Chapter 3
The Challenges of Delivering a 'Sustainable Australia'

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Abstract Congested cities, water crises, soaring living costs, loss of biodiversity values and natural disaster impacts: these are key national issues that scream out for better planning and implementation of the future. How can they be addressed and Australia assured of a sustainable future? 'Sustainable Australia' is about where and how Australia can productively and sustainably accommodate more people. The sustainable development of Australia will not happen by accident: it must be planned, designed, and co-operatively delivered. This chapter explores Sustainable Australia through three themes:

- Why Sustainable Australia is our greatest challenge;
- A Framework for communities, business and governments to face the challenge together; and
- Delivering Sustainable Australia through regional development.

The chapter concludes by proposing the establishment of an integrated 'top-down bottom-up approach' for sustainable development decision making, known as the Sustainable Australia Framework. It is supported by a Local Sustainable Development System, a new evidence-based engine for council community planning. Much of the proposed Framework already exists in disparate parts of Australia's sustainable development policy and planning landscape, but it lacks proper integration and collaboration. This chapter explains how to stitch together relevant parts and combine them with new tools to focus on productivity and community wellbeing. It also recommends that further research and development is necessary to deliver 'Sustainable Australia', particularly through innovative regional and urban design.

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3.1   Sustainable Australia: Our Greatest Challenge

In 1987, the United Nations Brundtland Commission Report described sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. Despite this simple wisdom being articulated some 25 years ago, parts of the planet are now groaning under the legacy of unsustainable development. Left unabated, this will gradually impact the whole world. In large part, global development has not been regionally sustainable: some regions have borrowed sustainability capacity from other regions with little or no accountability.

In the Australian context, the future is being impacted by a changing world as well as many 'home-grown' issues. Increasingly, Australia must be accountable for its own future—managing sustainable development, productivity and wellbeing in a way that is planned, integrated, scientific and supported by good governance. As a nation of human beings Australia will not get everything right; however, pursuing a co-operative, methodical, transparent, evidence-based and accountable approach (as proposed herein) will provide a good chance of success.

'Sustainable Australia' is about where and how the nation can productively and sustainably accommodate more people. Given that Australia's sustainability is impacted on by global challenges, the national objectives for sustainability are focussed both internally and externally. These objectives will be predominantly achieved through the sustainable development of the nation's 55 regions (comprising about 560 local governments), which are in turn governed through the structures of Australia's Six States and two Territories. The regional scale is the most appropriate level at which to implement a national sustainability framework. Regional planning to achieve Australia's sustainable future should be underpinned by a philosophy of achieving national objectives through optimal regional contributions: this necessitates co-operation, alignment, integration and optimisation across regions.

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3.2   The Global Population Context

Earth's geological time clock traces about 4,600 million years. The human race has existed for many thousands of years in Earth's recent history, but it took until just over 200 years ago (about the year 1800) for the population to reach 1 billion. Since then, humans have continued to populate the Earth at a tremendous, and unsustainable, rate. The US Census Bureau (June 2011 update) reports that the world population doubled from three to six billion in the 40 years to 1999; and that it is projected to grow to 9 billion in the 45 years to 2044. It projects a rise of about 2.4 billion between

Table 3.1 A comparison of growth and urbanisation in selected global economies Major Country Comparison with Australia (Source: Primarily CIA Factbook, 2011)

	Population (million)	Proportion urbanised (%)	Urbanisation rate (% pa)	GDP per capita ($)	Population of major cities
Australia	22	89	1.2	41,000	18 > 100,000 including 5 > 1 million (e.g. Sydney 4.6 million)
China	1,300	47*	2.3	7,600	160 > 1 million Including 4 > 9 million (e.g. Shanghai 16 million and Beijing 12 million)
India	1,100	30	2.4	3,500	43 > 1 million Including 5 > 7 million (e.g. New Delhi 2.1 million and Mumbai 19 million and Kolkata 15 million)
USA	313	82	1.2	47,200	280 > 100,000 Including 4 > 5 million (e.g. New York 19 million and Los Angeles 12 million)
Indonesia	245	44	1.7	4,200	4 > 2 million (e.g. Jakarta 9 million)

*In January 2012, some media outlets reported estimates that China's urbanisation had reached 50 %.
Source: Adapted from CIA (2011)

2010 and 2050—equivalent to adding the combined population of current-day China (1.3 billion) and India (1.1 billion) in just 40 years.

The implications of world population growth for the sustainable development of Australia should not be underestimated. In world terms, Australia is only the 55th largest nation by population; but Australia ranks 18th for GDP (CIA *World Factbook* 2011). This disproportionate economic influence largely results from our abundant and diverse natural resources, together with the demand for our commodities by major countries, including the rapidly urbanising China. World growth of 2.4 billion in 40 years will force Australia, a large, resource rich, sparsely inhabited land, to confront enormous international pressures and world food security challenges. If Australia can get its internal planning in order it will be easier to deal with these international pressures. To assist in understanding Australia's situation in the global context, Table 3.1 provides a comparison of population, level and rate of urbanisation and per capita GDP amongst Australia and other selected nations.

Australia's future is now intrinsically interwoven with the future of its major trading partners. Australia will experience increasing opportunity and risk as these relationships evolve in the face of world population growth, increasing urbanisation, energy security risk and food security challenged by weight of numbers, peak energy, peak phosphorus and weather extremes.

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3.3 The Australian Population Context

Australia's population has increased by 10 million in the last 40 years, from 12 million to 22 million people (Table 3.2). In the next 40 years, the Australian Government's *2010 Intergenerational Report* has projected a further increase of 13 million to 35 million by 2050. The combination of an aging population and reducing tax payer base will pose a serious challenge to Australia's economic sustainability going forward.

Some 15 million (68%) of the Australian population is currently accommodated in the five capital city/metropolitan regions of Sydney, Melbourne, Brisbane, Perth and Adelaide. A further 1.5 million (7%) is accommodated in the remaining 13 major cities of 100,000 population or greater (Fig. 3.1). Whilst these 18 major cities comprise just a few percent of the Australian land mass, they house 75% of the population, 75% of jobs and provide 80% of GDP.

The Australian population challenge is not only one of raw growth. Growth trends are also shifting, with only cities in Queensland (e.g. Gold Coast, Sunshine Coast, Cairns, Townsville, Brisbane and Toowoomba) recording above 10% rates of increase in the 5 years to 2006 (Fig. 3.2). Meanwhile, the absolute growth was greatest in metropolitan Melbourne (about 270,000) followed by metropolitan Brisbane (about 180,000) and metropolitan Sydney (about 150,000).

The changes in absolute growth, as well as rate of growth and location are significant in foreshadowing sustainable development capacity, since these are major considerations in infrastructure provision. The uneven patterns of growth now being experienced across Australia's regions (Fig. 3.3) adds complexity to the Sustainable Australia challenge.

Table 3.2 Australian population projection and changing profile

Age range	1970	2010	2020	2030	2040	2050
Population as at 30 June (millions of people)						
0–14	3.6	4.2	4.9	5.4	5.7	6.2
15–64	7.9	15.0	16.6	18.2	20.0	21.6
65–84	1.0	2.6	3.7	4.8	5.6	6.3
85+	0.1	0.4	0.5	0.8	1.3	1.8
Total	12.5	22.2	25.7	29.2	32.6	35.9
Percentage of total population						
0–14	28.8	19.1	19.0	18.3	17.4	17.2
15–64	62.8	67.4	64.7	62.4	61.3	60.2
65–84	7.8	11.7	14.3	16.6	17.2	17.6
85+	0.5	1.8	2.1	2.7	4.0	5.1

