STATE PLANNING COMMISSION

PRODUCTIVE ECONOMY

BACKGROUND PAPER

NOVEMBER 2018

Government of South Australia

Department of Planning, Transport and Infrastructure

saplanningcommission.sa.gov.au

CONTENTS

PURPOSE

This *Productive Economy Background Paper,* is one of two reports supporting the State Planning Commission's *Productive Economy Policy Discussion Paper*. This background paper should be read in conjunction with the discussion paper, which includes recommendations for the Planning and Design Code (the Code) and seeks to:

- provoke thought and discussion about how current policy supports South Australia's planning goals in relation to supporting the productivity of the state's economy

- identify existing policies that can be transitioned into the first iteration of the Code and policy areas that will require more significant reform over time.

This paper provides an outline of strategic planning documents, and a review of the South Australian Planning Policy Library (SAPPL) and development plans in relation to the following economic themes:

1. Supporting and growing key industries

2. Linking people to jobs, goods and services

3. Providing infrastructure to enhance our liveability and competitiveness

4. Facilitating innovation

This paper also provides a summary of investigations undertaken by the Commission to date, to:

- Identify gaps or deficiencies in policy to be addressed to align with state strategic directions,

- identify opportunities to transition and consolidate existing contemporary policy, and

- highlight investigations and research to be undertaken to inform new policy direction.

Further, Deloitte Access Economics were engaged to advise the Commission on South Australia's current and future economic advantages and the role land use planning can play. Refer to the related report entitled **'Land use planning and the South Australian Economy'** available for download at www.saplanningportal.sa.gov.au.

PART 1: RELEVANT POLICY CONTEXT

South Australia's policy directions are expressed through the suite of strategic plans and state-wide policies applicable across all regions of the state. They set out a series of strategies and targets which are aspirational and provide the high-level policy foundations which can influence investment decisions, regional specialisation and infrastructure investment priorities.

The existing policy environment in South Australia will provide the foundation for drafting content for the new Code. Not only will this review assist in identifying the strengths and limitations of existing policy within council development plans and the South Australian Planning Policy Library (SAPPL), it will also identify opportunities for policy consolidation, where policy gaps currently exist and highlight new and emerging policy areas. In preparing information for this draft discussion paper, the following policy documents were considered.

Strategic Directions

State Planning Policies (SPPs)

The State Planning Policies (SPPs) outline the high-level planning priorities for the state and enable the new system to robustly respond to current and future opportunities and challenges. In drafting the Code, the Commission must ensure the policies developed align with the direction set out in the relevant SPPs. The draft SPPs relevant to our Productive Economy these are:

- SPP 1: **Integrated Planning**
- SPP 2: **Design Quality**
- SPP 3: **Adaptive Reuse**
- SPP 6: **Housing supply and diversity**

- SPP 8: **Primary Industry**
- SPP 9: **Employment Lands**
- SPP 10: **Key Resources**
- SPP 12: **Energy**

See Appendix 1 for further detail on each of the relevant SPPs. Public consultation concluded on these draft SPPs on 21 September 2018. Finalised SPPs (in response to this consultation) will be released in early 2019.

Regional Plans

As with the SPPs, the directions set out in Regional Plans will provide the strategic foundation for the Code Policy Library. Given they are yet to be proclaimed under the new Act, the current Planning Strategies for South Australia will serve as the state's interim Regional Plans. It is important to note that where there is conflict between a Regional Plan (Planning Strategy) and the SPPs, the policies within the SPPs will prevail.

The 30-Year Plan for Greater Adelaide

First released in 2010 and updated in 2017, the 30-Year Plan is the state government's strategic land use plan for the Greater Adelaide region. The plan sets out future directions for growth, with an emphasis on providing greater affordable living choices, healthy neighbourhoods, improved utilisation of infrastructure, enhanced liveability and a more compact, sustainable urban form.

The Plan includes two policy themes of specific relevance to productive economies:

- **The economy and jobs**
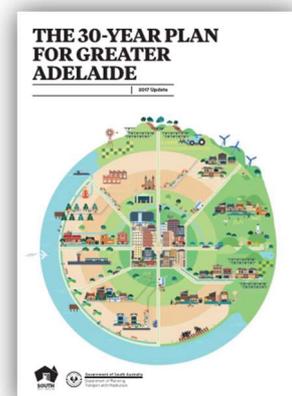
- **Infrastructure**

Figure 1 The 30 Year Plan for Greater Adelaide. Source: DPTI

Implementation of the strategic directions of the Plan is guided by six headline targets, the following two of which are directly relevant to this paper:

Target 1: Containing our urban footprint and protecting our resources: (1.1) 85% of all new housing in metropolitan Adelaide will be built in established urban areas by 2045. (1.2) 90% of all new housing in the Outer Greater Adelaide will be built in established townships and designated urban development areas by 2045.

Target 4: Walkable neighbourhoods: Increase the percentage of residents living in walkable neighbourhoods in Inner, Middle and Outer Metropolitan Adelaide by 25% by 2045.

For further detail on the relevant policy themes of the 30-Year Plan, refer to Appendix 2.

Regional Planning Strategies

The planning strategy also includes seven volumes covering the Yorke Peninsula, Mid North, Eyre & Western, Far North, The Murray and Mallee, Limestone Coast and Kangaroo Island Regions of South Australia. They contain goals and objectives for the protection of economic activity. The overall goals are fairly consistent across the regional strategies with the detailed targets being regional specific:

- Protect and build on the region's strategic infrastructure
- Protect and strengthen the economic potential of the region's primary productive land
- Strengthen the economic potential of the region's mineral and energy resources
- Strengthen the commercial fishing and aquaculture industries
- Reinforce the region as a unique and diverse tourism destination
- Provide and protect industrial land to meet projected demand
- Ensure commercial development supports town function.

Other government strategic plans

There are a number of other government strategic directions relevant to this paper, see Figure 2.
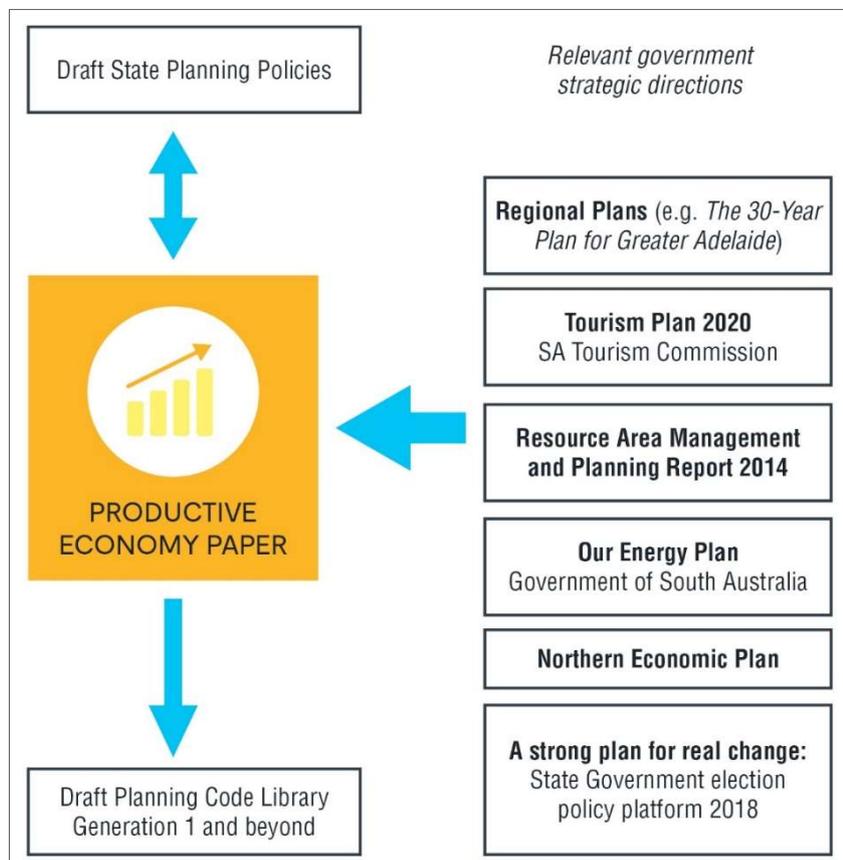

Figure 2 The relationship of the Productive Economy Paper with other key government plans and strategies.

Source: DPTI

The South Australian Planning Policy Library (SAPPL)

The state's current planning policies are contained in the South Australian Planning Policy Library (SAPPL). The Library encourages best practice policy application and a consistent Development Plan format across the state. The SAPPL will form the starting point in transitioning to the Code.

For a copy of the South Australian Planning Library visit: www.sa.gov.au/topics/planning-and-property/land-and-property-development/planning-professionals/south-australia-s-planning-policies

The SAPPL contains many policies addressing the innovation, growth and diversity of the sectors that make up our productive economy as well as addressing the various ways in which economic development interacts with the environment, transport and infrastructure and our community's development. Some of these policies are found within specific land use topics, while others apply generally.

Figure 3: SAPPL Version 6. Source: DPTI

The SAPPL also contains zones that are specifically aimed at strengthening our productive economy. For more detail, see the policy analyses below.

General policies

General policies apply across the state and are included in policy modules that cover:

- Advertisements
- Bulk Handling and Storage Facilities
- Centres and Retail Development
- Energy efficiency
- Industrial Development
- Infrastructure
- Interface Between Land Uses
- Mineral Extraction
- Renewable Energy Facilities
- Telecommunications Facilities
- Tourism Development.

Economic development is also covered under a range of other topics, such as **Design and Appearance**, **Hazards**, **Land Division**, **Orderly and Sustainable Development**, and **Transportation and Access**.

The policy library also calls up specific maps with related policy, largely through the general modules. These are then located in maps at the back of development plans.

- Natural Resources
- Noise and Air Emissions
- Strategic Transport Routes Overlay
- Bushfire Risk.

Zones

The following SAPPL zones provide specific guidance for economic land uses:

- Bulk Handling Zone
- Bulky Goods Zone
- Caravan and Tourist Park Zone
- Commercial Zone
- District Centre Zone
- Industry Zone
- Light Industry Zone
- Neighbourhood Centre Zone
- Primary Production Zone
- Regional Centre Zone
- Settlement Zone
- Town Centre Zone
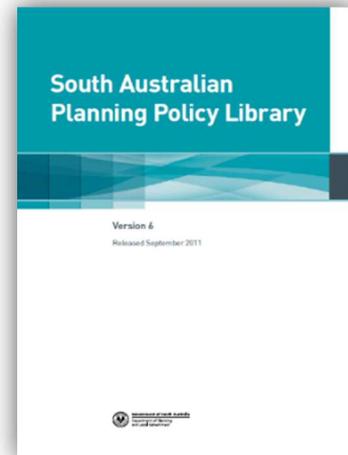- Township Zone
- Urban Core Zone

- Local Centre Zone
- Mineral Extraction Zone
- Mixed Use Zone
- Urban Corridor Zone
- Urban Employment Zone.

Development Plan Reviews

There are a number of existing variations to SAPPL policy relating to economic policies, as well as within those council development plans that have not yet been converted to SAPPL, that can be found in the **72 development plans** existing across the state.

To achieve the required level of policy consistency sought across the state through the Code, these variations need to be understood and common ground negotiated. In partnership with councils and other government agencies, the Department of Planning, Transport and Infrastructure conducted an audit of the SAPPL and Development Plans on behalf of the Commission to gather an understanding of these variations, including their strengths and weaknesses.

Some of the common issues raised through these reviews included the need to:

- Consolidate the multiplicity of similar commercial, industrial, business and centre type zones and include the use of sub-zones and overlays, as many existing zones are now out of date and require a review of their scope and function.

- Develop clear policy for all activity centres and employment lands zones, including design, character, management of interface and infrastructure requirements, as well as applicability of strict floor area criteria and non-complying triggers.

- Review land division criteria SA wide, given each location has differing rainfall, soil types, geographic features, crop types, intensity of farming types, historical backgrounds, etc.

- Policy also needs to have regard to intended land use (e.g. business, industry, etc.) to ensure it does not allow for indiscriminate fragmentation of farming land.

- Review current definitions in order to provide greater clarity regarding:
  - additional dwellings vs dependent accommodation (including workers accommodation)
  - tourist accommodation vs motel vs dwelling
  - farm building vs horticultural building
  - residential development as it relates to smaller hobby farm holdings.

- Develop a more flexible approach to encouraging a wide range of land uses in non-residential zones – with a specified land use class and design focus rather than strict land use definitions.

- Consider the impact of new technologies on existing sectors (e.g. manufacturing, energy production, etc.) and develop policy accordingly.

PART 2: MAJOR POLICY THEMES FOR OUR NEW SYSTEM

Based on the outcomes of the investigation and research phase, we have identified areas of common interest and grouped issues related to our productive economy into themes for further, more detailed consideration. These themes are:

1. **Supporting and growing key industries**
   1.1 Primary production
   1.2 Tourism
   1.3 Mining and exploration

2. **Linking people to jobs, goods and services**
   2.1 Centres, retail and mixed use activities
   2.2 Employment lands (industry, manufacturing and commercial)
   2.3 Home industries

3. **Providing infrastructure to enhance our liveability**
   3.1 Renewable energy
   3.2 Adaptive reuse
   3.3 Infrastructure

4. **Facilitating innovation and enabling investment**
   4.1 Collaboration and clustering – innovation precincts
   4.2 e-Commerce and the sharing economy

Under each of these sub-topics, the following information is provided:
- Existing planning policy
- Key issues, challenges and opportunities
- Potential opportunities for policy change
- Other planning system tools and levers (if relevant).

Recommendations

Based on the review of the current policy environment and key trends, the accompanying *Productive Economy Policy Discussion Paper* provides a series of policy transition and reform recommendations for the Planning and Design Code under each of the key themes.

