The conceptual basis: developing a framework for sustainability

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> EVOLUTION OF SUSTAINABILITY

In 1987 the Prime Minister of Norway, Gro Harlem Brundtland, launched the book Our Common Future that effectively began the era of sustainability. Prime Minister Brundtland chaired the United Nations World Commission on Environment and Development (the Brundtland Commission) which had worked for two years to try and resolve a major problem in global politics: the apparent conflict between the environment and development.

Sustainability as a proposed solution was necessarily an attack on conventional thinking and practice, though not in all interpretations a radical attack. It recognised that it would eventually be suicidal to allow a further undermining of ecological life support systems, locally and globally. But at the same time it demanded development - not just to eliminate destitution and ensure material security but also to allow individuals and communities more choices and more power to exert greater control over the factors affecting their lives. Together these demanded development with sustainability - development pursued in ways that would protect resources and ecological integrity over the long term while greatly improving human well-being, especially among the poor.

RB Gibson[1]

Ecologists around the world had been warning from the 1960s that the earth had reached certain limits:

- human-induced climate change seemed certain as the atmosphere had increased its CO_2 concentration by 28% and certain new chemicals (CFCs) were threatening the ozone layer
- deforestation and land degradation from over-grazing and over-cropping were spreading rapidly
- fresh water supplies and groundwater were being depleted and polluted
- human beings across the globe had toxic chemicals in their tissues
- the continued loss of species and threats to important ecosystems was everywhere apparent.

Scientific evidence on the problems was mounting and scientists began to speak out. Ecologists warned that population growth must stop, the consumption of resources must be reduced and further economic growth must be prevented as it was driving problems like those listed above. At the same time those in developing countries and parts of the developed world, faced with continued poverty and deprivation, did not share the ecologists' viewpoint. For them development was essential: they needed food, clean water and shelter. The one billion people living in poverty had a strong case for economic development.

The Brundtland Commission concluded that there ought to be development but it must now be different: it must be *sustainable* development. Development needed to be more directed to meeting the needs of the poor in a way that no longer caused environmental problems but helped to solve them. In other words development must meet the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity. This would not happen quickly as the world's economy was built around short-term gains that did not take into account these long-term issues (see Box 2).

[1]R B Gibson, Specification of sustainability-based environmental assessment decision criteria and implications for determining 'significance' in environmental assessment, 2001, p. 9, viewed 5 August 2002, <http://www.sustreport.org/downloads/sustainabilityEA.doc)

BOX 2 THE GLOBAL NEED FOR SUSTAINABLE DEVELOPMENT: TIME TO RE-EXAMINE THE FUTURE

Emeritus Professor Ian Lowe prepared a paper for the Environmental Protection Authority, entitled Towards Sustainability. A section in the position paper highlights global environmental issues including:

- Nearly 50 per cent of the earth's land surface has been transformed for human activity.
- More than half of the earth's accessible fresh water is now used directly or indirectly.
- More nitrogen is now fixed synthetically than naturally.
- More than half of all mangroves and coastal wetlands have been lost.
- Two-thirds of fisheries have been depleted or at their exploitable limits.
- Arctic sea ice area is now 70 per cent of the 1870 figure and shrinking rapidly.
- Terrestrial glaciers and permanent snow cover are in retreat around the world.
- In the second half of the twentieth century the human population doubled, grain production trebled, energy use quadrupled and economic activity quintupled. So on average, we became much richer and better fed, as well as doubling our energy use.
- The human population is expected to continue growing to about 1.5 times the present level (about 9 billion before stabilizing) while the average consumption of resources is also increasing. So the total demand for resources is likely to double in the next fifty years.
- Forest cover is still being lost at a rate of 10 million hectares per year.

Environmental Protection Authority (2003). Towards Sustainability, Preliminary Position Statement No. 6, Environmental Protection Authority, Perth.

The United Nations began a long-term project to make the global economy more sustainable. The United Nations Conference on Environment and Development was held in 1992 in Rio de Janeiro, Brazil, to coincide with the 20th anniversary of the first international Conference on the Human Environment in Stockholm. A detailed program of action for the 21st century, *Agenda 21*, was agreed at the Rio Conference. Negotiations on an international agreement on climate change commenced at this conference (which led to the Kyoto Convention) and agreements on forestry and biodiversity were initiated.