Source: Adapted from the Australian Government 2010 Intergenerational Report
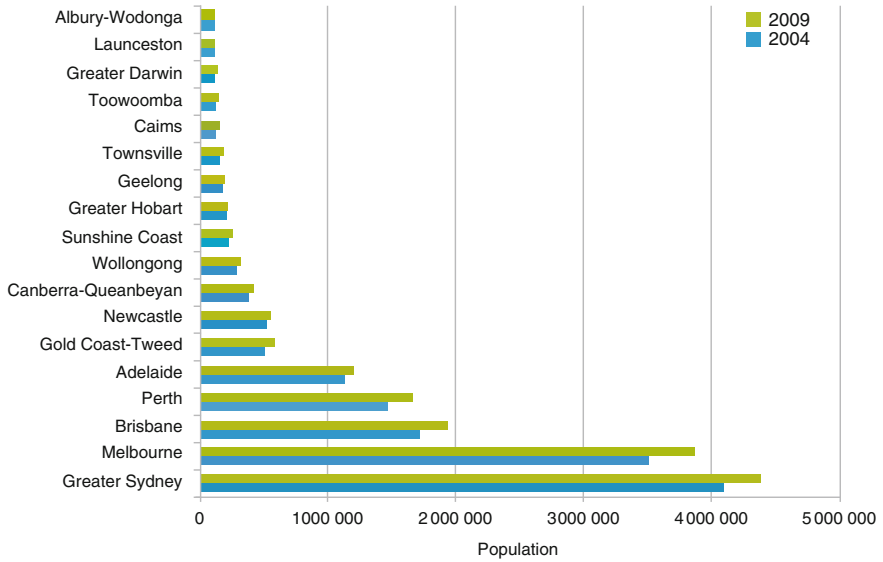
Fig. 3.1 Population bases of Australia's 18 major cities (2004 to 2009 comparison) (Source: Australia Government (2010b, p. 4)
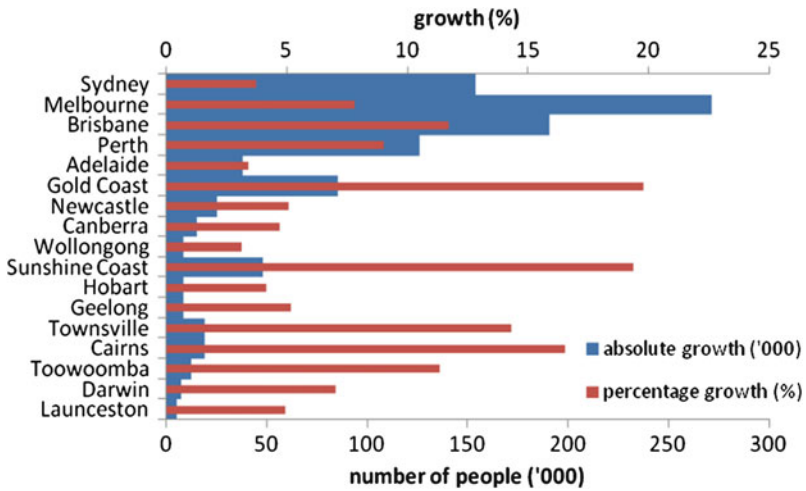

Fig. 3.2 Absolute and percentage growth in major Australian cities between 2001 and 2006 (Source: Australian Government (2011b) (Appendix II—Productivity and Prosperity Advisory Panel Report, p. 45))
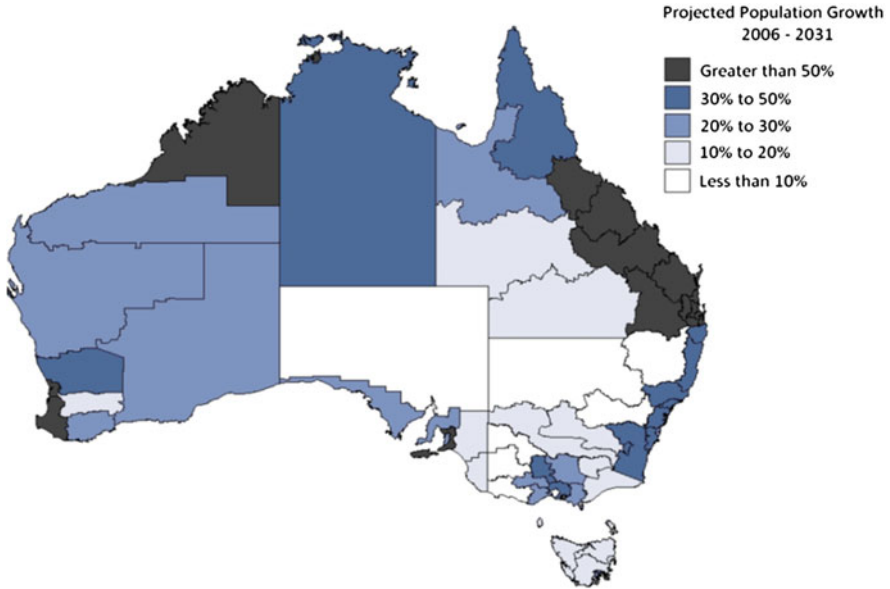
Fig. 3.3 Projected rates of population growth in Australian regions, 2006 and 2031 (Source: The Australian Government (2011b) (Appendix II—Productivity and Prosperity Advisory Panel Report, p. 17)).

3.4 The Sustainable Australia Challenge

Understanding where and how Australia can productively and sustainably accommodate between 8 million (world trend) and 13 million (Australian Government 2010 Intergenerational Report projection) additional people in metropolitan and regional areas by 2050 is fundamental to addressing the Sustainable Australia challenge. Solutions need to be the result of an iterative dialogue between governments, business and the Australian people, within an agreed Sustainable Australia Framework. The map of projected rates of growth may be different once Australia's communities and business have been fully engaged from the ground up, with the benefit of a sound evidence base.

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Already, sustainability warning bells are sounding loud for listening Australians. The growing and changing world will exacerbate home-grown issues and confound matters further (Table 3.3). All these issues will impact the challenge that is

Table 3.3 Warnings, other internal factors and international factors influencing Sustainable Australia

'Warning bells'	Other internal factors	International factors
Metropolitan traffic congestion	National security	World population growth
Urban water security crises	Health servicing	China/India urbanisation
Murray-Darling water crisis	Carbon constraint	World economic uncertainty
Underground water risk	Immigration	Energy security
Waterway health risk	Productivity	Food security
Soaring living costs—housing affordability, electricity, water and transport	Workforce participation	Climate change
Natural disaster impacts exacerbated by previous poor planning	Crime and personal safety	
Environmental and economic production conflict	Energy security	
Energy and environment conflict	Resource consumption	
Energy and economic production conflict	Public and active transport	
Metropolitan creep into good agricultural land	Ecological sustainability	
	Marine health	
	Impacts on biodiversity	

Sustainable Australia in some way, in the face of energy, resource and food hungry world growth. However, the warnings in particular, combined with the potential for the projected population profile to challenge Australia's economic sustainability, constitute a real and immediate risk Australia cannot ignore. They scream out that Australia plan and implement the future better than the past—in a comprehensive, scientific and integrated way.

Irrespective of the extent of population increase (between 8 million and 13 million by 2050), the issues will remain the same: only the magnitude of the impacts will differ. Increased population, urban renewal and the need for productivity growth will continue to drive development. The communities, businesses and governments of Australia are the current custodians of the great southern land and must co-operate to face the Sustainable Australia challenge together. Anything less than sustainable development in the future will tear at the fabric of Australian society, which is already stressed as indicated by the warnings bells ringing in the major cities, the Murray–Darling basin and across the nation. Sustainability is about delivering for all of Australia, not a preparedness to sacrifice some of it; as sacrifice of some reduces the sustainability capacity of the whole.

3.5   A Framework for Communities, Business and Governments to Face the Challenge Together

Communities are the building blocks of Australian society. They are many and varied; and insightful and powerful when well informed, engaged and well governed. Communities across Australia are alert to the sustainability challenge. Evidence based engagement of local communities and business, and collectively regional communities, is essential in achieving Sustainable Australia.

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Australia's federal system of government comprises the Australian government, 8 state and territory governments and about 560 local governments (in 55 regions). Without comprehensive community and business engagement and integrated inter-government planning, Australia's federal system of government struggles to deliver regional outcomes that contribute to national objectives. At best, it can result in a substantial lag between Australian Government policy direction and when a response at the local or regional level is enacted. At worst, the outcome fails to be realised. This is often exacerbated by intermeshing national, state and local election cycles.

Where and how does Australia grow sustainable communities in metropolitan and regional areas?

