

3 THE WIDER CONTEXT

3.1 Introduction

This section explores the wider economic trends affecting employment in the Wyong LGA. The analysis then drills down to the local level where an examination of the local industrial property market is undertaken to gain an understanding of the local and regional issues impacting on the fortunes of industrial development in Wyong Shire. The planning policy context for the Wyong LGA is assessed and a summary of the local employment targets and strategic land use framework is provided. Finally, an assessment of regional competitors reveals that there are several industrial precincts in Lake Macquarie and Gosford that potentially compete with Wyong LGA's industrial precincts.

3.2 Industry trends affecting the subregion

There are significant economic trends affecting industries in the Central Coast Subregion and Sydney Greater Metropolitan Area (GMA). Most prominently, globalisation has affected the once strong manufacturing base in the Central Coast Subregion and increased the need for transport and storage.

Sustainability

With a price on carbon, and consequently more expensive fuel, it can be expected that the 'economic geography' of Greater Sydney and the Central Coast may adjust. Firstly, industries dependent on oil based transportation may demand greater freight based rail. Rail hubs and intermodal terminals will become important economic centres, and will need to be serviced by networks of efficient road based freight moving goods around the metropolitan area. Managing traffic impacts will be critical but taking advantage of 'overflow' economic opportunities will also be important.

Wyong's industrial areas, with their access to the F3 Freeway will become increasingly attractive to companies with trucking and freight needs or activities. For those industries the limitation of travel distance is important.

Globalisation

Globalisation has been marked by a rapid increase in global trade in goods and services and, in particular, capital flows. This has been facilitated by technological innovation in transport and communications, the promotion of deregulation in particular industry sectors, the removal of trade restrictions and exchange controls and innovation in the management and pricing of transaction risks (insurance, hedging, partnership formation, etc.).

Globalisation is likely to continue to drive a separation between the 'thinking' part of the value chain (design, brokerage, marketing, strategy formulation) and the 'making' (manufacturing) and 'distribution' (transport, logistics, after sales service) aspects. Key services within the thinking part of the value adding process are showing increasing tendencies to centralise within one or two centres in advanced countries. This is evident in Australia, with Sydney being the pre-eminent national dispenser of advanced business services.⁷

More countries are opening up their economies and seizing the opportunities that come from closer integration into the global economy. China and India, as well as Russia, Brazil and Mexico, are growing rapidly.

Furthermore, as communication and technology continue to improve, global production networks are becoming increasingly flexible, specialised and dispersed across continents. In an era where resources, technology and ideas can be moved rapidly to the most productive location, no economy can rely on its past strengths or traditional expertise. These trends have significant implications for the developed world. Under the globalisation paradigm, the current and future economic context is one of increased global competition, albeit also one of increasing interdependence of national and urban economies. For Australia, the specific implications include:

⁷ Spiller, M. (2004) Urban Agglomeration of Advanced Business Services in Australia – Some Policy Implications, State of Australian Cities Conference, Sydney, December 2003.

- Increased competition in lower order tertiary sectors of the economy, this has particular implications for Wyong given the area's historical strength in manufacturing, and
- Opportunities for increased trade (namely in resources, advanced manufacturing and sophisticated services).

Issues affecting the service sector

The advent of new technologies has enabled fundamental changes to the way many firms operate. Reductions in the cost of telecommunications led to a wave of service jobs being 'off shored' during the 2000s, often concentrated in call centres. More recently the high Australian dollar and the increasing use of internet shopping has led to retail jobs being lost overseas. Increasing globalization and the rapid increase in the level of education of many residents in the developing world has led to white collar employment being outsourced offshore. These changes are increasing the level of competition between areas such as Wyong and parts of the developing world for these retail and 'back office' white collar jobs, as well as traditional manufacturing employment.

Issues affecting the manufacturing sector

There are significant issues currently affecting the Australian manufacturing sector which are likely to intensify over the coming years. A 2006 study completed by the Australian Industry Group (AI Group)⁸ identified several sources of concern amongst manufacturers including:

- competition from low cost countries
- insufficient domestic market growth
- inability to secure skilled staff
- insufficient labour flexibility, and
- inability to keep pace with regulations.

The high Australian dollar over recent years has also been a bane to the manufacturing industry. Wyong's significant manufacturing base implies a direct vulnerability to these concerns, particularly the ability to remain globally competitive and secure skilled staff. The extent of these impacts may be lessened by local government policies and actions such as economic and enterprise development strategies and workforce development programs.

Remaining globally competitive

Increasing competition from China and other low wage economies, coupled with an increasingly strong Australian dollar, has heightened the need for manufacturing to develop new methods and different approaches to address the challenges it faces⁹. The cost of production in these emerging economies has not only made it harder for Australian businesses to raise or, in some cases, stabilise profit margins, but with limited difference in the quality of product it has made it harder to compete.

To maintain international competitiveness there needs to be a much stronger focus on the production of specialised products or 'niche' manufacturing in the Australian market. Some products place a premium on Just-in-Time (JIT) delivery or otherwise rapid response delivery to service breakdowns. This offers local manufacturers a competitive advantage particularly within the Australasian region covering Australia, New Zealand, and the Pacific Islands.

Major shifts would have to occur in the economy for the Australian manufacturing industry to reverse its decline. There are a number of inter-related issues here. First, domestic demand for manufactured goods is unlikely to increase given the current economic downturn. Equally, overseas demand is contracting. A reversal of this trend would require a significant adjustment of the relative value of the Australian dollar. Related to this, a carbon tax has the potential to make Australian manufactured goods relatively more expensive than their overseas counterparts. While rising oil prices may stimulate domestic demand of locally produced goods in the long term, in the short to medium term the rise in oil prices will not offset the other factors discussed.

⁸ Australian Industry Group (2006) Manufacturing Future: Achieving Global Fitness, April 2006

⁹ Australian Industry Group (2006) Manufacturing Future: Achieving Global Fitness, April 2006

3.3 Market issues

SGS conducted targeted consultation to explore issues affecting the Wyong industrial market including information on current trends, economic drivers, key employment industries and precincts that should be targeted for expansion, and an analysis of strengths, weaknesses, opportunities and threats (SWOT). The following stakeholders were consulted:

- NSW Department of Planning and Infrastructure
- NSW Department of Premier and Cabinet
- Central Coast Regional Development Corporation
- Industry and Investment NSW – Central Coast office
- Regional Development Australia Central Coast
- Central Coast Regional Development Corporation
- Wyong Chamber of Commerce
- major landowners and developers
- local industrial real estate agents, and
- business and developer interest groups.

The following themes emerged in regard to the Wyong industrial market.

The industrial market is experiencing slow demand...

Consultation with local industrial real estate agents, industry and business representatives indicated that there is relatively weak demand in the Wyong industrial market. No major businesses were showing interest in vacant land for sale and it was suggested that the weak demand was likely influenced by market factors, namely the 'carry-over of the GFC'.

A significant change in the types of industry seeking land was suggested as an important factor affecting industrial demand in Wyong. Manufacturing was indicated as waning in importance, with closed facilities not being replaced, and the technology sector was becoming an increasingly important driver. This represents a break from historical patterns of development, where heavier manufacturers were important drivers of demand.

Major economic drivers for Wyong are the residential construction industry, flat affordable land, location and transport infrastructure...

The major economic driver for industrial land in Wyong was the construction industry, which is driven by population growth. The construction industry, in particular residential construction, is a major employer and is perceived to have a strong multiplier effect for the take-up of industrial land in Wyong. This demand includes a range of supply chain contractors, including associated manufacturing and transport.

Land affordability and locational attributes (including proximity to Sydney and the nearby freeway and rail corridor) were also seen as major drivers for local industrial development. According to stakeholders, minor drivers for industrial development included the push from traditional centre-based activity, such as commercial offices, churches and other marginal uses, to locate in industrial areas due to cheaper land, larger lots and cheaper parking. The roll out of the NBN in Wyong was also seen as a potential driver, specifically in capitalising on IT related businesses and business park development.

The most appropriately targeted industries for future expansion in the Wyong Shire include freight and logistics, hi-tech and value add manufacturing and development that leverages the NBN...

There was wide agreement among business and government stakeholders for the types of industries that are most suitable to Wyong and should be targeted for future growth, including:

- Freight and logistics
- hi-tech and value-add manufacturing
- industries that take advantage of NBN
- business services
- home-based industries
- green services, and
- other non-industrial land based industries such as education, health, tourism, cultural activities.

Freight and logistics is seen as an important opportunity for Wyong, given its location between Sydney and Newcastle, and potential to service the NSW North Coast. High technology and higher order industry were seen as important drivers of employment for the local skilled workforce and increasing employment self-containment within the Shire. Information

Technology companies are seen as ideal occupants given the impending installation of the NBN. High lifestyle quality and housing affordability in the Central Coast are also seen as important attributes to attract workers. For similar reasons, strategically located business services, such as call centres, were also seen as an important industry for Wyong. Real estate agents confirmed that there is demand for business park developments in the Wyong Shire Council

'Cleaner' enterprise development that is compatible with residential compact living – either in the form of residential development within light industrial/business park estates or light industrial/business development in residential estates was also seen as an area for expansion.

The pre-conditions for the attraction and retention of industry are mainly affordable and serviced land...

Consultation identified a range of pre-conditions considered necessary in the attraction of industry in the Shire. Cheap land supply, a competitive pricing policy by Council on development, a forward supply of serviceable land, certainty and prioritisation of key infrastructure (sewers, roads and access) were seen as essential to attracting and retaining industry.

Key opportunities and threats relate to population growth, the residential construction sector, development contributions and infrastructure and the NBN rollout...

Key opportunities for Wyong related to the distribution of the NBN, a growing population and associated residential development, including telecommuting. Conversely, high development contributions and infrastructure costs, and weak population growth were seen as the main threats to industrial land development.

Opportunities for future development included measures to increase housing growth, the emergence of high technology enterprises, and greater opportunities for telecommuting. Main threats included the overly sporadic distribution of future land release (which was cited as compromising the ability to generate a critical mass to attract ongoing infrastructure development) and that high infrastructure costs and charges would make it less competitive with other locations in the Hunter region. Stakeholders held diverse, but mutually reinforcing views on the requirements for growth in the industrial lands sector, including:

- Supporting office only development, recognising that the NBN may drive 'big city' companies to relocate operations to the Coast (however, there is a short window on this opportunity, and office-only developments would still need to be located in relatively central areas).
- Recognising and responding to opportunities for smaller operators to enter the market, such as home-based businesses (including enticements for this type of development).
- The release of additional residential land, supported by reasonable/affordable levies on the development.
- By extension, more reasonable development levies for the development of industrial land (it was suggested by business stakeholders that infrastructure provision was a key issue in the cost).
- Reputation management of the Shire as an attractive place for investment (relative to other locations).

3.4 Policy context

This task summarises the relevant policy context to the Wyong LGA. State, regional and local policies were reviewed and their relevant employment targets and strategic land use policy is outlined below.

Employment targets

The Central Coast Regional Strategy (CCRS) indicates that there is expected to be an additional 5,000 jobs in existing employment lands and 10,500 additional jobs in the North Wyong Shire Structure Plan Area¹⁰. The Wyong Employment Zone (WEZ) is itself expected to generate 6,000 jobs.

A key issue, identified by the CCRS, over the next 25 years is to increase the current level of employment self-containment to ensure more local jobs for the local population. A specific self-containment target was not provided in the CCRS.

In terms of employment lands job densities, the NSW Department of Planning and Infrastructure's (DoP & I) *Employment Lands Development Program* (ELDP) indicates that the Central Coast has the lowest estimated job density out of all of the Sydney Greater Metropolitan Region at 23 jobs per hectare.

The North Wyong Shire Structure Plan identifies capacity for between 12,150 and 17,100 new jobs including 6,000 in the WEZ, 1,200 in the Warnervale Town Center¹¹ and between 4,950 and 9,900 elsewhere in the study area. The Structure Plan

¹⁰ NSW DoP & I (2008), Central Coast Regional Strategy, p. 11.

also anticipates an average employment density between 10 and 20 jobs per hectare for the planned employment precincts¹².

Strategic land use policy

The ELDP estimates that the Central Coast Region has by far the lowest proportion of developed employment lands out of the Sydney Region with 43 percent of employment lands developed.

The *Metropolitan Plan for Sydney 2036* highlights a number of key actions for employment land development including strengthening clusters of activity, particularly for high growth and high value sectors, and supporting the emergence of new clusters and strengthening freight and logistics industry clusters.¹³

The 2010 *Metropolitan Plan for Sydney* has moved away from the categorisation of strategic industrial sites that was conducted in the previous 2005 *Metropolitan Strategy - City of Cities: A Plan for Sydney's Future* and associated subregional strategies. The *Metropolitan Plan for Sydney 2036* indicates that this past practice restricted the ability of precincts to 'adjust to changing economic conditions, new technologies or infrastructure provision'.¹⁴ Hence the potential to increase overall employment within precincts was reduced.

The Central Coast Regional Strategy is the key regional level planning strategy for the Central Coast. The strategy was developed under the auspices of the original Metropolitan Strategy, and it identifies a number of lands to be retained for industrial purposes including Charmhaven, Bushells Ridge, WEZ, Bruce Crescent, Hakone Employment Corridor, Tuggerah Straight, Tuggerah Business Park, North Wyong and Berkeley Vale. However, as the Metro Plan indicates, this strategic categorisation is not dynamic or responsive and would not be a sufficient justification – in and of itself – to prevent the rezoning of an industrial site. The strategy identifies a number of economic and employment opportunities for the region which include:

- Attractive industrial land prices and proximity to Sydney and Newcastle, especially for Sydney-based manufacturing and logistics businesses.
- Significant retail growth, based on population growth, will create a need for more specialty shops, bulky goods outlets and department stores.
- Development of business parks which provide good building design and layout and an emphasis on light industrial and value-adding industries and integration of industrial, warehousing and office activities. Significant opportunities also exist to expand technology-based jobs in the region.

The rationale for rezoning and planning for industrially zoned land has been developed further with the establishment of principles documented in the DoP & I's *Stakeholder Consultation Paper - Implementing the Metropolitan Plan - Planning Principles for Industrial Lands*. This paper contains the following principles:

- Principle 1: Maintain an adequate supply of appropriately located and serviced Industrial Lands for current and future demand and to maintain competitive pressures in the market
- Principle 2: Ensure planning for new Industrial Lands meets the long-term needs of industry growth and growth management directions of the city
- Principle 3: Retain strategically important Industrial Lands and support renewal of existing Industrial Lands to meet the changing needs of industry
- Principle 4: Provide capacity to enable the development of specialised industry clusters
- Principle 5: Plan for and maximise use of infrastructure to encourage sustainable development of Industrial Lands¹⁵

Table 6 displays a Strategic Assessment Checklist that elaborates on the above principles and provides further guidance on whether land should be rezoned from industrial.

¹¹ NSW DoP & I (2010), North Wyong Shire Structure Plan, pg. 13.

¹² NSW DoP & I (2010), North Wyong Shire Structure Plan, pg. 16.

¹³ NSW DoP & I (2010), The Metropolitan Plan for Sydney 2036.

¹⁴ NSW DoP & I (2010), The Metropolitan Plan for Sydney 2036, p.141.

¹⁵ NSW DoP & I (2011), 'Stakeholder Consultation Paper - Implementing the Metropolitan Plan - Planning Principles for Industrial Lands', pg. 5.

TABLE 6. ATTRIBUTES FOR ASSESSING THE STRATEGIC IMPORTANCE OF INDUSTRIAL LANDS

Considerations for rezoning to non-industrial use	Attributes
Primary	<ul style="list-style-type: none"> Identified as having strategic significance in an endorsed higher level planning strategy Supports existing enterprise(s) Contiguous to other industrial activities Well located to contribute to an existing or emerging industry cluster Current or potential activity forms part of a supply chain or located close to next stage industries (e.g. areas producing goods to retail or distribution centres) Well located in relation to freight hubs (such as intermodal terminals, ports, airports) and other important road and/or rail networks Well located to take advantage of existing or proposed public transport Well located to service an existing or growing population Has an export focus and/or generates multiplier effects in terms of jobs/economic activity Contributes significantly to the amount of industrial land supply in LGA subregion/region Provides, or has potential for, small industrial businesses serving the local area Currently or planned to be serviced by adequate power and water supplies Well located in relation to relevant labour pools /match local populations to local jobs Located close to planned or existing economic infrastructure, such as a major hospital or TAFE/University and may provide space for associated industries Located close to or potential to support the economic role of a nearby Strategic Centre
Secondary	<ul style="list-style-type: none"> Under single ownership or offers significantly large site for low density employment uses Has potential for on-site expansion of existing businesses Offers potential to be redeveloped for modern industrial uses Contains significant Government land holdings Unconstrained vehicle access and exit Sufficient space for adequate parking and turning space for industrial vehicles Buffered from surrounding residential development Offers potential for 24-hour operations Located away from other uses to cater for dust sensitive and potentially toxic or hazardous industries (e.g. nanotechnology plants or chemical industries) Constrained by environmental factors such as ANEF, flood prone, heritage/conservation, contamination, flooding which make other uses undesirable

Source: NSW DoP&I, 2011.

Further to these criteria the CCRS identifies a number of guiding principles that relate to employment lands in the Region as follows:

- Where feasible, existing zoned employment land should be utilised before new employment lands are developed. However the land must be suitably located for the proposed employment activity.
- Opportunities for expansion of existing nodes for employment purposes where they are approaching full development should be investigated.¹⁶

The Central Coast Regional Economic Development and Employment Study (REDES) includes a number of directions on planning for employment lands. It notes that a major element to support future growth will be employment lands that:

- keep pace with the overall future demand for space
- provide the type of land/space to accommodate new industries in the area
- reflect the future requirements in terms of industries, technologies and future work organisation, and
- allow for some specialisation and agglomeration of clusters.¹⁷

Strategic planning directives for particular types of uses

Business parks

The *Metropolitan Plan for Sydney 2036* indicates in Action E2.3 that a strategic planning framework is required to identify suitable business park sites. It offers the following criteria for business park locations:

¹⁶ NSW DoP & I (2008), Central Coast Regional Strategy, pg.59 .