1. Supporting and growing key industries

1.1 Primary production

The importance of primary production to urban areas has long been recognised. A key driver of the state's economy, food and wine industries generate approximately $20 billion annually in revenue for South Australia and accounted for 50% of our total merchandise exports in 2016-17.[1]

With shifting economic conditions, environmental conditions and lifestyles, it is critical that land-use planning includes strategies and policies that are flexible to support the diversification of compatible activities; encourages innovative land-use planning and management; assists in implementing adjustment strategies; adds value to activities; and responds to the effects of climate change.

Source: South Australian Tourism Commission

Existing policy

Policies relating to primary production are found in the following general modules of SAPPL:

- Animal Keeping
- Bulk Handling and Storage Facilities
- Forestry
- Interface Between Land Uses
- Land Division – Land Division in Rural Areas.

The '**Interfaces between Land Uses**' module contains principles of development control that specifically address rural interfaces. While the SAPPL provides a specific Primary Production Zone, relevant policy exists within the following zones and policy areas:

- Aquaculture Zone
- Bulk Handling Zone
- Primary Production Zone
- Barossa Valley Region Policy Area
- Horticulture Policy Area
- Landscape Protection Policy Area
- Mount Lofty Ranges Policy Area
- Township Fringe Policy Area.

Zones are largely based on land use and existing policies are primarily designed to ensure new development will not conflict with existing development. Interface issues are managed through prevention via the development assessment process.

The **Environment and Food Production Areas** (EFPAs), the *Character Preservation (Barossa Valley) Act 2012* and the *Character Preservation (McLaren Vale) Act 2012* afford long-term protection to the agricultural hinterlands surrounding metropolitan Adelaide through a reduced ability to divide land for housing and provide for continued viable farming and primary production activities.

The EFPAs cover the rural areas and councils of the Greater Adelaide Region and do not alter existing provisions for the establishment of buildings or structures. The Character Preservation Areas have been expressed within existing Development Plans through the introduction of a Character Preservation District Overlay and will be transitioned through State Planning Policies and recognised within the Special Legislative Scheme Policy.

Key issues, challenges and opportunities

Interface with and encroachment by incompatible land uses and activities

Encroachment of sensitive land uses in proximity to primary productive land can result in interface issues with farming practices impacting via spray drift, noise, odour, dust and hours of operation. In turn, the presence of sensitive activities can result in restricted operations and therefore the ability to maximise business opportunities.

Similarly, urban development can impact on primary production land with the introduction of pest plants, vermin, animals and noise, to name a few, affecting crops and livestock. It is important that, where possible, these frequently incompatible activities are separated, or at least transitioned at the boundary.

There is ongoing pressure to expand urban areas into viable primary production lands, increasing the value of this finite resource. It is important that primary industry activities are protected from encroachment, as they are a major income earner for the state.

Land division and fragmentation

The changing nature of primary production means that there are variable pressures to increase landholdings or reduce minimum lot sizes to meet needs. The main concern is the retention of primary production lands for primary production purposes, rather than for urban development or rural living. Once divided for these purposes, it is extremely difficult and costly to reverse. On this basis, policy regarding subdivision and minimum allotment sizes needs to be reviewed and strengthened.

It is recognised that not all primary production land is of the same value, and as such it is critical that the primary production priority areas (PPPA), as identified by PIRSA, be retained for that purpose and that this is reflected in policy. Non-viable primary production land may have some value for other purposes but improved guidance is required in the planning policy framework.

Additional dwellings and farm-related structures

There is demand for policy flexibility to enable multiple separate residences on a single farming property, including 'ageing in place' options for retirees or for on-farm accommodation for employees, family members or short-term tourist accommodation. Current land division policy and non-complying provisions relating to dwellings restrict the ability of landowners to gain approval for additional dwellings on an allotment.

Where farms have merged, there is often a desire to dispose of or excise any additional and surplus housing assets, (which can be a considerable component of the value of land). However, current land division requirements can be inflexible in relation to this.

Policy can also be overly restrictive in relation to the addition of new farm buildings and structures and can interfere in the ability of primary production businesses to update or adjust to new requirements.

Flexibility and diversification

Primary production activities are subject to a range of influences to which they must constantly adjust to remain competitive, including administrative (governance), business, and climactic changes.

This will often require adjustments in terms of practices, technology and products that vary from the traditional or widely utilised means of developing the land (e.g. new commodities or new means of growing it) or processing of products to value-add and market. In turn, these changes may have impacts via land division, infrastructure, buildings and structures or interface impacts and it is important that the planning policy framework enables primary industry business to remain responsive and contemporary.

Changes can also have impacts on adjacent primary production activities and it is the role of planning policy to ensure that new development minimises impacts on adjacent activities.

Definitions and polices

There is general concern that definitions and policies have not kept up with modern farming practices, requirements or directions (e.g. value-adding, development of a manager's dwelling) and can lack certainty (intensive animal keeping and scale of production) or flexibility (e.g. changing of crop types).

Rural areas are becoming increasingly multi-functional in nature and need a policy framework that can accommodate/balance a range of objectives including, but not limited to, protecting key primary production assets. The potential adoption of a new 'Rural Zone' in the Code may allow a variety of additional policy areas (primary production) and overlays (water protection) to co-exist, where a Primary Production Zone may seem to imply a primacy difficult to reconcile with other goals.[2]

There is also a need to ensure clarity around definitions including:

- additional dwellings vs dependent accommodation or manager's residence (including workers accommodation)
- tourist accommodation vs motel vs dwelling
- farm building vs horticultural building
- residential development as it relates to smaller hobby farm holdings
- horticulture – including a need to differentiate between soil based and hydroponic based production, also reflecting the introduction of permanent covers for orchards.

Potential areas of further investigation

- Review intensive animal keeping and aquaculture policy to ensure consistency with current industry standards, including buffer separation distances.

- Develop 'intensity guidelines' for intensive animal keeping, e.g. kennels and horse stables and provide policy guidance and definition for free-range intensive animal keeping.

- Review provisions for land uses or land use combinations for diversification, including altered practices to address climate change (e.g. carbon sequestration) and for greater scope for value-adding.

- Include wastewater policies for wineries and rural industries, ensuring such facilities do not trigger unnecessarily complex assessment procedures, to promote reuse of wastewater.

- Shift policy focus toward performance outcomes, design and management of impacts rather than quantitative site coverage and floor area provisions.

- Develop better policy criteria/guidelines for new and emerging infrastructure such as frost fans, solar farms, battery storage, telecommunications and horticultural netting.

- Provide policy guidance and stocking rates for non-commercial large animal keeping, (e.g. horses, pigs, cattle sheep, etc.) that are reflective of the land quality, productivity and carrying capacity rather than an inflexible standard.

- Consider aquaculture policy in relation to allotment size and servicing to ensure sites can cater for on-site processing and other activities, such as storage of baskets etc.

- Provide opportunities for primary industry to diversify into new areas and alter practices to adapt to climate change e.g. on site renewable energy facilities.

- Bulk Handling Zone – ensure the zone continues to cater for long term storage, warehousing, transportation and logistical needs of SA wide farming sector – scope to consolidate into a value-adding agribusiness type zone to support the food sector and value-added industry.

- Change the name of Primary Production Zone to Rural Zone, which more appropriately reflects the diversity of land uses in the zone (e.g. including preservation of landscapes and biodiversity conservation).[3]

- Review the Horticulture Policy Area, given that the relatively small minimum lot size applied in such a Policy Area is often utilised for rural living, removing land from primary production, generating land use conflict and/or giving rise to higher land prices.[4]

- Review the policy on the minimum size of allotments in primary production areas.

- Develop policy for size and configuration of allotments in primary production areas that have regard for the potential for additional dwellings and the impact on land value, amenity, natural resources, native vegetation and areas of environmental significance, water catchments and requirements for the provision of public services and the potential for land use conflict.[5]

- Accommodate a broader range of value adding activities in primary production areas beyond basic farming, agriculture and horticultural activities.

- Increase flexibility so that primary producers are able to change commodities and land management practices in response to changes in climate, access to resources, new technology and market demand.

- Maintain protection of important food production areas with access to infrastructure.

- Ensure new development includes appropriate buffer zones within property boundaries.

1.2 Tourism

The tourism industry is fundamentally important to Australia's economy – people are travelling further and more frequently for a range of reasons including leisure, business and education. The planning system has an important role to play in supporting future growth in the sector.

Source: South Australian Tourism Commission

Existing policy

The SAPPL contains policies throughout that seek to protect and grow our tourism development activities in the following general modules:

- Advertisements
- Coastal Areas
- Design and Appearance
- Hazards
- Natural Resources
- Renewable Energy Facilities
- Residential Development
- Siting and Visibility
- Tourism Development.

The majority of tourist accommodation development is supported through a range of current zones, and is generally supported through existing planning policy as a complementary activity or as a value-adding option.

The SAPPL has one dedicated 'tourist' zone – the Caravan and Tourist Park Zone – which focuses on short-term accommodation, predominantly in the form of caravan and camping sites, cabins, serviced apartments, surrounded by open, landscaped areas. The Residential Park Zone also provides for short-term stay accommodation but has a focus instead on affordable and permanent residential accommodation (e.g. caravans, transportable buildings).

The SAPPL also includes relevant policy within the following zones and policy areas:

- Aquaculture Zone
- Caravan and Tourist Park Zone
- Coastal Conservation Zone
- Coastal Marina Zone
- Town Centre Zone
- Township Zone
- Urban Core Zone
- Urban Corridor Zone.

- Coastal Settlement Zone
- Conservation Zone
- Hills Face Zone
- Primary Production Zone
- Settlement Zone
- Suburban Activity Node Zone

- Barossa Valley Region Policy Area
- Horticulture Policy Area
- Landscape Protection Policy Area
- Mount Lofty Ranges Policy Area
- Township Fringe Policy Area.

Policy guidance for tourist development could be enhanced through improved policy relating to form, scale, intensity, type and context. Policy should provide flexibility to tourism developers and operators to adjust to changing trends arising from tourist behaviour and market demand.

Key issues, challenges and opportunities

Definitions

The distinction between residential development (permanent habitation) and short term tourist accommodation is challenging. There is an ongoing issue regarding how to manage and avoid potential for a development that has been approved for tourism purposes being utilised for permanent residential purposes, particularly where there are policy advantages (e.g. smaller building envelope requirements) or zoning advantages (e.g. where residential development is non-complying). In addition, definitions for many tourism related land uses (e.g. hotel, motel, serviced apartments) can be unclear and require review to provide certainty and consistency.

Eco-tourism

Eco-tourism is a popular form of tourism and encompasses nature-based activities that provide visitor exposure to natural and cultural experiences.[6] There is a broad expectation that developments are managed to ensure they are ecologically, economically and socially sustainable, and contribute to the wellbeing of the natural areas and local communities where they operate, despite the lack of standard requirements via land use planning or other mechanisms.

National Parks play a substantial role in eco-tourism although the associated application process is rigorous. Planning policy plays less of a role in these areas which are principally government controlled assets. There is potential for planning policy to be strengthened to ensure protection of natural areas from inappropriate development and / or the impact of increased activities.

Refer to theme 4.2 for further discussion on related issues of 'e-Commerce and the sharing economy', particularly short term holiday rental platforms offered online.

Potential areas of further investigation

- Most tourist accommodation is supported within the existing zoning framework.

- Accommodation options are often seen as a good value-adding proposition (e.g. bed and breakfast on a farm) including in rural and regional areas.

- Tourist accommodation / development is supported through a range of current zones, and is a complementary activity (e.g. hotel in a mixed use area) or as a value-adding option (e.g. farm stay). As such, specific or separate zone for such activities is not required.

- The existing SAPPL Caravan and Tourist Park Zone does not readily cater to other forms of short-stay accommodation e.g. motel, serviced apartment. However, there may be opportunity to broaden policy in the zone to incorporate a greater diversity of options, rather than continue with zones which cater to a specific / singular land uses.

1.3 Mining and exploration

Mining is an important contributor to our state's economy. There are three types of commodities mined in South Australia – extractives (construction materials), industrial (commercial value but not fuel or metals) and metallic (valuable metals) minerals, as well as fuels (gas, petroleum). Ongoing resource exploration and development is vital to the delivery of employment, infrastructure, skills and prosperity of the state. The legislative framework for management of South Australia's mining and exploration activities is provided through a number of Acts including:

- Mining activities are largely governed by the *Mining Act 1971,*
- Petroleum and natural gas governed by the *Petroleum and Geothermal Energy Act 2000*,
- The *Environment Protection Act 1993* is primarily responsible for addressing current or potential environmental impacts and has a pollution prevention role.

Existing policy

The SAPPL contains general policies throughout that seek to protect and grow our mining and exploration activities. These are:

- Hazards
- Interface Between Land Uses
- Mineral Extraction
- Natural Resources
- Orderly and Sustainable Development
- Siting and Visibility
- Transportation and Access.

Mining and exploration activities in South Australia are currently undertaken within a Mineral Extraction Zone. However, it is the SAPPL general **Mineral Extraction** module which contains more detailed policy guiding protection, separation distances, impacts and amenity (including road traffic).

Source: DPTI Transport

Key issues, challenges and opportunities

Separation Distances

Mining operations result in environmental impacts such as noise, dust, vibration, hazards, etc.) and separation from sensitive receptors or land uses is generally a first line response to mitigate these issues. Separation can be open to interpretation and measured in different ways, for example:

- from the active mining operation – however operations can relocate within a site over time
- from the mining tenancy boundary
- based on the type of mining operations undertaken – e.g. if there is active blasting which may change over time.

This is a significant issue for the sector, particularly where mines have been long established and are encroached upon by new urban development. This leads to uncertainty for operators and can result in unintended opportunities for development to encroach, and incrementally restrict operations. In terms of managing impacts on sensitive receptors, it is important to note the EPA can 'preference' environmental guidelines in favour of more sensitive receptors (e.g. tighten noise restrictions where activities impact on nearby housing).[7]

This can result in reductions in operational efficiency, economic viability, as well as operational complications, restrictions on transport, and loss of access to materials – leading to delays and increased cost to projects and industries. While operators include separation distances to control land pressures, this is not always possible retrospectively.