Australia responded to the global call for sustainability by developing the *National Strategy for Ecologically Sustainable Development* (ESD) between 1989 and 1991 (see Box 3 for a summary of the goals, objectives and guiding principles). Twelve working groups examined every aspect of the Australian economy in terms of the new ESD principles. Little immediate action was taken on these reports, though the ideas developed began to spread as State and local government started to take the concept seriously. The 1996 and 2001 Australian State of the Environment Reports also contain many ideas on how sustainability can be addressed in Australia.

BOX 3 GOAL, OBJECTIVES AND GUIDING PRINCIPLES OF THE NATIONAL STRATEGY FOR ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The Goal is:

Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.

The Core Objectives are:

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations
- to provide for equity within and between generations
- to protect biological diversity and maintain essential ecological processes and life-support systems.

The Guiding Principles are:

- decision-making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations
- where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- the global dimension of environmental impacts of actions and policies should be recognised and considered
- the need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised
- the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised
- cost-effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms
- decisions and actions should provide for broad community involvement on issues which affect them.

These guiding principles and core objectives need to be considered as a package. No objective or principle should predominate over the others. A balanced approach is required that takes into account all these objectives and principles to pursue the goal of ESD.

In addition, all Australian Governments agreed in 1992 to the Intergovernmental Agreement on the Environment to provide for a cooperative national approach to the environment, definition of roles and responsibilities, reduction in disputes, greater certainty of business and decision-making and better environmental protection. Box 4 describes the principles of environmental policy that were recorded in the agreement. The principles contained in this Strategy build on these and incorporate more social and economic considerations.

Western Australian coastal issues have become a touchstone for what sustainability means in planning (see Sustainable coastal and marine environments*).*

Source: Department of Conservation and Land Management

BOX 4 PRINCIPLES TO INFORM POLICY-MAKING AND PROGRAM IMPLEMENTATION WITHIN THE INTERGOVERNMENTAL AGREEMENT ON THE ENVIRONMENT

Precautionary principle

Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by:

(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and

(ii) an assessment of the risk-weighted consequences of various options.

Intergenerational equity

The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

Conservation of biological diversity and ecological integrity

Conservation of biological diversity and ecological integrity should be a fundamental consideration.

Improved valuation, pricing and incentive mechanisms

Environmental factors should be included in the valuation of assets and services.

Polluter pays i.e. those who generate pollution and waste should bear the cost of containment, avoidance, or abatement.

The users of goods and services should pay prices based on the full life cycle costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any wastes.

Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, which enable those best placed to maximise benefits and/or minimise costs to develop their own solutions and responses to environmental problems.

The global sustainability process continues to evolve and expand. The World Summit on Sustainable Development convened from 26 August to 4 September 2002 in Johannesburg. At this time the nations of the world reported on progress towards sustainability. At the same time hundreds of non-government organisations and business groups shared information and assessed progress. For example, the World Business Council on Sustainable Development and the Global Mining Initiative reported on how companies are responding to sustainability. Thousands of local governments reported on how they have implemented Local Agenda 21 and the Cities for Climate Protection Program. Regional governments or states committed to sustainability formed the Network of Regional Government for Sustainable Development and twenty-one member governments, including Western Australia, signed the Gauteng Declaration. This confirmed these governments' intention to apply sustainability to their whole sphere of influence.

Western Australian Governments have considered sustainability over the past decade but the Labor Government was elected with a strong set of commitments to produce a sustainability strategy across the whole of government. Box 5 demonstrates why Western Australia must pursue a sustainable future.

BOX 5 THE WESTERN AUSTRALIAN SITUATION

Examples of Western Australia's significant environmental and social issues include:

- 4.4 million hectares are affected by salinity or at risk of further salinisation and this could double over the next 50 years
- rainfall runoff in the South West of Western Australia has reduced by 50% over the past 25 years, partly due to greenhouse induced climate change
- salinity and over-grazing threaten about one quarter of endangered plant species
- South-west Western Australia ranks twelfth out of the world's twenty-five most significant biodiversity 'hotspots'
- Western Australians, consume a lot of resources especially water, land and transport energy
- health and social indicators reveal high levels of deprivation in Indigenous communities
- the population and economies of many rural communities and parts of Perth are in decline with consequent social and environmental problems

Source: Predominantly drawn from State of the Environment Report, 1998, Government of Western Australia, Perth.