¹⁷ Buchan Consulting (2009), Central Coast Regional Economic Development and Employment Study, pg. 15.

- Access to public transport corridors (preferably rail)
- Links to freight corridors and major transport nodes
- Land area (50 –180 hectares) to allow expansion to accommodate 8,000–40,000 employees
- Proximity to workforce (within 30 minutes commute)
- Business parks should have a relationship to adjoining economic infrastructure e.g. hospitals, universities, educational facilities, research institutes or clusters of knowledge-based activity¹⁸

The CCRS also offers a number of strategic planning directives for business parks. The importance of transport corridors is also raised, although public transport is not explicitly mentioned given that public transport provision is not as widespread or frequently available as in metropolitan Sydney. The CCRS is more prohibitive of the proportion of office floorspace allowable for each use. The CCRS criteria are as follows:

- Prohibition of office-only activities in out-of-centre locations.
- Set a maximum percentage of office floor space within an out-of-centre commercial complex where office floor space is integrated with activities such as manufacturing and distribution.
- Ensure that business parks are strategically located near major transport corridors¹⁹.

Leyshon Consulting was commissioned to provide advice to Council regarding the matter of whether permitting office uses outside of existing activity centres might attract investment away from these centres and hence diminish their viability. They indicated that small offices had relocated to Tuggerah Business Park from existing centres. Therefore, they recommended that a minimum floor area should be no less than 200 square metres and that 500 square metres was a reasonable benchmark.

Other land uses

The CCRS also recommended that bulky good retailing should not be located on industrial land, and instead should be located in centres and nominated nodes.

The *Retail Centres Review* undertaken by Don Fox Planning indicated that there are two areas flagged for expansion of bulky goods floorspace in the LGA. An additional 46,000 square metres is envisaged as a part of the Tuggerah Town Centre. An additional 8,000 square metres of bulky goods floorspace has been mooted for the Lake Haven Mega Centre development, with the potential for a further 15,000 square metres to be developed by 2031. The Don Fox Planning report indicates, however, that 'if both the Tuggerah and Lake Haven proposals occur concurrently there will be a significant over supply of bulky goods floorspace within Wyong'²⁰.

The CCRS also indicates that Enterprise Corridors should be investigated and that possibilities include West Gosford and Long Jetty. The Don Fox Planning report recommends that the southern part of the Long Jetty local centre be zoned B6 – Enterprise Corridor in recognition of its service industrial focus.

The CCRS suggests that Councils should ensure sufficiently zoned land to ensure supply pressures enable the provision of comparatively low cost premises for start-up business.

In terms of recommending suitable future land uses, the REDES suggests that the appropriate uses should build on current advantages, create new advantages and attract larger service organisations:

- Building on Current Advantages: build on the current industries that are driven by location advantages of the Central Coast including a logistics and food cluster, manufacturing and tourism cluster
- Creating New Advantages – Knowledge Based: creating new areas of advantage in knowledge based activities including health research, green industries and an ageing cluster
- Large Service Organisations: continue to attract large business services and government agencies into the region²¹.

In particular the REDES indicated that the following uses should be considered as a priority:

- **Logistics cluster:** distribution centres, intermodal hubs, warehousing and storage, and road transport services, education and training

¹⁸ NSW DoP & I (2008), *The Metropolitan Plan for Sydney 2036*, pg. 137.

¹⁹ NSW DoP & I (2008), *Central Coast Regional Strategy*, pg. 61.

²⁰ Don Fox Planning (2012), *Retail Centres Review*, pg. 67.

²¹ Buchan Consulting (2009), *Central Coast Regional Economic Development and Employment Study*, pg. 18.

- **Food cluster:** manufacturing, packaging, refrigeration, distribution, maintenance services, research and development
- **Health cluster:** health research centres, health education centre, health precinct
- **Green industries cluster:** environmental R&D, water management, sustainable energy, architecture, urban planning
- **Business services:** call centres, back office functions, support centres
- **Government:** government agencies – regional headquarters, administrative offices, regional service centres
- **Manufacturing cluster:** building materials, modular components, products, green building products, and engineering
- **Tourism cluster:** (short stays, conferences, eco-tourism and events) accommodation, hospitality, cultural services, retail
- **Ageing cluster:** expanded provision of aged services, research centre on ageing issues, including health, lifestyle, education, aged care.²²

3.5 Comparable Employment Land

This section of the report identifies industrial precincts in neighbouring LGAs that may compete with those in Wyong LGA. An assessment of the attributes of zoned industrial areas – including industrial profile, access, location, size and vacancy – in the Wyong, Lake Macquarie and Gosford LGAs has been conducted to determine which precincts would be the most comparable.

The location of each employment precinct relative to existing development (isolated, fringe or urban), existing arterial roads and freeways and rail transport is documented. The area of each precinct, the dominant land use/s and the amount of vacant land are also noted. For employment precincts in neighbouring LGAs, an assessment of their distance to the Wyong LGA was conducted by providing an estimate of the travel time in minutes needed to access the nearest precincts in the Wyong LGA.

Table 7 depicts the summary of the assessment. This information will be used to inform any fine-tuning of the employment floor space demand estimates in the next stage of this project. From the Lake Macquarie LGA only the Morriset industrial area is potentially comparable to selected industrial precincts in the north of Wyong. Comparable industrial lands to the south of Wyong from the Gosford LGA include Lisarow, West Gosford and Somersby. Those industrial precincts that do not share a similar industrial profile (i.e. manufacturing) or that do not have capacity have been discounted in our analysis. A more detailed comparable land assessment can be found in Appendix 2 – comparable land assessment.

Consultation with real estate agents suggested that the Lake Macquarie and Gosford LGAs do not strongly compete with Wyong LGA for industrial land, with investors operating in different geographic markets. However, the identified industrial precincts may compete with Wyong in the long term.

²² Buchan Consulting (2009), Central Coast Regional Economic Development and Employment Study, pg. 19.

TABLE 7. COMPARABLE EMPLOYMENT LAND ASSESSMENT

Location	Designation/dominant land use	Size	Vacant Land (Ha)	Location	Major road infrastructure	Freeway	Rail Transport	Proximate to Wyong LGA (30 min drive)	Comparability
Lake Macquarie LGA									
Barnsley Industrial	Manufacturing	9.2	0.0	Fringe	No	No	No	43	Not comparable
Belmont North	Local level services	11.2	0.0	Urban	Yes	No	No	35	Not comparable
Bennetts Green Industrial	Retail trade	66.6	12.6	Fringe	Yes	No	No	40	comparable
Bodiaroo Industrial	Retail trade	18	9.7	Urban	No	No	No	46	Not comparable
Cameron Park Industrial	Manufacturing	46.2	4.5	Fringe	Yes	Yes	No	36	Not comparable
Cardiff Industrial	Manufacturing	111.5	3.3	Urban	No	No	Yes	46	Not comparable
Carey Bay Industrial	Other services and wholesale trade	3.1	1.6	Urban	No	No	No	39	Not comparable
Cooranbong Industrial	Other services and wholesale trade	2.9	0.0	Urban	No	No	No	23	Not comparable
Edgeworth Industrial	Manufacturing	10	1.9	Urban	Yes	No	No	43	Not comparable
Gateshead Industrial	Manufacturing and other services	56.4	3.6	Urban	Yes	No	No	40	Not comparable
Glendale Industrial	Retail Trade	7.9	0.0	Urban	No	No	No	44	Not comparable
Monsiet Industrial	Retail Trade	79.5	32.3	Urban	No	No	Yes	19	Comparable
Rathmines Industrial	Manufacturing	24.9	13.0	Urban	No	No	No	35	Not comparable
Redhead Industrial	Manufacturing	27.2	11.3	Fringe	No	No	No	41	Not comparable
Swansea	Local level services/light manufacturing	4.9	0.5	Urban	Yes	No	No	24	Not comparable
Teralba (Pitc and Park) Industrial	Construction	24	0.0	Urban	No	No	No	42	Not comparable
Teralba Industrial	Wholesale Trade	20.2	0.0	Urban	No	No	Yes	42	Not comparable
Toronto Industrial	Retail Trade	3.9	0.2	Urban	No	No	No	36	Not comparable
Toronto West Industrial	Manufacturing	35.2	0.3	Fringe	No	No	No	35	Not comparable
Warners Bay (Hillsborough)	Retail trade	41.4	0.2	Urban	No	No	No	44	Not comparable

Rd] Industrial	Rental, Hiring and Real Estate Services	11.2	9.2	Urban	Yes	No	No	40	comparable Not comparable
West Wallsend Industrial									
Gosford LGA	Heavy and light Manufacturing and Freight and Logistics	285.1	146.3	Isolated	Yes	Yes	No	9	Comparable
Somersby	Retail Mainstreet, bulky goods	10.6	0.5	Urban	Yes	No	No	21	Not comparable
Erina	Local Light Industrial	66.5	11.5	Fringe	Yes	No	Yes	5	Comparable
Lisarow	Retail bulky goods, Local Light	129.5	21.0	Fringe	Yes	No	No	17	Comparable
West Gosford	Retail trade	12.4	1.0	Urban	Yes	No	Yes	11	Not comparable
Gosford (north)									
Wyoming	Local Light	18.8	2.2	Urban	Yes	No	No	11	Not comparable
Kincumber	Local Light	9.2	0.4	Urban	No	No	No	26	Not comparable
Woy Woy	Retail Trade	42.3	21.0	Urban	No	No	Yes	26	Not comparable

Source: GRD & AEC, 2011; SGS 2011.

Overall, it was found that the total amount of zoned industrial land in key industrial precincts in the Gosford LGA (based on the Central Coast Employment Lands Study) was 373 hectares for major industrial sites, with 82 percent (305 Ha) of this being occupied. For Lake Macquarie, another direct competitor, the total amount of zoned industrial land in key industrial precincts (based on research SGS completed in 2010) was 615 hectares for major industrial sites, with 83 percent (511 Ha) of this being occupied. The figures for industrial land from the CCELS were derived from DoP & I statistics. For Lake Macquarie the data for industrial land was based on the *Lake Macquarie Industrial Land Study 2007* and our own research.

3.6 Trends affecting local employment land prospects

There are significant economic trends affecting industries in the Central Coast Subregion and Sydney Greater Metropolitan Area (GMA). Most prominently, globalisation has affected the once strong manufacturing base in the Central Coast Subregion and increased the need for transport and storage.

The availability of well-located, competitively priced and appropriately serviced employment land will play a critical role in supporting the growth of the Wyong economy and employment prospects for the local workforce. In pursuing short and long term opportunities Wyong Council needs to confront three challenges. Firstly, a major planning challenge is to ensure close alignment between demand and supply of employment land in the short and long term. If demand for particular type of prospective and preferred industries can't be met, then investors will look elsewhere, resulting in an economic loss to the area. If, on the other hand, private land owners or Wyong Council, which owns substantial amounts of employment land, invests in local infrastructure well ahead of demand, then the costs and risks are likely to be severe. Secondly, demand tends to fluctuate widely from year to year. Exogenous influences such as the global financial crisis, interest rates and exchange rates movements can result in acceleration, deferral or cancellation of projects. For planning purposes, it is important to focus on the underlying economics of employment lands development, usually associated with long term macroeconomic and local economic growth rates, structural industry change and competitiveness, infrastructure networks and local socio-demographic trends. Thirdly, the coordination of planning, infrastructure coordination, delivery and development is difficult given the time frames associated with detailed planning, the different time frames and priorities of utility providers, investor and user interest.

In looking at short term opportunities, it is important to emphasise the importance of employment lands in Wyong's current phase of development. Between 2001 and 2006, the number of jobs in Wyong's employment lands increased by 1,800, in linear terms by 360 jobs per year or 21% of all direct jobs in Wyong over this period. The short drivers of industry opportunities for employment lands will continue under almost scenarios.

- In particular **local population growth** results in continuous spinoffs to light industrial activities including building suppliers and components, car repairs and small manufacturers such as metals and engineering, wood products and building materials (eg Cement, bricks).
- Further, the Central Coast is **attaining critical mass in terms of growing networks of firms and increasing integration into the Greater metropolitan region**, linking Sydney with the high growth Lower Hunter. Improvements in infrastructure over the 20 years, particularly continuous upgrading of the F3 Sydney to Newcastle Freeway has induced more freight intensive companies in freight and logistics to consider Wyong as a location.
- Importantly, **new waves of infrastructure investment** will create both short term and long term opportunities, including the roll-out of the National Broadband Network (NBN) and increased rail freight capacity on the Sydney-Newcastle rail line. The NBN's fibre optic network is scheduled to commence roll-out in Wyong in mid-2015 and completion is scheduled for mid-2016. The NBN is likely to accelerate the benefits of decentralised industry location, particularly if enterprises upgrade internal IT networks and skills to enable them to expand business-to-business transactions, more actively engage in knowledge exchange and out-source complex and data-intensive specifications more easily. NBN is a necessary but insufficient condition to expand business opportunities in Wyong's employment lands. Local economic development initiatives are required to expand and attract data and knowledge-intensive activities that can make use of the "global" economic benefits of high speed broadband. Of relevance to Wyong, RDA Hunter and RDA Central Coast and local councils are working on a project to expand employment and training opportunities and business engagement to promote the benefits to industry competitiveness associated with the digital economy. This presents an important opportunity to increase investment in employment lands, particularly through targeting investors reliant on distribution advantages including foods, freight and warehousing, and integrated businesses that bring together office, advanced manufacturing and distribution activities (normally found in business parks).

- Government policy and increasingly market forces, including congestion and climate change policies and upward pressure on energy prices, is prompting a **greater modal shift in focus from road to rail freight**. This may present an increase in opportunities for well-located Wyong employment lands, particularly with growing potential for container terminals in Newcastle to take pressure off Port Botany. The Australian and NSW governments are working together to increase the number of freight trains operating along the Sydney-Newcastle rail corridor from 29 per day to 44 and boost overall freight capacity by 50 percent. The plan entails a significant upgrade of the corridor between North Strathfield and Newcastle, including a freight underpass in North Strathfield, a new freight track between Epping and Pennant Hills and two passing loops at Gosford.

According to consultation with business and government stakeholders, the industrial market is currently experiencing slow demand and the major economic reasons for this are the residential construction industry, flat affordable land, location and transport infrastructure. It should be noted that these sentiments follow the GFC from which recovery has been slow. The most appropriately targeted industries for future expansion in the Wyong Shire are flagged as freight and logistics, hi-tech and value add manufacturing and development that leverages the NBN. Opportunities to the industrial land market relate to population growth, the residential construction sector, enhanced connections from infrastructure investment (including F3 and freight rail corridor improvements) and the NBN rollout. Threats come from a lack of coordinated planning and infrastructure cost provision pressures.

In terms of strategic land use policy, the state and regional planning framework designate principles for industrial lands, business parks, bulky good retail and for rezoning industrial land to other uses. The type of industries targeted for the Central Coast and Wyong – and relating to industrial lands – include logistics and food cluster, manufacturing, health research, green industries and large business services.

Comparable industrial land was identified as Morisset industrial area from the Lake Macquarie LGA and Lisarow, West Gosford and Somersby from the Gosford LGA.

4 CAPACITY AND DEMAND ANALYSIS

4.1 Floorspace capacity and demand

The analysis in this section relies on abstract models and a range of reasonable assumptions. Changes to general economic conditions and/or future investor, council or government decisions could quickly undermine the assumptions made and thereby impact on the development of employment lands in ways not anticipated by the analysis.

Capacity assessment

The assessment of the supply of employment lands in Wyong LGA was informed by the land audit and constraints analysis. The constraints analysis examined the extent to which each precinct is constrained by environmental constraints such as flood, bush fire, mine subsidence, closed landfill, bio-diversity and contamination (an analysis of infrastructure constraints informed the rating of precincts from a demand perspective and is utilised later in the demand allocation section). Essentially, there are three types of land available: vacant unused floorspace, constrained vacant (un-developed) land and unconstrained (un-developed) land. For the supply-side analysis **only vacant unconstrained lots** in industrial precincts (existing and potential) is considered. For the purposes of this analysis, lots with a constraint score less than (or equal) to negative four (where more negative implies more constrained) are deemed environmentally constrained. This reflects the fact that lots that are constrained more than the median constraint level (of -4) are less likely to enter future supply. However, this is a conservative assumption and means that there will be a systematic under estimation of supply potential (though this is reasonable in the context of this planning study).

Based on each precinct's overall constraint-score²³, two types of Floorspace Ratios (FSR) are applied to vacant unconstrained land to establish development potential or capacity.

- If a precinct's overall constraint-score is less than -3, then its current actual FSR is applied.
- If a precinct's overall constraint-score is higher than or equal to -3, then its current actual FSR increased by 50 percent is applied.

This rule embodies the fact that less constrained industrial precincts (as captured by the overall score) are likely to accommodate greater floorspace due to low relative cost of land preparation. The only exception to this rule is Tuggerah Straight where its current actual FSR increased by 75 percent is applied. This is because it is strategically located between Wyong and Tuggerah Centres. Moreover, where there is no current floorspace in the precinct, the LGA average is used. The adjusted FSR is applied to the unconstrained land (lots with a score above -4) to derive the floorspace capacity in each precinct. Note that the four potential precincts: Darkinjung, Bushells Ridge North East, Hunter Land, and Wallarah No. 2 Coal Site are all part of the Bushells Ridge site. As such, 'Bushells Ridge – Remainder' is the remaining area within the Bushells Ridge area. This implies that the 'Remainder' (in addition to areas not captured by the four potential precincts) captures a large area of Bushells Ridge South.