How does Australia ensure the renewal of towns and cities is sustainable?

How does Australia ensure sustainable development delivers productivity growth and community wellbeing?

The answers to these tough where and how questions are explored in the section dealing with 'Delivering Sustainable Australia through Regional Development' and in the following subsections which:

- Propose a Sustainable Australia Framework within which Australia's three levels of government can co-ordinate government, community and business effort for the sustainable development of Australia, with a focus on productivity growth and community wellbeing;
- Identify existing or evolving Australian Government sustainability and nation building policies that comprise the top component of the Framework; and
- Identify State and Territory Governments and Regional Development Australia as the glue in the middle; and Local Government as the foundation component of the Framework.
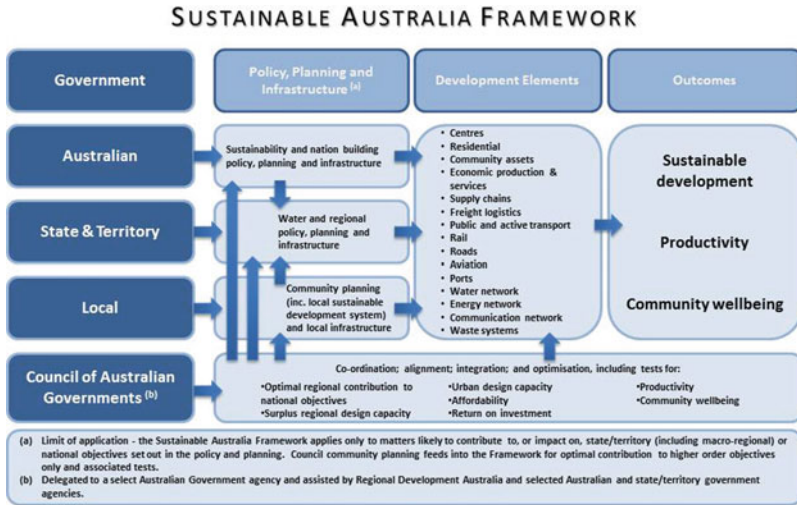
Fig. 3.4 The proposed Sustainable Australia Framework

3.6 Sustainable Australia Framework

The three levels of government do not lack appropriate policy or planning—what is lacking is an integrated framework to ensure it all works together efficiently and effectively, to contribute to national objectives. The same federal system of government, facilitated by a robust Sustainable Australia Framework and evidence based community planning, can move beyond national, state and local election cycles and deliver agreed planning objectives.

The Sustainable Australia Framework is a comprehensive inter-government planning approach, designed to pull community, business and governments together, around a serious evidence base, to face the Sustainable Australia challenge (Fig. 3.4). It is an integrated top-down bottom-up approach for answering the where and how questions for each region and assists better understanding of the relationships between regional and national objectives. It provides an arrangement for the nation's 55 regions (comprising 560 Council areas) to contribute optimally to the national objectives. The Framework will guide and integrate national, State/Territory and local planning for where and how Australia can productively and sustainably accommodate more people; and guide implementation of Sustainable Australia.

> The Sustainable Australia Framework is an integrated inter-government planning approach, designed to pull community, business and governments together, around a comprehensive evidence base.

To streamline inter-government interaction, the Sustainable Australia Framework should apply only to matters likely to contribute to, or impact on, state/territory (including macro-regional) or national objectives, which are set out in the policy or planning of those levels of government. Through council community planning, the Local Sustainable Development System feeds into the Framework for optimal contribution to the higher order objectives and for the associated tests only, but, in working as the engine for council community planning, the System also supports all local and regional planning and design. Application of the System at the local level will help inform determination of the contributory matters for application of the Framework.

The guiding principles for the assembly of a comprehensive Sustainable Australia Framework (including the Local Sustainable Development System) should include:

- Evidence based community and business engagement;
- Rationalisation of regional contributions to the state and national agenda;
- Local/regional development consistency with national and State/Territory strategic investment e.g. water, ports, land freight, transport, aviation, communications and energy;
- Sustainable regional design;
- Assessment of sustainable growth capacity;
- Minimization of the differential between optimum and acceptable urban design capacities;
- Value adding public and private investment in enabling infrastructure;
- Return on investment;
- Sustainable growth and/or sustainable renewal;
- Productivity growth;
- Community wellbeing; and
- Maintenance of surplus regional design capacity (e.g. water, energy, ecosystems, air quality).

3.7 Australian Government Sustainability and Nation Building Policies

The Council of Australian Governments, established in 1992, is the peak intergovernmental forum in Australia. The Council comprises the Prime Minister, State Premiers, Territory Chief Ministers and the President of the Australian Local Government Association. The Prime Minister chairs the Council. The role of the Council of Australian Governments is to initiate, develop and monitor the implementation of policy reforms that are of national significance and which require cooperative action by Australian governments. 'Facing the Sustainable Australia challenge together' fits that role well.

The following existing or evolving Australian Government sustainability and nation building policies or reviews could effectively contribute to the top component of the Framework:

- Infrastructure Australia (Infrastructure Australia Act 2008);
- National Broadband Network (FTTP announcement April 2009);
- Powering Ideas: An Innovation Agenda for the twenty-first century (May 2009);
- National Aviation Policy (December 2009);
- Regional Development Australia (Charter released September 2009);
- 2010 Intergenerational Report (January 2010);
- State of Australian Cities Report 2010 (March 2010);
- National Housing Supply Council State of Supply 2010 Report (May 2010);
- Urban Water Security Strategies Review for Infrastructure Australia (May 2010);
- Regional Towns Water Quality and Security Review for Infrastructure Australia (May 2010);
- Council of Australian Governments' Reform Council—Capital Cities Strategic Planning Systems (June 2010–February 2012);
- Water for the Future Initiative (fact sheet issued October 2010);
- National Ports Strategy (December 2010);
- National Land Freight Strategy (consultation paper issued February 2011);
- Sustainable Australia—Sustainable Communities Strategy (May 2011);
- National Urban Policy (May 2011);
- Investing in Regional Australia (Ministerial Statement May 2011);
- National Digital Economy Strategy (May 2011);
- Carbon Price (transition to ETS announcement July 2011); and
- Reform of the Environmental Protection and Biodiversity Conservation Act 1999 (August 2011 response to Dr. Allan Hawke review).

Community wellbeing generally, and economic sustainability in particular, are major goals of this concentrated national effort. The Australian Government 2010 Intergenerational Report describes the three pillars of sustainable economic growth as productivity, participation and population. Over the last 40 years productivity growth has been the major contributor to GDP growth. Over the next 40 years, our ageing population is expected to reduce the workforce participation rate, which will make a negative contribution to GDP growth. Productivity growth is expected to continue to be the dominant contributor to GDP growth, but less than was the case in the previous 40 years. Enabling infrastructure, removal of economic constraints and skills development contribute significantly to productivity growth. Efficient mechanisms to facilitate private investment in enabling infrastructure will be important going forward. These things will be critical for economic sustainability in the face of an aging population and reducing tax payer base. Part of the Sustainable Australia challenge is to minimize the negative impact on workforce participation and maximize productivity growth.

Reform of the Environment Protection and Biodiversity Conservation Act 1999, the Sustainable Australia—Sustainable Communities Strategy, National Urban Policy (and summary action plan), Infrastructure Australia and the Council of Australian Governments' Reform Council's review of Capital Cities Strategic

Planning Systems will become the main drivers in a comprehensive Sustainable Australia Framework. The Council of Australian Governments is likely the appropriate institution to oversee the development and monitor the implementation of the Framework. Set out below is a broader description of some of these important elements of Australian Government policy.

In August 2011, the Government released its *Response to the review of the Environment Protection and Biodiversity Conservation Act 1999*, as undertaken by Dr Allan Hawke. The report recognises a continuing decline in global biodiversity and proposes to address the decline by changing how we manage the natural environment including:

- A shift from individual project approvals to strategic approaches, including new regional environment plans;
- Cooperative national standards and guidelines to harmonise approaches between jurisdictions and foster cooperation with all stakeholders;
- Management of our natural assets on a whole-of-ecosystem scale, mindful of interactions and connections across landscapes and seascapes;
- Accounting for all environmental assets in an area, including habitats, species, ecological communities, geographical features, native vegetation, heritage values and water supplies; and
- Environmental policies and programs based on an understanding of how the different aspects of the environment interact, and how best to reduce the impacts of both natural events and human activity.