> WHAT SUSTAINABILITY MEANS

In this Strategy, sustainability is defined as *meeting the needs of current and future generations through an integration of environmental protection, social advancement, and economic prosperity*.[4]

This definition reflects an aspiration and a process to achieve real outcomes. The definition of sustainability is very challenging. It demands that we act together, providing an integrated and mutually reinforcing approach to issues that in the past have been treated more in isolation. It implies that proposals need to begin by considering all three factors together and that trade-offs are minimised. While recognising that any steps forward require some trade-offs the Strategy seeks to enable firms, the community and government to find 'net benefit' in all three areas. This aspiration is the basis of innovation for sustainability as set out throughout this document. Figure 1 below shows how the three areas remain separate (and need to for many aspects of life and government) but there are important areas of overlap that need to be found and explored.

Figure 1 Integrating environmental, social and economic dimensions of sustainability

Sustainability is sometimes described as the 'triple bottom line', to reflect the importance of environmental, social and economic factors in decision-making. However, the definition proposed here goes beyond the triple bottom line through emphasising the importance of integration between these factors and achieving them synergistically. The Strategy demonstrates where this is occurring already and identifies opportunities to support the transition to a more sustainable future through strategic action in forty-two priority areas. It emphasises how synergies can be found providing mutually reinforcing solutions.

Some submissions suggested that 'sustainability' should be replaced by 'sustainable development'. Globally the word sustainability has been preferred as it emphasises the stance that is required to enable 'sustainable development'. Both terms are used in the strategy.[5]

There is considerable discussion about the meaning of sustainability, particularly in academic and professional circles. Pezzoli[6] has found ten types of definition on sustainability in four key areas of concern. For many, the difficulty in pinning down a precise meaning is reason enough for them to consider that the concept has no relevance.

Such dismissal misses the point. The concept has not come from academia or the professions, it has come from global politics as a way of asking the world to resolve a fundamental tension that has developed between environmental, social and economic improvement. The resolution of this tension is the challenge for sustainability. The UN has made 2005–2015 the Decade of Education for Sustainability, recognising the need for a long-term commitment to this concern of global politics.

[4] Environmental protection is taken to be minimising impacts and providing rehabilitation and renewal of damaged environments.

[5] Further discussion on this can be found in a Background Paper 'Response to Industry Submissions on Sustainability Concepts' on the sustainability web site.

[6] K Pezzoli, *Sustainable development: a transdisciplinary overview of the literature*, 1996, Paper at joint international congress of Collegiate Schools of Planning and the Association of the European Schools of Planning, Toronto, July.

The concept of sustainability is simple but implementation is difficult. New Zealand academic John Peet[7] described the problem of ascribing meaning to sustainability as similar to trying to analyse the meaning of love or hope or democracy. These words, he says, are dialectical; they become meaningful mostly when applied. Sustainability is fundamentally a 'fuzzy' concept when analysed by itself. It begins to make sense when it is applied to specific issues, such as land management, energy, settlements, projects or specific communities.

This Strategy seeks to give sustainability meaning for Western Australia: its regions, its issues, its projects and its communities. It accepts that there are tensions between economic, environmental and social goals and seeks to resolve them through finding mutual benefit. See Box 6 for an example of sustainability applied to land development.

BOX 6 SUSTAINABLE LAND DEVELOPMENT

The benefits of integrated and mutually reinforcing synergies from sustainability approaches are demonstrated through a recent study by the Department of Housing and Works on Sustainable Land Development.

LandStart (the development arm of HomesWest) was proposing to build at a site in Forrestdale. The management at LandStart decided to examine what would be different (and how much more it would cost) if the development was built using sustainability principles. The Planning Group were employed to work with a cross-agency consultative group and examined ways to integrate energy and water conservation, better site ecology, more walkability and transit-orientation, and more community-based design.