²³ The overall constraints ranking for the precinct is based on the lot level assessment of the constraint dimensions (flood, bush fire, mine subsidence, closed landfill, bio-diversity and contamination) and ranges from 0 to negative 8. Where 0 is least constrained and negative 8 is the most constrained. The overall precinct constraint scores are based on each lot's constraint score and its lot area. In other words, the overall constraint score for the precinct is the weighted average constraint score based on the lots in the precinct.

TABLE 8. FLOORSACE CAPACITY BY PRECINCT

	Current FSR (or LGA average)	Unconstrained land (sqm)	Overall constraint score	FSR applied	Floorspace Capacity (sqm)
Existing precincts					
Bateau Bay Industrial	0.18	4,794	-4.00	0.18	887
Berkeley Vale Industrial	0.23	87,095	-1.29	0.35	30,664
Bushells Ridge - remainder	0.18	476,874	-0.95	0.28	132,320
Charmhaven Industrial	0.16	7,867	-0.98	0.24	1,850
Doyalson Industrial	0.13	44,180	-2.03	0.19	8,561
Fountaindale Industrial	0.38	5,100	-2.24	0.56	2,874
Gwandalan Industrial	0.07	9,943	-1.63	0.11	1,095
North Wyong Industrial	0.22	306,889	-1.21	0.33	100,068
Long Jetty Industrial Area	0.21	0	0.00	0.32	0
Ourimbah Industrial	0.09	44,102	-2.62	0.14	6,150
Tuggerah Business Park	0.48	114,419	-0.71	0.72	82,659
Tuggerah Station Industrial	0.17	116,963	-3.30	0.17	19,667
Tuggerah Straight	0.21	39,172	-3.24	0.37	14,303
Tumbi Gardens Industrial	0.37	697	-1.00	0.55	383
WEZ Airport Lands	0.18	401,287	-1.27	0.28	111,346
WEZ North West	0.18	771,100	-1.22	0.28	213,960
WEZ Sparks Road North	0.16	1,396,590	-1.03	0.24	339,588
WEZ Warnervale Business Park	0.45	82,895	-0.62	0.67	55,805
Total existing precincts		3,909,969			1,122,178
Potential precincts					
Buttongerry WDF	0.18	1,122,688	-3.47	0.18	207,677
Craigie Avenue	0.18	40,730	-0.87	0.28	11,301
Darkinjung*	0.18	309,688	-1.06	0.28	85,930
Hunter Land*	0.18	0	-2.79	0.28	0
NWSSP Bushells Ridge North East*	0.18	152,528	-1.19	0.28	42,323
NWSSP Darkinjung South	0.18	433,650	-2.00	0.28	120,326
NWSSP Doyalson East	0.18	331,174	-2.58	0.28	91,892
NWSSP Doyalson North East	0.18	356,180	-3.14	0.18	65,887
NWSSP Doyalson South West	0.18	533,442	-2.19	0.28	148,016
NWSSP Doyalson West	0.18	316,197	-1.73	0.28	87,736
NWSSP Hue Hue Road	0.18	382,540	-1.66	0.28	106,145
NWSSP Lake Munmorah	0.18	1,093,324	-2.20	0.28	303,368
NWSSP Warnervale North East	0.18	505,154	-2.35	0.28	140,167
NWSSP Warnervale North West	0.18	712,950	-1.86	0.28	197,824
NWSSP Warnervale South West	0.18	321,547	-2.00	0.28	89,221
Possible Area Jilliby West	0.18	1,839,922	-2.73	0.28	510,529
Wallarah No.2 Coal Site*	0.18	1,866,015	-1.93	0.28	517,769
Total potential precincts		10,317,729			2,726,111
Total LGA		14,227,698			3,848,289

Source: SGS, 2012, note that * indicates that the precinct already has an industrial zoning but no current development.

Demand assessment

Following are the key steps involved in projecting the demand for employment lands at precinct level:

- Step 1: Bureau of Transport Statistics (BTS) employment forecasts by ANZSIC industry at a Travel Zone (TZ) spatial level are aggregated to line-up with industrial precincts in Wyong LGA²⁴.
- Step 2: The BTS employment projections are adjusted (upward) to account for the Central Coast Regional Strategy (CCRS) employment target.
- Step 3: Projected ANZSIC jobs are converted to Broad Land use Category (BLC) jobs at a precinct level using an ANZSIC-BLC concordance matrix (see Appendix 3 – modelling) based on LGA-wide data collected from the land audit. See Table 9 for a description of the BLCs used.
- Step 4: Having converted the BTS ANZSIC jobs to BLC jobs, the growth rates of BLC jobs by precinct are calculated.
- Step 5: These BLC growth rates are applied to current BLC floorspace in each precinct obtained from the audit.

TABLE 9. BROAD LAND USE CATEGORIES (BLC)

Land Use Category	Description
Freight and Logistics (FL)	Warehousing and distribution activities. Includes buildings with a number of docking facilities; 'hard stand' areas with trucks or goods awaiting distribution; and large storage facilities. Warehousing and distribution is a metro level issue with activities preferably locating close to air, sea and inter-modal inland ports, or with access to the motorway system.
Local light industrial and urban support (LL)	Car service and repair; joinery, construction and building supplies; and domestic storage. Wide range of businesses that service other business (components, maintenance and support) and Subregional populations. Needed at local (LGA) to Subregional level.
Manufacturing – Heavy (MH)	Large scale production activity. Likely to be characterised by high noise emission; emission stacks; use of heavy machinery; and frequency of large trucks. Heavy manufacturing is in decline in Sydney, but will continue to cluster in some locations such as Wetherill Park, Campbelltown/ Ingleburn etc. There are strong arguments for collocation in terms of raw material delivery and to concentrate externalities (though impacts on surrounding uses are generally moderate).
Manufacturing – Light (ML)	Clothing manufacturing, boat building and electrical equipment manufacturing (Small scale production), with lower noise and emission levels than heavy manufacturing.
Urban Services (US)	Concrete batching, waste recycling and transfer, construction and local and state government depots, sewerage, water supply, electricity construction yards. These typically have noise dust and traffic implications and need to be isolated or buffered from other land uses. Needed in each sub-region.
Office (O)	Administration, clerical, business services, research. Office buildings that are independent (i.e., are not ancillary to another use on site) and likely to accommodate a significant number of administration staff (>10 people).
Business / Office Parks (BP)	Integrated warehouse, storage, R&D, 'back-room' management and administration with typically a higher office component.
Retail - Main Street (RM)	Retailing services traditionally found in main street locations (e.g., supermarkets) and small cluster or strips of stores located next to a street or road.
Retail – Big Box (RB)	Large shopping complexes, including Westfield.
Retail Bulky Goods (RBG)	Typically large, one-story buildings surrounded by car-parking, usually located out of centre and in high exposure (main road) locations.
Special Activities (S)	Tertiary level education, health, and community services. Typically require strategic locations and needed in each sub-region.
Dispersed Activities (D)	Primary and secondary education, lower level health, social and community services, trades construction, other 'nomads'.
Residential (RES)	Residential development.
Accommodation (Short Term) (AST)	Hotels and Motels (not including pubs), backpacker establishments.
Car park (CP)	Stand-alone car parking stations
Vacant sites/lots (VSI)	Vacant sites
Vacant buildings (VBL)	Vacant buildings

Source: SGS Economics and Planning, 2012.

²⁴ Some TZs overlap two pre-defined precincts. Where this occurs, the BTS growth rates are treated as common to both.

This approach utilises a few key assumptions, as outlined below.

- Since employment growth rates are applied to floorspace a proportional relationship between employment and floorspace is assumed. For instance, where employment increases by 10 percent, floorspace is assumed to increase by 10 percent. This implies Constant Returns to Scale (CRS).
- It is assumed that the CRS relationship between employment and floorspace holds over time.
- Since employment growth rates are applied to **current** floorspace, it is assumed that the BLC profile of a precinct would not greatly change over the next 25 years.
- Since an LGA-wide ANZSIC-BLC conversion matrix is used, the translation of jobs at the precinct level reflects the broader ANZSIC-BLC relationship observed in the LGA.
- Since current floorspace supply is used as the starting point for the demand projections, it is assumed that the current employment land market is in equilibrium. That is, supply and demand are currently equal.
- Precincts with existing development are assumed to fill earlier than those adjacent which have no development even if there is little to distinguish them from a constraints or attributes perspective²⁵.

Moreover, even though the BTS projects 22,629 additional jobs between 2011 and 2036 across the LGA, it is assumed that through various policy measures outlined in the Central Coast Regional Strategy (CCRS), there would instead be 27,000 additional jobs by 2036²⁶ in line with the documented target. As noted in the strategy, this target is likely to be achieved through higher self-containment by creating more jobs in the LGA²⁷. It is assumed that the employment profile remains unchanged as a wide range of industries would need to be impacted to achieve the policy target. The demand-side analysis discussed throughout this study incorporates the CCRS jobs target. To ensure an adequate supply of future employment land, the demand side forecast is intended to be optimistic, while estimates of future floorspace capacity are conservative.

Table 10 shows the CCRS incorporated BTS employment projections by precinct. Note that Tuggerah Business Park/Station Industrial is treated as one precinct since some TZs overlap the two precincts (though separate recommendations are ultimately provided for each precinct). Moreover, the precincts in this table are defined by TZ and are not likely to perfectly align with the precinct boundaries used in the capacity analysis. This is not an issue since only the rate of growth in employment is used to derive the growth in floorspace. This implies that projected employment growth in adjacent TZs is likely to influence floorspace demand growth in the pre-defined precinct area²⁸.

Based on the distribution of employment projected by the BTS, the majority of future employment is expected to occur outside the TZ-defined precincts (for example in centres and commercial areas). The majority of in-precinct employment is expected to occur in Berkeley Vale Industrial and WEZ Warnervale Business Park precincts.

The 2012 floorspace data is used as the 2011 starting point for the projections. The augmented policy adjusted employment growth rates (step 5) are applied to current floorspace to derive five-yearly floorspace projections from 2011 to 2036. Table 11 summarises the total demand for floorspace in each precinct over the next 25 years. Overall, all precincts are expected to experience growth in floorspace demand and it is projected that the LGA will require **694,821 square metres** of floorspace over the next 25 years. The last two columns highlight the top three precincts in 2011 and 2036 respectively. WEZ Warnervale Business Park, which did not feature in the top three in 2011, is expected to make up 12 percent of floorspace in 2036. This highlights how the WEZ precinct, in general, will improve in importance over time (notwithstanding significant infrastructure constraints).

²⁵ For example, Bushells Ridge is largely undeveloped except for a concrete batching plant in the precinct described as 'Bushells Ridge remainder'. Using the assumptions here this precinct will develop sooner than surrounding precincts such as the Hunter Land precinct, also in the Bushells Ridge area. Similarly in WEZ precincts such as Sparks Road and Warnervale Business Park with modest current development are assumed to develop earlier than the other precincts though in reality the development might be shared across other WEZ precincts.

²⁶ Note that the Strategy specifies a target of 27,000 additional jobs between 2006 and 2031. Assuming a similar rate of average growth (5,400 per annum), this implies 32,400 between 2006 and 2036. The implied job target for the period 2011 to 2036 is therefore 27,000.

²⁷ This assumes that the rate of employment leakage remains unchanged.

²⁸ Note that the TZ-defined boundaries used in this table are not less than the area of the pre-defined precinct boundaries used in the rest of the report. That is, while the precincts may include adjacent TZs (where job growth would have an influence on the pre-define precinct), they don't preclude the pre-defined precinct areas used in this study.

TABLE 10. EMPLOYMENT PROJECTIONS BY PRECINCT WITH EXISTING DEVELOPMENT: POLICY ADJUSTED BASELINE

	2011	2016	2021	2026	2031	2036	Change in demand 2011 - 2036	CAGR in demand 2011 - 2036	Profile in 2011	Profile in 2036
Bateau Bay Industrial	332	349	368	387	406	426	94	1.0%	1%	1%
Berkeley Vale Industrial	6,790	7,603	8,435	9,239	10,026	10,856	4,066	1.9%	14%	14%
Charmhaven Industrial	1,781	1,852	1,953	2,056	2,157	2,271	490	1.0%	4%	3%
Doyalson Industrial	1,072	1,135	1,220	1,311	1,405	1,506	434	1.4%	2%	2%
Fountaindale Industrial	712	733	766	801	836	875	163	0.8%	1%	1%
Gwandalan	85	91	98	105	112	119	33	1.3%	0%	0%
Long Jetty Industrial Area	335	349	367	385	404	425	89	0.9%	1%	1%
North Wyong Industrial	1,332	1,396	1,471	1,624	1,787	1,969	636	1.6%	3%	3%
NWSSP - Bushells Ridge South	411	926	1,304	1,628	1,952	2,175	1,764	6.9%	1%	3%
Ourimbah	1,234	1,331	1,448	1,573	1,702	1,838	604	1.6%	3%	2%
Remainder	26,090	28,077	30,287	32,585	34,874	37,315	11,225	1.4%	53%	49%
Tuggerah Business Park/Station Industrial	2,976	3,250	3,530	3,813	4,088	4,377	1,401	1.6%	6%	6%
Tuggerah Straight	2,533	2,748	2,980	3,208	3,431	3,671	1,138	1.5%	5%	5%
Tumbi Gardens Industrial	1,450	1,541	1,654	1,774	1,893	2,020	571	1.3%	3%	3%
WEZ Sparks Road North	493	1,020	1,412	1,746	2,099	2,367	1,874	6.5%	1%	3%
WEZ Warnervale Business Park	1,726	2,349	2,860	3,318	3,782	4,143	2,416	3.6%	3%	5%
Total	49,353	54,753	60,153	65,553	70,953	76,353	27,000	1.8%	100%	100%

Source: SGS (2012), underlying growth based on BTS (2009) augmented by SGS in line with CCRS.

TABLE 11. TOTAL FLOORSPACE DEMAND BY PRECINCT: POLICY ADJUSTED BASELINE

	2011	2016	2021	2026	2031	2036	Change 2011 - 2036	CAGR 2011 - 2036	2011 Profile	2036 Profile
Berkeley Vale Industrial	254,299	274,383	297,739	321,921	345,611	371,315	117,016	1.5%	22%	20%
Bushells Ridge	22,108	49,548	69,283	85,917	102,278	113,368	91,260	6.8%	2%	6%
Charmhaven Industrial	119,174	125,705	133,626	141,316	148,859	157,176	38,002	1.1%	11%	9%
Doyalson Industrial	9,403	9,788	10,298	10,843	11,383	11,989	2,586	1.0%	1%	1%
Fountaindale Industrial	66,856	68,205	70,462	72,996	75,349	78,118	11,262	0.6%	6%	4%
Gwandalan Industrial	4,756	5,148	5,539	5,923	6,297	6,678	1,921	1.4%	0%	0%
Long Jetty Industrial Area	4,459	4,761	5,058	5,350	5,640	5,940	1,481	1.2%	0%	0%
North Wyong Industrial	175,011	182,117	190,408	206,954	224,367	243,990	68,979	1.3%	15%	13%
Ourimbah Industrial	3,319	3,576	3,876	4,187	4,503	4,841	1,522	1.5%	0%	0%
Tuggerah Business Park	179,412	193,981	209,167	225,438	241,418	258,340	78,928	1.5%	16%	14%
Tuggerah Station Industrial	23,130	25,949	28,630	31,133	33,549	36,051	12,921	1.8%	2%	2%
Tuggerah Straight	142,624	154,874	167,971	180,839	193,423	206,906	64,282	1.5%	13%	11%
Tumbi Gardens Industrial	32,058	34,206	36,789	39,396	41,982	44,714	12,656	1.3%	3%	2%
WEZ Sparks Road North	13,430	31,908	45,325	56,615	67,803	75,414	61,984	7.1%	1%	4%
WEZ Warnervale Business Park	83,268	116,846	144,305	168,893	194,054	213,289	130,021	3.8%	7%	12%
Total	1,133,309	1,280,995	1,418,476	1,557,723	1,696,516	1,828,130	694,821	1.9%	100%	100%

Source: SGS 2012, underlying growth based on BTS (2009) augmented by SGS in line with CCRS.

Table 12 shows the additional floorspace demand (between 2011 and 2036) by Broad Land Use Category for each precinct. For a given BLC, the green shaded cells correspond with the precinct projected to experience the greatest expansion in floorspace demand. This analysis identifies how land uses will shift over time. Overall, all land uses (BLC categories), except Urban Services, are projected to experience increased floor space demand.

In line with the CCRS adjusted BTS projection, Manufacturing Light (303,000 additional sqm), Freight and Logistics (163,600 additional sqm), Local Light (134,100 additional sqm), and Business Park (36,000 additional sqm) land uses are projected to experience significant increases in floorspace demand across the LGA. Demand for these land uses is mainly driven by projected employment in Manufacturing and Service sectors. Across the LGA, the CCRS adjusted BTS projections suggest that the former would generate 4,036 additional jobs, while the latter will generate 5,920 additional jobs over the next 25 years.

The majority of the Manufacturing Light demand is expected to be for floorspace in Bushells Ridge – Remainder (91,300 sqm), while the majority of the demand for Freight and Logistics uses is met in WEZ Warnervale Business Park (83,200 sqm) – though this could go more generally to other precincts in Bushells Ridge and WEZ respectively. In contrast, demand for Local Light land uses is spread over a few precincts. In particular, North Wyong Industrial is expected to require 23,500 additional square metres for Local Light uses. In addition, it is also projected to require 4,900 additional square metres of floorspace for Bulky Goods Retail uses.

4.2 Gap analysis

The gap analysis is intended to provide an indication of whether there is a need for more industrial land or adjustments to current controls. Projected demand²⁹ for employment lands is compared against floorspace capacity under current controls to assess whether there is sufficient employment land supplied for future needs.

Table 13 shows demand³⁰, supply and the gap (capacity less demand) in five, 10 and 25 year intervals. Note that all values are in square metres of floorspace.