The *Sustainable Australia—Sustainable Communities Strategy* (Australian Government, 2011a) outlines the Government's existing framework for a Sustainable Australia and aims to ensure that future population change is compatible with the economic, environmental and social wellbeing of Australia. It recognises that population change is not only about the growth and overall size of our population, but also about the needs and skills of our population, how we live, and importantly, where we live. The Strategy identifies its focus as ensuring that we have in place the necessary policy settings and governance arrangements which will deliver improvements in our wellbeing, at the local, regional and national levels into the future. It outlines the Government's commitment to improving the liveability of our urban areas, and building stronger regions.

The *National Urban Policy* describes its goals as:

- Productivity—to harness the productivity of Australia's people and industry, by better managing our use of labour, creativity and knowledge, land and infrastructure;
- Sustainability—to advance the sustainability of Australia's natural and built environment, including through better resource and risk management; and
- Liveability—to enhance the liveability of our cities by promoting better urban design, planning and affordable access to recreational, cultural and community facilities.

The National Urban Policy and summary action plan applies to cities with population greater than 100,000, which in aggregate comprise 75% of Australia's population. The summary action plan sets out:

- Australian Government initiatives to deliver the goals of productivity, sustainability and liveability;
- Current programs and reform areas;
- Short term (2011–2014) actions; and
- Medium (2014–2017) to long term (2017–2020) actions.

The *Infrastructure Australia Act* establishes Infrastructure Australia with the primary function of providing advice to governments and investors and owners of infrastructure about:

- Australia's needs and priorities relating to nationally significant infrastructure;
- Policy, pricing and regulatory issues that may impact on the utilisation of infrastructure;
- Impediments to the efficient utilisation of national infrastructure networks;
- Options and reforms, including regulatory reforms, to make the utilisation of national infrastructure networks more efficient;
- The needs of users of infrastructure; and
- Mechanisms for financing investment in infrastructure.

The *Infrastructure Australia Act* defines nationally significant infrastructure as infrastructure, including the following, in which investment will materially improve national productivity:

- Transport infrastructure;
- Energy infrastructure;
- Communications infrastructure; and
- Water infrastructure.

In June 2011, Infrastructure Australia released its 'Communicating the Imperative for Action' Report to the Council of Australian Governments in relation to the seven Infrastructure Australia themes set out in Fig. 3.5. In June 2010, the Council of Australian Governments' Reform Council appointed an Expert Advisory Panel to consider and report on Capital Cities Strategic Planning Systems. This commissioning involves:

- Reviewing capital city strategic planning systems against agreed national criteria;
- Supporting continuous national improvement in capital city strategic planning; and
- Building and sharing knowledge of best practice planning approaches.

Upon completion, the improved Capital Cities Strategic Planning Systems should contribute substantially to council community planning and the Local Sustainable Development System proposed in this chapter.
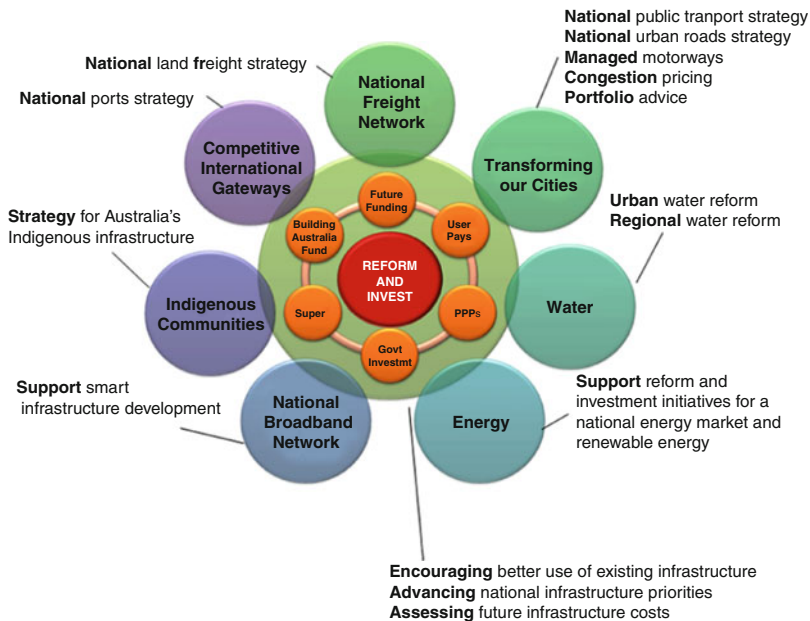
Fig. 3.5 Themes and relationships for Infrastructure Australia (Source: Reproduced under the Creative Commons arrangement, from www.infrastructureaustralia.gov.au)

3.8 State, Territory and Local Governments and Regional Development Australia

State and Territory government legislation significantly shapes sustainable development planning in individual council areas and regions across Australia. The State/Territory water and regional planning roles and their interface with the Australian and Local Governments provide the glue in the middle of the Framework. Water is a fundamental issue in regional planning and design.

Local Government is a creature of State and Territory legislation and functions in accordance with that legislation. The Local Government discussion in this chapter is based on the Queensland government example. However, there is suffi- cient commonality in Local Government arrangements between Australian States for the conclusions drawn to be applicable in other States and Territories. The main proposal of this chapter, in relation to the foundation component of the Sustainable Australia Framework, is the establishment of a Local Sustainable Development System as a new, evidence-based engine for council community planning. This System is based on the existing Queensland government legislative planning framework, which is reasonably well advanced. The core of Queensland's sustain- able development planning is established in:

- The *Water Act*—involving Water Resource Plans, Resource Operations Plans and Water Supply Strategies;
- The *Sustainable Planning Act*—involving State Regional Plans and Council Land Use Planning Schemes;
- The *Local Government Act*—involving Community Plans, Corporate Plans, Financial Plans and Asset Management Plans;
- The *Queensland Regionalisation Strategy*; and
- The *Queensland Infrastructure Plan*.

A key outcome of the Local Sustainable Development System, and a critical test of sustainability, is the maintenance of surplus regional design capacity. Metrics to test for this capacity should be established and applied by the State/Territory government, possibly with Regional Development Australia involvement. This ensures accountability in the critical impact assessment phases of the Framework's processes.

The September 2009 *Regional Development Australia Charter* establishes a partnership between the Australian, State, Territory and Local governments to develop and strengthen the regional communities of Australia. There are 55 Regional Development Australia committees in Australia and the Charter provides that each will work with all sectors of the community to contribute to and drive:

- Regional business growth plans and strategies;
- Environmental solutions for sustainability and management of climate change; and
- Social inclusion strategies.

At an operational level, the Regional Development Australia partnership, implemented through the 55 regional committees across the nation, is appropriately structured to help integrate the effort of all three levels of government for sustainable regional development. The committees can play a critical integration role in the Framework.

3.8.1 Delivering 'Sustainable Australia' Through Regional Development

Sustainable Australia will only be achieved by co-operative, integrated effort. Australia's Federal system of government, including the Council of Australian Governments (COAG), is capable of planning and implementing Sustainable Australia; our egalitarian Australian society demands a top down bottom up approach. Reliance on a top down only approach will fail. Similarly, reliance on a bottom up only approach will fail. All levels of Government working together, encouraged and empowered by an informed and engaged general and business community, can deliver the necessary integrated planning and implementation.

The Australian Government initiated a public policy conversation with the Australian community on Sustainable Australia through community consultation papers on the Sustainable Population Strategy and the National Urban Policy.

The outcome of much of that dialogue with the Australian people crystalised, in May 2011, in the Sustainable Australia—Sustainable Communities Strategy and the National Urban Policy and associated summary action plan. Together with the previously created Infrastructure Australia, the Environmental Protection and Biodiversity Conservation Act and various other sustainability and nation building policy initiatives, the Australian Government has effectively established the top component of the Sustainable Australia Framework. The Regional Development Australia partnership (a 2009 Australian Government initiative) strengthens the inter-government, business and community interface.