Extractive Mining

For extractive mining operations to be viable, the issue of interface and encroachment is compounded by the need to be located close to consumers and exporters, and therefore in proximity to urban areas. Illustrating this is the 76 extractive, 5 mineral and 9 industrial Significant Mining and Resource Area mines located within the Greater Adelaide Region.[8]

While the industry's 'cumulative footprint' in the landscape is relatively small (leases account for 0.7% of Australian land mass), individual mines can require significant land to operate. The way this land is managed has a clear link to the industry's "social licence" to operate.

In many instances, non-sensitive land uses such as farming can be complementary, either as shared activities, non-operational mining lands or sequential as mining activities relocate. The decision to permit complementary and concurrent land uses on non-operational mining land is a relevant land use matter, and one requiring further investigation by both industry and policy makers.

Supporting Infrastructure

Policy guiding mining camp development, together with other mine-associated development could be improved, particularly for *Land Not Within Council Areas.* There is opportunity for this to be standardised rather than relying on a raft of conditions attached to case by case planning assessment, which can be inconsistent, inefficient and lack transparency.

Resource operations often necessitate specific infrastructure such as transmission pipelines, powerlines, transport routes and supply chains. Separation distances around them are generally provided by legislation – which vary according to the nature of the infrastructure.

Potential areas of further investigation

- Increased clarity (considering entire licenced area), consistency and strengthening of policy in relation to separation distances for both mining operations and sensitive development

- Separation distances / buffers should be measured from the boundary of the tenancy lease as well as associated operations – including heavy vehicle transport routes.

- Opportunities exist for land within separation buffers to be used for non-sensitive development such as farming or industry which may also provide agglomeration opportunities.

- Mining and exploration is economically critical to the state and given its vulnerability to market forces, operational intensities may vary over time. It is important sites be recognised at a strategic, policy and assessment level in land use planning.

- Policies to guide associated development including residential / mine camps, particularly in regional areas in relation to townships and mining activities.

- Need to provide flexibility for industry/light industry in Mineral Extraction Zones, whilst protecting the viability of mining operations.

2. Linking people to jobs, goods and services

2.1 Centres, retail and mixed use activities

Land use planning has long promoted centres which provide and ensure community access to goods and services, and support local settlement and growth patterns. Although centres represent a growing share of the total market (approx. 38% in 2008)[9] and are expected to continue to command the lion's share of household retail spending,[10] a significant proportion of retailing occurs outside of centres.

The conventional 'bricks and mortar' retail industry is subject to disruption by out-of-centre retailing, international competition entering the market, online retailing and shared economies. Land use planning has, and continues to, respond through zoning and policy guidance to reflect these trends, while also allowing the industry to adjust and innovate in accordance with demand.

Source: South Australian Tourism Commission

Existing policy

The SAPPL contains the following general policies that seek to protect and grow our retail activities:

- Advertisements
- Centres and Retail Development
- Design and Appearance
- Land Division
- Medium and High Rise Development (3 or more storeys)
- Supported Accommodation, Housing for Aged Persons and People with Disabilities
- Tourism Development
- Transportation and Access.

Retail activities in South Australia are currently contemplated in a wide variety of Zones and Policy Areas. Within SAPPL, these range from dedicated centre zones through to township and settlement zones and high-density mixed use zones. The Zones and Policy Areas are:

- Airfield Zone
- Bulky Goods Zone
- Commercial Zone
- District Centre Zone
- Suburban Neighbourhood Zone
- Town Centre Zone
- Township Zone
- Urban Core Zone

- Local Centre Zone
- Mixed Use Zone
- Neighbourhood Centre Zone
- Primary Production Zone
- Regional Centre Zone
- Residential Zone
- Residential High Density Zone
- Residential Neighbourhood Zone
- Residential Regeneration Zone
- Settlement Zone
- Suburban Activity Node Zone

- Urban Corridor Zone
- Watershed Protection (Mount Lofty Ranges) Zone
- Urban Employment Zone
- Barossa Valley Region Policy Area
- Horticulture Policy Area
- Main Street Policy Area
- Boulevard Policy Area
- Business Policy Area
- High Street Policy Area
- Transit Living Policy Area.

Key issues, challenges and opportunities

Centres Hierarchy

The retail industry has long been planned around a clearly established centres hierarchy supporting orderly and economic development and growth, particularly regarding investment into and efficient use of public infrastructure and transport to enable access to jobs, markets and services for local communities, and supporting local settlement patterns. There are a range of key considerations in relation to centres policy including:

- Reviewing land use policy which may inadvertently contributes to anti-competitive behaviour.

- The ability for existing and new centres to grow and innovate in response to market and consumer needs and requirements.

- The potential that a centres hierarchy, without flexibility, may over time disadvantage local communities in terms of access to goods and essential services.

- The need to manage land use impacts increases with centres growth and development, for example centres not well connected to public transport may experience exacerbated traffic and car parking impacts in surrounding neighbourhoods.

Regional Areas

Regional towns, depending on their size, often have limited demand for specialty zoning in terms of retail, and instead support this within a town centre zone that may also include residential, tourist, commercial and light industry. Activities that require greater policy regulation, such as industry or bulk handling, may warrant specific zoning to meet these needs.

In some areas, competition for commercial / retail space may be limited. It is important to retain a vibrant main street and sense of community and vacant shop fronts do not support this. In these cases, it may be appropriate to increase flexibility to support additional land uses to provide for a more vibrant and accessible main street.

There are a number of zones in the SAPPL that provide for mixed use centres, which presents an opportunity for review and consolidation. This includes the Town Centre Zone, Township Zone, Settlement Zone and Coastal Settlement Zone. It is important that zones are flexibility to support a range of activities that meet community requirements.

Bulky Goods

The Bulky Goods Zone was developed in response to rapid increase in demand for agglomerations of large format retail – particularly homemaker centres – which can be difficult to accommodate within traditional retail centres because of land requirements.

Large format activities are generally seen as incompatible with standard retail development. The Bulky Goods Retailers Association (BGRA) notes bulky goods retailing can better be accommodated on land that is zoned for purposes other than core retail, including lower order business, commercial and industrial zoned land.[11]

From a policy perspective, the Bulky Goods Zone is an anomaly in that it provides for a niche retail development or specific land use 'cluster' that may be considered exclusionary and anti-competitive. It is not considered that this level of restriction is warranted at a zone level and that options could be explored regarding policy within Commercial Zones which may better support this land use.

Land supply for centres and retail

Retailing is dynamic and is impacted by a range of factors, for example population growth, and changes in per capita income. The sector is also influenced by changes in lifestyle, supply and demand, market segmentation and technology including internet purchasing. Retail activities are a significant employer and economic contributor, and the sector is expected to continue to grow, and thus the demand for additional floor space or zoned land will therefore need to be met.

Where retail activities are prevented from expanding by adjacent development or non-complementary zoning / planning processes, consideration could be given to exploring how retail development might expand into contiguous areas more flexibly, provided associated impacts can be managed. Key considerations could include the scale, intensity and extent of expansion, as well as the process of investigations and consultation undertaken with local communities.

Potential areas of further investigation

- The transitioning shape of the retail sector will impact on planning zones and policy. A review of activity centre zones, as well as the various mixed use zones, will be required to check relevance and update policy as required. A review should consider:

  o policy flexibility that enables diversity of retail activities to reflect community needs and demand as well as supporting emerging formats

  o how established centres could continue to grow and enabling them to respond to changing market and community circumstances,

  o reviewing existing policies for certain development, which may no longer be contemporary

  o encourage specialist retail clustering where appropriate to service local communities.

- Infill development is resulting in local population growth in some areas. This has subsequent impacts on capacity of centres to meet increased demand for floor space as well as parking, access to transport etc. There could be consideration of the expansion of centre activities into adjoining zones (where contiguous) without rezoning.

- The Activity Centres Policy Review DPA introduced a number of policy changes to centres in the metropolitan area to improve economic efficiency and competitiveness. These changes could be considered for application in regional areas, for example:

  o introduce 'soft' floor size area criteria for centre zones that limit development types, innovation and growth. Alternatively – remove floor caps altogether.

  o introduce 'complying development criteria' for established centres to improve planning processes in regional areas

- Township centres and main streets often include broad, mixed use zoning that supports a wide range of activities. There is opportunity to consolidate and rationalise similar existing zones which seek the same or similar land use outcomes.

- The Bulky Goods Zone is not consistent with the general zone structure and intent as it lacks fundamental policy differentiation to warrant separate zoning. There is an opportunity to incorporate this zone into a broader zone (i.e. Commercial Zone) in which it is an envisaged use.

2.2 Employment lands (industry, manufacturing and commercial)

The state has an established and recognised technical skills base which provides a solid platform for new and existing manufacturers to grow with the transition from traditional to more advanced manufacturing. The future of manufacturing provides a basis to review land use policy in enabling more innovative and competitive industrial and commercial activities. A key question is whether existing zoning for industrial and commercial development adequately recognise the blurring of manufacturing and the necessary corporate / business functions of a modern economy.

The Code will need to include an appropriate employment zones to match the needs of a changing South Australian economy and must also include tools to support clusters of businesses which are complementary or have common logistical and supply chain requirements.

Source: Renewal SA

Existing policy

The SAPPL contains the following general policies in relation to industrial and commercial activities:

- Advertisements
- Bulk Handling and Storage Facilities
- Design and Appearance
- Energy Efficiency
- Hazards

- Interface Between Land Uses
- Land Division
- Landscaping, Fences and Walls
- Natural Resources
- Telecommunications Facilities

- Industrial Development
- Infrastructure
- Transportation and Access
- Waste.

A variety of industrial, manufacturing and commercial activities are supported in the following SAPPL Zones and Policy Areas:

- Airfield Zone
- Bulky Goods Zone
- Commercial Zone
- Industry Zone
- Light Industry Zone
- Mineral Extraction Zone
- Mixed Use Zone
- Primary Production Zone
- Settlement Zone
- Township Zone
- Urban Core Zone
- Urban Employment Zone
- Infrastructure Policy Area
- Home Industry Policy Area
- Horticulture Policy Area
- Township Fringe Policy Area
- Main Street Policy Area
- Business Policy Area
- Boulevard Policy Area
- High Street Policy Area
- Intermodal Policy Area
- Waterfront Industry Policy Area.

There are a number of zones designed to support industry, including the Industry Zone, Urban Employment Zone and Light Industry Zone, each of which provide for a diversity of land use and activities. A key distinguishing feature of these zones is the degree of impact generated by activities contemplated (ie. whether they are high, moderate or low impact land uses). With advancements in how negative externalities (noise, dust, odour etc) are managed, this presents an opportunity to reconsider this "historical" approach to land use separation and impact management.

There is a range of zones that support a diversity of commercial and light industry activities, including the Mixed Use Zone, Urban Core Zone, and Commercial Zone. There is some significant overlap in these zones and there is capacity to review and consolidate.

A small number of zones provide for specific land use activities, such as the Extractive Industry Zone, which also include specific policies seeking to separate and protect the needs of the industry, thus should be retained.

Key issues, challenges and opportunities

Industrial Land Supply

Land at Greater Edinburgh Parks and Gillman has recently been rezoned, or is progressing through a rezoning process to support future industrial land supply needs. Both are ideally located in proximity to the Northern Expressway, rail infrastructure and existing industrial land and services. At projected annual consumption rates, it is estimated 12 years of land supply exists at these locations.

It is recognised that the majority of future (and existing) industrial land is focused in northern Adelaide and that there are issues in relation to availability of zoned land outside of the northern area to meet a diversity of geographic land supply needs. This Commission has identified the need for an integrated land supply for a range of employment activities and has nominated this as one of its policy conservation areas.

Changing industry

Traditional industry is based on **cost-advantage** structures whereby a project is delivered at a lower cost than competitors. Operations have conventionally sought larger sites (middle-outer suburbs) to enable integration of operations to generate cost efficiencies; separation from sensitive activities; lower rents; and proximity to arterial transport and infrastructure.[12]

However, the trend is towards downsized manufacturing businesses operating on **differentiation-advantage,** based around highly specialised products. Similar to advanced manufacturing, this format is characterised by smaller size, fast turnarounds and ability to respond to shifts in demand; are embedded in place (multi-tenant workspaces) with horizontally integrated networks of clients, suppliers, distributors, subcontractors that are needed to produce a final product (agglomeration economies). They prefer to be located close to markets (inner and middle suburban locations); have lower overheads and storage requirements; and are amenable to employment agglomerations or corridors to facilitate increased levels of business interaction. This type of urban manufacturing is particularly vulnerable to displacement from its preferred locations by pressure for other development types such as residential. Example activities include food and beverage processing or light industries such as cabinet making.

The Conservatory 'multiple use' development on Hindmarsh Square is a 19-level building comprising ground floor retail, four levels of parking, five levels of office space and nine levels of residential development.

Interstate examples include the Riparian Plaza (Brisbane) and Aurora Place (Sydney).

Manufacturing is also increasingly transitioning towards **non-manufacturing service and trade** roles (e.g. wholesaling or warehousing), particularly in light of the growth of online sales and impacts on the integrated logistics industry (shipping, road transport and rail). This trend is being translated into demand for low impact industry land. Like urban manufacturing, non-manufacturing activities are less likely to carry adverse amenity impacts on surrounding lands and seek to be near end markets.

The new Tonsley precinct is cited as a good example of a master-planned 'high-tech hub' – containing strong synergies between higher education, research and development, industry and employment; together with an attractive residential community development and mass transit to the Adelaide CBD.

Another trend is towards **knowledge-intensive service industries**, including high tech hubs and advanced manufacturing where research and development is a significant proportion of revenues. These industries are characterised by a preference for inner metropolitan and city locations (as dispersion works against information transfer); access to advanced skills; strong local links (collaboration knowledge transfer, innovation and repositioning); access to local and global markets (good transport systems); and an environment that would attract and support the desired skilled labour force. [13] Knowledge industries are known to profit from agglomerations which offer synergies with other firms and access to a deep pool of skills.