Across the LGA, it is projected that there will be demand for approximately **700,000 square metres** of additional employment land floorspace by 2036. Since there is currently approximately 1.12 million square metres of additional floorspace capacity, there is sufficient supply across existing precincts in the LGA (spare capacity of 427,400 sqm). This confirms the findings in the Hill PDA Employment Lands Development Program.

However, a precinct by precinct analysis reveals a different story. Based on the projections, consistent demand in Charmhaven and Long Jetty Industrial Area and a lack of unconstrained vacant land in Tumbi Gardens will result in supply shortages in these precincts in the next five years. By 2021, Berkeley Vale, Tuggerah Straight, Fountaindale, and WEZ Warnervale Business Park will have also reached capacity. However, there is still significant capacity in all other precincts.

By 2036, WEZ Airport Lands, WEZ North West, and WEZ Sparks Road North, North Wyong Industrial and Bushells Ridge Remainder have significant remaining spare capacity. Ourimbah, Doyalson, Bateau Bay and Tuggerah Station Industrial and Tuggerah Business Park are projected have less than a hectare of floorspace capacity. Given the projected demand in the Manufacturing and Retail Trade sectors, all other current precincts are projected to face floorspace shortages in 2036. Prior to 2036 then, there will be a need to rezone additional areas for industrial.

²⁹ Note that this is the policy adjusted version of the demand projections in line with the Central Coast Regional Strategy.

³⁰ Forecasts are reported in-line with the NSW Metropolitan Strategy time-intervals.

TABLE 12. GROWTH IN FLOORSPACE DEMAND (SQM) BETWEEN 2011 AND 2036 IN PRECINCTS WITH EXISTING DEVELOPMENT

	BP	O	RB	RBG	RM	AST	D	S	LL	MAL	MHI	FL	US	Total additional floorpace
Berkeley Vale Industrial	884	0	0	0	1,846	0	596	449	16,423	73,019	0	23,472	327	117,016
Bushells Ridge	0	0	0	0	0	0	0	0	0	91,260	0	0	0	91,260
Cherthaven Industrial	4,288	0	0	3,629	0	3,471	0	0	20,111	3,026	0	3,481	-5	38,002
Doyalson Industrial	0	0	0	0	0	0	0	0	2,267	424	14	0	-119	2,586
Founders Industrial	0	0	0	336	0	0	0	0	4,538	5,807	0	581	0	11,262
Gwenddolan Industrial	0	0	0	0	0	0	0	0	1,921	0	0	0	0	1,921
Long Jetty Industrial Area	0	0	0	0	625	0	0	0	856	0	0	0	0	1,481
North Wyong Industrial	0	831	0	4,800	0	2,553	1,578	23,492	15,787	4,891	15,191	-144	0	68,979
Quirnbah Industrial	0	0	0	382	0	340	0	1,242	517	283	0	0	0	1,522
Tuggerah Business Park	25,841	11,509	0	4,003	0	0	0	0	9,670	1,505	0	25,159	0	78,928
Tuggerah Station Industrial	0	0	0	3,322	1,769	0	0	0	7,119	526	0	191	-6	12,921
Tuggerah Straight	4,975	526	0	5,168	3,564	0	0	0	30,336	9,251	0	10,443	19	64,282
Tumbi Gardens Industrial	0	0	0	499	0	0	144	0	8,714	1,473	0	1,825	0	12,656
WEC Sparks Road North	0	0	0	0	0	0	0	0	1,655	60,329	0	0	0	61,984
WEC Warnervale Business Park	0	0	0	0	0	0	0	0	6,443	40,350	0	83,228	0	130,021
Total	35,987	12,867	0	22,139	7,804	0	6,959	3,413	134,061	303,042	4,905	163,571	72	694,821

Source: SGS (2012), adjusted BTS (2009) growth rates.



TABLE 13. GAP ANALYSIS (SQM OF FLOORSPACE) IN PRECINCTS WITH EXISTING DEVELOPMENT

Existing precincts	Capacity (vacant unconstrained lots only)	2011 to 2016		2011 to 2021		2011 to 2036	
		Additional demand	Gap (Capacity - Demand)	Additional demand	Gap (Capacity - Demand)	Additional demand	Gap (Capacity - Demand)
Bateau Bay Industrial	887	0	887	0	887	0	887
Berkeley Vale Industrial	30,664	20,084	10,580	43,440	-12,776	117,016	-86,351
Bushells Ridge - remainder	132,320	27,439	104,880	47,175	85,145	91,260	41,060
Charmhaven Industrial	1,850	6,531	-4,681	14,452	-12,602	38,002	-36,151
Doyalson Industrial	8,561	385	8,176	895	7,666	2,586	5,974
Fountaindale Industrial	2,874	1,349	1,525	3,606	-733	11,262	-8,388
Gwandalan Industrial	1,095	391	703	782	312	1,921	-827
North Wyong Industrial	100,068	7,106	92,962	15,397	84,671	68,979	31,089
Long Jetty Industrial Area	0	302	-302	599	-599	1,481	-1,481
Ourimbah Industrial	6,150	256	5,894	556	5,594	1,522	4,628
Tuggerah Business Park	82,659	14,570	68,089	29,755	52,904	78,928	3,730
Tuggerah Station Industrial	19,667	2,818	16,848	5,499	14,167	12,921	6,746
Tuggerah Straight	14,303	12,249	2,053	25,346	-11,044	64,282	-49,979
Tumbi Gardens Industrial	383	2,148	-1,765	4,731	-4,348	12,656	-12,273
WEZ Airport Lands	111,346	0	111,346	0	111,346	0	111,346
WEZ North West	213,960	0	213,960	0	213,960	0	213,960
WEZ Sparks Road North	339,588	18,478	321,110	31,895	307,694	61,984	277,604
WEZ Warnervale Business Park	55,805	33,579	22,226	61,037	-5,233	130,021	-74,217
Total	1,122,178	147,686	974,492	285,167	837,011	694,821	427,357

Source: SGS, 2012

The following table shows the 25 year additional demand, capacity, and gap (capacity less demand) in terms of hectares of land. That is, the FSRs applied in the capacity calculation (Section 4.1) are used to convert floorspace capacity, and demand into equivalent hectares of land. This is a useful indicator of the overall land required and available over the next 25 years under the assumed FSRs. In contrast to the table above, Table 14 shows both existing and potential precincts.

TABLE 14. GAP ANALYSIS (HA OF LAND) 2011 TO 2036: EXISTING AND POTENTIAL

Precinct name	25 year demand (additional) (Ha of land)	Capacity (Unconstrained vacant lots) (Ha of land)	Gap (Ha of land)
Existing precincts			
Bateau Bay Industrial	0.00	0.48	0.5
Berkeley Vale Industrial	-33.24	8.71	-24.5
Bushells Ridge - remainder	-32.89	47.69	14.8
Charmhaven Industrial	-16.16	0.79	-15.4
Doyalson Industrial	-1.33	4.42	3.1
Fountaindale Industrial	-2.00	0.51	-1.5
Gwandalan Industrial	-1.75	0.99	-0.8
North Wyong Industrial	-21.15	30.69	9.5
Long Jetty Industrial Area	-0.46	0.00	-0.5
Ourimbah Industrial	-1.09	4.41	3.3
Tuggerah Business Park	-10.93	11.44	0.5
Tuggerah Station Industrial	-7.68	11.70	4.0
Tuggerah Straight	-17.61	3.92	-13.7
Tumbi Gardens Industrial	-2.31	0.07	-2.2
WEZ Airport Lands	0.00	40.13	40.1
WEZ North West	0.00	77.11	77.1

WEZ Sparks Road North	-25.49	139.66	114.2
WEZ Warnervale Business Park	-19.31	8.29	-11.0
Total existing precincts	-193.40	391.0	197.6

Precinct name	25 year demand (additional) (Ha of land)	Capacity (Unconstrained vacant lots) (Ha of land)	Gap (Ha of land)
Potential precincts			
Buttonderry WDF	0.00	112.27	112.3
Craigie Avenue	0.00	4.07	4.1
Darkinjung	0.00	30.97	31.0
Hunter Land	0.00	0.00	0.0
NWSSP Bushells Ridge North East	0.00	15.25	15.3
NWSSP Darkinjung South	0.00	43.37	43.4
NWSSP Doyalson East	0.00	33.12	33.1
NWSSP Doyalson North East	0.00	35.62	35.6
NWSSP Doyalson South West	0.00	53.34	53.3
NWSSP Doyalson West	0.00	31.62	31.6
NWSSP Hue Hue Road	0.00	38.25	38.3
NWSSP Lake Munmorah	0.00	109.33	109.3
NWSSP Warnervale North East	0.00	50.52	50.5
NWSSP Warnervale North West	0.00	71.29	71.3
NWSSP Warnervale South West	0.00	32.15	32.2
Possible Area Jilliby West	0.00	183.99	184.0
Wallarah No.2 Coal Site	0.00	186.60	186.6
Total potential precincts	0.00	1,031.77	1,031.8
Total current and potential precincts	-193.40	1,422.77	1,229.4

: SGS, (2012).

Based on the projected demand growth patterns for the existing precincts, **193 hectares of land is required** over the next 25 years. To accommodate this additional demand, 391 hectares of land is available in existing precincts and 1032 hectares of land in potential precincts is available. This implies a **net land capacity of 1423 hectares at 2036**. Based on the projected demand growth over the next 25 years, 1423 hectares would be sufficient land for around 159 additional years from 2036 onwards.

4.3 Excess demand (shortage) allocation

Excess demand is understood as the demand in excess of the land supply in a precinct. In other words, excess demand is the floorspace shortage faced by a precinct. This sub-section allocates excess demand to current and potential precincts. This is conducted as a two stage process – a manual allocation of excess demand based on strategic considerations and an algorithm (using the precinct ranking) based excess demand allocation.

Assuming that the excess demand in each precinct has the same BLC profile of total additional demand in that precinct, Table 15 shows projected excess demand at 2036 by precinct and by BLC. The highlighted cells refer to the top two precincts that drive the excess demand for a given BLC. The majority of excess demand within the LGA is for Manufacturing Light (92,700 sqm), and Local Light (72,000 sqm) industrial uses. The majority of the Manufacturing Light excess demand comes from Berkeley Vale Industrial and WEZ Warnervale Business Park. The majority of Local Light shortages are driven by Tuggerah Straight (23,600 sqm) and Charmhaven (19,100 sqm).

TABLE 15. EXCESS DEMAND AT 2036, BY BLC FOR EXISTING PRECINCTS (FLOORSPACE SQM)

Existing precinct	BP	O	RB	RBG	RM	AST	D	S	LL	ML	MH	FL	US	Total shortage
Bateau Bay Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berkeley Vale Industrial	-652	0	0	0	-1,362	0	-440	-332	-12,119	-53,884	0	-17,321	-241	-86,351
Bushells Ridge - remainder	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bushells Ridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charnihaven Industrial	-4,079	0	0	-3,452	0	0	-3,302	0	-19,132	-2,878	0	-3,312	0	-36,156
Doylson Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fourandale Industrial	0	0	0	-250	0	0	0	0	-3,380	-4,326	0	-433	0	-8,388
Gwandalan Industrial	0	0	0	0	0	0	0	0	-827	0	0	0	0	-827
North Wyong Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long Jetty Industrial Area	0	0	0	0	-625	0	0	0	-856	0	0	0	0	-1,481
Ourimbah Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuggerah Business Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuggerah Station Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuggerah Straight	-3,868	-409	0	-4,018	-2,771	0	0	0	-23,586	-7,193	0	-8,119	-14	-49,979
Tumbi Gardens Industrial	0	0	0	-484	0	0	-140	0	-8,451	-1,429	0	-1,770	0	-12,273
WEZ Airport Lands	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEZ North West	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEZ Sparks Road North	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEZ Warnervale Business Park	0	0	0	0	0	0	0	0	-3,678	-23,032	0	-47,507	0	-74,217
TOTAL	-8,599	-409	0	-8,205	-4,758	0	-3,742	-471	-72,028	-92,742	0	-78,462	-256	-269,672

Source: SGS (2012).



Stage 1: Manual allocation of excess demand

Even though there is still a significant amount of theoretical spare capacity in three of the four precincts located in WEZ, some of the excess demand may not locate in those precincts. From a strategic point of view, issues such as fragmented ownership would be an obstacle, or for instance, the precincts with spare floorspace capacity may not be suitable for the uses desired by the market. The algorithm based demand allocation attempts to simulate the behaviour of the market. In contrast, the manual allocation of excess demand captures strategic planning considerations (consistent with simulating good planning outcomes) which cannot be captured by the precinct rank algorithm.

For such reasons, excess demand is manually allocated to three precincts (one current, and two potential precincts) based on their strategic location and future character. The following table details the allocation. In summary, all excess demand for Office (409 sqm), Dispersed (3,742 sqm), and Special (471 sqm) uses has been allocated to NWSSP Warnervale South West. All 72,028 sqm of excess demand for Local Light uses has been allocated to WEZ Sparks Road North (20,000 sqm) (though it could go elsewhere in the WEZ), NWSSP Bushells Ridge North East (37,500 sqm), and NWSSP Warnervale South West (20,500 sqm). In summary, **76,650 sqm** of the 263,046 sqm of excess demand has been allocated 'manually' in Stage 1.

TABLE 16. MANUAL ALLOCATION TO NEW PRECINCTS

Precincts	Excess demand allocated (sqm)	Allocated demand type (BLC)	Comments
WEZ Sparks Road North	14,706	LL	This precinct could contain a mix of lot sizes including some small lots suitable for local light industry uses (as well as large lots for freight and logistics).
NWSSP Bushells Ridge North East	42,323	LL	This precinct is located in proximity to the future Wyee residential precinct. Local light industry uses to service the future local population of Wyee could locate in this precinct.
NWSSP Warnervale South West	19,622	O + D + S + LL	409 sqm of Office, 3,742 sqm of Dispersed, 471 sqm of Special, and 15,000 sqm of Local Light uses are allocated to this precinct. Given that this precinct contains Council owned land, it is suitable for early structure planning and to accommodate early demand from the future Warnervale residential precinct.
Total	76,650		

Source: SGS, 2012.

Further discussion regarding the strategic planning implications of this allocation is discussed in Section 5.

Stage 2: Rank based allocation of excess demand

Given that there are capacity shortages in 11 of the 18 existing precincts, it is likely that non-price market signals (such as cluster crowding) and relative price differentials will push the excess demand to other existing precincts within the LGA. Precincts with excess supply are likely to be relatively cheaper at the margin and can be expected to attract demand squeezed out of other precincts provided they are suitable substitutes.

In an attempt to simulate a re-distribution of precinct-specific excess demand by the market, total excess demand is allocated using an algorithm that uses two key ranking components: an inter-precinct constraint ranking and a within-precinct BLC suitability ranking. The combination of these two components acts as a proxy to assess precinct substitutability for different land uses. The inter-precinct constraint ranking utilises both environmental and infrastructure constraints. The within-precinct suitable land-use (BLCs) ranking is based on strategic planning considerations of land-use suitability. See Appendix 3 – modelling for the complete inter-precinct constraint rankings and within-precinct BLC rankings.

The main steps in the excess demand allocation algorithm are described below.

- Only precincts with excess capacity (after the Stage 1 manual allocation) are considered.
- Precincts with a higher overall constraint ranking (less constrained along environmental and infrastructure dimensions; compared to others with excess supply) are allocated excess demand first. However, only excess demand relating to the first ranked BLC is allocated in the first round.
- This process continues from high to low constraint ranking and high to low BLC ranking³¹.

Broadly speaking, this algorithm simulates the scenario where excess demand for a particular land use (as defined by BLC) will be attracted to a less constrained precinct where the market believes that the precinct is highly suitable for such a land use. However, note that this process is not designed to explicitly simulate the market dynamics of resource allocation. It is simply a theoretical exercise to understand what may occur assuming that precincts are highly substitutable.

Following the Stage 1 manual allocation, there remains around 193,000 square metres of excess demand to be allocated. Stage 2 allocates the remaining excess demand along two dimensions: the inter-precinct ranking (overall environmental and infrastructure constraint score) and the within-precinct BLC ranking (strategic land-use suitability). Table 17 shows a breakdown of the excess demand to be allocated in Stage 2.

TABLE 17. EXCESS DEMAND TO BE ALLOCATED (FLOORSPACE SQM)

	Before Stage 1	After Stage 1
BP	-8,599	-8,599
O	-409	0
RB	0	0
RBG	-8,205	-8,205
RM	-4,758	-4,758
AST	0	0
D	-3,742	0
S	-471	0
LL	-72,028	0
ML	-92,742	-92,742
MH	0	0
FL	-78,462	-78,462
US	-256	-256
Total	-269,672	-193,022

Source: SGS, (201)

Table 18 shows the excess demand 'absorbed' by other precincts with excess supply. Of the 21 precincts with capacity, 16 are potential future precincts and 5 are existing precincts. Of these 21 precincts with capacity, the higher ranked precincts are allocated excess demand first. The algorithm allocates excess demand for Business Parks to Tuggerah Business Park (3,730 sqm), and NWSSP Warnervale South West (4,869 sqm). All of the Retail Bulky Goods excess demand (a modest 8,205 sqm) gets absorbed by NWSSP Warnervale North East. The second highest land use in excess demand – Manufacturing Light, get allocated to three precincts: NWSSP Doyalson North East (42,719 sqm), North Wyong Industrial (31,089 sqm), and Tuggerah Station Industrial (6,745 sqm). The highest land-use in excess demand – Freight and Logistics (78,462 sqm); gets wholly allocated to WEZ Airport Lands. Excess demand for Urban Services gets allocated to NWSSP Warnervale South West (256 sqm).

Only excess demand for Retail Main-street uses (4,758 sqm) could not be allocated in Stage 2. This is because no precinct has this land use in its top-four suitable land-uses. It is therefore expected that the excess demand for Retail Main-street would locate in the larger centres. The modelling suggests that the market requires floorspace for this land use. It is therefore important that Council's centres policy accommodates the projected need for this land use.