Delivery of the recently established national agenda for Sustainable Australia—Sustainable Communities, and the National Urban Policy can be greatly enhanced by:

- Research and development of aspects of the Sustainable Australia Framework's integration and optimization roles;
- Establishment and incorporation of a Local Sustainable Development System as an engine for existing council community planning;
- Nation building infrastructure to remove economic constraints and lift productivity; and
- Innovative private and public finance arrangements for enabling infrastructure.

State and Territory Government legislation significantly shapes sustainable development planning in individual council areas and regions across Australia. Councils are creatures of State and Territory legislation and function in accordance with State/Territory legislation. It is the combined effort of individual Councils that develops a region; and sustainable development is best delivered at the regional scale. The key will be establishing each region's most efficient and effective contributions to Australia's national objectives, determining optimal contributions across the nation and funding accordingly. The design of each of the 55 regions (and consequently the 560 Council areas) should be based on an understanding the region's advantage and management of associated strengths and risks. The design should be underpinned by a philosophy of achievement of national objectives through optimal regional contribution.

> The key will be establishing each region's most efficient and effective contributions to Australia's national objectives, determining optimal contributions across the nation and funding accordingly.

The regional design role warrants significant innovation to ensure local and regional strategies are integrated and optimised for conversion to sustainable reality and optimal contribution to the national objectives. The Local Sustainable Development System is the appropriate vehicle for linkage between local and regional scale, and establishes the basis for innovative regional design. The 55 Regional Development Australia committees can play an important role in integrating the
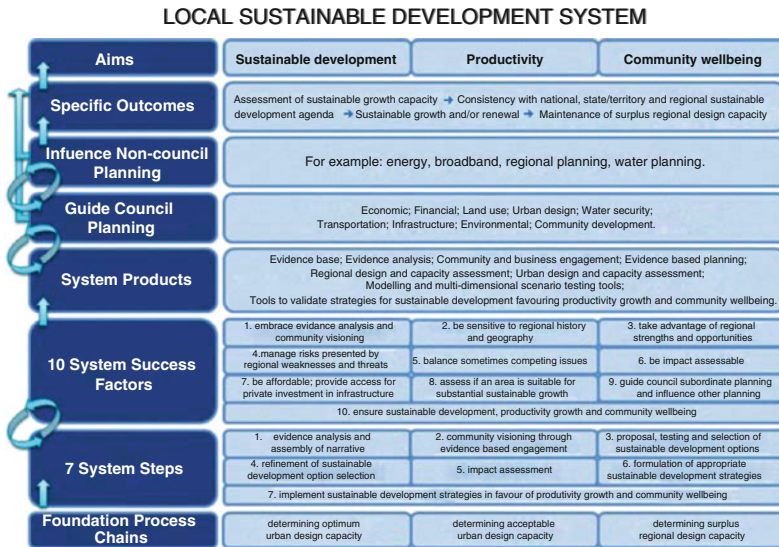
LOCAL SUSTAINABLE DEVELOPMENT SYSTEM

	Sustainable development	Productivity	Community wellbeing
Aims	Sustainable development	Productivity	Community wellbeing
Specific Outcomes	Assessment of sustainable growth capacity → Consistency with national, state/territory and regional sustainable development agenda → Sustainable growth and/or renewal → Maintenance of surplus regional design capacity		
Infuence Non-council Planning	For example: energy, broadband, regional planning, water planning.		
Guide Council Planning	Economic; Financial; Land use; Urban design; Water security; Transportation; Infrastructure; Environmental; Community development.		
System Products	Evidence base; Evidence analysis; Community and business engagement; Evidence based planning; Regional design and capacity assessment; Urban design and capacity assessment; Modelling and multi-dimensional scenario testing tools; Tools to validate strategies for sustainable development favouring productivity growth and community wellbeing.		
10 System Success Factors	1. embrace evidence analysis and community visioning	2. be sensitive to regional history and geography	3. take advantage of regional strengths and opportunities
	4.manage risks presented by regional weaknesses and threats	5. balance sometimes competing issues	6. be impact assessable
	7. be affordable; provide access for private investment in infrastructure	8. assess if an area is suitable for substantial sustainable growth	9. guide council subordinate planning and influence other planning
	10. ensure sustainable development, productivity growth and community wellbeing		
7 System Steps	1. evidence analysis and assembly of narrative	2. community visioning through evidence based engagement	3. proposal, testing and selection of sustainable development options
	4. refinement of sustainable development option selection	5. impact assessment	6. formulation of appropriate sustainable development strategies
	7. implement sustainable development strategies in favour of produtivity growth and community wellbeing		
Foundation Process Chains	determining optimum urban design capacity	determining acceptable urban design capacity	determining surplus regional design capacity

Fig. 3.6 Local sustainable development system (a synopsis diagram showing an evidence-based engine of Council Community Planning)

efforts of all three levels of government in this regard. Success will emanate from integration through the Framework to achieve nationally agreed goals and regional sustainable development deliverables.

Good regional design will support the ability to fund large step, long term payback infrastructure projects. Projects often fail the 'chicken or egg' funding test because of poor regional design. Good regional design will surpass the chicken or egg test. It will facilitate innovative and efficient infrastructure financing solutions to account for intergenerational equity and use Australia's strengths to convert the growth threat to growth opportunity. Infrastructure Australia is tasked with developing these solutions and the establishment of the Sustainable Australia Framework and the Local Sustainable Development System will assist that task substantially.

3.8.2   *A Local Sustainable Development System*

The best way to engage local and regional communities is through Local Government, with Regional Development Australia enhancement. Local community and business engagement is a key function of the proposed Local Sustainable Development System, which operates as an evidence based engine for council community planning. Figure 3.6 is a diagrammatic representation of the System. Importantly for streamlined inter-government interaction, the Local Sustainable Development System feeds into the Sustainable Australia Framework for optimal contribution to

state/territory (including macro-regional) and national objectives only. However, as the engine for council community planning, it also supports all local and regional planning and design and accordingly helps inform determination as to the contributory matters for application of the Framework.

In the state of Queensland, the community plan is the peak council planning instrument which establishes the community's vision and gives direction to all other council planning. Community plans are based on community engagement, are for a minimum 10 years and must align with state water plans (developed for each water catchment) and State regional plans. In most circumstances the water catchments and State regional planning areas will have different boundaries and be greater than the council area, or group of council areas which may be the subject of a composite community plan. The Local Sustainable Development System enhances existing community planning by inspiring greater community ownership and commitment to the implementation of the community's objectives.

Some council areas will be suited for substantial growth and some will not be suitable. The region will likely contain several urban areas. Councils and communities will successfully engage in the challenge when they see themselves as part of the solution, have some influence over their own destiny and are not being forced down an unwelcome path. Resolution and ownership of planning issues at the council and community level will greatly assist state and Australian government effort.

Australian communities want to address the sustainability challenge. They want to be engaged with government in public policy dialogue; and they want their local planning to convert their vision into sustainable reality and community wellbeing. The Local Sustainable Development System incorporates evidence emanating from national and state policy and planning outcomes and builds upon government and private investment. Local councils must engage and lead their communities in understanding their region's capacity for sustainable development and its contribution to Sustainable Australia.

3.8.3   Aim and Specific Outcome

Most communities experience development as phases of growth and renewal; or a mix of growth and renewal; or renewal only. That development may be sustainable or it may not be sustainable. Sustainable development will not happen by accident. It must be planned and delivered.

The aim of the Local Sustainable Development System, as the evidence based engine of community planning, is to deliver sustainable development, productivity growth and community wellbeing through specific outcomes including:

- Assessment of sustainable growth capacity;
- Consistency with the national, state and regional sustainable development agenda (and a feedback loop for agenda improvement);

- Sustainable growth and/or sustainable renewal; and
- Maintenance of surplus regional design capacity.

> The aim of the Local Sustainable Development System, as the evidence based engine of community planning, is to deliver sustainable development, productivity growth and community wellbeing.

