. Concern was also raised that the proposal would have unacceptable air quality, noise, traffic and water quality impacts. Council identified a number of issues it considered were inadequate or inconsistently presented in the Environmental Impact Statement. The Department consequently sought additional information from the Applicant in relation to these issues, *inter alia*, and considers that outstanding matters have been resolved. Notwithstanding its opposition, Council provided a list of matters it believed should be addressed in any consent, should the Minister determine to approve the development application. These matters have been given due consideration in the Department's assessment and incorporated into the recommended instrument of consent where appropriate. The submission received from Shoalhaven City Council supported Eurobodalla Shire Council's position, raising particular concern in relation to the sustainability of forestry practices, the appropriateness of the technology to be employed, air quality impacts and traffic impacts on its local government area. The Blue Mountains City Council also objected to the proposal based on the traffic implications for its local government area. Camden City Council, while not explicitly objecting to the proposed development, requested that the Minister consider traffic impacts on its local government area. Lithgow City Council (the council for the local government area in which the silicon smelter is to be located) expressed support for the proposed development, subject to it being appropriately controlled and managed.

State Government bodies that provided submissions include the Environment Protection Authority (EPA), Roads and Traffic Authority (RTA), Department of Land and Water Conservation (DLWC), National Parks and Wildlife Service (NPWS), Department of Education and Training and the Southern Area Health Service (Department of Health). None of these bodies specifically state support or opposition to the proposed development. The RTA

provided recommended roadworks requirements, which have been incorporated into the recommended instrument of consent. The EPA provided General Terms of Approval relating to mitigation, monitoring and management of air quality impacts, noise issues, water quality, waste management and beneficial reuse of water and retort off-gases. These General Terms have been incorporated into the recommended instrument of consent. The issuing of General Terms of Approval by the EPA indicates that it is prepared to issue an Environmental Protection Licence for the proposed development under the *Protection of the Environment Operations Act 1997*.

The Department of Education and Training, the Southern Area Health Service, NPWS and DLWC raised issues relating to:

- the impacts of the proposed development on schools (air and water quality, noise, health and safety);
- community health (air quality, noise, traffic and road safety, water quality);
- water quality, wetland and vegetation (erosion, sedimentation, impacts on wetlands and vegetation clearing); and
- impacts on threatened species such as the Yellow-bellied Glider and *Cryptostylis hunteriana*.

Each of the issues raised in State Government submissions has been included as part of the Department's assessment of the proposal. In the case of threatened species issues raised by NPWS, the Department required the Applicant to undertake additional survey work to demonstrate that the proposed development would not have a significant impact on relevant threatened species. The submission made by NPWS is particularly comprehensive and wide-ranging. The Department's assessment has attempted to address and resolve the issues raised by NPWS.

## **Key Assessment Issues and Outcomes**

### ***Wood Sourcing and Forestry***

The development would receive up to 200,000 tonnes per annum of timber from State forests, allocated under the forthcoming Southern Forest Region Agreement (Southern FA) and associated Integrated Forestry Operations Approval (IFOA). Drafts of the FA and IFOA have been forwarded to the Minister for consideration. The draft FA makes specific reference to the allocation of residual timber for the purpose of charcoal production, requiring that no tree be cut for the sole purpose of charcoal production. Should the Minister and his relevant ministerial colleagues determine to approve and sign the FA and IFOA, residual timber from the South Coast Sub-Region of the Southern RFA would form the appropriately assessed and approved source of timber for the proposed development. As timber supply has been considered through a specific assessment process, the subject development application and consequent assessment have not reconsidered the environmental impacts of forestry operations. Notwithstanding this, the Department has sought to bind the proposed development to timber-sourcing from the South-Coast Sub-Region of the Southern Region FA. The recommended instrument of consent mirrors relevant provisions of the FA to ensure a consistent and comprehensive approach to the proposed development and forestry operations.

### ***Air Quality***

The Department's assessment confirms that air quality modelling conducted for the proposed development indicates that relevant ambient air quality criteria would not be exceeded. Consideration has been given to concerns raised by the public that the air quality modelling performed was inadequate, flawed and applied incorrect assumptions. The Department, with advice from the EPA, has established that air quality modelling was appropriately and adequately performed.