³¹ Note that the BLC ranking by precinct is only for four land uses. This is because the market is likely to be indifferent between precincts for lower ranked BLCs.

TABLE 18. ALLOCATION OF EXCESS DEMAND TO CURRENT AND POTENTIAL PRECINCTS (FLOORSQ M) – RANK ALGORITHM

Precinct name	Precinct rank	Net capacity	Precinct Type	Amount of excess demand allocated by BLC rank				Final net capacity						
				Allocated Excess demand	1st ranked BLC	Allocated Excess demand	2nd ranked BLC		Allocated Excess demand	3rd ranked BLC	Allocated Excess demand	4th ranked BLC		
Tuggerah Business Park	1	3,730	Existing	3,730	BP	0	0	0	0	0	0	0	0	0
Craigie Avenue	8	11,301	Potential	0	LL	11,301	ML	0	0	0	0	0	0	0
North Wyong Industrial	9	31,089	Existing	0	LL	31,089	ML	0	0	0	0	0	0	0
Ourimbah Industrial	11	4,628	Existing	0	LL	0	FL	0	0	0	0	0	0	0
Bateau Bay Industrial	13	887	Existing	886	ML	0	LL	0	0	0	0	0	0	0
Doyalson Industrial	14	5,974	Existing	0	LL	0	FL	0	0	0	0	0	0	0
Tuggerah Station Industrial	15	6,746	Existing	0	LL	6,745	ML	0	0	0	0	0	0	0
NWSSP Doyalson East	16	91,892	Potential	0	LL	0	FL	0	0	0	0	0	0	0
WEZ Airport Lands	17	111,346	Existing	78,462	FL	0	MH	0	0	0	0	0	0	0
NWSSP Warnervale North East	18	140,167	Potential	0	LL	0	FL	0	0	8,205	RBG	0	0	0
NWSSP Doyalson West	19	87,736	Potential	0	LL	0	FL	0	0	0	ML	0	0	0
NWSSP Warnervale South West	20	69,598	Potential	0	LL	4,869	BP	0	0	256	US	0	0	0
NWSSP Doyalson North East	21	65,887	Potential	0	FL	42,719	ML	0	0	0	MH	0	0	0
NWSSP Darkinjung South	22	120,326	Potential	0	FL	0	MH	0	0	0	ML	0	0	0
NWSSP Lake Munmorah	23	148,016	Potential	0	MH	0	ML	0	0	0	ML	0	0	0
NWSSP Lake Munmorah	24	303,368	Potential	0	FL	0	ML	0	0	0	MH	0	0	0
NWSSP Hue Hue Road	25	106,145	Potential	0	FL	0	MH	0	0	0	ML	0	0	0
Bushells Ridge - remalinder	26	41,060	Existing	0	FL	0	MH	0	0	0	ML	0	0	0
NWSSP Warnervale North West	28	197,824	Potential	0	LL	0	ML	0	0	0	ML	0	0	0
Wallarah No. 2 Coal Site	29	517,769	Potential	0	FL	0	ML	0	0	0	MH	0	0	0
Darkinjung	30	85,990	Potential	0	FL	0	MH	0	0	0	ML	0	0	0
WEZ North West	32	213,960	Existing	0	FL	0	MH	0	0	0	ML	0	0	0
Burtonderry WDF	33	207,677	Potential	0	FL	0	MH	0	0	0	ML	0	0	0
Possible Area Jilliby West	34	510,529	Potential	0	FL	0	MH	0	0	0	ML	0	0	0
WEZ Sparks Road North	35	262,899	Existing	0	LL	0	FL	0	0	0	MH	0	0	0

Source: SGS, (2012).
 Note: 4,758 sqm of RM floorspace has not been allocated.



Summary of excess demand allocation

In summary, the demand modelling suggests that there would be around **264,900 square metres of excess demand** in existing precincts. This excess demand is allocated in a two-stage process. Firstly, based on strategic planning considerations and secondly, based on a ranking of precincts it is allocated to existing precincts and new precincts. In the first stage manual allocation, 76,650 square metres is allocated to three precincts, and in the second stage rank-algorithm allocation 188,263 square metres gets allocated to seven precincts. The remaining excess demand of 4,758 square metres for Retail Main-street uses does not get allocated in either Stage 1 or 2 (it is assumed it goes to centres).

Table 19 summarises the allocation and shows the remaining supply in each existing precinct. The WEZ Airport Lands precinct absorbs the most excess demand (78,462 sqm of FL), followed by NWSSP Doyalson North East (42,719 sqm of mainly ML) and NWSSP Bushells Ridge North East (42,323 sqm of LL). Subsequent to the excess demand allocation process, existing precincts (with spare capacity) absorb 135,619 square metres of excess demand (mainly FL and LL) while potential precincts capture 129,295 square metres (mainly ML and LL) of spill over from existing precincts at capacity. This implies that current precincts have 561,406 square metres of remaining capacity (mainly in WEZ Sparks Road North and North West) while potential precincts have almost 2.6 million square metres of remaining capacity. Overall, including the potential or planned precincts, the LGA is projected to have **3.2 million square metres of capacity** by 2036.

TABLE 19. SUMMARY OF EXCESS DEMAND ALLOCATION (STAGES 1 AND 2), (FLOORSPACE SQM)

Precinct	Spare capacity at 2036	BP	O	RB	RBG	RM	AST	D	S	LL	ML	MH	FL	US	Total excess demand allocated	Final capacity at 2036	
Existing precincts																	
Bateau Bay Industrial	887	0	0	0	0	0	0	0	0	0	887	0	0	0	887	0	
Bushells Ridge - remainder	41,060	0	0	0	0	0	0	0	0	0	0	0	0	0	41,060	0	
Doyalson Industrial	5,974	0	0	0	0	0	0	0	0	0	0	0	0	0	5,974	0	
North Wyong Industrial	31,089	0	0	0	0	0	0	0	0	0	31,089	0	0	0	31,089	0	
Ourlimbah Industrial	4,628	0	0	0	0	0	0	0	0	0	0	0	0	0	4,628	0	
Tuggerah Business Park	3,730	3,730	0	0	0	0	0	0	0	0	0	0	0	0	3,730	0	
Tuggerah Station Industrial	6,746	0	0	0	0	0	0	0	0	0	6,746	0	0	0	6,746	0	
WEZ Airport Lands	111,346	0	0	0	0	0	0	0	0	0	0	0	78,462	0	78,462	32,884	
WEZ North West	213,960	0	0	0	0	0	0	0	0	0	0	0	0	0	213,960	0	
WEZ Sparks Road North	277,604	0	0	0	0	0	0	0	0	14,706	0	0	0	0	14,706	262,899	
Potential precincts																	
Burtonderry WDF	207,677	0	0	0	0	0	0	0	0	0	0	0	0	0	0	207,677	0
Craigie Avenue	11,301	0	0	0	0	0	0	0	0	0	11,301	0	0	0	11,301	0	
Darlinglung	85,930	0	0	0	0	0	0	0	0	0	0	0	0	0	85,930	0	
NWSSP Bushells Ridge North East	42,323	0	0	0	0	0	0	0	0	42,323	0	0	0	0	42,323	0	
NWSSP Darlinglung South	120,326	0	0	0	0	0	0	0	0	0	0	0	0	0	120,326	0	
NWSSP Doyalson East	91,892	0	0	0	0	0	0	0	0	0	0	0	0	0	91,892	0	
NWSSP Doyalson North East	65,887	0	0	0	0	0	0	0	0	0	42,719	0	0	0	42,719	23,168	
NWSSP Doyalson South West	148,016	0	0	0	0	0	0	0	0	0	0	0	0	0	148,016	0	
NWSSP Doyalson West	87,736	0	0	0	0	0	0	0	0	0	0	0	0	0	87,736	0	
NWSSP Hue Hue Road	106,145	0	0	0	0	0	0	0	0	0	0	0	0	0	106,145	0	
NWSSP Lake Munmorah	303,368	0	0	0	0	0	0	0	0	0	0	0	0	0	303,368	0	
NWSSP Warnervale North East	140,167	0	0	0	8,205	0	0	0	0	0	0	0	0	0	8,205	131,962	
NWSSP Warnervale North West	197,824	0	0	0	0	0	0	0	0	0	0	0	0	0	197,824	0	
NWSSP Warnervale South West	89,221	4,869	409	0	0	0	0	3,742	471	15,000	0	0	0	256	24,747	64,474	
Possible Area Jilliby West	510,529	0	0	0	0	0	0	0	0	0	0	0	0	0	510,529	0	
Wallarah No.2 Coal Site	517,769	0	0	0	0	0	0	0	0	0	0	0	0	0	517,769	0	
Total	3,423,136	8,599	409	0	8,205	0	0	3,742	471	72,028	92,742	0	78,462	256	264,914	3,158,222	

Source: SGS, (2012).



4.4 Sensitivity testing

To test the sensitivity of the gap analysis findings, SGS undertook scenario testing by introducing exogenous shocks to three land-use categories (and thereby, employment in respective industries). In other words, the impact of increased employment in targeted industries due to factors outside the control of Wyong Shire Council is tested. The following table shows the impacted BLC categories, the magnitude of the impacts and the rationale behind the choice of land-use. Note that this process incorporates information from consultation and the LQ growth share analysis.

TABLE 20. SENSITIVITY TESTING: EXOGENOUS SHOCKS

BLC	Size of increase by 2036	Rationale
Freight and logistics (FL)	30% increase in all precincts	If there are significant improvements to connectivity and road infrastructure, the strategic positioning and suitability of some precincts may attract greater floorspace demand in this BLC.
Business Park (BP)	20% increase in all precincts	Expansion of the NBN and technological services related to high speed broadband is likely to create greater demand for business park floorspace. Given the lower density of employment in these industries, a 20 percent increase in floorspace is tested.
Light Manufacturing (ML)	20% increase in all precincts	Consultation suggest that high tech, higher order industry should be targeted to provide employment for local skilled workforce and enable higher order 'cleaner' enterprise development. Such employment would be captured by light Manufacturing. A 20 percent increase in floorspace is assumed.

Source: SGS, (2012).

The exogenous demand shocks are imposed on the projected floorspace demand at 2036, across all precincts which have the relevant BLC. For instance, baseline projected Business Park floorspace in Berkeley Vale Industrial in 2036 is 2,364 square metres (an increase of 59 percent from 2011). By introducing a 20 percent exogenous shock, 2036 floorspace in the precinct increased to 2,836 square metres (an increase of 91 percent³² from 2011).

As before, the new additional floorspace demand is compared to (unchanged) floorspace capacity by precinct. Table 21 shows the gap at 2036 only.

Under the base case WEZ Airport Lands, WEZ North West, WEZ Sparks Road North had significant spare capacity. Bushells Ridge – Remainder and North Wyong had considerable capacity, while Ourimbah, Doyalson, Tuggerah Station Industrial and Tuggerah Business Park had some capacity. Under the higher floorspace demand scenario, the three areas in the WEZ still have significant remaining floorspace capacity, while Bushells Ridge –remainder has considerable capacity. There is minimal floorspace capacity in Bateau Bay, Doyalson, North Wyong, Ourimbah and Tuggerah Station Industrial. All other precincts would face severe floorspace shortages.

Overall, total excess demand under this scenario is 487,500 square metres. As a result, there is capacity of 136,208 square metres across the LGA. This simulation suggests that, in the event that macroeconomic exogenous shocks to Freight and Logistics, Business Park, and Light Manufacturing become a reality, of the current precincts only three precincts in WEZ would have any significant spare capacity to accommodate excess demand from other precincts.

³² Note that the percentage growth in floorspace demand for a given BLC would increase by the same amount (1.59*1.2=1.91). Given that the increases are simply the product of the exogenous shocks the base line (policy adjusted) figures reported earlier, floorspace by precinct by BLC is not reported again for the sake of brevity.

TABLE 21. GAP ANALYSIS – SENSITIVITY TESTING (FLOORSPACE SQM)

Existing precincts	Capacity (vacant unconstrained lots only)	2011 to 2036	
		Additional demand	Gap (Capacity - Demand)
Bateau Bay Industrial	887	0	887
Berkeley Vale Industrial	30,664	188,901	-158,237
Bushells Ridge - remainder	132,320	113,934	18,386
Charmhaven Industrial	1,850	51,451	-49,601
Doyalson Industrial	8,561	3,152	5,409
Fountaindale Industrial	2,874	22,095	-19,221
Gwandalan Industrial	1,095	1,921	-827
North Wyong Industrial	100,068	99,699	369
Long Jetty Industrial Area	0	1,481	-1,481
Ourimbah Industrial	6,150	1,764	4,386
Tuggerah Business Park	82,659	123,017	-40,359
Tuggerah Station Industrial	19,667	13,690	5,977
Tuggerah Straight	14,303	87,554	-73,251
Tumbi Gardens Industrial	383	15,960	-15,577
WEZ Airport Lands	111,346	0	111,346
WEZ North West	213,960	0	213,960
WEZ Sparks Road North	339,588	76,634	262,955
WEZ Warnervale Business Park	55,805	184,718	-128,913
Total	1,122,178	985,970	136,208

Source: SGS, (2012).

Even with three exogenous shocks to floorspace demand in three BLCs, there is still sufficient overall supply at an LGA level. However, at a precinct level, nine out of 14 precincts face supply shortages compared to the 8 in the base case. The difference being that the increased demand for Business Park and Freight and Logistics leads to a shortage of floorspace in Tuggerah Business Park by 2036. Overall, excess demand by 2036 is 136,208 square metres higher than the base line due to the three shocks introduced to the model.

As before, the excess demand is subject to the two-stage demand allocation process. The manual allocations are identical in their location to the base case. However, the only difference being that the magnitude of the first-stage manual allocation is higher. In total, 264,914 square metres of excess demand is allocated to existing precincts and new precincts. Table 22 summarises the allocation and shows the remaining supply in each existing precinct.

In summary, the demand modelling suggests that there would be around **141,600 square metres of excess demand** allocated to existing precincts. This is around four percent higher than the base case scenario. In the first stage manual allocation, 89,315 square metres is allocated to five precincts, and in the second stage rank-algorithm allocation 393,002 square metres gets allocated to 7 precincts. As before, the remaining excess demand of 5,153 square metres for Retail Main-street uses does not get allocated in either Stage 1 or 2. Excess demand for this land use is higher than the base case because there are more precincts with severe shortages under this scenario.

NWSSP Doyalson South West precinct absorbs the most excess demand (148,016 sqm of ML), followed by WEZ Airport (111,346 sqm of FL), and NWSSP Doyalson North East (62,697sqm of ML), and NWSSP Bushells Ridge North East (42,323sqm of LL). Subsequent to the excess demand allocation process, existing precincts (with spare capacity) absorb 141,600 square metres of excess demand (mainly FL and LL) while potential precincts capture 340,700 square metres (mainly ML and LL) of spill over from existing precincts facing shortages. This implies that current precincts have 482,100 square metres of remaining capacity (mainly in WEZ Sparks Road North and North West) while potential precincts have 2,385,400 square metres of remaining capacity. Overall, under this simulation, the LGA is projected to have **2.9 million square metres of capacity** by 2036.

This simulation highlights that existing precincts **could** face severe shortages under certain conditions, such as those described by the exogenous shocks. It demonstrates the fact that existing precincts would not be able to accommodate future demand and lower ranked potential precincts (such as NWSSP Lake Munmorah) would be required to accommodate future demand. It is therefore imperative that the Council manages its stock of employment land to accommodate possible changes to the local economy.

TABLE 22. SUMMARY OF EXCESS DEMAND ALLOCATION – SENSITIVITY TESTING (FLOORSPACE SQM)

Precinct name	Precinct type	Spare capacity at 2036	BP	O	R	R	R	R	A5	D	S	LL	ML	M	FL	US	Total excess demand allocated	Final capacity at 2036	
Bateau Bay Industrial	Existing	887	0	0	0	0	0	0	0	0	0	0	887	0	0	0	887	0	
Bushells Ridge - remainder	Existing	18,386	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,386	
Doyalson Industrial	Existing	5,409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,409	
North Wyong Industrial	Existing	369	0	0	0	0	0	0	0	0	0	0	369	0	0	0	369	0	
Ourimbah Industrial	Existing	4,386	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,386	
Tuggerah Station Industrial	Existing	5,977	0	0	0	0	0	0	0	0	0	0	5,977	0	0	0	5,977	0	
WEZ Airport Lands	Existing	111,346	0	0	0	0	0	0	0	0	0	0	0	0	111,346	0	111,346	0	
WEZ North West	Existing	213,960	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	213,960	
WEZ Sparks Road North	Existing	262,955	0	0	0	0	0	0	0	0	0	23,007	0	0	0	0	23,007	239,948	
Potential precincts																			
Buttenderry WDF	Potential	207,677	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	207,677	0
Craigie Avenue	Potential	11,301	0	0	0	0	0	0	0	0	0	0	11,301	0	0	0	0	11,301	0
Darkinjung	Potential	85,930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85,930	0
NWSSP Bushells Ridge North East	Potential	42,323	0	0	0	0	0	0	0	0	0	42,323	0	0	0	0	0	42,323	0
NWSSP Darkinjung South	Potential	120,326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120,326	0
NWSSP Doyalson East	Potential	91,892	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91,892	0
NWSSP Doyalson North East	Potential	65,887	0	0	0	0	0	0	0	0	0	0	3,190	0	62,697	0	65,887	0	
NWSSP Doyalson South West	Potential	148,016	0	0	0	0	0	0	0	0	0	0	148,016	0	0	0	148,016	0	
NWSSP Doyalson West	Potential	87,736	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87,736	0
NWSSP Hue Hue Road	Potential	106,145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106,145	0
NWSSP Lake Munmorah	Potential	303,368	0	0	0	0	0	0	0	0	0	0	9,420	0	0	0	9,420	293,948	
NWSSP Warmervale North East	Potential	140,167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140,167	
NWSSP Warmervale North West	Potential	197,824	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	197,824	
NWSSP Warmervale South West	Potential	89,221	29,594	4,216	0	0	0	0	0	3,845	924	15,000	0	0	0	289	53,869	35,351	
Possible Area Jilliby West	Potential	510,529	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	510,529	
Wallarah No.2 Coal Site	Potential	517,769	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	517,769	
Total		3,349,786	29,594	4,216	0	0	0	0	0	3,845	924	80,329	179,161	0	174,043	289	482,318	2,867,468	

Source: SGS, 2012



4.5 Key findings

Using the industrial land audit data and broad constraints analysis on the supply side and the state government's employment projections (adjusted to account for the CCRS employment targets) and a variety of assumptions on the demand side this section proposes the following key findings in relation to supply and demand for employment lands in the LGA.