Assessment of sustainable growth capacity and consistency with the national, state and regional sustainable development agenda will help address the 'knowing where' part of the Sustainable Australia challenge. Importantly the System will also operate as feedback loop to inform enhancement of the sustainable development agenda. However, notwithstanding the outcome of the sustainable growth capacity assessment, sustainable development planning should aim for a community to achieve productivity growth and community wellbeing through sustainable growth and/or sustainable renewal. The focus is usually on sustainability tests for growth, but often ignored is the need to ensure renewal development is also delivered in a sustainable manner. In the future, urban renewal will impact significantly on Australia's urban design capacity.

Australian and state/territory government components of the Framework should include incentives for council delivery of local and regional outcomes that contribute to Sustainable Australia, in the context of the national and state/territory economic, social and environmental agenda. Incentives should be offset by return on investment through value adding government and private enabling infrastructure investment. Test criteria for incentive funding should include:

- Consistency with national, state and regional strategic investment;
- Optimal contribution to national objectives;
- Minimisation of the differential between the optimum and acceptable urban design capacities;
- Return on investment;
- Productivity growth; and
- Surplus regional design capacity.

3.8.4   Ten Critical Success Factors

Irrespective of State or Territory jurisdiction and the language variously describing the planning, critical success factors for the System will:

1. Embrace evidence analysis (including evidence emanating from national and State/Territory policy and planning outcomes) and community visioning and validation through evidence based communication, community engagement and political leadership

2. Be sensitive to regional history and geography (including demography, hydrology, ecology and soil types)
3. Take advantage of regional strengths and opportunities
4. Manage risks presented by regional weaknesses and threats
5. Balance sometimes competing issues including economic development, jobs, land development cost, housing affordability, water security, energy security, food security flooding and other constraints, urban design, enabling infrastructure, quality lifestyle, waterway health, air quality, community development, natural resource consumption, environmental conservation and financial capacity
6. Be impact assessable (including incentive funding testing)
7. Be affordable and provide access for private investment in enabling infrastructure
8. Assess if an area is suitable for substantial sustainable growth
9. Guide subordinate planning (including economic, financial, land use, urban design, water security, transportation, infrastructure, environmental and community development) and influence other planning (e.g. energy, broadband, regional planning and water planning) to deliver sustainable growth and/or sustainable renewal
10. Ensure sustainable development, productivity growth and community wellbeing

> The keys to success are to embrace evidence; be sensitive to regional history; take advantage of regional strengths and opportunities; manage regional risk; balance competing issues; be impact-assessable; be affordable; assess suitability for growth; guide subordinate planning … this will help to ensure sustainable development, productivity growth and community wellbeing.

3.8.5   System Definitions

The following definitions assist explanation of the Local Sustainable Development System:

Council area may be a single council or a group of councils within a region or water catchment. For example, the Queensland Government legislation provides for a community plan to apply for a single council or a group of councils. Following the 2008 amalgamations, Queensland councils are generally of a sustainable size, but if this were not the case the System would be best applied for a group of councils.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (United Nations Brundtland Commission Report, 1987).

Lifestyle development—In modern society, for a population to experience community wellbeing it requires the support of significant development that provides

for example food, shelter, energy, water, sanitation, governance, commerce, justice, health, education, transport, communications, waste recycling and disposal, community facilities, recreation, greenspace and, in the context of Sustainable Australia, productivity growth. For the purpose of the Local Sustainable Development System, this development, supporting community wellbeing, is called lifestyle development.

Export development includes, for example, a substantial industry type and size which is assessed as additional to lifestyle development. It is an economic exporter from the region and consumes water and energy measured by number of persons with associated lifestyle development. Another example of export development is agricultural irrigation. Export development reduces the regional design capacity.

Regional design capacity is measured in terms of the aggregate optimum urban design capacity (population), plus the rural population, the region can support and is determined by issues such as water, energy, ecosystems, air quality and other natural resources. Regional design capacity may gradually change over time as lifestyle development per capita consumption of regional resources changes.

Surplus regional design capacity is the differential between the existing population and the regional design capacity (population). It will change over time as a result of population change, new lifestyle development for existing population (improved services), renewal lifestyle development, export development and technology improvements; and any change in the regional design capacity. See the process chain for determination of surplus regional design capacity in a later sub-section.

Optimum urban design capacity is the maximum population for which the urban footprint/s can be sustainably developed, while ensuring community wellbeing and a surplus regional design capacity. It will change over time as a result of regional design, urban design, new export development and technology improvements in transportation, water security, energy security, waterway health and air quality. See the process chain for determination of optimum urban design capacity in a later sub-section.

Acceptable urban design capacity is the product of the urban design density profile, which is acceptable to the community, and the size and shape of the urban footprint. See the process chain for determination of acceptable urban design capacity in a later sub-section.

Productivity growth will be underpinned by technological advances, new products and processes, capital intensity and the flexibility and efficiency of the allocation of labour and capital. It will be supported through investment in Australia's skills base and infrastructure and removal of economic constraints (Adapted from Australian Government Intergenerational Report, 2010).

Community wellbeing prevails if communities embrace sustainable development; are well serviced, healthy and resilient; protect places of special significance; and have integrated networks of pleasant and safe public areas (Adapted from Queensland Sustainable Planning Act, 2009).

3.8.6   Seven Steps in the System

The system involves the following steps by the council (or the local/regional planning authority):

1. Evidence analysis and assembly of narrative
2. Community visioning through evidence based communication, community engagement and political leadership
3. Proposal, testing and selection of sustainable development options to deliver productivity growth and community wellbeing, based on:

   - Size and shape of the urban footprint;
   - Understanding of regional and urban design options and capacity;
   - Understanding of national, state and regional sustainable development agenda;
   - Understanding of local and regional economic issues;
   - Understanding of local community issues; and
   - Maintenance of surplus regional design capacity.

4. Refinement of sustainable development option selection through understanding of:

   - Sustainable regional design;
   - Urban design scenarios (new and renewal lifestyle development) and acceptable urban design;
   - Urban design capacity;
   - Export development (existing and planned);
   - Government and private enabling infrastructure investment;
   - Local and regional economic consequences;
   - Local community consequences; and
   - Potential impact of technology improvements on long term options.

5. Impact assessment (including Sustainable Australia Framework testing) for:

   - Consistency with national and regional sustainable development agenda;
   - Productivity growth;
   - Affordability;
   - Return on investment;
   - Differential between optimum urban design capacity and acceptable urban design capacity;
   - Sustainable growth capacity based on population of existing urban footprint/s and urban design capacity;
   - Maintenance of surplus regional design capacity; and
   - Consistency with community vision (or opportunity for vision review).

6. Formulation of appropriate sustainable development strategies based on:

   - Sustainable regional design;
   - Acceptable urban design capacity;
   - Investment in enabling infrastructure;

- Affordability;
- Value adding implications and return on investment;
- Impact in favour of productivity growth and community wellbeing;
- Enhancement of regional economic 'balance sheet';
- Validation of community vision; and
- Validation that regional design capacity remains in surplus.

7. Implementation of sustainable development strategies in favour of productivity growth and community wellbeing to:

- Guide subordinate planning (e.g. economic, financial, land use, urban design, water security, transportation, infrastructure, environmental and community development);
- Influence other planning (e.g. energy, broadband, regional planning and water planning);
- Deliver sustainable growth and/or sustainable renewal;
- Add value to Australian and state/territory government and private enabling infrastructure investment and deliver a return on investment; and
- Enhance regional economic 'balance sheet'.

Australia's informed and pragmatic communities will not accept an impractical or forced development solution; or a solution they do not fully understand. This is why grassroots evidence based engagement is so important. The applicable urban design capacity for an urban footprint will be that which is accepted by the local/regional community, not necessarily the optimum urban design capacity.

The differential between the optimum and acceptable urban design capacities of an urban footprint is a crucial aspect of the System and the overall Framework. It is a key measure of the Framework integration and optimisation roles. It should also be a critical test for incentive funding for enabling infrastructure. The lower the differential the more optimal is the sustainable development solution and the greater the return on investment.