Knowledge industries can be the focus of government-led development projects for 'science and technology parks' but their success relies on a combination of:

- a highly accessible location (frequent, mass transit)
- a critical mass of related enterprises including a reputable anchor enterprise / institution
- a well-connected digital environment
- flexible design that promotes scalability and continued evolution
- a vibrant, amenable and walkable physical environment and often associated with diverse residential development and services.[14]

A more compact version of the merger of knowledge-intensive employment activities and housing is the 'multiple use' development format which is suitable within city centres. This is more than the typical 'mixed use' development which generally includes only a small proportion of non-residential floor space (generally retail at ground level). The 'multiple use' development format instead consists of a genuine mix of employment activities over several floors with housing above.[15]

Figure 4 Redevelopment of the former Mitsubishi site at Tonsley. Source: Renewal SA

Potential areas of further investigation

- The transitioning shape of industry, technology and employment is impacting the relevance of current planning policy. A review of employment land zones and policy is required to check relevance and update policy as required to support the viability of industry and employment.

- This includes provision of flexible policy that enables a diversity of industry and commercial activities, reflects changing industry trends (e.g. move to non-manufacturing and service activities) as well as supporting emerging industries (e.g. high tech industries that have less impacts) to ensure their viability and competitiveness

- In addition, there are a variety of industry and employment land zones and these can lack fundamental differentiation. These could be reviewed and potentially consolidated to provide overarching consistency and certainty but considering opportunities to promote business clusters (e.g. defence industry) on the basis of shared knowledge, infrastructure, skills or labour to unlock economies of scope and scale while avoiding prescriptive zoning that can be restrictive or difficult to amend (e.g. overlays).

- The ongoing supply and protection of a range of land in various locations to support the diversity of industrial activities is important. There is also the need to consider the changing nature of industry, commercial and employment and the subsequent impacts, in particular the demand for increased inner and middle metro areas to support knowledge industries (or other agglomerations) and small scale differentiation manufacturing.

- There is increased pressure on the interface of industrial lands and the economic viability of industries encroachment upon by sensitive uses such as residential infill development, which needs to be carefully managed.

- There are ongoing calls for integration of temporary or ancillary residential development in industrial zones to support the requirements of (for example) truck drivers, on-site managers, business owners, workers, investors etc. There is opportunity to review this with the Code transition.

- However, any policies would need to consider the subsequent conflicts of health and safety of such occupants, as well as the protection of employment lands from encroachment should policy guidance be too flexible.

- General concerns are also raised in relation to the following policy topics in various employment land zones:

  o floor area limitations and their impacts on flexibility of development in employment land zones

  o non-complying triggers which may limit flexibility, innovation, growth and diversity

Source: Renewal SA

2.3 Home industries

The operation of home-based industry and home-based businesses has long been recognised by planning policy in South Australia. Home-based industries and businesses are becoming increasingly important as more flexible workplace practices enable a greater capacity for home based work schedules.

In well-connected neighbourhoods, home-based businesses will often have potential to grow into bigger enterprises. In this way, housing areas which were once dormitories for workers travelling elsewhere can become business incubators provided that other local economic development policies are appropriately aligned.

Existing policy

The following SAPPL general policies seek to protect and grow home industry related activities:

- Advertisements
- Design and Appearance
- Industrial Development
- Interface Between Land Uses
- Residential Development
- Tourism Development
- Transportation and Access

Policies relating to home industry are contained in the following SAPPL Zones and Policy Areas:

- Light Industry Zone
- Home Industry Policy Area
- Residential Zone

Key issues, challenges and opportunities

Home industry zones and policies have a mixed rate of success across councils and development plans. Of particular concern is the gradual encroachment of single-use residential development only (within home industry zones and similar policy areas) rather than integrated home industry activities, largely as a result of demand for affordable residential lands.

This can lead to interface impacts for remaining industrial activities and restricted operations to protect sensitive developments. It can also lead to ambiguity regarding permissibility where the industrial activity is absent and only the residential development remains.

In some instances, home industry has been removed as an envisaged land use as it has not been used or taken up by residents and landowners. This observation tends to suggest that home industry as a standalone zoning class may now be redundant.

Potential areas of further investigation

A review is required of these zones and policies to determine overall demand for low-impact home industry activities and where these policies are best placed to ensure that amenity is retained and that development outcomes are consistent with the intent of the zone.

3. Providing infrastructure to enhance our liveability

3.1 Renewable Energy

The development of renewable facilities in South Australia continues to present opportunities and challenges for communities, particularly in the regions. Beyond the familiar renewable energy generation facilities, such as wind and solar, a range of other technologies (e.g. geothermal, hydrogen, hydropower, tidal and biofuels) continue to emerge, as well as related energy development such as grid-scale storage batteries.

In relation to land use, the establishment of these facilities can significantly alter landscapes, land use and biodiversity, particularly in rural areas. There is a need to ensure that the establishment of renewable energy facilities are carefully located and designed. At this time, there is limited land use planning policy and guidelines in relation to renewable energy facilities and associated development. This matter is proposed to be addressed by the Commission through the development and application of the Code.

Source: South Australian Tourism Commission

Existing policy

The following SAPPL general policies seek to protect and grow our energy generation activities:

- Energy Efficiency
- Renewable Energy Facilities
- Hazards
- Natural Resources
- Tourism Development
- Interface Between Land Uses.

Policies relating to renewables is contained in the following SAPPL Zones and Policy Areas:

- Industry Zone
- Mineral Extraction Zone
- Primary Industry Zone
- Infrastructure Policy Area

Key issues, challenges and opportunities

A review of planning policy and the development assessment process regarding renewable energy generation facilities, is needed, to ensure development outcomes meet the expectations of the South Australian community. One of the most prevalent issues is in relation to siting decisions, such as the disruption of existing land uses or the use of valuable arable land for energy consumption (e.g. the use of productive farmland for solar farms or biofuel production).[16]

Policy also needs to be updated to respond to the new forms of development and technological changes. This means providing improved guidance regarding the intensity, location and impacts of these developments. There are also opportunities to strengthen policy to promote or incentivise uptake of renewable energy technologies within developments.

Wind farms

Wind farms have been extensively developed in South Australia and policy guiding these has been reflected in the SAPPL General Section since 2012. Now that the industry is well established, policy should be reviewed to amend and update policy with regards to:

- design (including consideration of height, scale and intensity)
- impacts upon surrounding environments and subsequent need for buffers
- location (including off-shore development)
- associated infrastructure (including roadways, power lines and substations)
- procedural matters (such as public notification requirements)
- assessment pathways provided under current legislation.

Solar farms

Solar farms are a rapidly emerging land use that requires clear policy guidance. Of particular concern is that solar farms do need to be situated on valuable primary production land and would be best located in poor quality landscapes. It is also important to manage any environmental impacts relating to heat and dust on neighbouring properties as well as glare management that can negatively impact adjacent land uses or transport modes (road and air in particular).

Individual and on-site energy generation (refer to Natural Resources and Environment Policy Discussion Paper for further information)

Individual solar generation has become extremely popular and is an efficient land use with zero environmental impact after installation. The technology also opens up a range of opportunities and benefits that are yet to be fully explored, including shading (e.g. over car parks), street lighting and electric car charging stations. However, where installations are of a size to require development approval, local policy can be restrictive and needs to be reviewed.

Additional issues may rise with regards to overshadowing and the conflict of protecting access to light versus strategic imperatives for increased infill. Some jurisdictions have codified access to light with 'solar rights', but the South Australian system does not currently feature such a requirement. This has therefore been included as a discussion question in this paper.

Individual wind turbines are often not supported by Councils based on concerns regarding noise and amenity impacts. Given these concerns, there is an opportunity to review policy to ensure a consistent strategic approach to wind generation.

Potential areas of further investigation

- At present, policy guidance for renewable energy is explored on a case-by-case basis with the lodgement of a proposal. Where policy guidance is lacking, approval conditions can be provided. This can lead to issues of consistency, certainty and transparency. As certain types of energy renewal generation become more commonplace, it will be appropriate to standardise policy.

- In order to take an orderly approach to infrastructure development, it is important that key proposals and future development areas that underpin large scale energy generation and supply infrastructure be identified and prioritised for that use and protected from potential encroachment of nearby development.

- Given that renewable energy is a relatively new industry, policy needs to be investigated, strengthened and updated to provide improved guidance for large-scale and individual on-site renewable energy generation, including:
  - o prioritisation of valuable primary production land over energy generation (e.g. biomass fuels or solar vs crops) but supporting renewable energy generation where it can co-exist with primary production activities that appropriate to the area (e.g. wind turbines)

  - o wind farms – design, buffers, impacts, location and procedural matters

  - o solar farms – location, development of valuable primary production land; environmental impacts (heat, dust, glare)

  - o strengthen policy to promote or incentivise uptake of renewable energy technologies within developments

- Policy should be reviewed and updated to respond to issues in relation to delivery and protection of on-site energy generation in relation to:
  - o solar – overshadowing

  - o residential wind turbines – strengthen policy for this form of development.

- Given the increasingly wide range of renewable energy technologies which are being developed to a commercially viable stage, it is important policy is developed that is flexible enough to support other potential forms of energy generation and appropriately guides their development in terms of location and impacts.

- Planning policy must be able to keep pace with technological advancements in the renewable energy sector, in order to:
  - o support renewable energy generation where it can co-exist with primary production activities and minimise disruption to existing land uses.[17]

  - o contain contemporary, best-practice based policy for design, siting, buffers, visual amenity, noise and other procedural matters

  - o manage of impacts from construction and operations (e.g. heat, dust and glare)

  - o policy to incentivise uptake of renewable energy technologies within developments

  - o policy guidance to support a range of types of renewable energy generation for consistent application on-site

  - o provide improved guidance regarding the intensity, location and cumulative impacts of these developments.

3.2 Adaptive reuse

Adaptive reuse is the process of repurposing buildings for viable new uses, other than those originally intended, in order to address present-day needs. It may also include the adaptation of a building to continue its existing use but in line with updated standards or changing requirements. Adaptive reuse is underpinned by the increasing value attributed to the unique character and qualities of older or heritage buildings.

There are a range of benefits from adaptive re-use, including sustainability and energy conservation; environmental and public-health benefits (remediation of contaminants); enhanced community character and amenity; economic investment and community vitality (multiplier effect of investment); cost savings (avoiding demolition costs); time savings and design and innovation.

Nonetheless, there can be additional expenses and challenges with adaptation including:

- physical limitations – structural constraints involved with fitting a new use into an existing building, particularly with historic features which may require creative / flexible solutions

- regulatory constraints – existing structures may pre-date zoning, building standards, and other development regulations making rehabilitation to modern standards challenging e.g. car parking, fire safety standards

- potential environmental hazards – environmental contaminants can be present in older buildings or brownfield sites, requiring costly mitigation.

Achievement of the improved adaptive reuse of buildings requires planning policy that promotes a diversity of uses in a zone, promotes more adaptable building design, and provides a range of incentives and alternative performance provisions where standard policy requirements cannot be met.

Source: South Australian Tourism Commission

Existing policy

The following SAPPL general policies seek to accommodate adaptive reuse:
- Heritage Places
- Historic Conservation Area
- Residential Development
- Tourism Development.

Policies relating to adaptive reuse is contained within the following SAPPL Zones and Policy Areas:

- Conservation Zone
- Residential Character Zone.

A critical principle supporting greater adaptive reuse of buildings is the provision of policy that enables a variety of land use activities at a diversity of scales, thereby providing wider opportunity to maximise the use of existing structures. This potential is currently provided through mixed use zoning policy and more broadly through a move towards increased diversity of land uses and building formats within other zones.

Key issues, challenges and opportunities

- Policies that encourage development design that is amenable and adaptive to a range of uses and longevity of development investment
- Opportunities for policy incentives to encourage adaptive reuse, particularly in relation to heritage or character properties that contribute to the amenity of an area. Such incentives would need to be administered transparently
- Exploration of other levers (such as a design review process or a development application fee waiver)
- Potential to provide scope for vacant buildings in centre zones (especially country towns) to be re-used for residential purposes – to help facilitate investment/regeneration in country towns.

Potential areas of further investigation

- Review land division and boundary realignment policy to address surplus dwellings and ensure land division provisions are consistent or cross-referenced to EFPA locations.

Source: DPTI Transport

3.3 Infrastructure

The integration of infrastructure and development is critical to the orderly and efficient growth of our communities. In most built-up or developed areas of the state, the water, transport, communications, waste and energy infrastructure is generally supplied to support a growing and diverse community. New development may be required to augment various networks should the scale or nature of the proposal be unusual. In regional areas, infrastructure provision may be limited and development either has to be designed to allow for this, or arrange for the provision of the desired utility.

In some areas, this infrastructure needs to be able to adapt to fluctuating demand. For example, climactic peaks or peak holiday periods at some destinations which can see populations swell by up to 300 per cent for a brief period impacting waste management, water supply and road capacity.
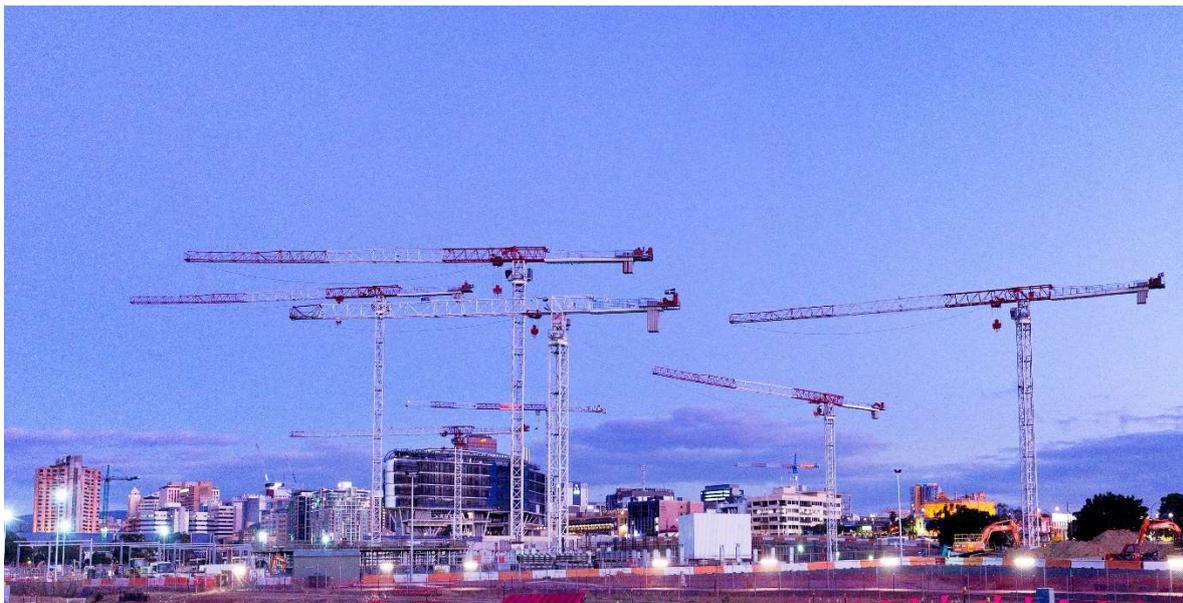
In these cases, careful analysis is required to determine whether significant investment is justified by limited peak demands.