The result has been a development that will demonstrate 60% water saving and 50% energy saving, utilises Liveable Neighbourhood design principles and provides a more attractive development from community and services perspectives—and it saved $1575 per block. Net benefit can be demonstrated on all aspects of sustainability.

Similar innovations are now being attempted across a range of developments in Perth including: the South Beach EcoVillage, the Somerville EcoVillage at Chidlow, LandCorp's Harvest Lakes, the Port Coogee Project, Hillarys-Cook Avenue Project and many more. Through such demonstrations Perth is becoming a global leader in what sustainability means for land development

> CHARACTER OF THE STRATEGY

When the United Nations World Commission on Environment and Development defined sustainability in 1987 the world was facing a major environmental dilemma. The debate was largely about resolving how development could be environmentally responsible. Although the debate also considered how development could be socially responsible, the environment was the overwhelming focus for government and industry in the 1990s.

Many submissions acknowledged the need for more integrated approaches, suggesting that the greatest need is to find out how to integrate social needs and processes into sustainability. Major resource companies have been global leaders in seeking what sustainability means and they emphasise the importance of the social and the need for government to provide a framework for how they contribute to this.

Significant attention and progress has been made in resolving the dilemma between environmental protection and development. Techniques have been developed like environmental assessment, eco-efficiency, green procurement, zoning land for environmental purposes, renewable energy facilitation and regulation of pollution. Much less progress has been made on resolving the social aspects of development (see Box 7).

[7] J Peet, Sustainable Auckland Conference, 2001. Auckland Regional Council, Auckland, September.

BOX 7 POVERTY AND SUSTAINABILITY

Sustainability in global forums grew out of the need to overcome global poverty while maintaining or improving the global environment. The Brundtland Commission argued that poverty drives many of the problems of natural resource management such as over-cutting, over-grazing and over-fishing, with subsequent impacts on biodiversity. Consumption of fossil fuels is seen to be a problem of the wealthy world not of the poor; some increase in use of resources by people in poverty can occur while the rich reduce their consumption. Issues of environmental justice are also discussed where mostly the poor are left to live or work in unhealthy or toxic environments.

The State Sustainability Strategy highlights this issue in Principle 2 Equity and Human Rights (see Foundation Principles): 'that significant gaps in sufficiency, safety and opportunity endanger the earth.'

This principle applies to Western Australia as well as to developing nations. A range of commentators has identified the growing gap between rich and poor at both the national and state levels. The Australian Collaboration, for example, states:

'Incomes are less equally distributed, with a growth in both the high and very low ends of the income spectrum, and a hollowing out of the middle… The growing gap between rich and poor is a social trend of deep concern.'

Similarly, the WA International Year for the Eradication of Poverty (1996) Taskforce states:

'Levels of relative poverty in Australia continue to grow, with the gap between the richest and poorest increasing by over 50 percent in the last 20 years.

Poverty impacts on the capacity of people to 'achieve a basic standard of living that is acceptable to the general community and to be able to participate in the life of the community.' Poverty is also interconnected with the environmental dimension of the sustainability agenda, as Bob Brown states: '...if you don't fix the social equation and get a fair society, you won't be able to fix the environment.'

The application of this principle to poverty in Western Australia requires a range of measures, including that private development is consistent with this goal as well as Government programs and community support. How this can be done remains a significant challenge and one that requires long-term commitment and innovation.

The Western Australian Council of Social Services completed a study on the social aspects of sustainability and identified five principles: equity; diversity; interconnectedness; quality of life; democracy and governance. The links between poverty and sustainability involve these principles and others including issues of identity and 'sense of place'. These are pursued throughout the Strategy.

The State Sustainability Strategy attempts to demonstrate that it is possible to create a stronger economy and a healthier environment by more fully integrating the social dimension. It suggests that, by thinking differently and more inclusively, the 'deep clues' as to how to resolve fundamental environmental, social and economic conflicts can be discovered. The solutions are not to be found only in environmental science and engineering, but in the social sciences, humanities and business.