Evaluation of the air quality modelling results indicates that the proposed development would meet relevant air quality goals with a significant "comfort" margin. One-hour goals for carbon monoxide, oxides of nitrogen and sulfur dioxide are predicted to be 6,889, 10 and 438 times lower than goal concentrations respectively. Particulate matter concentrations would be 17 times below air quality goals on a 24-hour basis. In relation to air toxics, predicted 3-minute average concentrations of methanol, acetone, phenols and cresol meet criteria by 2,391, 80,000, 30 and 178 times respectively.

In response to concerns raised in submissions, the Department has assessed the potential for air pollutants to impact on human health, particularly through dissolution in collected rainwater. Having considered the concentration of pollutants emitted, their relative health implications, solubilities and thermodynamic barriers associated with dissolution, the Department has concluded that air emissions will have a negligible impact on human health, if at all.

A number of conditions have been included in the instrument of consent that specify air quality monitoring requirements and design parameters for stacks and afterburners. Provisions also relate to minimisation of dust and odours and require the Applicant to implement a program to demonstrate compliance (or improvement over) air quality impacts presented in the EIS.

### **Noise Impacts**

The Department's assessment concludes that even with the application of all feasible and reasonable noise mitigating measures, relevant noise goals will not be met at one receptor (location 1), and may be exceeded at up to three other receptors under the most extreme weather conditions (locations 2, 3, 7). This is despite the Applicant having applied all reasonable and feasible noise mitigation measures to the proposed development.

In accordance with the EPA's *Industrial Noise Policy*, the Applicant is required to establish a negotiated agreement with the owner of location 1. The agreement, if established, would specify that the landowner is willing to accept noise impacts, subject to any conditions negotiated between the landowner and the Applicant. To protect the affected landowners interests, the Applicant would be required to acquire the affected property at the request of the landowner if a negotiated agreement could not be established. This approach is consistent with that applied to a number of other major developments. The recommended instrument of consent details a land acquisition process to ensure that the landowner receives a fair and reasonable price/ terms for the land acquisition. In addition to the owner of location 1, any residential property affected by 40dB(A) (ie background plus 10dB(A)) from the proposed development, or any vacant land, 25% of which is affected by 40dB(A) would be subject to land acquisition provisions.

Other receptors experiencing greater than 35dB(A) (ie background plus 5dB(A)), but not so much as 40dB(A), would be subject to residual noise management measures to be applied by the Applicant. For these properties, the recommended instrument of consent requires the Applicant to negotiate appropriate measures to be applied at the affected residence to reduce noise impacts. The Applicant would also be required to investigate additional measures to be implemented on the development site, and continue to monitor, mitigate and manage noise impacts over time.

To address issues raised by Council and the public in relation to the health implications associated with environmental noise, the Department evaluated noise impacts from the proposed development against recommended World Health Organisation (WHO) goals. This assessment suggests that noise from the development would not interfere with communication, induce hearing impairment, disturb sleep, cause a cardiovascular or other physiological effect, cause a mental health effect, impact on cognitive performance, generate an annoyance response or alter social behaviour. Notwithstanding, appropriate conditions of consent are being recommended to address the issues of concern.

### **Impacts on Water**

The Department and the EPA required the Applicant to remodel run-off water collection for the site, in response preliminary assessment of water impacts and to address issues raised in submissions.

Revised modelling has resulted in the capacity of the run-off collection dam for the site being increased in capacity from 20 megalitres to 40 megalitres. This additional water storage would allow the Applicant to operate the development without the use of town water, except for domestic purposes. The larger dam also decreases the frequency of overflows from the site, and reduces sediment loads and contaminants in any discharge from the site.

Inclusion of the EPA's General Terms of Approval in the recommended instrument of consent imposes stringent water quality monitoring for the development to protect the adjacent SEPP 14 wetlands and water quality in local watercourses. The monitoring regime includes:

- monitoring all water discharges from the site during wet and dry weather;
- monitoring collected water quality with analysis of the biological toxicity of pollutants; and
- comprehensive water quality monitoring for Longvale Swamp (SEPP 14 wetland) and Candlagan Creek and its tributaries (recreational waters).