- Of the total 520 hectares of vacant land in current precincts, 75 percent or about 391 hectares was environmentally unconstrained and available for development. Of the total 1392 hectares of potential industrial land (vacant), 74 percent or 1032 hectares was unconstrained. In summary, there is a total of 1,912 hectares of vacant land and 1,423 hectares of unconstrained vacant land in the LGA.
- Using the CCRS employment targets (converted to an annual figure) the Wyong Shire is expected to accommodate 27,000 new jobs between 2011 and 2036. Around 58 percent is expected to be in the employment lands considered in this study.
- Across the LGA, it is projected that there will be demand for approximately 700,000 square metres of additional employment floorspace by 2036. Since there is currently approximately 1.12 million square metres of additional floorspace supply available in existing precincts (on vacant unconstrained lots), there is sufficient current supply across the LGA (nominally about 32 years of supply in total).
- However, the analysis shows that some precincts will 'fill' in the 2036 year period, meaning others will accommodate 'overflow'. Some of the overflow will be accommodated by existing precincts but because they will not all be suited to the overflow demand (not within the local area or not having the physical characteristics) new and more suitable precincts will need to be 'turned on' in about 10 years or so (subject to review). The modelling suggests that in the order of 130,000 square metres of floorspace will need to be accommodated in 'new' precincts in due course.
- 'Sensitivity' testing of the results by increasing demand in three key industry sectors (freight and logistics, business park activities, and light manufacturing land uses) to increase the demand side, suggests that some new precincts will have to be 'turned on' sooner, with the existing capacity in the LGA exhausted by 2036.
- The base case demand trends (193 hectares of demand) equates to approximately 7.7 Ha of industrial land take-up per annum
- Overall though, based on the base case demand trends modelled in this report (and conservative supply assumptions) there is in the order of 159 years supply of land (1229 hectares) remaining in both existing and future precincts by 2036.

5 WYONG'S EMPLOYMENT LANDS FUTURE

5.1 Strategic theme 1: Protecting the employment role of centres while also encouraging employment growth in the Shire by allowing new employment land activities

At the heart of this strategic theme is the tension between:

- a centres based approach to planning, which seeks to concentrate higher order employment related activity in particular to realise the strategic benefits of clustering and trip minimisation, with some restrictions on out of centre commercial and retail development, and
- a more laissez faire approach allowing new forms of enterprise and commercial development in industrial areas, often taking advantage on lower land values, to encourage employment growth.

The centres based approach to planning is crucial to future sustainability. The changing needs of industry, including a higher office component in many developments, also need to be recognised. This was a strong theme of consultation with industry – the need for planning controls to provide flexibility for new technology and industry spaces. Planning needs to effectively balance with competing pressures to achieve multiple objectives - for sustainability, social cohesion and economic development.

Wyong-Tuggerah should be developed as a single centre with a complex of spaces

Significant opportunities exist to expand business park opportunities in Wyong, due to the growing knowledge-base of the economy and professionalisation of the workforce. Successful business parks need to be carefully planned, with clear directives regarding building design, amenity and complementary business uses that support the growth of these new economic spaces. Wyong-Tuggerah major centre actually brings together the elements of a traditional centre and new retail centre, with bulky goods opportunities and the Tuggerah business park. Wyong-Tuggerah is one of the fastest growing centres in the Greater Metropolitan Region. Using 2006 Travel Zone definitions, Wyong-Tuggerah grew from 7,500 jobs in 2001 to 10,600 jobs in 2006 (i.e. 3,100 jobs). The only other major centre that grew faster was Campbelltown, which generated 3,800 additional jobs over the same period. In fact, Wyong-Tuggerah out-performed the Sydney regional cities of Penrith plus 1,300 jobs and Liverpool (plus 900 jobs). Importantly, over this period, the Central Coast regional city, Gosford, actually experienced a decline of employment from 13,200 jobs in 2001 to 13,100 jobs in 2006. If Wyong can successfully integrate the complementary centre and business park land uses over time, it is likely to evolve as the dominant centre of the Central Coast. For Tuggerah Business Park this will require addressing some of the long term constraints on growth, and ensuring that quality office space is integrated with advanced industrial activities in ways that support and complement the centre rather than competing with it.

In the Wyong Shire past development decisions which have allowed the Tuggerah Westfield shopping centre, Tuggerah Business Park and Tuggerah Straight to develop with retail and commercial activities, have undermined the retail and commercial prospects for the Wyong town centre in particular. There is a range of employment activities in the different precincts in this Wyong-Tuggerah area. The Wyong Town Centre alone is never going to be able to revive as the dominant commercial and retail employment hub in the Shire.

This has been recognised in the Metropolitan and Central Coast Regional Strategy by defining the Major Centre as Wyong-Tuggerah together. The CCRS suggests:

Tuggerah–Wyong will become a Major Centre with the main shopping, civic and business focus for Wyong Shire. The close proximity and complementary roles of Tuggerah and Wyong will be built on and planned in a coordinated fashion. Wyong, Tuggerah Straight, Anzac Road, Tuggerah Business Park, Westfield

Tuggerah, Tuggerah Supa Cento, Westfield's 'Tuggerah Gateway site and the Tuggerah Lake Reserve will play key roles for the overall centre'³³.

Given the categorisation as a Major Centre and its complex character there is a case for considering a wider view of Wyong-Tuggerah and undertaking a more detailed study of its elements. If seen as a single centre, as advocated in the strategy plans, the opportunity exists to facilitate and encourage additional employment growth, by expanding the areas for more intensive development, while redefining the role of other parts of the centre to create a complex of spaces.

The following guidance was provided by the CCRS.

The directions that have been expressed through council's strategy will inform future planning and include plans to:

- revitalise Wyong centre
- investigate higher density housing
- improve transport links
- upgrade the Westfield shopping centre at Tuggerah
- develop the area between Westfield shopping centre and Tuggerah station
- develop the site between Westfield shopping centre and the F3 Freeway
- investigate development at Tuggerah Straight
- investigate bus services improvements within the centre³⁴.

Specific additional elements consistent with and advancing this thinking include the following:

- all of Tuggerah Straight and west Bryant Drive should be 'opened up' as a more intense mixed enterprise and development area (probably with Business Development zoning)
- bulky goods retail development in Tuggerah Straight would be restricted to the Pacific Highway frontage
- higher density mixed use development should be encouraged in Wyong Town Centre; it should be developed as a boutique residential and commercial environment, with live-work opportunities facilitated by the NBN
- major improvements in accessibility and movement within the precinct are required. This includes bicycle paths, internal bus routes and more pedestrian friendly environments and connections
- Westfield should be encouraged or required to 'infill' with residential land open out with street frontage activation as much as possible
- a 'main street' node near Tuggerah station should be identified and developed.

These are only some of the elements that need to be included in a Wyong-Tuggerah structure planning exercise.

By considering Wyong-Tuggerah as a single centre and developing it in an integrated way the issue of whether a commercial development is in centre or out of centre does not arise.

Business park zones should be 'urban' in character with some restrictions on the nature of the office development and linked to centres

Significant changes are occurring in business parks. The traditional business park was a higher order land use which created a campus style environment easily accessible by car. One of the initial competitive advantages of business parks was in fact the capacity to establish them in land-abundant areas to provide ample parking and close to major road networks. In the NSW context, these economic spaces were considered out-of-centre and competitors for centres. This view has changed. Major strategic plans such as the Sydney Metropolitan Strategy (2006) and Sydney Metropolitan Plan (2010), and associated regional plans, including the Central Coast Regional Strategy, emphasised the importance of locating business parks closer to public transport and articulating the complementary roles of centres and business parks. Further, significant changes in industrial structure, including greater out-sourcing and specialisation and growth of knowledge-based businesses, is resulting in changes in business park planning, with more emphasis on smaller medium enterprises, links with research, education and technology institutions, and changing social preferences such as living and working environments is bringing about changes in design and function of business parks, including more emphasis on public domain spaces, links to culture and hospitality and indeed, living environments within walking distance of workplaces. Wyong-Tuggerah is well suited to be developed

³³ NSW DoP & I (2008), Central Coast Regional Strategy, pg.17.

³⁴ NSW DoP&I (2008) Central Coast Regional Strategy, p.18.

as an integrated centre, bringing together retail and hospitality, community and business services, bulky goods and business park opportunities in a highly accessible centre.

Leyshon consulting provided advice which suggested that office developments in business zone areas should be a minimum of 200 square metres. However, given the previous experience of the relocation of small offices to the Tuggerah Business Park, they recommend that a minimum floor area of 500 square metres for small offices should be contemplated. This is a supportable position.

In addition future business park zones need to be closely integrated with centres or surrounding residential areas. Mixed use areas integrated with business park zones are desirable. The aim is to at least moderate car usage by ensuring good local networks of public transport, walking and cycling connections, and provide for a mix of activities – while recognising car usage will be significant.

Bulky goods and other activities should be resisted in industrial areas

Bulky goods uses should not be allowed to encroach into industrial areas and should be restricted to those areas identified in the Don Fox Planning report on retail centres (Long Jetty, Lake Haven and Tuggerah Straight). In general, retail development should be restricted in industrial areas.

Warnervale Town Centre should be the higher order services and retail hub in the North Wyong area

Warnervale Town Centre has been identified as the pre-eminent centre for the new development areas in the north of the Shire. The centre should contain higher order office and retail activities, as well as mixed use and higher density residential. The centre should also be able to capture higher order office activities and subdivision patterns and development controls should allow for it to evolve and capture these opportunities. The subdivision patterns should allow for small lot fine grained uses but also – to attract ‘pure’ office uses - some large lots offering car parking rates which are competitive with business park areas (including Council’s proposed business park at Precinct 7A) which might otherwise attract large floorplate office uses. However, these sites in should be planned so they can evolve into higher intensity development sites. The key principle is to aim for a flexible development platform which can evolve to an urban environment over time. The town centre development is a catalyst location for surrounding development.

5.2 Strategic theme 2: Deciding on the best location for competing candidates for new enterprise corridor and business park zonings

Enterprise corridors should restrict allowable retail including bulky goods but are appropriate for the Craigie Avenue and north Wyong (Pacific Highway frontage) areas

Advice in the Don Fox Planning report suggests that there is ample supply of land for bulky goods in the areas it identifies, and that further zones for this use would represent over-zoning. The Don Fox Planning advice for bulky goods areas suggests they should be close to or on the approach to centres.

This is consistent with the CCRS that aims to “ensure that bulky goods retailing is not located on industrial land and is located in centres and nominated nodes³⁵”.

The *Metropolitan Plan for Sydney 2036* has a brief commentary on enterprise corridors.

Enterprise corridors continue to play an important role on some busy roads where flexible land use controls are needed to support activities that benefit from high levels of exposure. They may also help to buffer more sensitive uses such as residential development. These corridors may typically permit a range of land use controls although use of a B6 Enterprise Corridor Zone should be limited to areas of very high traffic volumes and where it is appropriate to allow a flexibility of land uses to enable productive use of the road corridor.³⁶

³⁵ NSW DoP & I (2008), Central Coast Regional Strategy, p.31

³⁶ NSW DoP & I, (2010), The Metropolitan Plan for Sydney 2036, pg. 61.

The B6 Zone will not be appropriate for all busy roads and development for retail premises in this zone may be able to occur where it plays the role described above. The amount of retailing to be permitted in the B6 Zone should be set locally.

This is somewhat indirect guidance. The 2005 Metropolitan Strategy provides clearer directions:

This [B6] zone and the associated controls will provide for uses such as nurseries, plumbing and building supplies, retailing, light industrial and ancillary offices. Retailing in these zones should be restricted to less than 1000 square metres of floor area³⁷.

Based on the preceding commentary the following principles should be adopted in relation to enterprise corridors:

- The amount of retailing to be permitted in the B6 Zone is a matter for councils
- An enterprise corridor is an appropriate and flexible zoning for busy roads where exposure and the productive use of the road corridor is important
- Retail proliferating on highway corridors in out of centre locations is not a desirable planning outcome, from a design or clustering perspective, and should be restricted to less than 1000 square metres (per development). This would mean bulky goods centres or major supermarkets would not be allowed but roadside fruit markets and minor retail ancillary to industrial activities would be allowed. Restricting floor space is preferable to a use based restriction as some of the uses which should be restricted, such as supermarkets, are not defined in the standard LEP instrument and therefore not able to be excluded by a use based provision.
- Uses such as nurseries, plumbing and building supplies, light industrial and ancillary offices are appropriate.

There are proposals for enterprise corridors in the Craigie Avenue and North Wyong (Pacific Highway frontage) areas. These are appropriate provided the restrictions on retail (and bulky goods retail) identified in the above principles apply. The Craigie Avenue proposition should seek to complement the hospital opposite and attract medical related activities. The proposal in the Don Fox report for a Bulky Goods Area on The Entrance Road/CC Highway corridor at Long Jetty is supported as providing a bulky goods cluster supporting the Long Jetty centre in the south of the Shire.

The Warnervale South West site could support some business park activities

The demand – supply analysis has indicated a need for a further future business park area.

Council has identified a potential business park rezoning of the 'Warnervale South West' site identified in the North Wyong Shire Structure Plan (NWSSP).

Figure 8 shows an extract from the NWSSP with the proposed business park site (identified with a number '4') in relation to the Warnervale Town Centre, Wyong town centre, the rail corridor and the F3 Freeway. The site is about 11 kilometres to the north from the existing Tuggerah Business Park, which is nearing build out (around 30 percent still vacant).

³⁷ NSW DaP&I (2007) *Metropolitan Strategy: City of Cities*, p. 73.

FIGURE 8. PROPOSED BUSINESS PARK – CONTEXT MAP



Source: NSW DoPI, 2010

Figure 9 shows the proposed business park from the Precinct 7A Structure Plan. The proposed Warnervale Town Centre is located to the north west of the site.

Though planning is advanced on the proposed Warnervale Town Centre there are still a number of key 'building blocks' to be resolved, including the timing of any new station (and potential implications for the continuing operation of the existing Warnervale station). Notwithstanding uncertainties associated with the timing of the development of the new Town Centre, planning for development in proximity to the existing station is proceeding.

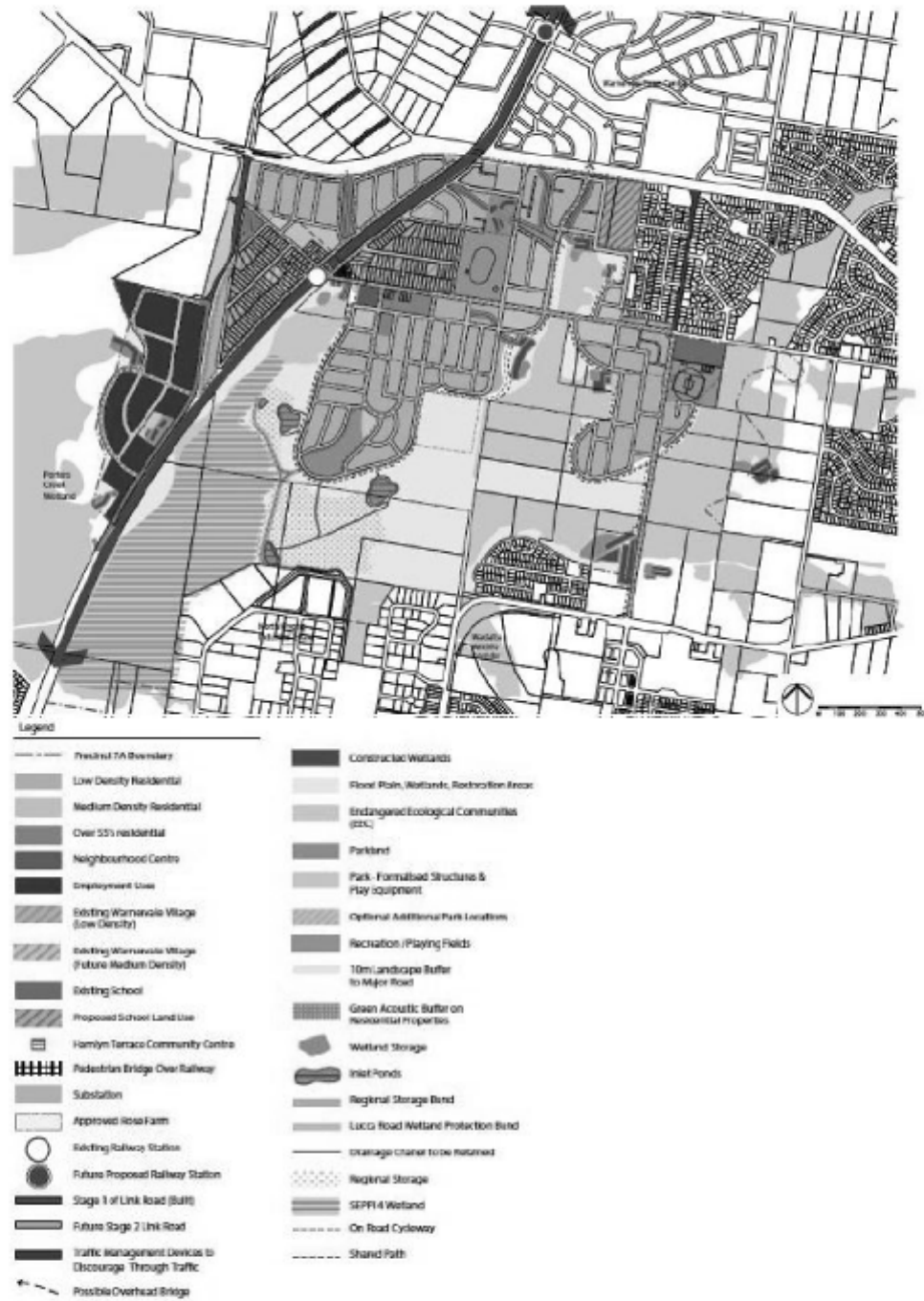
The link road to Sparks Road (coloured in red on the figure below) is already built and only on-site infrastructure needs to be provided.