3.8.7   Processes for Determining Urban Design Capacity and Surplus Regional Design Capacity

The process chain for determining *optimum* urban design capacity is:

- Determine the size and shape of urban footprint (using traditional land use planning and sustainability criteria based on topography, waterway health requirements, ecological requirements, soil type, good quality agricultural land, economic production land and flooding and other constraints);
- Through urban design scenario testing and application of capacity limitations (including water security, energy security, waterway health, air quality criteria and residual urban design legacy), establish the optimum urban footprint density profile; and

- Determine the optimum urban design capacity by application of the optimum urban footprint density profile to the size and shape of the urban footprint.

  The process chain for determining *acceptable* urban design capacity is:

- Through community engagement in relation to the optimum urban design capacity (and associated optimum urban footprint density profile and urban design scenario testing) establish the acceptable urban footprint density profile; and
- Determine the acceptable urban design capacity by application of the acceptable urban footprint density profile to the size and shape of the urban footprint.

  The process chain for determining *surplus* regional design capacity is:

- Determine the regional design capacity by assessment of the proportion of consumption of the most limiting natural resources (e.g. water supply or urban land supply) by the existing regional population and export development; and extrapolation to the population that would consume the most limiting resource (undertaken by state/territory government); and
- Surplus regional design capacity is the differential between the existing regional population and the regional design capacity population (undertaken by state/territory government).

The aggregate optimum urban design capacity of the various urban footprints of a community planning area is limited by the regional design capacity. It is appropriate that the regional design capacity and surplus regional design capacity metrics are established and tested by the state/territory government, with potential involvement by Regional Development Australia. This promotes accountability in these critical impact assessment phases of the Sustainable Australia Framework.

Sustainable regional design and acceptable urban design are each key aspects of the following steps of the System:

- Step 4—Refinement of sustainable development option selection;
- Step 5—Impact assessment; and
- Step 6—Formulation of appropriate sustainable development strategies.

3.9   Some Explanatory Examples—Ipswich and Lockyer Valley in South East Queensland

The Sustainable Australia Framework facilitates assessment of each region's most efficient and effective contributions to Australia's national objectives and how the nation's 55 regions can optimally contribute to those objectives. Optimal contribution can only result from co-operation, alignment, integration and optimisation across regions. Optimal contribution is achieved by sustainable design of the region
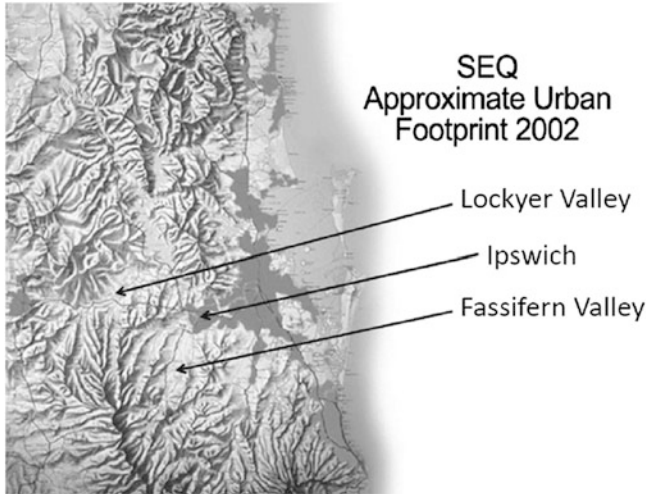
Fig. 3.7 The South-East Queensland corner, showing the proximity of Ipswich, and the Lockyer and Fassifern Valleys. Shading indicates the approximate urban footprint

and design of the urban footprints within the region in a manner that maintains a surplus regional design capacity and meets the Framework integration and optimisation tests applied across regions.

South East Queensland (SEQ), as set out in Fig. 3.7, provides a couple of good examples to help explain the key issues of sustainable regional design and acceptable urban design. Sustainable regional design and acceptable urban design are interdependent enablers of sustainable development. They work together to deliver productivity and community wellbeing.

The first example relates to the significance of Lockyer Valley in the sustainable regional design of SEQ. The second example pertains to acceptable urban design and involves the impact of water security on Ipswich's development of major business and industrial parks in reasonable proximity to residential growth.

Example 1—Lockyer Valley—SEQ Sustainable Regional Design

The Lockyer Valley is a freak of the earth's geologic development. The valley's rare geographic configuration creates one of Australia's premium food bowls. Emerging global food security risk and increasing carbon intensive food miles combine to elevate its development as a priority in SEQ sustainable design. Current non-existence of the proposals contained in this chapter mean that the appropriate integration and optimisation tests have not yet been applied, but for the purpose of this discussion, we can assume a proposal to develop Lockyer Valley as a sustainable food bowl would pass those tests.

The current SEQ regional plan treatment of the development of Lockyer Valley is not commensurate with its capacity to contribute to national (and state)

objectives. There are understandable reasons for this at this time, however the regional plan's inability to appropriately design the region to take advantage of the food production capability of Lockyer Valley, and the food processing potential of its surrounding areas, is a good example of the need for the Sustainable Australia Framework and a Local Sustainable Development System. It is hoped that food production and processing are more appropriately incorporated in SEQ's regional design in the next iteration of the SEQ regional plan. Such treatment will provide authority for the necessary land use and infrastructure planning by the relevant councils and other agencies.

Part of future SEQ regional planning and design should include consideration of aspects discussed below.

Maintenance of surplus regional design capacity is the ultimate test for sustainable design of a region. The process chain for determining surplus regional design capacity is set out in an earlier subsection. In the case of development of Lockyer Valley for food production and surrounding areas for food processing, upon full analysis and consideration within the context of a Local Sustainable Development System, it is likely the most limiting natural resource will be water. As explained in the process chain, regional design capacity is consumed by export development. Irrigation for food production and water for food processing constitute export development (see export development definition in earlier subsection). Accordingly, the regional design analysis will involve an understanding of resource consumption and net economic benefit associated with the development or otherwise of food production and processing.

The tests for integration and optimisation involve, amongst others things, circumstantial synergy and competitive advantage. Synergy and competitive advantage underscore two issues that warrant Lockyer Valley being an important element of SEQ's future planning and design. The first is that Lockyer Valley's proximity to SEQ's secure water supply, ample industrial land, large metropolitan population, aviation and sea ports and good highway and rail connectivity provide sufficient synergy and competitive advantage to establish an efficient network of food production, processing and metropolitan and export supply chains, as a substantial economic generator. The second is that very few of the 55 Australian regions can contribute to our national objectives in relation to food production and food processing to the extent of Lockyer Valley and its surrounding areas.

Example 2—Ipswich's Major Business and Industry Parks—Acceptable Urban Design

Ipswich is the heart of the SEQ Western Corridor. Ipswich:

- Has a population of 170,000 at 2011, expected to rise to 435,000 by 2031;
- Contains 43% of industrial land available for development in SEQ;
- Is central to the SEQ water grid established in recent years at a cost of about $9 billion, and which assures SEQ's water security;
- Is adjacent to the Lockyer Valley and the Fassifern Valley;

- Contains Australia's largest master planned community at Springfield (ultimate development 85,000) and Australia's next largest master planned community at Ripley Valley (ultimate development 120,000);
- Is adjacent to Queensland's capital city, Brisbane;
- Is at the confluence of six major highways;
- Is traversed by the western freight rail and contains the route for the proposed new freight rail;
- Is serviced by two metropolitan passenger rail routes;
- Is home to Australia's largest defence base at Amberley; and
- Contains significant campuses of two major universities.

For Australia to be sustainable in the face of increasing population and a changing population profile that will challenge our economic sustainability, we need to accommodate more people productively and sustainably. The nature and extent of contribution by a region to Sustainable Australia varies from region to region. In an urban area, such as that of which Ipswich is part, the nature of the contribution will mostly involve community capacity, safe environmental outcomes, residential, industry and commerce; and the extent will mainly relate to population density, the level of economic production and the quality of service delivery.