A number of submissions suggested the draft State Sustainability Strategy did not sufficiently emphasise the economic dimension of sustainability. There is no doubt that any approach to the future which does not address the needs of the economy will not contribute to sustainability, for example the State should avoid future debt (see Box 8) and business needs to minimise sovereign risk. If financial sustainability is not addressed then no other elements of sustainability can be considered. However sustainability is emerging in business as the best way to ensure that long-term debt and sovereign risk are minimised (see <http://www.acca.org.au>). The sustainability agenda was created to find ways of incorporating environmental and social considerations into the economic development process, recognising that they are not subservient but mutually supportive. The State Sustainability Strategy explores how these perspectives can be integrated and made to occur synergistically.

The social and economic agendas also frequently overlap, for example creating jobs in regional areas or for particular groups like Indigenous people achieves a simultaneous economic and social gain. However the achievement of social goals can never be assumed merely because economic development is possible. The WA Collaboration submission outlines how the community dimensions of sustainability can begin to be addressed.

These kinds of integration—where environmental, social and economic factors begin to mutually reinforce each other—are often found in situations where business, communities and governments form creative partnerships. Such partnerships are described by the World Business Council for Sustainable Development as 'playing jazz' (see Box 9).

BOX 8 AAA RATING AND SUSTAINABILITY

A core principle of sustainability is that the long-term future must be considered. Future generations need to be assured of clean air, a good water supply, access to wild areas such as forests and coasts, uncontaminated food and an ecosystem as biodiverse or better than at present in Western Australia.

Future generations also need to be assured of a strong, inclusive community that they belong to and identify as their 'place'.

However, future generations will not thank those of the early 21st century if their legacy is one of substantial financial debt. State debt needs to be managed so that current and future generations can have access to services paid for at an interest rate that is at world best practice levels. The AAA rating for the State is established as a goal for budgeting, not just for good accounting now, but for the long-term benefit of the State economy. With an AAA rating all businesses in Western Australia benefit, including all those attempting to contribute to the sustainability goals of this Strategy.

BOX 9 SCENARIOS FOR THE FUTURE

The World Business Council for Sustainable Development (WBCSD) has analysed three scenarios for the future:

1. FROG – 'First Raise Our Growth'. This scenario is essentially business as usual where industry focusses on profit alone. The WBCSD suggests this cannot work and that the social and environmental problems (market failure) generated will lead to the collapse of many firms.

2. GEOPOLITY – This scenario suggests governments raise taxes and extensively intervene on a scale similar to the New Deal or postwar reconstruction. The WBCSD suggests there is little appetite for such action in the present global climate and that there would be many examples of 'government failure' due to the problems of top down solutions.

3. JAZZ – This scenario is based on partnerships, synergies and flexibility. It suggests that although a basic theme tune of sustainability can be agreed on, there will be many experiments and individual performances that can lead us through the problems we face. The WBCSD says this is our only real choice and that by 'playing jazz together' any part of the world can demonstrate what sustainability means.

Source: World Business Council for Sustainable Development 1997, Exploring sustainable development, WBCSD Global Scenarios 2000-2050 summary brochure, London.

The Case Studies in Sustainability developed as background to this Strategy bear testament to this process. The character of the State Sustainability Strategy is one of establishing processes where people can enter dialogue about issues to enable creativity and partnerships to flourish.

> OPPORTUNITIES FOR SUSTAINABILITY

The approach adopted within the State Sustainability Strategy recognises that while there are many economic opportunities, not all of these are socially and environmentally responsible.

Australia has developed in the context of centuries of debate and criticism about the way in which development has occurred. These include economic opportunities based on slavery, child labour, excessive working hours and dangerous work practices. Australia and the world are now incorporating the ideas of sustainability into decision-making. This means that certain economic opportunities are no longer pursued. The end of logging in Western Australia's old-growth forests is one example of where this has occurred in recent times. The growing community concern to protect coastal areas, such as Ningaloo, from unsustainable development is another. Sustainability is not about halting progress but it does demand that we take a deep breath and think again about particular issues.

The pursuit of sustainability provides many new economic opportunities. Firms that engage in the 'jazz' scenario are likely to gain considerably as demonstrated by the Dow Jones Sustainability Index, which shows that firms committed to sustainability consistently outperform all others.