Though the discussion on planning for business parks in the Metropolitan Plan for Sydney 2036 is more relevant to the metropolitan area rather than the wider Sydney region which includes the Central Coast³⁸, the 'Criteria for Business Park Locations'³⁹ are still useful for testing the current proposal.

³⁸ NSW DoP&I (2010), The Metropolitan Plan for Sydney 2036, pg. 137.

³⁹ Ibid.

FIGURE 9. PROPOSED BUSINESS PARK SITE – PRECINCT 7A STRUCTURE PLAN



Source: Architectus, 2011

The suggested criteria are as follows:

- access to public transport corridors (preferably rail)
- links to freight corridors and major transport nodes

- land area (50 —180 hectares) to allow expansion to accommodate 8,000—40,000 employees
- proximity to workforce (within 30 minutes commute)
- business parks should have a relationship to adjoining economic infrastructure e.g. hospitals, universities, educational facilities, research institutes or clusters of knowledge-based activity⁴⁰

Each of these criteria is addressed in turn in Table 23.

TABLE 23. METROPOLITAN PLAN FOR SYDNEY 2036 BUSINESS PARK CRITERIA AND WARNERVALE NORTH EAST

Criteria	Commentary
Access to public transport corridors (preferably rail)	<p>The proposed business park would be located 500 metres from the existing Warnervale train station (and a further two kilometres from the proposed Warnervale town centre station). As a comparison, the Tuggerah Business Park is located 650 metres from the Tuggerah train station.</p> <p>This criterion is more relevant to the Sydney metropolitan context where the rail network (and to a lesser extent buses) serves commuter and journey to work trips more effectively. Currently around 2 percent of work trips to the Tuggerah Business Park are by train and 2 percent by bus (90 percent by car). The more relevant consideration is the extent to which the business park will provide employment for 'locals', which is expected to be high and how local public transport and buses in particular, and alternative transport options (cycling, walking) are supported by the detailed design.</p>
Links to freight corridors and major transport nodes	<p>The proposed business park would be located 800 metres from the Sparks Road and a further 2.5 kilometres from the F3 Freeway. As a comparison the Tuggerah Business Park is located 2.1 kilometres from the F3 Freeway. Though a link road is not yet in place the site is about three kilometres from the Old Pacific Highway and the North Wyong Industrial Estate.</p>
Land area (50 —180 hectares) to allow expansion to accommodate 8,000—40,000 employees	<p>The proposed business park is a total of 33 hectares in size (the existing Tuggerah Business Park is 49 hectares). While this is a lot less than the size suggested by the criterion, the regional context and the more modest scale of the future potential (compared to the metropolitan area) needs to be considered. The demand analysis shows that there is moderate but sufficient demand for a further business park zone, and given this the proposition is reasonable given its regional context and the precedent created by the successful Tuggerah Business Park.</p> <p>The land immediately to the west of the proposed Precinct 7A Business Park is subject to a Property Vegetation Plan under the Native Vegetation Act 2003 administered by the Catchment Management Authority (CMA). While the boundary of this land may be adjusted through negotiation, the process is quite involved.</p>
Proximity to workforce (within 30 minutes commute)	<p>The Central Coast has a population of 300,000 and the Lake Macquarie LGA a population of about 200,000. Given the site's location close to the F3 a good share of this population (3-400,000 in total) would have access to the development in about 30 minutes by car. The immediate Precinct 7A area is being planned for about 6000 people and the proposal will be highly accessible to this future population.</p>
Business parks should have a relationship to adjoining economic infrastructure e.g. hospitals, universities, educational facilities, research institutes	<p>In time Warnervale (whether in the existing or future town centre location) is likely to host more educational and medical facilities. As it is the Wyong hospital is only about 4-5 kilometres away to the east along Sparks Road (and closer than it is to the Tuggerah Business Park)</p>

The proposal rates well against these criteria, insofar as they are relevant to a regional location such as Wyong. Access and links to arterial and freight corridors are particularly strong. The population within 30 minutes (roughly estimated at perhaps 3-400,000 now) is growing and will continue to need local job opportunities to minimise commute times.

The CCRS also offers some strategic planning directives for business parks. The importance of transport corridors is also raised, although the focus here is less on public transport corridors, given that public transport provision is not as widespread or frequently available as in metropolitan Sydney. The CCRS says that the Regional Economic Development and Employment Strategy:

'will include a framework for the development of future business parks that:

⁴⁰ NSW DaP&I (2010) *Metropolitan Plan for Sydney 2036*, p. 137.

- prohibits office-only activities in out-of-centre locations.
- sets a maximum percentage of office floor space within an out-of-centre commercial complex where office floor space is integrated with activities such as manufacturing and distribution.
- ensures that business parks are strategically located near major transport corridors.⁴¹

The Regional Economic Development and Employment Strategy does not appear to set such a framework. Nevertheless, issues for the Warnervale North West site against these items are shown in Table 24.

TABLE 24. CENTRAL COAST REGIONAL STRATEGY BUSINESS PARK 'FRAMEWORK' AND WARNERVALE NORTH EAST

Framework element	Commentary
Prohibition of office-only activities in out-of-centre locations	This site can be considered to be part of a centre if planned in an integrated way – and linked to the existing railway station and village (which will grow over time) by appropriate transport access, including walking and cycling and linking activities such as mixed use. Limiting the amount of 'pure office' in the precinct will be critical to ensuring that the Warnervale Town Centre develops as intended (advice on ensuring these opportunities are provided in the Warnervale Town Centre is included under strategic theme 1)
Set a maximum percentage of office floor space within an out-of-centre commercial complex where office floor space is integrated with activities such as manufacturing and distribution	This is a more restrictive requirement but two considerations are relevant. <ul style="list-style-type: none"> • If the business park is considered to be in a centre then the element would not apply. • If the requirement applied to the whole site (say 30 percent total office), as it implies, then the requirement could be met. With a mixed use element a share of residential might also be encouraged.
Ensure that business parks are strategically located near major transport corridors	The site achieves this.

Some other points to note include the following:

- The business park will inevitably compete with the proposed Warnervale Town Centre in terms of office oriented employment but this competition can be minimised if the town centre is promoted with more of a retail and service role, and for smaller businesses and if 'pure office' development is limited to say 30 percent of the total floorspace. It can complement rather than compete 'head to head'.
- A great advantage in terms of early development is the single ownership and lack of fragmentation. Existing and potential future competing sites such as Bruce Crescent, Hue Hue Road and WEZ have fragmented ownership issues, and are more constrained. It is closer to the freeway than North Wyong Industrial Estate and a lot of other potential estates. The other sites do not have the infrastructure and the cost of development is therefore higher at these other sites.

SGS's opportunities and constraints analysis identifies Light Industry as the most suitable use for this site, followed by Business Park and Urban Services. It is relatively unconstrained.

The link road is in place and early development is possible (in comparison to other sites such as those identified in the NWSSP and WEZ). This would be an advantageous in marketing the residential development to follow in Precinct 7A.

The Council's Precinct 7A Business Park proposal is a reasonable one given the regional context. It will be important to ensure it is provided with public transport access to neighbouring residential areas as they develop. Integration and links to the adjacent residential development area is also critical to the 'urbanity' of the development.

To maximise the prospects for success, and to ensure appropriate consideration of the future of the Warnervale Town Centre and integration with surrounding land uses and transport it will be desirable to develop the site on a 'master planned' basis. This will ensure that the lot sizes, access arrangements and ultimate uses are consistent with the principles embodied by the discussion above and the proposed controls. Council's ownership of the site will provide for this and enable it to act as a catalyst for development. It is recommended that Council develop the site progressively according to such a plan, rather than sell the site off and allow it to develop in a more ad hoc fashion.

⁴¹ NSW DoP & I (2008), Central Coast Regional Strategy, p.59.

5.3 Strategic theme 3: Creating incentives and ensuring Wyong is cost competitive to attract jobs to employment land areas and achieve job targets in the CCRS

A Council 'task force' should identify and offer appropriate incentives and assistance to industry

There is an overwhelming message from the consultation with industry representatives: Wyong appears to be losing ground in competitiveness for industrial development (though the GFC has dented prospects for industrial development more generally and other regions are also affected).

While the reduced population growth and wider subdued demand generally are acknowledged, particular and local issues are also highlighted. As nominated by the industry representatives they include:

- offers of 'incentives' by competing areas such as the Hunter
- inflexible development controls relating to uses and subdivision (lot size) controls
- unhelpful Council attitudes to approvals and a 'lack of commercial perspective'
- high developer charges, and
- unreasonable environmental hurdles.

Developers and their representatives have an interest in lowering the hurdle to development, sometimes unreasonably. However, there did seem to be some consistent and earnest sentiment amongst the participants in the consultation. It is not within the scope of this study to analyse all these claims though some preliminary analysis of comparative developer charges in the wider region suggested that Wyong Shire may not be unreasonably out of line in this regard and standardised zoning and strategic frameworks suggests that use controls at least are likely to be similar in industrial areas from council to council. Suggestions for 'freeing up' controls will also emerge from this study (suggestions have already been made for this in strategic locations such as Tuggerah Straight and on the Pacific Highway frontage at North Wyong).

Nevertheless, it is worth investigating these industry claims more thoroughly because a competitive employment lands environment will be fundamental to growth prospects.

A Council 'task force' should be established to benchmark Wyong Council against Gosford, Lake Macquarie, Newcastle, Maitland and Cessnock Councils in relation to:

- any available incentives and direct assistance offered to industry
- relevant numeric development controls (FSR, heights, setbacks, car parking)
- developer charges
- council processes related to approvals
- environmental controls, and
- infrastructure investment programs.

The findings from this work could be developed into marketing and branding materials to promote the region.

Any appropriate adjustments that can be made to practices in the Shire, without compromising environmental standards, strategic development objectives, or Council's financial sustainability, should be considered.

In addition, the issues of individual businesses contemplating major future investment in the Shire or businesses with specific problems, could be targeted and 'case managed'. The consultation for the study indicated a high level of knowledge of detailed issues facing individual businesses and there could be a forum and process established to deal with these expeditiously.

In addition to considering issues for particular businesses, the task force should also have a role in providing the settings and conditions for the development of the Wyong Employment Zone and Bushells Ridge areas. These are major aggregations of land where development expectations are high. However, the sites are complex with environmental and significant servicing constraints and potentially multiple roles to fulfil (from providing local service industry opportunities to hosting state significant freight and logistics users). Without focussed attention these issues will not be addressed in a coordinated way. The taskforce should also prepare an action plan for the effective long term development of these sites.

The structure of the taskforce will need to be discussed with and agreed to by Council but it would be desirable if it had senior public officials and industry representatives, for example:

- relevant senior Wyong Shire council officials
- senior representatives from state government including environment, infrastructure and planning agencies (to be identified with reference to the Employment Lands Taskforce run by the Department of Planning and Infrastructure)
- industrial property representatives (such as from peak bodies such as the PCA but also from the local area).

It is not appropriate to have individual land owners on this task force though of course formal consultation with them will be critical to identify issues and constraints to development. The taskforce should have a relatively narrow agenda to ensure it is effective, and work to a strategic plan with achievable targets. The taskforce could be serviced by Council staff or by a newly appointed person charged with addressing the agenda outlined here.

Target relevant sectors highlighted in the REDES

Economic development efforts should be extended to attracting sectors identified in the Regional Economic Development and Employment Strategy. Table 25 'lines up' the REDES priority uses and the appropriate Wyong Shire precincts suggested for these priorities.

TABLE 25. REDES PRIORITY USES AND APPROPRIATE PRECINCTS

REDES priority uses	Wyong Shire Employment Lands Response
Logistics cluster: distribution centres, intermodal hubs, warehousing and storage, and road transport services, education and training	WEZ and Bushells Ridge are ideal long term prospects for this cluster. When a high value proposition arises development constraints are likely to be addressed. Best addressed by coordinated planning for these two major precincts.
Food cluster: manufacturing, packaging, refrigeration, distribution, maintenance services, research and development. Health cluster: health research centres; health education centre; health precinct	North Wyong has potential to host these uses in the short to medium term; overflow could be to Precinct 7A Warnervale South West Business Park. Craigie Avenue should be rezoned as appropriate for employment uses to accommodate this sort of development. The Precinct 7A Warnervale South West Business Park is also appropriate for this type of use.
Green industries cluster: environmental R&D, water management, sustainable energy; architecture, urban planning	It makes sense that this would be the focus for future commercial development in the new Warnervale town centre and in Tuggerah Straight as part of the proposed intensification in that area.
Business services: call centres, back office functions, support centres	Should be a target for Gosford Regional City but might also be accommodated in the Warnervale South West business park. However, the precinct itself and any precinct extension (to the west for example) should be 'non-conventional' and work with and make a virtue of any environmental constraints (consistent with the 'green industries' cluster above)
Government: government agencies – regional head quarters, administrative offices, regional service centres	Not relevant to Wyong Shire (should be a target for Gosford Regional City)
Manufacturing cluster: building materials, modular components, products, green building products, and engineering.	North Wyong is ideally placed to host such uses; and North East Warnervale in future.
Tourism cluster: (short stays, conferences, eco-tourism and events) accommodation, hospitality, cultural services, retail.	Not relevant to the 'industrial' employment lands which are the focus of this study.
Ageing cluster: expanded provision of aged services; research centre on ageing issues, including health, lifestyle, education, aged care	Not relevant to the 'industrial' employment lands which are the focus of this study.

5.4 Strategic theme 4: Considering the future for some ‘marginal’ industrial areas (e.g. WEZ, Bushells Ridge, Tuggerah station industrial)

Protect Bushells Ridge and parts of WEZ as a future freight and logistics hub

The Wyong Employment Zone (WEZ) and Bushells Ridge have long been slated for significant employment development. There is evidence of impatience from the consultation that major jobs growth hasn't followed the relatively recent rezoning of these areas.

At the same time, the REDES and consultation stakeholders recognise the medium to long term potential of the Shire as a location for freight and logistics. For example, the Wyong part of the Freeway offers the opportunity as a freight breakage point for northern derived materials heading south to Sydney and Melbourne. Woolworths is a major investor that has already identified the potential of WEZ as a location for distribution operations and in the interview for the audit conducted for this study identified that it employed 600 people out of this site.

Ultimately, these areas are strategically important for the Central Coast and for the Greater Metropolitan Region.

WEZ and Bushells Ridge are ideally located to take advantage of the potential in freight and logistics. However, these are generally long term prospects and it is important that the Council ‘hold the line’ in relation to these areas. Freight hubs in Sydney and Melbourne, and elsewhere around the world have long lead times from conception to delivery, spanning decades in some instances. The delivery depends on innovations and changes in approaches to distribution, land price pressures and on transport investments. In the next 15-20 years it is certainly probable that the F3 will be fully connected into Sydney's motorway system. In 50 years the F9 corridor, bypassing Sydney to the west, may have developed. If Wyong has ‘cut up’ and allowed minor subdivision and strata development to intrude into major parts of Bushells Ridge and WEZ then a major opportunity will have been lost. This is an opportunity for the Council to take a long term perspective.

There are already some worrying signs. The so-called ‘Hunter’ land already has approval for a reasonably small lot subdivision and there is a Part 3A proposal for relatively small lots at the south Darkinjung site. The core Darkinjung area in Bushells Ridge has a Part 3A proposal with larger lots. Ideally, there would be a greater share of the total site with larger lots (i.e. lots of two to four hectares minimum) and fewer lots less than two hectares.

For the analysis in this study the WEZ site has been allocated to four different precincts, with different locational and spatial characteristics, and potentially different roles. The four identified precincts are:

- WEZ Airport Lands
- WEZ North West
- WEZ Sparks Road North
- WEZ Warnervale Business Park

There is already some development here (principally in the WEZ Warnervale Business Park) and there may be some shorter term additional development potential possible (probably in the Sparks Road North and Warnervale Business Park precincts). However, a good share of these precincts needs to be preserved for strategic freight and logistics uses.

To manage this tension between short and long term demands, a controlled but flexible mix of different lot sizes in the WEZ area should be provided for. In part of the WEZ area (probably the Sparks Road North and Warnervale Business Park precincts) controls would allow for say 20 percent to be subdivided into lots of less than say 2000 square metres, with the remainder to be protected for lots of say 4 hectares or larger (the WEZ North West and Airport Lands might be ‘land banked’ and preserved for larger lot users only or for future consideration). These ideas and this split are indicative only, to illustrate the concept, and more research and a structure plan is required to identify the best approach. The structure plan, and planning for the associated infrastructure ‘roll out’, would be a focus for the proposed Taskforce.

The Bushells Ridge and WEZ areas are of state significance similar to the proposed Western Sydney Employment Area which is currently the focus of a significant structure planning effort (see box below). Wyong Council can rightly argue that Bushells Ridge and WEZ should be ‘next in line’ for this sort of detailed planning effort.

Broader Western Sydney Employment Area Structure Plan
 from the Department of Planning and Infrastructure website
<http://www.planning.nsw.gov.au/western-sydney-employment-area>

The Department of Planning & Infrastructure has commenced work on the Broader Western Sydney Employment Area Structure Plan.