Ipswich is planned as a city of centres and job generators, based on well suited geographic and socioeconomic attributes. At the macro level, Ipswich's urban design must embrace and conserve the environmental attributes of the area, build community capacity through its layout and facilities and promote productivity by capitalising on geographic and economic synergy and competitive advantage. At the infrastructure level, Ipswich's urban design must provide a modern, integrated, efficient and effective urban framework of mixed use centres, residential, business and industrial parks, community assets, and sport and recreation facilities underpinned by well designed rail, roads, freight logistics, public and active transport, flood mitigation and drainage, water, energy and communication networks and waste removal and recycle or disposal systems. At a micro level, Ipswich's urban design must foster and support community capacity, social inclusiveness, workforce participation, lifestyle amenity and affordability, learning and creativity, land and waterway care, ecological conservation, efficient supply chains, digital economy advantage, economic production and service delivery.

Acceptable urban design capacity is based on an urban footprint density profile acceptable to the community and must account for all sustainability issues. For a community to accept an urban design capacity approaching the optimum, the urban design of the area must deliver close to optimum lifestyle, economic and environmental outcomes. Successful community planning through application of the Local Sustainable Development System will engage the general and business community and other stakeholders to facilitate understanding of innovative urban design to achieve desirable lifestyle and economic objectives and environmentally sensitive outcomes. Australia has to get much better at urban design; and the approach taken in Ipswich's latest master planned community in Ripley Valley is heading in the

right direction. Innovative, efficient and responsive urban design is integral to meeting the Sustainable Australia challenge.

Population and jobs must come together. Population without jobs is not sustainable. Water security is critical for population and jobs. Synergy and competitive advantage through the traditional and evolving attributes of Ipswich mean it is well positioned to play its role in Sustainable Australia through the development of its major business and industry parks, in reasonable proximity to large residential and available workforce. Proximity to Lockyer Valley and Fassifern Valley also contributes to the city's food processing potential. The measure of Ipswich's future success will be its ability to develop efficient supply chains and lift economic production, the quality of service delivery and acceptable urban design capacity, whilst achieving community wellbeing and maintaining surplus regional design capacity.

A classic opportunity for innovative urban design is evolving in Ipswich in the form of the 120,000 master planned community of Ripley Valley, the adjacent Swanbank Enterprise Park (14,000 job generation potential estimated by Ipswich City Council) and the nearby Aerospace and Defence Support Centre at Amberley. Residential walkability, efficient passive and active transportation, mixed use centres, healthy recreational facilities, community capacity, integrated environmental outcomes, efficient water and energy consumption, high capacity digital connectivity, workforce participation and efficient supply chains in an innovative business and industrial ecology will all be hallmarks of successful urban design of this area. The effectiveness of council's community planning and the quality of the urban design of this large residential, business and industrial configuration will mainly determine how close to optimum will be the acceptable urban design capacity of the area.

3.10   Need for Research and Development

Australia did not plan and implement the past anywhere near well enough because it did not understand the implications for the future well enough. Australia can't make the same mistakes again. A 'she'll be right mate' culture cannot be allowed to blindside the nation in the next 40 years, as it did in the last 40 years. Australia's wealth of resources and low population base let it dodge a bullet. The world and Australia have changed. Australia can't ignore the warnings any longer. It has to invest in research and development to plan and implement the future better than the past.

Various elements of sustainable development planning exist in councils and government agencies throughout Australia, with varying ranges of scope and effectiveness. However, research and development are necessary to establish a comprehensive approach, including a Local Sustainable Development System, to ensure integration and optimization of Australian, State/Territory and Local Government and private enterprise effort and outcomes.

Research and development needs will emerge across a broad spectrum of the Sustainable Australia Framework as it is established. However, the System and Framework integration and optimization roles proposed in this chapter clearly highlight research and development needs that include:

- Tools to develop the evidence base and evidence analysis to inform our communities and businesses;
- World class engagement practices to lead and empower communities;
- Evidence based planning, regional design and capacity assessment and urban design and capacity assessment tools;
- Modelling and multi-dimensional scenario testing tools;
- Tools to test for integration and optimization, e.g. rationalisation of regional contributions to the national agenda; local/regional development consistency with national strategic investment; value adding public and private investment in enabling infrastructure; return on investment; productivity growth;
- Tools to test and validate strategies for sustainable development in favour of productivity growth and community wellbeing;
- Good governance practices for strategy implementation;
- Efficient mechanisms for private investment in enabling infrastructure; and
- Efficient incentive mechanisms for councils and communities to add value to enabling infrastructure investment.

It is imperative that Australia creates a kit of effective, affordable tools and practices capable of use by all councils and other planning agencies in all jurisdictions throughout Australia. Accordingly the research and development methodology must be subject to stringent criticality tests to ensure pragmatic and efficient product. A possible research and development approach could incorporate the following:

- Identifying and categorising existing mainstream sustainable development planning practice and tools which appear fit for the purposes of the Framework and System;
- Assessing fitness for purpose of existing practice and tools in order to identify any deficiencies or gaps in the tool kit for each purpose; and
- Developing new or improved practice and tools for each purpose to complement or replace existing practice and tools to achieve critical success factors.

3.11 Conclusions and the Way Ahead

Australian, State/Territory and Local governments understand the need for effective public policy and substantial public and private investment in enabling infrastructure to manage Australia's continuing population growth in a productive and sustainable way. Australian communities are alert to the need for involvement and innovation to ensure that planning converts their vision into sustainable

reality, productivity growth and community wellbeing. Australia's egalitarian society demands a top down bottom up approach to sustainable development. The Australian federal system of government is well suited to deliver this approach.

The Australian Government has effectively established the top component of the Sustainable Australia Framework. The State and Territory governments have reasonably advanced water and regional planning legislative frameworks in place, comprising the glue in the middle of the Framework. The Regional Development Australia partnership substantially strengthens the middle component. The major gap in a comprehensive Framework is in the foundation component, in the form of a Local Sustainable Development System as an evidence based engine for council community planning. The lack of an effective System jeopardises the whole Sustainable Australia effort by depriving all levels of government of:

- A valuable local/regional evidence base;
- Essential community and business engagement; and
- Tools and practices to deliver integrated and optimised regional and urban planning and design.

Establishment of a comprehensive Sustainable Australia Framework will facilitate integrated effort by all levels of government to plan and implement our future better than our past. Through council community planning based on a Local Sustainable Development System, incentives based on optimal contribution to national objectives and minimisation of the differential between optimum and acceptable urban design capacities, councils and their communities can deliver sustainable growth and/or sustainable renewal and add significant value to the national, State/Territory and private enabling infrastructure investment.

For Australia to productively and sustainably accommodate more people, the way ahead should be forged by the following actions by government to develop a comprehensive Sustainable Australia Framework, including a Local Sustainable Development System, and research and development necessary to support the planning and implementation of Sustainable Australia.

Action 1: Acknowledge the need for a comprehensive Sustainable Australia Framework to guide, integrate and optimise national, State/Territory and local effort.

Action 2: Establish the Sustainable Australia Framework.

The Framework should be based on:

- Existing Australian government sustainability and nation building policy (headlined by the Sustainable Australia—Sustainable Communities Strategy, the National Urban Policy and associated summary action plan and Infrastructure Australia) as the top component;

- Existing, or improved, State and Territorial government water and regional planning and the Regional Development Australia partnership as the middle component; and
- A new Local Sustainable Development System, as the evidence based engine for the foundation component comprising council community planning.

The Framework will facilitate:

- Planning for where and how Australia can productively and sustainably accommodate more people; and
- Implementation of Sustainable Australia.

Action 3: Undertake research and development in respect of aspects of the Local Sustainable Development System and the Sustainable Australia Framework integration and optimisation roles.

The following guiding principles should underpin actions 1, 2 and 3:

- Evidence based community and business engagement;
- Rationalisation of regional contributions to the national agenda;
- Local/regional development consistency with national and State/Territory strategic investment e.g. water, ports, land freight, transport, aviation, communications and energy;
- Sustainable regional design;
- Minimization of the differential between optimum and acceptable urban design capacities;
- Assessment of sustainable growth capacity;
- Value adding public and private investment in enabling infrastructure;
- Return on investment;
- Sustainable growth and/or sustainable renewal;
- Productivity growth;
- Community wellbeing; and
- Maintenance of surplus regional design capacity.

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