Infrastructure also includes social infrastructure, such as health, education and the open space, required to support the prosperity of our cities and regions and the development of our communities.

Our changing technologies, lifestyles and demographics influence the demand for infrastructure type, form and location and there is increasing emphasis on the utilisation of existing infrastructure as efficiently as possible through infill development.

Social infrastructure is often provided as a reflection of an existing population – for example, schools may not be developed until a local population reaches a threshold level. This can have flow-on effects as the provision of such infrastructure can be a trigger for the growth or decline of a community's population (via jobs and essential services), particularly in regional areas where there can be fewer alternatives. Similarly, as population demographics change, the demand for these infrastructure types can vary and this can have considerable impact on the long term requirements for land banking and strategic investment for the community, particularly where land is of high value.

This requires careful strategic planning of infrastructure networks and the protection of land and corridors to enable future service provision.

Source: DPTI Transport

It is also important to consider that the benefits generated by an infrastructure project can often stretch

beyond its direct users and surrounding environment to include agglomeration economies, human capital enrichment and improvement to equity and social harmony. This is particularly demonstrated in regional areas where townships can decline quickly following the closure of schools, hospitals or shops.

Existing policy

The SAPPL contains the following relevant general modules, including:

- Energy Efficiency
- Renewable Energy Facilities, Hazards
- Natural Resources
- Industrial Development
- Interface Between Land Uses
- Infrastructure

- Land Division
- Marinas and Maritime Structures
- Orderly and Sustainable Development
- Residential Development
- Tourism Development
- Transportation and Access.

The following SAPPL Zones, Policy Areas and Overlays provide policy controls relating to the delivery of infrastructure activities across South Australia:

- Aquaculture Zone
- Industry Zone
- Primary Industry Zone
- Coastal Conservation Zone
- Deferred Urban Zone
- Industry Zone
- Residential Regeneration Zone
- Suburban Neighbourhood Zone

- Urban Core Zone
- Urban Employment Zone
- Infrastructure Policy Area
- Landscape Protection Policy Area
- Medium Density Policy Area
- Residential High Density Policy Area
- Strategic Transport Routes Overlay.

Across existing Development Plans, there are a wide range of zones and policy areas that address infrastructure, with the majority addressing social infrastructure requirements, including Recreation, Special Uses, Public Purposes, Education and Institutional areas.

The infrastructure for coal, gas or other fossil fuels are largely governed by statutory requirements outside of the *Planning, Development and Infrastructure Act 2016* although some aspects (e.g. ancillary developments) are required to be assessed against South Australian land use planning policies.

Key issues, challenges and opportunities

Conventional energy generation

Non-renewable fuel sources are characterised by utilising less land but having potentially more intense local effects or alterations to the landscape in terms of transportation requirements, infrastructure, water resourcing and waste management (air pollutants or hard waste).[18]

Bulk Commodities Handling

Bulk handling refers to facilities where commodities are stored and despatched or bagged for sale in bulk and can include primary production products (grain, fertiliser), minerals (sand, gravel, coal), chemical storage and petroleum. The SAPPL Bulk Handling Zone also provides for value-adding industries associated with bulk commodities, although any such proposal would need to be considered on merit against the primary purpose of the zone and the environmental context.

It is important that such activities are protected from encroachment, particularly where they are of economic significance to a region or the state. In regional areas, bulk handling infrastructure for primary production activities is frequently provided in close proximity to townships and can be the subject of interface conflict with sensitive residential development. Counter to this, there are some concerns that bulk handling activities do not warrant the level of protection they are currently afforded and that this could be reviewed.

Coastal Infrastructure

A significant portion of economic activities, such, fishing and aquaculture, transport, tourism and recreation, utilise development and infrastructure which is based wholly, or in part, in sea waters. This includes wharves, jetties, shipping berths and dredging activities. In all cases, there are statutory referral requirements to relevant state agencies, including the Coast Protection Board, Environment Protection Authority and Primary Industries and Regions SA.

There can be variation in the policy and regulatory guidance around such development and infrastructure, in particular the relevant development plan, zone type, boundary placement (e.g. high water vs low water mark), and policies that are applied.

This variation is noted to lead to potential inconsistencies within and between developments (e.g. jetties, wharves and shipping berths). It also can lead to issues of inconsistency where there is a lack of policy guidance (e.g. dredging of the Port Adelaide River shipping channels and basins) or where additional policy guidance or protection is required (e.g. TechPort at Osborne).

Potential areas of further investigation

- There are a variety of infrastructure-type zones across development plans and these can lack fundamental differentiation. These should be reviewed and potentially consolidated to provide overarching consistency and certainty. This process may include examining:

    o opportunities to promote infrastructure agglomerations (e.g. schools, open space and centres) on the basis of common uses and purpose while avoiding prescriptive zoning that can be restrictive or difficult to amend

    o existing infrastructure and identifying sites that may qualify for infrastructure zoning.

- Separation distances for infrastructure are not always identified clearly and this has led to encroachment by activities that are not compatible.

- Separation distances for infrastructure may be too restrictive as there may be potential for low impact activities to be undertaken within the buffer area (e.g. environmental / open space, primary production adjacent to high voltage power lines etc.).

- Policy guidance should promote infrastructure investment that goes above and beyond minimum standards but also avoids unnecessary 'gold plating'.

- Ensure policy guiding infrastructure provision is flexible to support innovation.

- It is also important to ensure that policy supports the provision of social infrastructure in areas where population demographics are changing to meet both current and future community needs.

- Review zones and policies in relation to infrastructure in regional areas to ensure the appropriate weighting is given to the timely provision of infrastructure in light of environmental considerations, community requirements and economic investment. There is also a need to ensure this approach is reflected at a strategic level in regional plans.

- Many of the existing infrastructure zones reflect the broad intent of the SAPPL Community Zone but lack justifiable differentiation. They could be consolidated into a more holistic and rationalised zone structure.

- Similar to the industry zoning above, some variation may be required (via overlays and / or sub-zones) to address specific types of infrastructure that require additional policy guidance. Care should be taken that this is undertaken in a manner that avoids prescriptive zoning that can be difficult to amend or allow innovation, agglomeration or growth.

- There is also opportunity to review infrastructure that is not currently zoned separately but could warrant such zoning for protection or guided growth – this may be undertaken via the transition

to the Code.

- A significant proportion of infrastructure does not require separate zoning for protection or distinct policy guidance as it is suitably addressed by the policy of the primary zone and can form an integral part of it (e.g. open space, schools).

- Other infrastructure, as a result of its scale, sensitivities / impacts or purpose (e.g. water supplies, wastewater management) is considered to require zoning separate from the surrounding areas. State significant infrastructure, such as seaports and airports, also provide significant economic benefits (exports, tourism) and employment and policy must guide the development, as well as the protection, of these critical assets.

- Policy should seek, where possible, to 'bundle' infrastructure to limit the requirement for multiple easements or the alienation of large areas of land due to the presence of buffers or corridors for singular infrastructure.

Source: DPTI Transport

Box 1: Infrastructure contribution typologies

As well as making plans and reserving land for city shaping, structural and follower projects, the planning system can influence the efficiency of infrastructure provision by generating revenue for this purpose and by aligning pricing signals with the preferred pattern of development. That is, development contribution arrangements in the planning system should promote rather than work against the desired locations and staging of urban growth and redevelopment.

Development contributions can be economically justified on one of four grounds. Proponents can be reasonably expected to:

- pay for infrastructure in line with their share of usage of these facilities
- make good any adverse impacts of their projects on the environment or existing infrastructure
- pay for the development rights awarded through the zoning and approval system; and
- incorporate, or pay cash in lieu for, certain facilities essential for sustainable development, for example, parking, heritage compliance, open space and affordable housing (see Figure 5).

These four development contribution types and their respective justifications are mutually exclusive and additive. Experience in other Australian jurisdictions has underlined the importance of avoiding conflation of these categories of development exactions in legislation or in practice. Where these categories of planning exactions have been confused or left undefined, the general result has been opacity in the contribution system, higher risk costs in the development equation and greater exposure to litigation, all of which can have a dampening effect on a state's capacity to attract investment.

South Australia is trialling new approaches to infrastructure funding through the planning system. Pilot programs will test the extent to which these new mechanisms will link the contributions policy with wider planning objectives.
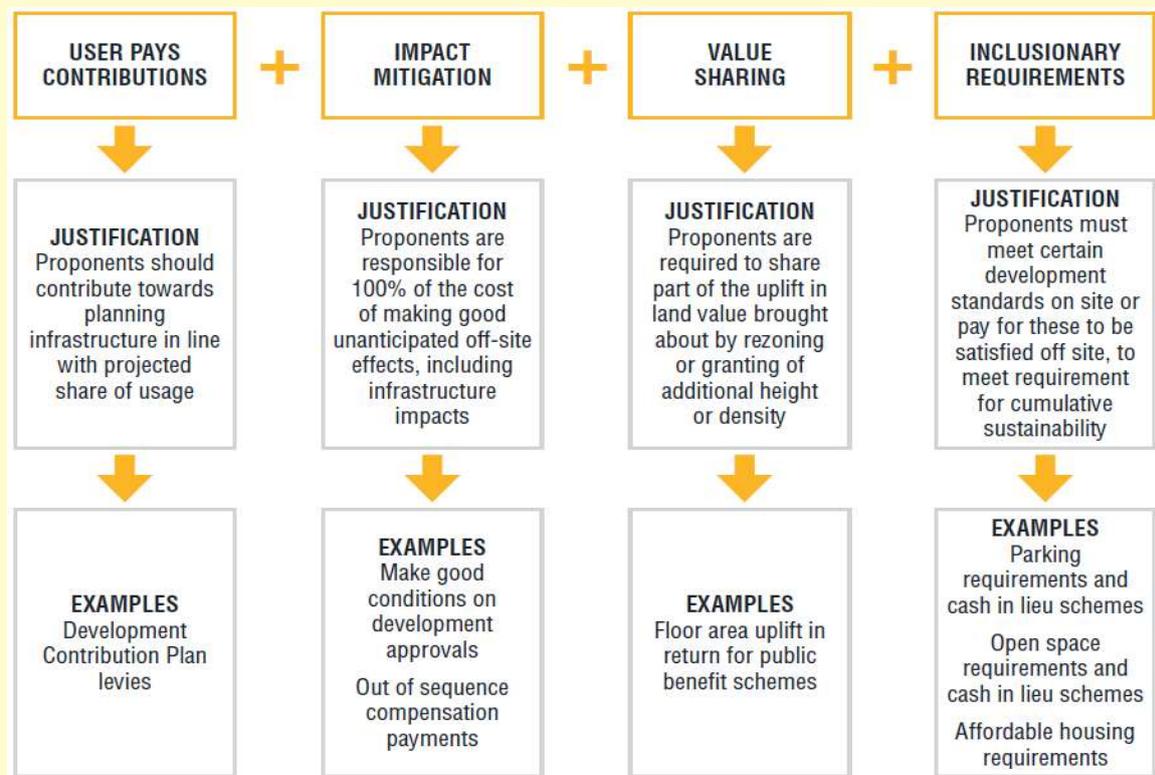

Figure 5 Types of development contributions. Source: SGS Economics & Planning

Box 2: Infrastructure schemes under the PDI Act

The **Basic** and **General Infrastructure schemes** are two new financial tools, introduced by the Act, which will supplement existing infrastructure planning arrangements.

Used to ensure that infrastructure is delivered when and where it is needed, these schemes can be used to unlock new growth areas on the fringe and replace the need for numerous infrastructure agreements with individual landowners, which can be a slow and complex process.

They can also ensure that those who will gain financially from works pay their fair share of the cost of the infrastructure.

Figure 6 illustrates the conceptual links between the broad types of infrastructure contributions and the delivery features of the new infrastructure tools in the South Australian planning system.