This work is being undertaken in consultation with Liverpool, Fairfield, Penrith and Blacktown Councils and will investigate new employment lands in Western Sydney to help bring jobs closer to home.

Creating employment in Western Sydney and promoting economic development is a key objective in the Government's Sydney Metropolitan Strategy.

The Broader Western Sydney Employment Area extends from the M4 / M7 hub south west to Badgerys Creek. The study area covers approximately 10,000 hectares.

A draft Structure Plan will be prepared which identifies new employment land at a strategic, regional scale.

Investigate infrastructure financing and funding alternatives

Funding infrastructure to service new employment precincts is a major challenge in places like the WEZ and Bushells Ridge. Some appropriate principles that should underpin systems of development contributions include the following:

- minimise the up-front funding burden on development (meaning that a mix of approaches including recurrent charges is desirable)
- limit up-front contributions to infrastructure items whose cost of delivery varies significantly from development location to development location (and which are absolutely required prior to development commencing)
- distinguish between the types of development contribution and the rules of 'reasonableness' that might apply to them – up-front user charges, impact mitigation payments, betterment levies and inclusionary zoning contributions ('lumping' charges with different objectives into the development contribution mix has sometimes created an onerous funding burden for development).
- uphold the nexus principle (that is ensure that the funding mechanism chosen relates to 'who benefits' – i.e. the wider the beneficiaries, the wider the source of funding, new development shouldn't pay for infrastructure that existing development will also benefit from).

The approach to development contributions for industrial land in Wyong needs to be critically assessed against these criteria. The funding approach should be brought into line with these criteria as much as possible.

It is likely that the requirement to fund an increasing share of the cost infrastructure items has drifted to earlier in the development process, contravening the first and second of these principles. This is typically because local and state governments have become more debt averse (and are reluctant to borrow for infrastructure with pay back via rates or special recurrent funding arrangements). Developers are unlikely to be able to forward fund infrastructure where the payback from follower developments is over a long and uncertain time period.

This up-front 'financing' of infrastructure issue (where 'funding' is the mechanism by which the capital or debt is repaid) is a key impediment to earlier development. Three alternatives are as follows:

- Seek forward funding from state government sources for key precincts where development effort is to be concentrated – perhaps in the Tuggerah area (where remedial drainage works might be necessary) or perhaps more likely parts of WEZ or Bushells Ridge according to the structure planning process detailed earlier. This will be based on an appeal as to the strategic nature of these sites.
- Another alternative is to review the traditional life cycle planning approach to infrastructure provision across all significant categories (water, sewerage, energy, roads). Typically, the life cycle and centralised provision approach to these infrastructure items calls for resolved and large scale schemes looking 30 years or more to the future. The associated infrastructure standards are likely to be prescriptive, enduring and costly to satisfy. It would be desirable to move to a more performance based approach, in negotiations with infrastructure agencies. This would specify the outcomes expected of each infrastructure item but allow for these to be satisfied by individual developers or by group schemes which utilise, for example:

- temporary infrastructure with a limited life span and perhaps serving single sites (once established the development may be in a position to also contribute towards the cost of the full scheme in due course)
- alternative technologies including decentralised provision of infrastructure which would typically require a development agreement allowing the developer (or developers) to 'opt out' while guaranteeing that service outcomes will be met.
- Another alternative is for council to work up a scheme with neighbouring councils (e.g. with Gosford and Lake Macquarie) whereby unspent s94 or other infrastructure contributions are 'pooled' and used to finance infrastructure in a diversity of locations across the region, on a strict payback and monitored basis. The idea here is to gain some flexibility in the timing of the use of infrastructure funds and to effectively spread the risk somewhat.

The proposed taskforce would have carriage of this agenda to review and propose alternative infrastructure financing and funding approaches.

Transform Tuggerah Station Industrial into an enterprise and business development area

The Tuggerah Station industrial area is generally underdeveloped (FSR less than 0.17 to 1) and is in some ways a residual enterprise area, particularly the Lake Road part of the precinct. There is no urgent need to modify the controls in this area but as pressure grows for development, alternative futures will need to be contemplated.

Council engineers have recently prepared a new drainage and road scheme for the area with a cost of almost \$7m (\$1.84m drainage and \$5.14m roads). Translated into a development contributions scheme, this threshold development cost would be a major disincentive to further development of the area. Two alternative options are worth exploring.

- The first would be to introduce a maximum FSR of say 0.2:1 and a maximum impervious surface, to maximise overland flow and absorption. Council engineers (or perhaps independent consulting engineers) would be asked to assess whether this could moderate the need for such an elaborate engineering solution and therefore the development costs. This approach would make the area a low cost, low intensity economic area.
- The second is to allow a much greater range of uses and development activities and more intense development, to generate the value to 'pay' for the increased engineering costs. A business development zone (with residential uses prohibited) would be introduced to facilitate the change.

The latter option is consistent with the idea discussed earlier of Wyong-Tuggerah as an economic enterprise centre. This approach is preferred.

5.5 Strategic theme 5: Directions for innovation to allow for 'non-conventional' economic and employment activities including home based work

The brief for the study called for innovation to encourage employment development and to reflect emerging economic trends. The study has proposed to 'free-up' controls for employment activities in strategic locations such as Tuggerah Straight, Tuggerah station industrial, the Pacific Highway frontage at North Wyong and also at Craigie Avenue. Another opportunity is to encourage and facilitate home based business and occupations. While this is outside the scope of the industrial and employment land which is the focus for this study, some ideas are explored below.

Allow some home trade and businesses in selected large lot residential areas

The attraction of home based work is flexibility in work hours and the avoidance of a commute to work. Home-based work is also attractive to mature age and disabled workers, and can therefore promote benefits linked to increased workforce participation, and enhanced social capital, among these groups. It is anticipated that the NBN will enhance prospects for home based work, as remote access to central data and information repositories is made easier and video conferencing and general long distance communications are enhanced.

Within the Wyong Shire there are some large lot areas where home based trade and businesses could occur without major impact on surrounding residential amenity. Bruce Crescent is one such location where this could be allowed

as a transition to more intense employment activities in future (as envisaged by the NWSSP). Other areas which could be investigated for home based trade and business include Fountaindale and areas around Doyalson.

In terms of facilitating more traditional home-based work, provided that 'home occupation' and/or 'home business' are permissible in the appropriate residential areas, there is little else that can be done to facilitate home-based work in residential zones. In the Standard Instrument 'home occupation' involves only residents of the dwelling, whereas 'home business' can involve up to two non-residents.

To enable home-based work Council will need to:

- Provide controls for home based businesses other than offices. The following controls should be applied to home based businesses:
 - the use does not create disruptive levels of noise, smells or fumes to surrounding uses
 - the use does not result in a significant level of traffic or pedestrian movement that may disrupt the function of surrounding uses
 - there are adequate on-site servicing and parking facilities.
-
- Ensure planning controls allow for Home Based Work and Home Based Business
- Ensure that residential zones in the LEP do not prohibit potential home businesses in designated residential areas. 'Home occupation' and/or 'home businesses' should be permissible in appropriate residential areas.
- Ensure that local centre zones in local/village centres permit the development of business supporting services for home based businesses.

Encourage and facilitate office and home business in Wyong Town Centre

The opportunity for Wyong Town Centre to host major office development may have passed.

It is possible that there are onerous costs for prospective commercial developers in the centre and, combined with apparently lacklustre market conditions, these represent a deterrent. An option for consideration – and to possibly reduce costs and thereby 'bring forward' development is to 'free up' the market for car parking related to office development. Council could decide on an office parking space 'cap' for the centre given capacity and alternative transport opportunities, and an estimate of office development potential. Developers would be free to provide as little or as much on-site parking toward this cap as they like. Developers choosing to provide no or reduced on-site parking would have to contribute funding in-lieu up to a benchmark toward a centralised above ground structure to be ultimately provided by council (this would have to be costed and the number of spaces proposed included in the ultimate 'cap'). Developers choosing to provide on-site parking would be doing so according to their own market perspectives, rather than prescriptive planning controls.

This innovative approach to parking is somewhat ambitious but may provide more flexibility to potential office investors. There may be suitable sites for office development north of Anzac Avenue and south of North Road but development opportunities may be subject to the sort of innovations outlined here and are therefore medium to long term options.

In the shorter term, the town centre can still make an economic contribution by providing opportunities for niche and boutique businesses. This would be facilitated by encouraging home occupations and live work residential development. Businesses would have excellent connections to Sydney via rail and access to the services and enterprises in Tuggerah Straight and Tuggerah Business Park.

Explore opportunities for industry synergies and the application of an industrial ecology model

Industrial symbiosis is the process whereby the waste from one industry is used as a resource for other industrial operations or applications. This 'closed loop system' significantly saves on wastes going into landfill, waterways and the atmosphere. There can also be substantial economic benefits that accrue to industries participating within eco-industrial parks including savings that can be made by capitalising on localisation economies, avoiding compliance costs and minimising the cost of inputs as well as the increased potential income that can be made by marketing a 'green' image and by receiving income from wastes.

Further work will need to be undertaken to identify opportunities for this approach in Wyong Shire but could include:

- Land-use zoning that allows for different types of industry to be located together in the one industrial park to enable industrial symbiosis to occur. At present there is also insufficient infrastructure available for the development of eco-industrial parks. As part of the planning process governments can also finance infrastructure through grants, subsidies etc., or they can provide the initial infrastructure to get the park started.
- Government can also act as an incubator for the commencement of an eco-industrial park by bringing together firms that can utilise each other's by-products.

Government can also work together with potentially interested parties to develop potential linkages between different firms. They can also coordinate the development of an eco-industrial planning body for the park to coordinate the activities of the firms in the future. Government can also make information about eco-industrial parks readily available and advertise the advantages of eco-industrial parks. This can be combined with a research and development role whereby the government investigates potential opportunities for the reuse of by-products from industry, and makes the results available to industry.

Precincts hosting power stations are clearly areas where waste heat is generated, and other activities occur which might be suited to industrial ecology innovations. The relatively high density employment areas around Tuggerah might lend themselves to a 'retrofit' of the sorts of technologies and approaches outlined here. WEZ and Bushells Ridge should also be considered for such innovations in the longer term.

The proposed taskforce could be charged to undertake more work on this concept and where in Wyong it might be suited to.

5.6 Implementation: meeting short, medium and long term demands in existing and proposed development areas, including a process for new release employment land areas

Wyong Shire's geography, waterways and terrain make it difficult to identify a strong 'structure'. Essentially the elements of the structure that can be identified are:

- coastal and lakeside residential development to the east of the Shire
- a major arterial north-south road corridor (F3) wholly to the west of the main settlement areas
- a minor arterial generally north-south corridor (Old Pacific Highway) linking the residential areas
- a rail line that tracks the minor arterial road corridor in the southern part of the Shire
- a substantial complex of mixed employment in the Wyong-Tuggerah area, amidst the south-central part of the residential settlement areas and a significant employment area (North Wyong industrial area) to the north of this
- isolated employment areas in outlying residential settlements
- key east-west roads (Sparks and Wyong Roads) linking residential areas to the major arterial
- large underdeveloped industrial areas along the main arterial corridor in the central part of the Shire
- environmentally constrained and rural areas in the central and western parts of the Shire.

New residential areas are proposed along the rail line and minor arterial corridor from the central to the northern parts of the Shire (phased in this order).

The advice from policy material – including the CCRS and REDES – is that there does not need to be major additional rezoning of land for industrial uses (the ELDP points out that the Shire has the lowest density employment lands and the most undeveloped employment land in the Sydney region). The demand-supply analysis in this report has confirmed this, with more than adequate overall capacity to meet demand; although there was a supply shortage in some precincts given conservative assumptions about supply capacity in most cases.

Of course the employment lands supply needs to evolve to support changes to industry and new economic demands, and with new residential release areas there will be a need to release land to provide accessible employment which is proximate to new settlement areas. Consequently, notwithstanding the spare existing capacity, there may be a need for marginal additions to the supply of industrial lands and to facilitate selective intensification.

Another point made in consultation is that the fragmented geography of the Shire works against the establishment of a 'critical mass' of employment and activity. It is difficult to create this in the absence of rapid growth but it does suggest that major further rezoning is not appropriate. Consolidation and intensification will be important strategies.

Based on this rationale, the needs and future directions analysis has allocated five categories to existing and potential precincts, guided also by the geographic and local structure issues identified above. These categories and the general actions necessary to realise these roles are outlined in Table 26.

TABLE 26. FUTURE ROLE CATEGORIES FOR INDUSTRIAL AREAS

Future role categories	Rationale for application given Shire 'structure'	Implementation
Consolidate current role ('business as usual')	Typically likely to apply to those areas where new demands and needs are modest and the precinct is functioning well given its context; most likely those precincts with a service industry focus servicing established residential settlements.	Translate current zoning into new standard template zones.
Transition, with intensification as appropriate	Appropriate for existing employment areas and centres in the 'heart' of the Shire in the Tuggerah and Wyong area with a strong relationship to residential areas nearby, where building a 'critical mass' from an existing base is possible and good transport (including public transport) connections exist.	Tailored 'upzoning' of either use or allowable development intensity. May need complementary infrastructure or economic development initiatives.
Protect and maintain for longer term industry prospects	Appropriate for underdeveloped areas with attributes (that is, which offer a comparative advantage) aligning with longer term industry trends and strategic futures for the Shire; the F3 is a key attribute in this regard.	Translate current zoning into new standard template zones potentially with adjustment to subdivision or density controls to protect for longer term.
Selective new release to accompany residential and labour force growth in short to medium term	As the population grows and new settlements develop there will be a need for service industry development, as well as higher order employment nodes to provide future employment opportunities.	Re-zone in line with future demand and accompanying wider precinct planning and rezoning; prepare servicing and infrastructure plans as appropriate.
Reconsider in medium to long term	Not currently zoned for industrial or employment uses. No pressing need or justification for rezoning given observed supply-demand patterns.	No short term action necessary; review in due course.

Each of the existing and potential precincts is allocated according to this categorisation below (in Table 27 and Table 28). For each precinct the proposed zoning, estimated timeframe for development and estimated future floorspace and jobs is also identified.

Note that the shaded cells in the two tables below refer to floorspace and jobs due to absorption of excess demand under the base case scenario. The implied remaining capacity to accommodate additional jobs in 2036+ is calculated in two ways. Where applicable, jobs and floorspace projections for 2036 is used to derive a jobs-per-square metre ratio which is applied to the remaining capacity (2036+). Alternatively, a weighted average jobs-per-square metre rate of 77 (based on previous SGS research and weighted by Wyong LGAs BLC profile) is applied to the remaining capacity (2036+).

TABLE 27. FUTURE ROLE FOR EXISTING ZONED INDUSTRIAL AREAS

Consolidate current role	Proposed zone	Timing of development	Floorspace		Jobs				
			Current	2036 (remaining capacity)	Current	2036 (implied remaining capacity)			
Berkeley Vale Industrial	Additional opportunities for manufacturing and strategic industry growth	IN1 with a small amount of IN2 south of Enterprise Drive	254,299	371,315	0	6,790	10,856	0	
Charlhaven Industrial	Local service role for established residential communities to continue	IN2	119,174	157,176	0	1,781	2,271	0	
Dayalson Industrial	Regional and local service role to continue	IN1	9,403	11,989	0	1,072	1,506	0	
Foundersdale Industrial	Regional and local service role to continue	IN1	66,896	78,118	0	712	875	0	
Long Jetty Industrial Area	Local service role for established residential communities to continue	IN2	4,459	5,940	0	335	425	0	
Turnbly Gardens Industrial	Local service role for established residential communities to continue	IN2	32,058	44,714	0	1,450	2,020	0	
Transition with intensification as appropriate									
Tuggerah Business Park	Facilitate to evolve as part of a commercial and industry complex in Wyong, Tuggerah Major Centre, well connected to Sydney and nearby residential adjacent to the major arterial	B7	179,412	258,340	0	1,488	2,188	0	
Tuggerah Straight	Facilitate to evolve as part of a commercial and industry complex in Wyong, Tuggerah Major Centre well connected to Sydney and nearby residential adjacent to the major arterial	B5 along Pacific Highway; IN2 remainder; IN1 on east of Pacific Hwy	142,624	208,906	0	2,533	3,671	0	
Tuggerah Station Industrial	The western precinct can evolve with intensification as part of a commercial and industry complex in Wyong, Tuggerah Major Centre. Lake Road area should continue to provide a service industry role, with review appropriate in medium to longer term.	B5 on west; IN2 along Lake Road	23,130	36,051	0	1,488	2,188	0	
Durrinhah Industrial	Currently contains a mix of business employment. Specific role to be clarified in relation to university, Durrinhah Town Centre and other employment activities subject to the Durrinhah Master Plan process.	IN2	Capacity beyond 2036	3,319	4,841	4,624	1,234	1,838	1,756

Transition with intensification as appropriate	Proposed zone	Timing of development	Floorspace		Jobs				
			Current	2036 (remaining capacity)	Current	2036 (implied remaining capacity)			
North Wyong Industrial	B6 along Pacific Highway frontage; IN1 for remainder	Capacity to 2036	258,602	366,471	0	1,332	1,969	0	
Barreau Bay Industrial	IN2	Capacity to 2036	0	887	0	0	11	0	
WEZ Warriernale Business Park	B7	Capacity to 2025	166,535	426,578	0	1,726	4,143	0	
Gwardahlan Industrial	B3 in the north and IN2 in the south	Capacity to 2025	4,756	6,678	0	85	119	0	
Protect and maintain for longer term industry prospects									
Darlington	IN1	Very long – required by 2050+	0	0	746,856	0	0	9,714	
WEZ Sparks Road North*	IN1	Medium term – required by 2025+	26,961	150,829	150,616	493	2,367	2,363	
WEZ Airport Lands*	IN1	Medium term – required by 2025+	0	86,239	21,618	0	862	216	
WEZ North West*	IN1	Long term – required by 2036+	0	0	213,791	0	0	2,781	