### **Transport Impacts**

The Department contracted an independent traffic consultant, Colston Budd Hunt and Kafes Pty Ltd, to provide a review of the transport impacts of the proposed development. Based on this review and advice from the Roads and Traffic Authority, the Department has required the Applicant to haul charcoal and fluxwood to Lithgow via the Princes Highway (coastal route). The Kings Highway (inland route) has been determined to be unsuitable due to road maintenance issues and the geometric constraints of the Clyde Mountain crossing.

The Applicant would also be required to upgrade the intersection of the site access road (Springwater Road) and the Princes Highway to the satisfaction of the RTA and Council. The site access road is to be sealed from the Princes Highway to the site and maintained at the expense of the Applicant.

A number of public submissions raise concern in relation the road safety implications of additional heavy vehicle movements. The Department has considered road fatality statistics from the Australian Transport Safety Bureau that suggest that the proposed development would produce a negligible increase in road fatalities.

### **Impacts on Flora and Fauna**

The Department required the Applicant to conduct additional survey work for the vulnerable Yellow-bellied Glider (*Petaurus australis*) to address inadequacies with the information presented in the EIS and to meet the requirements and concerns of the National Parks and Wildlife Service (NPWS). Additional surveys located five Gliders, five feed trees and one confirmed den tree on the site. The den tree was identified in an area of the site earmarked for clearing for use as a wood stockpile area. As a result of the additional survey work, the Applicant has modified the site layout to retain the den tree with a 75 metre vegetated buffer.

The Department has assessed the proposed development in the context of Council's recently adopted Yellow-bellied Glider Policy (developed in consultation with NPWS). The proposed development would meet the requirements of the Policy as it retains:

- all small multi-aged forests patches;
- at least 50% of other suitable habitat (the Department estimates that it would only remove 32%);
- all feed trees; and
- all inhabited den trees.

Further to this, the Department would require the Applicant to suitably revegetated existing cleared areas of the site not to be used for the proposed development to enhance habitat connectivity (replacing the equivalent of some 10% of the suitable habitat lost to vegetation clearing). The recommended instrument also requires the development and implementation of a Yellow-bellied Glider Monitoring Program and Management Plan to ensure on-going minimisation of impacts on this species.

### **Socio-Economic Impacts**

A key concern raised in public submissions is the impact of the proposed development on the tourism industry. The Department has assessed all impacts that could affect tourism (air quality, noise, traffic generation etc) and is satisfied that these impacts can be managed within appropriate environmental limits.

The Department notes, however, that public perception of the proposal may generate an actual or perceived impact on the tourism industry that cannot be mitigated through any environmental planning measure. The Department recommends on-going monitoring of actual impacts so that any adverse effect, real or perceived, can be addressed and managed.

### ***Other Impacts***

Other issues considered as part of the Department's assessment of the proposed development include impacts on visual amenity, waste production and management, hazards and risk impacts and impacts on indigenous and non-indigenous heritage. Each of these issues has been fully assessed, taking into consideration issues raised in submissions relevant to each issue. The Department is satisfied that matters associated with each impact can be appropriately and adequately managed with conditions imposed under the recommended instrument of consent. Relevant details are included in the relevant sections in the body of the report.

### ***Conclusion***

The Department has assessed the subject development application in accordance with the provisions of the *Environmental Planning and Assessment Act 1979*. As part of this assessment, careful consideration has been given to issues raised in submissions. This assessment report concludes that the proposed development can be constructed and operated within appropriate environmental limits.

Extensive and comprehensive conditions are being recommended should approval be granted. These are indicated in the assessment report and its recommendations. With these in place, the Department is confident that any residual risk will be technically small and entirely manageable.

Notwithstanding, the outcome of the Department's technical assessment, and the comprehensiveness of the recommended conditions, the Department is fully appreciative and understanding of the strength of community concern and opposition to this development proposal. The level of outrage relative to the scale and scope of the proposed activities is almost unprecedented. To assist in gaining community acceptance, the Department considers it essential that transparency and independency in implementation be maximised. In that regard, it is recommended that all monitoring, compliance-auditing and environmental management reporting be publicly available. Mechanisms should be implemented to ensure that these are available on request. In addition, should the development proceed, the Department will be overseeing: social and amenity impact studies; broad health impact monitoring/ assessment; and impacts on tourism and business studies. These will monitor any adverse impacts from the proposed development and institute appropriate response action if need be. It is emphasised that these measures are recommended to address community concerns, rather than technical issues.