Conceptual links

Basic Scheme
- Apply to 'designated growth areas'
- Ensures delivery of water, gas, sewerage, electricity, communications, roads, stormwater and similar infrastructure
- Greater certainty on funding arrangements
- Clarity on what is delivered, who delivers it and when it will be delivered

General Scheme
- Covering health, education, police, justice, emergency services, community, facilities and public transport infrastructure
- Used to facilitate partnerships between all levels of Government and the private sector
- Requiring a 100% opt in by landowners within the contribution area
- Potential to unlock development and bring forward infrastructure investment, particularly for infrastructure which improves liveability

Offset Schemes
- May include Open Space contributions, car parking funds or affordable housing cash-in lieu payments
- Ensures requirements that cannot be provided for on-site can provide an equivalent community benefit

USER PAYS CONTRIBUTIONS + + IMPACT MITIGATION + VALUE SHARING
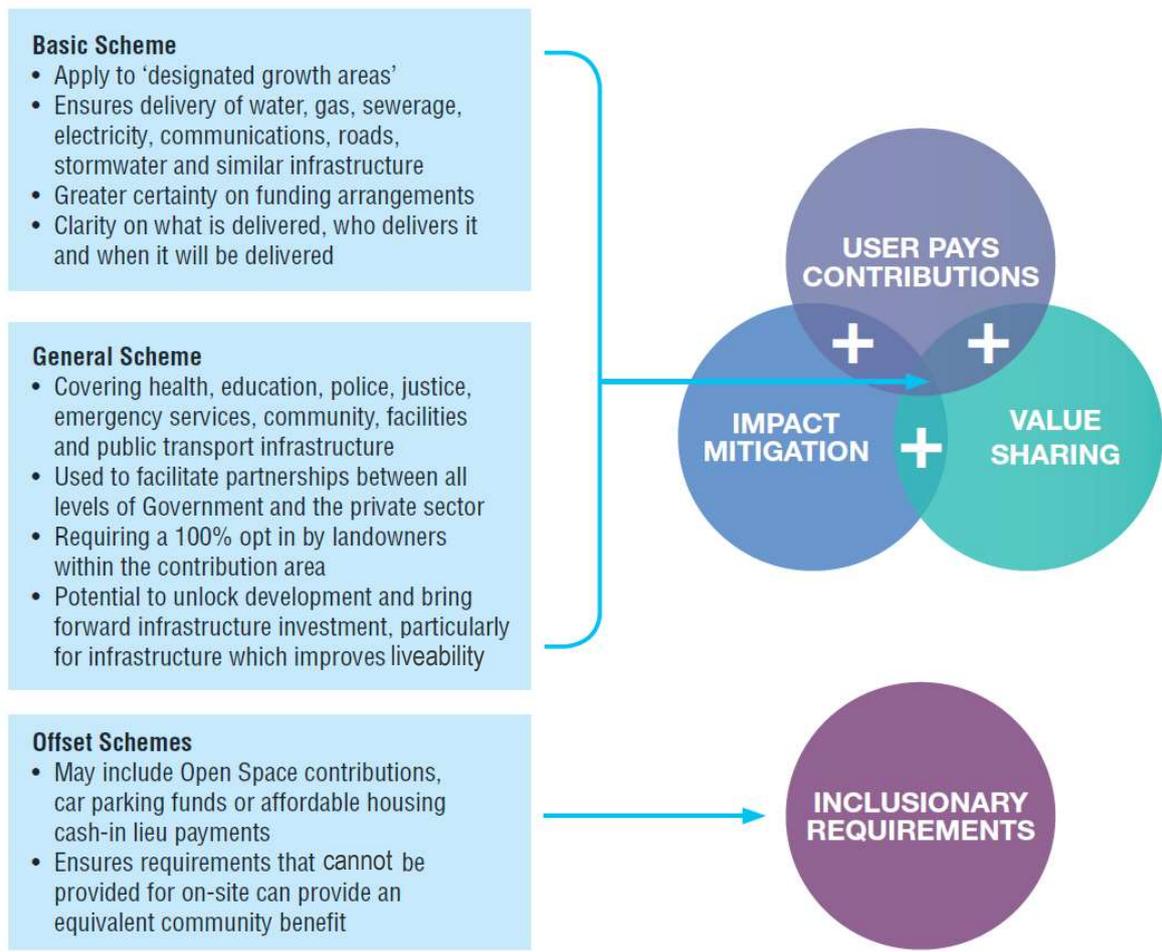
INCLUSIONARY REQUIREMENTS

Figure 6 Conceptual links to new infrastructure tool in the South Australian planning system

The State Planning Commission has put in place a series of pilot projects to improve our understanding of how these schemes can be used to deliver infrastructure. The projects will run for approximately 12 months to test their effectiveness across a number of scenarios and the feedback will be used to prepare a report to the Minister for Planning at the conclusion. The selected projects and sponsors are located at Bowden/Brompton (Charles Sturt), Mount Barker (Mount Barker District Council) and Kilburn/Blair Athol (Port Adelaide Enfield).

4. Facilitating innovation and enabling investment

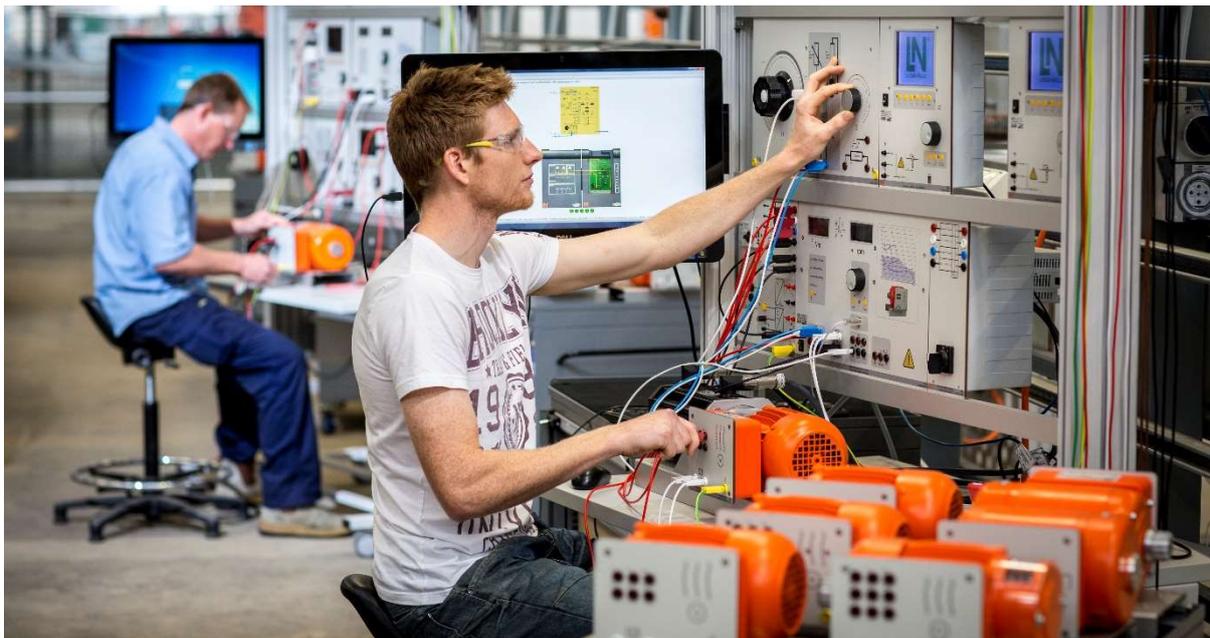## 4.1 Collaboration and clustering – innovation precincts

The agglomeration of related economic activities featuring complementary outputs, supplies or skills is well known to boost the productivity of firms located within them. It can facilitate business networks and the sharing of knowledge and is of particular value to niche operations (e.g. urban manufacturers and knowledge hubs, etc.) as it unlocks both economies of scope (via specialisation) and scale (e.g. via reduced costs).[19] Agglomerations can result in innovation-based value-adding, whereby a product or service is improved or diversified. Alternatively, they may also be considered value-adding where it can result in coordination of arrangements horizontally or vertically in the evolution of a product or service, particularly where individual parties do not have sufficient levels of leverage or capital to undertake it separately.

Agglomerations can also result in supplier convenience and customer benefits through comparison and competition, as well as shared investments with regard to infrastructure, transport, as well as improved access to labour and markets. Existing land use planning policy seeks to support and exploit these amalgamations through zoning, particularly mixed use zones and it is intended that this will be continued with the Code. In turn, this provides the basis for activity centres, industry or business parks and innovation precincts.

As differentiated from agglomeration, 'clustering' refers to the grouping of a narrow range of land use activities that have specialist requirements (e.g. infrastructure) or particular impacts (e.g. hazards) that are better managed collectively or an economic activity that warrants particular guidance (e.g. a cast metals precinct).

Clustering is recognised to have a role to play in land use planning. However, it is important that the delivery of clusters through planning policy, which can result in a lack of flexibility, diversity or innovation, is counterbalanced by simple amendment processes to enable efficient policy adaptation to changing requirements and demands of the market (e.g. overlays).

In the development of policy to guide agglomerations or clusters, it is critical that market support is garnered, as ultimately market forces prevail over planning policies in determining a business's preferred location and success.

Source: Department for Industry and Skills

Existing policy

The following SAPPL general policies seek to accommodate greater opportunities for collaboration and clustering:

- Centres and Retail Development
- Industrial Development
- Medium and High Rise Development (3 or more storeys).

Policies relating to collaboration and clustering are contained within the following SAPPL Zones and Policy Areas:

- Commercial Zone
- District Centre Zone
- Industry Zone
- Light Industry Zone
- Local Centre Zone
- Mixed use Zone
- Neighbourhood Centre Zone

- Regional Centre Zone
- Suburban Activity Node Zone
- Town Centre Zone
- Township Zone
- Urban Core Zone
- Urban Corridor Zone
- Urban Employment Zone.

Policies supporting clustering are currently provided for by the existing zoning structure. This enables various degrees of flexibility in terms of land use activity, built form and locational requirements.

This approach has proven to successfully support innovation, growth and diversity for economic development.

It is recognised that there are occasions where a more specific land use planning guidance may be beneficial. In these cases, policy guidance may instead be provided by overlays that target nominated locations for specific activities, whilst being encompassed within a broader zone.

Key issues, challenges and opportunities

- The concept of agglomeration is well established in the current planning system and this will be carried over to the Code

- Generally, policies and envisaged land uses should remain broad and flexible to enable economic agglomerations to develop and evolve horizontally and vertically

- Where clusters are appropriate, the challenge is to find an appropriate balance between policy certainty and policy flexibility in the design of zones and policies to support specialist developments and requirements

- Establishing a means of providing specific policy guidance to support the requirements of economic clusters together with flexibility of simple policy amendment (e.g. overlays).

4.2 e-Commerce and the sharing economy

Advanced technological platforms are providing a potentially significant disruptor to traditional businesses by enabling new competitors and activities to enter the marketplace in a digital capacity rather than a physical presence. A range of 'economies' have subsequently evolved with the following considered to have potential impacts on land use planning:

- **Peer-to-peer economy** – the sale or transaction of goods between parties (e.g. online retailing)

- **Sharing (collaborative) economy** – parties rent, borrow or co-own goods, services or spaces to capitalise on their idle capacity (e.g. car sharing such as Uber, tool libraries, room rental, pop-up shops, urban farming of vacant land)

- **On-demand (access) economy** – transactions that match expressed supply and demand in real time and facilitates the delivery of the product or service to take advantage of idle business capacity[20] (e.g. just-in-time printing).

These operations are characterised by their informal nature, a lack of conventional land use structures and difficulties and complexities in managing, monitoring or regulating them – including outside of the land use planning system.[21]

Existing policy

The following SAPPL general policies seek to accommodate greater e-commerce opportunities and a sharing economy:

- Centres and Retail Development
- Industrial Development
- Infrastructure
- Telecommunications Facilities
- Tourism Development
- Transportation and Access.

Policies relating to e-commerce and a sharing economy are also contained within the following SAPPL Zones and Policy Areas:

- Commercial Zone
- Industry Zone
- Light Industry Zone
- Urban Core Zone
- Urban Corridor Zone
- Urban Employment Zone.

Many e-Commerce activities may be considered ancillary to existing development activities and not warrant need for approval. Most SAPPL zones have a degree of flexibility that would support a range of secondary land uses that are complementary to the primary activities, however, these would need to be considered on a case-by-case basis as they may also require approval by other regulatory authorities or have wider infrastructure impacts.

Key issues, challenges and opportunities

e-Commerce

The scale, form, impacts and development intensity of e-Commerce impacts on planning and development are still to properly manifest and on this basis, it may be too early for policy responses to be determined. However, key trends at this stage are anticipated to include:

- demand for smaller tenancies with a focus on service and customisation as display and storage will be reduced

- increased demand for storage and warehousing – stand-alone or in conjunction with a range of primary activities (residential, retail, commercial etc.). Note that storage is generally supported where ancillary to a related primary land use

- increased logistics and transport requirements impacting accessibility, parking and interface –

potentially in lieu of storage requirements (and therefore lower land requirements)

- increased home-business and home-industry operations

- reduced car ownership and parking requirements - increased accessibility of ride sharing businesses may lead to reduced car ownership and parking requirements for residences and businesses.

In broad terms, existing zoning and policy, with its focus on mixed uses, provides a good foundation for the changing economic and built environment, providing flexible policy and a variety of locations in which new development formats could emerge and grow.

Smart cities

Evolving technology and communications continue to change the way business is conducted, how we live our lives, and how our urban (and regional) environments are shaped. The economy and traditional industries are experiencing fundamental shifts in business models as a result of the digital economy and information access. Real time data and smart technology is anticipated to lead to better utilisation of infrastructure, clean energy and energy efficiency, improvements in services and better benchmarking of cities' performance. Competition among advanced economies for knowledge-sector jobs and industries is influencing the increased adoption of 'Smart Cities' principles.

As noted above, some emerging technologies, such as e-commerce, car hire, are already having impacts on the economy and land use activities and others are anticipated, such as driverless cars. However, it is generally not possible to identify how or when technology will shape the development and function of our cities. Nonetheless, policy must be designed to provide for its influence and development assessment allowed to consider its impacts.

This could be realised through the adoption of broad and flexible policy that acknowledges and embeds the value of potential technologies in development design, enabling development to adapt to it as it arises, as well as policy that encourages the take up of the technology. This future-proofs development and our urban spaces for the long term and enables our adaptation to new technologies as they emerge.

Policy Flexibility

To date, it has been a challenge for our planning system to keep pace with the rapid uptake and continuously emerging formats of, and impacts associated with, e-Commerce.

The Code will need to be agile in identifying and addressing externalities and disruption from these digital platforms to the economic and built environments. Planning processes, policy formulation and regulatory structures all need to be reviewed. Where appropriate, these could be redesigned to take advantage of the development opportunities presented by e-Commerce in a safe, equitable and orderly manner. Key to this will be monitoring of impacts on the economy, development and related regulatory requirements to identify new planning directions and appropriate planning responses.

It is also important that planning directions continue to promote mixed use zoning and flexible policy to support innovation, growth and diversity. Another opportunity is to support a diversity of built forms to provide for changing business and market needs and the better provision for infrastructure. In addition, it is important that new planning processes, structures and information are made accessible, consistent and transparent to improve development efficiency, costs and equity.

Keeping pace with technological improvements that affect service delivery, the way we work and travel can be complex and sometimes difficult. In land use planning, which is typically built around tried and tested performance, the translation of technological improvements may be delayed due to evidence, but flexible policy should look to allow development variations in response to such innovations.

e-Commerce and online accommodation

Advanced technological platforms have been a significant disruptor to the tourism industry by enabling new competitors to enter via digital technologies. Of most significance are the Airbnb-style businesses which enable hosts to list private spaces for short term rental. At this time, there is limited data to accurately measure the contribution of sharing platforms in Australia[22] to the tourist accommodation industry, the impacts on the industry itself and to surrounding environments.

It is recognised these digital services present opportunities to stimulate innovation in the tourism industry, increase competition for services and provide greater accommodation choices.

However, users can also impose costs on residential neighbours through parking, noise and antisocial behaviour[23].

These e-Commerce activities currently operate with minimal regulatory controls (e.g. health, safety and interface impacts) that otherwise apply to registered tourist accommodation. In addition, there are concerns regarding the impacts on housing availability and affordability for permanent residents.

Further to this, activities which are temporary, ancillary, secondary or a home activity may not require land use development approval. Difficulties lie in the informal and self-regulatory nature of the platform, making the land use difficult to detect and compile evidence of non-compliance. Local governments generally do not have the resources to track and enforce breaches unless violations are brought to their attention by residents. Various jurisdictions are examining options in relation to the definition, the maximum number of days operating in this manner or licencing arrangements.

Potential areas of further investigation

- Monitor and investigate e-commerce impacts on land use policy in terms of shifting demand for activities (e.g. location and type), interface (e.g. noise, air quality, vehicle parking) and built form to ensure that policy responds accordingly.

- Review planning policy to identify opportunities to accommodate anticipated e-Commerce trends including:

    o demand for smaller tenancies with a focus on service and customisation as display and storage will be reduced

    o increased demand for storage / warehousing – stand-alone or in conjunction with a range of primary activities (i.e. residential, retail and commercial). (Note that storage is generally supported where ancillary to a related primary land use)

    o increased logistics / transport requirements impacting accessibility, parking and interface – potentially in lieu of storage requirements (and therefore lower land requirements)

    o increased home-business and home-industry operations

    o reduced car ownership and parking requirements - increased accessibility of ride sharing businesses may lead to reduced car ownership and parking requirements for residences and / or businesses.

- e-Commerce – a review is required of tourist accommodation (where it utilises residential development), definitions, the identification of 'threshold use' triggers, and the monitoring and management of the land use.

GLOSSARY

Activity Centres	Activity centres are concentrations of business, administrative, civic, retail, residential, entertainment, employment, research, education and community land uses. The purpose of activity centres is to cluster commercial and employment activity to improve accessibility, productivity and the efficient use of infrastructure.
Broadhectare (Greenfield)	Includes vacant or underutilised land parcels greater than 4,000 square metres which are located in residential and mixed use zones and include both infill and fringe/township locations. This also includes the future urban supply of broadhectare land (i.e. land that is designated for future urban growth but has yet to be rezoned for that purpose).
Character Preservation Districts	A Character Preservation District is a planning tool that seeks to protect a district's unique heritage, culture and integrity by maintaining and preserving its rural amenity, rural character and scenic vistas vital for tourism, and making sure that future development is well designed and supports, rather than detracts, from the dominant land uses.
Concept Plan	A Concept Plan is an early spatial expression of the desired land use and design aspirations for a defined project area and is usually limited in scope to the planning of a discrete development or infrastructure project. Master Plans or Structure Plans may provide guidance and context to the preparation of Concept Plans, which allow for a more detailed analysis of land use, built form, infrastructure and design, informed by the broad direction of higher level plans.
Density	Density is a measure of the population (persons) or the number of dwelling units (du) in a given area (usually hectares). • Low density = fewer than 35 dwelling units per hectare (du/ha) • Medium density = 35-70 du/ha • High density = more than 70 du/ha
Design Standards	To increase the emphasis on design in the planning system, the *Planning, Development and Infrastructure Act 2016* enables the State Planning Commission (see definition on page 47) to prepare design standards relating to the public realm and infrastructure. This is an important innovation and represents the first time a system-wide approach to public realm design has been provided for in planning legislation. Design standards: • specify design principles and standards • provide design guidance in relation to infrastructure and public realm
Development Plan	Development Plans seek to promote the provisions of the Planning Strategy and include planning or development objectives or principles. They are currently the principal documents in South Australia used to assess development. At present, every Local Government Area has a Development Plan. These documents will transfer into one Planning and Design Code for the State under the new legislation.

e-Commerce	e-Commerce is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet.
Emerging Industries	An emerging industry is an industry formed around a new product or idea in the early stages of development, often centred on new technology.
Employment Lands	Employment lands are those lands where development is focused on creating places for people to work. Employment lands generally have an industrial flavour and support business innovation, growth and investment.
Environment and Food Production Area	An Environment and Food Production Area is a planning tool that seeks to protect vital agricultural lands surrounding metropolitan Adelaide from the threat of urban sprawl by reducing the ability to subdivide land for housing development.
Freight Corridors	Transport corridors (usually either road or rail), which have a primary functional role in the movement of freight.
Greater Adelaide	The Greater Adelaide planning region covers an area of 9000 square kilometres and extends from Victor Harbor in the south to Kapunda in the north and from Gulf St Vincent in the west to Murray Bridge in the east.
	The region includes 27 Local Government Areas (Adelaide Plains, Light, Barossa, Gawler, Playford, Salisbury, Tea Tree Gully, Adelaide Hills, Mount Barker, Campbelltown, Port Adelaide Enfield, Charles Sturt, Prospect, West Torrens, Walkerville, Adelaide, Norwood Payneham & St Peters, Unley, Burnside, Holdfast Bay, Mitcham, Marion, Onkaparinga, Yankalilla, Victor Harbor, Alexandrina and Murray Bridge).
Healthy neighbourhoods	Healthy neighbourhoods are urban environments where people live, learn, work and play. They offer a wide range of services that can be easily reached on foot or by bicycle, including schools, health care services, shops, quality open space and public transport. They also provide streets and public spaces which are safe and support a diversity of public life, biodiversity and physical activity.
Infill	Infill is the rededication of land in an urban environment to new construction. Infill may also be used in reference to new construction in an urban area on any undeveloped land that is not on the urban fringe.
Innovation Precinct	Innovation precincts are environments where people work together in creative and entrepreneurial ways. They support interaction between sectors, disciplines and geographic boundaries. Innovation precincts cultivate an innovation ecosystem for the translation of research and the creation of new industries and careers.
	An example of an innovation precinct in South Australia is Tonsley, which brings together academic and training institutions, global companies and start-ups, and research and industry networks to offer a collaborative environment that supports high-value industry and innovative product and service development.
Local Area Planning	A process which will spatially identify and reflect the policies and actions of the relevant Regional Plan (or volume of the Planning Strategy in the absence of a Regional Plan) at the local level for areas of growth and change, which makes use of a number of other planning tools (including structure plans) as required.
Major Infill	Most of these sites are within transit corridors and key infill precincts, plus the Adelaide Local Government Area (LGA). This includes brownfield development sites (i.e. Bowden and Tonsley), infill broadhectare sites

	(i.e. Northgate, Mawson Lakes and Cheltenham), strategic developments in corridors and activity centres, apartment and aged care developments.
Master Plan	A master plan is a high-level plan that ensures the effective management of a development outcome within an area or precinct.
	Master plans should have regard to relevant state and local government policies and be strategically aligned with any overarching structure plans and Regional Plans.
	Master plans provide a more detailed road map about how to take a vision for an area and identify the steps necessary to achieve a broad development outcome. This may also include broad level design guidance and built form objectives, which seek to deliver a unique style or outcome to the development area or precinct.
Minor Infill	These sites are typically less than 4,000 square metres and were created by the demolition, resubdivision and redevelopment of existing residential land parcels. Minor infill is an important component of the overall land supply equation and makes a significant contribution (around 30%) to our annual metropolitan housing supply growth.
Net residential site densities	The density of a development site. It is calculated by dividing the total number of dwellings by the area of residential land that they occupy (excludes all other land uses, including roads, open space etc) and is expressed as dwelling units per hectare (du/ha).
Planning and Design Code	The State Planning Commission is responsible for preparing and maintaining the Planning and Design Code, which will require a new approach to the drafting, presentation and interpretation of zoning rules.
	The Code will be based on a more design-oriented style of zoning that focuses on built form and mixed use development. The Code will set out a comprehensive set of planning rules for development assessment purposes, classified into zones, subzones and overlays.
	These will be applied in each region in a manner consistent with the relevant regional plan. This will make the Code the single point of reference for development assessment.
Planning Strategy	The Planning Strategy outlines the State Government's direction for land use change and development in South Australia. The strategy has various volumes covering different geographic areas of the state:
	• The 30-Year Plan for Greater Adelaide – 2017 Update • Plans for regional South Australia.
	Each volume of the strategy is reviewed every five years and can be altered from time to time to align it with legislative requirements or to incorporate policy changes following consultation within government and with the community.
Planning, Development and Infrastructure Act (2016)	The *Planning, Development and Infrastructure Act 2016* was passed by Parliament on 12 April 2016. The Act will come gradually into operation over five years until 1 July 2020.
	The Act places the emphasis on engaging communities early when the rules, such as the state-wide Planning and Design Code and other regulatory instruments are being written, rather than at the later stages of the planning process, when it is too late to influence outcomes.
Primary Production	Primary production is the production of raw materials for industry, commonly involving activities such as agriculture, fishing or mining, rather than manufacturing.

Regional Plans	The State Planning Commission must prepare a regional plan for each planning region. These plans must be consistent with relevant state planning policies and include: • a long-term vision (over a 15 to 30-year period) for the region or area, including provisions about the integration of land use, transport infrastructure and the public realm • maps and plans that relate to the long-term vision • contextual information about the region or area, including forward projections and statistical data and analysis as determined by the Commission or required by a practice direction • recommendations about zoning and a framework for development or management of infrastructure and the public realm. Regional plans may be divided into parts relating to sub-regions, and may include structure plans, master plans, concept plans or other similar documents. Regional plans prepared by a Joint Planning Board must comply with any practice direction issued by the Commission.
Renewable Energy	Renewable energy is energy collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat. Renewable energy often provides energy in four important areas: electricity generation, air and water heating/cooling, transportation and rural (off-grid) energy services.
Retail	Retail is the sale of goods or service from a business to a consumer for their own use. A retail transaction handles small quantities of goods whereas wholesale deals with the purchasing of goods on a large scale. Retail transactions are not to be confused with online transactions; goods must be sold from a single point directly to a consumer for their end users.
Smart Cities	A smart city is an urban area that uses different types of electronic data collection sensors to supply information which is used to manage assets and resources efficiently. This includes data collected from citizens, devices and assets that is processed and analysed to monitor and manage things such as traffic and transportation systems, power plants, water supply networks, waste management, law enforcement, information systems, schools, libraries, hospitals, and other community services. Smart city technology allows city officials to interact directly with both community and city infrastructure and to monitor what is happening in the city and how the city is evolving.
Solar farms	Solar farms are the large-scale application of solar photovoltaic (PV) panels to generate green, clean electricity at scale, usually to feed into the grid. Solar farms can cover anything between 1 acre and 100 acres, and are usually developed in rural areas.
South Australian Planning Policy Library (SAPPL)	The state's current planning policies are contained in the South Australian Planning Policy Library (SAPPL). The library encourages best practice policy application and a consistent development plan format across the state. The SAPPL is being reviewed for transition into the Planning and Design Code.
State Planning Policies (SPP)	Set out the government's overarching goals or requirements for the planning system. These policies are to be taken into account when preparing other statutory instruments such as regional plans and design standards. They are not to be taken into account for the purposes of any assessment decision or application.

Structure Plan	A Structure Plan provides a vision and gives a broad spatial expression of the desired development outcomes for an area of change. This can include areas such as a transit corridor, centre, renewal area or greenfield site. Structure Plans can also be used to identify the regional distribution of targets, policies or actions relevant to an area. Structure Plans may also identify infrastructure and governance issues that will require resolution to facilitate the desired development outcomes of a broad spatial area.
Urban Design	Urban design is the collaborative and multi-disciplinary process of shaping the physical setting for life in cities and towns. It involves the design of buildings, groups of buildings, spaces and landscapes, and the establishment of frameworks and processes that facilitate successful development.
Urban Form	Urban form is: • the 'general pattern of building height and development intensity' and • the 'structural elements' that define the city physically, such as natural features, transportation corridors (including the fixed rail/tram transit system), open space, public facilities, as well as activity centres and focal elements.
Value Adding	Value adding involves economically adding value to a raw material through processing or altering characteristics of that material. A specific example, would be to economically add value to an agricultural product (such as wheat) by processing it into a product (such as flour) desired by customers (such as bread).
Wind Farm	A wind farm is a group of wind turbines in the same location used to produce electricity. A large wind farm may consist of several hundred individual wind turbines and cover an extended area of hundreds of square miles, but the land between the turbines may be used for agricultural or other purposes. A wind farm can also be located offshore.

APPENDICES

Appendix 1: Relevant Draft State Planning Policies

DRAFT State Planning Policy 1: Integrated Planning

Objective

Integrated planning is an essential approach for liveability, growth and economic development, maximising the benefits and positive long-term impacts of development and infrastructure investment.

Policies

1. Plan growth in areas to ensure they are connected to, and integrated with, existing and proposed transport options, infrastructure, jobs and services.

2. Ensure that areas of rural, landscape, environmental or food production significance within Greater Adelaide are protected from urban encroachment as provided for by the Environment and Food Production Areas Acts.

3. Provide an adequate supply of land outside the Environment and Food Production Areas that accommodates housing and employment growth over the longer term (at least a 15-year period).

4. Manage growth in an orderly sequence to enable the cost-effective and timely delivery of state infrastructure.

5. Enable the regeneration and renewal of neighbourhoods to provide diverse, high quality and affordable housing supported by infrastructure, services and facilities.

6. Plan and design infrastructure to account for and optimise long-term social, economic and environmental opportunities and benefits.

7. Support increased residential densities and mixed-use development around activity centres, public transport nodes and strategic transit corridors in ways that support public transport use.

8. Support the development of metropolitan Adelaide as a predominantly low to medium rise city with high-rise focussed in the CBD, parts of the Park Lands Frame, significant urban boulevards and other strategic locations where the interface with lower height buildings can be managed.

9. Encourage the development of vibrant employment and residential mixed-use precincts where conflicts between uses can be managed.

DRAFT State Planning Policy 2: Design Quality

Objective

The Principles of Good Design are embedded within the planning system to elevate the design quality of South Australia's built and natural environment and public realm.

Policies

1. *Ensure plans encourage development that incorporates the Principles of Good Design.*

2. *Promote best practice in access and inclusion planning in the design of buildings and places by applying the principles of Universal Design, Access for All, Crime Prevention Through Environmental Design, Environmentally Sustainable Design and Water Sensitive Urban Design.*

3. *Ensure the development of safe, welcoming, comfortable and efficient buildings and places to reduce economic and social disparity.*

4. *Ensure design advice is considered early in the planning process for complex developments and utilises consistent and credible processes (such as a Design Review) to ensure better outcomes.*

5. *Promote a culture of good design to foster creative thinking, innovation and effective design processes within the planning industry, allied fields and general public.*

6. *Provide high quality, functional and accessible public green spaces and streetscapes, particularly in areas with increasing infill development, housing diversity, population growth, medium to high residential densities and urban renewal.*

7. *Prioritise performance based design quality outcomes in Adelaide City; heritage and character areas; places where medium-rise buildings interface with lower-rise development; mixed-use renewal precincts; transit corridors; and iconic locations that attract high levels of pedestrian activity and/or tourism.*

8. *Enable quality design solutions in the planning and design code for low-medium density development.*

DRAFT State Planning Policy 3: Adaptive re-use

Objective

The adaptive reuse of existing buildings accommodates new and diverse uses.

Policies

1. Remove barriers and encourage innovative and adaptive reuse of underutilised buildings and places to inspire urban regeneration, stimulate our economy and unlock latent investment opportunities.

2. Sponsor models of adaptive reuse that allow flexible access to public spaces and infrastructure.

3. Enable the repurposing and adaptive reuse of historical buildings and places that recognise and preserve our state's history.

4. Prioritise the adaptive reuse of buildings within the City of Adelaide and other mixed-use precincts.

5. Facilitate the conversion and adaption of existing commercial office buildings in the City of Adelaide for residential or mixed-use.

6. Provide a range of planning and development incentives and bonus schemes to streamline decision-making processes, provide dispensation on prescriptive requirements that constrain opportunities, and capitalise on related regulatory or financial incentives outside of the planning system.

7. Ensure performance-based building regulations are flexible to encourage the adaptability of existing buildings to new uses without compromising health and safety.

DRAFT State Planning Policy 6: Housing supply and diversity

Objective

A range of diverse, affordable, well-serviced and sustainable housing and land choices is provided as, where and when required.

Policies

1. *Enable the provision of a well-designed, diverse and affordable housing supply that responds to population growth and targets, and the evolving demographics and lifestyle needs of our current and future communities.*

2. *Ensure there is a timely supply of land for housing that is integrated with, and connected to, the range of services, facilities, public transport and infrastructure needed to support liveable and walkable neighbourhoods.*

3. *Support regional centres and town growth and the demand for increases in housing supply within the existing town footprint or outside towns where there is demonstrated demand and it is contiguous with the existing development area.*

4. *Promote residential and mixed-use development in centres and corridor catchments to achieve the densities required to support the economic viability of these locations and the public transport services.*

5. *Provide a permissive and enabling policy environment for housing within residential zones, including the provision of small lot housing and aged care accommodation.*

6. *Increase the amount and diversity of residential accommodation in Adelaide City to support a variety of household types for a range of age and income groups, including students, professionals and the ageing.*

7. *Enable and encourage the provision of Affordable Housing through incentives such as planning policy bonuses or concessions (e.g. where major re- zonings are undertaken that increase development opportunities).*

8. *Support the creation of healthy neighbourhoods that include diverse housing options; enable access to local shops, community facilities and infrastructure; promote active travel and public transport use; and provide quality open space, recreation and sporting facilities.*

DRAFT State Planning Policy 8: Primary Industry

Objective

A diverse and dynamic primary industry sector making the best use of natural and human assets.

Policies

1. *Identify and protect key primary production assets and secure strategic opportunities for future primary industry development.*

2. *Create local conditions that support new and continuing investment in primary industry while seeking to promote co-existence with adjoining primary industries and avoid land use conflicts.*

3. *Enable primary industry businesses to grow, adapt and evolve through technology adoption, intensification of production systems, business diversification, workforce attraction, and restructuring.*

4. *Equitably manage the interface between primary production and other land use types, especially at the edge of urban areas.*

DRAFT State Planning Policy 9: Employment Lands

Objective

Employment lands are protected from encroachment by incompatible development and are supported by appropriate transport systems and infrastructure.

Policies

1. Enable opportunities for employment that are connected to, and integrated with, housing, infrastructure, transport and essential services.

2. Support state-significant operations and industries and protect them from encroachment by incompatible and/or more sensitive land uses.

3. Support and promote adaptable policies that allow employment markets to evolve in response to changing business and community needs.

4. Promote new, latent and alternative employment by enabling a diverse range of flexible land use opportunities.

5. Protect prime industrial land for employment use where it provides connectivity to freight networks; enables a critical mass or cluster of activity; has the potential for expansion; is connected to skilled labour; is well serviced; and is not constrained by abutting land uses.

6. Allow for competition within the retail sector by providing an appropriate supply of land for all retail formats in areas that are accessible to communities.

7. Support sustainable tourism where the social, cultural and natural values underpinning the tourism developments are protected to maximise economic growth.

8. Strengthen the primacy of the city centre as the cultural, entertainment, tourism and economic focus of Greater Adelaide. Enhance its role as the centre for peak legal, financial and banking services, specialty health and medical services, higher education, the arts, and high-quality specialty retailers that contribute to Adelaide City's attributes as a destination.

9. Encourage the development of vibrant employment and residential mixed-use precincts where conflicts between uses can be managed.

10. Plan for employment and industrial precincts that improve economic productivity, are protected from encroachment, connect to efficient supply chains, and minimise transport impacts on existing communities.

DRAFT State Planning Policy 10: Key Resources

Objective

Key resources continue to contribute to our state's economy and provide valued employment opportunities.

Policies

1. *Define and protect mineral resources operations, associated infrastructure and undeveloped mineral resources from encroachment by incompatible land uses.*

2. *Plan for and implement development in the vicinity of undeveloped energy resources, energy resources operations and associated infrastructure to ensure their ongoing safe and efficient operation.*

3. *Identify and maintain strategic transport corridors and other key infrastructure required to support resource sector activities and their supply chains.*

DRAFT State Planning Policy 12: Energy

Objective

The ongoing provision of sustainable, reliable and affordable energy options that meet the needs of community and business.

Policies

1. *Support the development of energy assets and infrastructure which are able to manage their impact on surrounding land uses, and the natural and built environment.*

2. *Support and promote alternative sources of energy supply at the neighbourhood level.*

3. *Facilitate access to strategic energy infrastructure corridors to support the interconnection between South Australia and the National Electricity Market.*

4. *Ensure development in the vicinity of major energy infrastructure locations and corridors (including easements) is planned and implemented in such a way as to maintain the safe and efficient delivery and functioning of the infrastructure.*

5. *Ensure renewable energy technologies support a stable energy market and continued supply and do not adversely affect the amenity of regional communities.*

Appendix 2: Relevant 30-Year Plan for Greater Adelaide policy themes

The economy and jobs
—

Relevant policies

P55. Promote certainty to undertake development while at the same time providing scope for innovation.

P56. Ensure there are suitable land supplies for the retail, commercial and industrial sectors.

P57. Maintain and protect primary production and tourism assets in the Environment and Food Production Areas, while allowing for appropriate value-adding activities to increase investment opportunities (Refer to Map 5).

P58. Ensure that the Environment and Food Production Areas, Character Preservation Districts and planning policies work in an integrated way to:
- protect key primary production assets and opportunities
- facilitate local operating and investment conditions that support primary production and related agri-business development
- enable timely business adjustment and climate change adaptation by primary producers.

P59. Enable major new primary production and agri-business development across the Northern Adelaide and Barossa regions and in the Mount Barker-Murray Bridge corridor and prevent ad hoc land use changes that may compromise those investments.

P60. Ensure land use planning in and around the Virginia horticulture district aligns with projects for industry growth and revitalisation anticipated by the Northern Economic Plan.

P61. Increase opportunities for farm-related value-adding development within the Mount Lofty Ranges Watershed where it can be demonstrated that water quality can be maintained or improved, consistent with the Mount Lofty Ranges Watershed water quality risk hierarchy.

P62. Manage the interface between townships and adjacent primary production activities and areas of nature protection.

P63. Provide for sustainable tourism development across Greater Adelaide by:
- protecting, enhancing and promoting the qualities that attract tourism and are of value to the whole community
- providing appropriate support infrastructure for tourism
- facilitating sustainably designed tourism accommodation in suitable locations
- facilitating tourism-related developments such as restaurants, specialty retail accommodation and other value adding activities

P64. Protect existing mineral resource operations by:
- preserving adequate separation distances between mining activities, housing and other incompatible development
- ensuring buffers are contained within mine sites wherever possible
- mitigating potential interface issues
- maintaining access to freight networks.

P65. Identify and protect the high pressure gas pipelines and other key infrastructure services.

P66. Define and protect undeveloped strategic mineral resources from urban encroachment and other incompatible development (see Map 6).

P67. Support and promote defence, science and technology clusters ensuring they are linked by high quality road, rail and telecommunications infrastructure and connect to universities (see Map 4).

P68. Focus business clusters and manufacturing hubs around key transport infrastructure such as road, air, rail, sea terminals and intermodal facilities to maximise the economic benefits of export infrastructure.

P69. Create sufficient buffer activities and design guidelines to prevent manufacturing and defence lands being lost to encroachment by residential activities and to prevent land-use conflicts between these activities.

P70. Ensure planning controls for employment lands are flexible to allow new green technologies and industries to emerge and grow.

P71. Encourage the establishment and expansion of medium and large scale renewable energy generation within the region.

P72. Encourage the development of large scale habitat restoration and conservation projects to increase environmental and primary production values and add to local economies and employment opportunities.

P73. Provide sufficient strategic employment land options with direct access to major freight routes to support activities that require separation from housing and other sensitive land uses.

Relevant actions

A35. Prepare guidelines and accompanying planning policies for employment lands (including industrial, defence and agribusiness uses) to identify those areas that:
- require protection from incompatible development
- may evolve to more mixed-use employment
- may require expansion
- may transition to other land uses, including residential. (This will require the management of interface issues with adjacent sensitive land uses and the management of any site contamination).

A36. Develop policies and/or guidelines for inclusion in the Planning and Design Code for the following:
- areas of primary production significance
- value-adding activities in primary production areas
- ancillary dwellings, tourist accommodation and short-term worker accommodation in primary production areas
- rural living, inside and outside the Environment and Food Production Areas
- the interface between primary production zones and urban/township zones.

A37. Implement the South Australian Multiple Land Use Framework (developed to address challenges arising from competing land use, land access and land use change).

A38. Develop guidelines to ensure that the interfaces between new development in growth areas with surrounding primary production land and/or nature protection areas are sustainably managed and that buffers are provided and integrate within the growth area.

A39. Undertake a bench-marking process for the underlying assumptions and analysis of retail and industrial employment land supply.

A40. Master plan strategic employment lands (such as Port Stanvac) to secure their future and to maximise community benefit.

A41. Investigate the development of an economic monitoring indicator which has a land-use planning base.

Infrastructure

Relevant policies

P82.   Coordinate and link strategic infrastructure across Greater Adelaide to ensure it meets the needs of a growing population with a changing demographic profile and supports a more productive economy.

P83.   Define and protect strategic infrastructure sites and corridors from inappropriate development to ensure the continued functionality of the services they provide.

P84.   Protect major economic infrastructure such as airports, ports and intermodals from encroachment by incompatible development and facilitate further economic activity in these locations.

P85.   Provide for adequate buffer zones around water and waste treatment plants and identify complementary activities that generate economic or community benefits that can occur in these areas.

P86.   Ensure that new urban infill and fringe and township development are aligned with the provision of appropriate community and green infrastructure, including:
- walking and cycling paths and facilities
- local stormwater and food management including water sensitive urban design
- public open space
- sports facilities
- street trees
- community facilities, such as child care centres, schools, community hubs and libraries.

P87.   Encourage early provision of community infrastructure in fringe and township growth areas to assist in creating a sense of belonging and building community wellbeing.

P88.   Design and locate community infrastructure to ensure safe, inclusive and convenient access for communities and individuals of all demographic groups and levels of ability.

P89.   Integrate and co-locate different community infrastructure and services in community hubs to maximise their use and enhance their economic feasibility.

Relevant actions

A47.   Develop guidelines that identify the appropriate thresholds for community infrastructure for new urban infill and growth area developments.

A48.   Pilot infrastructure schemes introduced under the PDI Act that support fair and equitable contributions by developers towards infrastructure requirements for new developments.

A49.   Develop Planning and Design Code policies that protect buffer distances, duplication requirements and operational requirements of strategic infrastructure, such as major ports, mining operations, waste water treatment or waste management facilities.

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