The fastest growing sector of the global economy is the development of environmental technology, estimated conservatively to be worth $1 trillion annually.[8] United Kingdom Prime Minister Tony Blair calls this the 'sustainability revolution'.

[8] Leaders Group, Investing in sustainability, Department of Industry, Science and Resources and Environment Australia, canberra, 2001.

The State Sustainability Strategy assists Western Australia to become part of this global revolution and every issue considered in this Strategy has a section that considers opportunities in Western Australia for global sustainability.

Ethics and sustainability

There is a growing awareness that sustainability is an ethical issue—something that underlies all business, all professional thinking and how we live our daily lives. A set of background papers considering ethics and sustainability was collected from a diverse range of ethicists, philosophers, creeds and religions (see the CD-ROM).

Several common threads unite them and each provides a sense of hope that sustainability is worth pursuing. They show that human beings can be better stewards of the natural world and society, perhaps more so than they have over the past few centuries. The sustainability principles used in this document resonate with the approaches suggested in the background papers.

Partnership between government, industry and community

Sustainability cannot be achieved without partnerships (as set out in the 'jazz' scenario of Box 9). In this Strategy the major focus is on what government (State and to some extent local government) can do. However it also relies on and tries to help industry and community meet their sustainability responsibilities (see Box 10).

BOX 10 ROLES AND RESPONSIBILITIES FOR SUSTAINABILITY

Sector	Roles and Responsibilities
Government	1. Demonstrate leadership through decision-making and good governance 2. Develop policy frameworks 3. Develop plans with the community and business 4. Provide for (independent) performance evaluation and public reporting 5. Provide incentives for sustainable practice 6. Forge partnerships; take and respond to initiatives 7. Promote examples of sustainability in practice 8. Undertake institutional reform, including appropriate revisions to legislation and regulatory practices following full community debate 9. Support capacity building within and outside government 10. Implement procurement policies in support of sustainability 11. Embrace and pursue triple bottom line public reporting (noting that this in itself is not necessarily a measure of sustainability)
Business	12. Pursue the objectives of sustainable industry practice 13. Peak industry groups to pursue a leadership role in their business sector 14. Consider socially responsible investment 15. Implement green offsets for sustainable development 16. Commit to sustainability as a proper part of doing business 17. Set out how to relate industries to their place and their communities of interest
Community	18. Recognise and act on the need for behavioural change by all members of society as the key to long-term success. Sustainability ultimately is about the aggregated influence and outcomes from millions of everyday decisions by everyday people in everyday lives 19. Pursue opportunities to play a role in community leadership to achieve sustainability 20. Contribute to and respond to good practice guidance 21. Consider 'ethical investments' 22. Look for opportunities in volunteer, sustainability-based community activities 23. Provide ethical perspectives on sustainability 24. Participate in building up community in a place and in relation to a place

> A SUSTAINABILITY FRAMEWORK

How can the Western Australian Government approach sustainability? The first step has been to create a framework for thinking and decision-making.

The concept of sustainability is simple but it is difficult to implement because of our tendency to work in isolation. Most professions, corporations, institutions and government practices around the world have been built around the separation of the environmental, social and economic dimensions, with economic factors being the dominant consideration. Sustainability is challenging everyone to find a new way of approaching the future. Western Australia is joining this process. It can only do this if there is a re-evaluation of the principles, visions and goals that guide how we operate.

The Strategy proposes a set of sustainability principles that guide how government, industry and communities think about and approach the management of resources. These principles are aimed at facilitating change that has net social, environmental and economic benefit for current and future generations. Sustainability principles will underpin the State Strategic Planning Framework for the public sector and other government policies such as the Regional Policy Statement.

The sustainability framework consists of:

- seven foundation principles and four process principles that reflect the core values of sustainability
- six visions for Western Australia's sustainability
- six goals for government and forty-two priority areas for action.

The framework is described graphically through the pullout poster at the back of this document and the linkages between the three areas of the framework are illustrated in Figure 2.

Figure 2 The Sustainability Framework

Sustainability principles

Sustainability principles have often been developed through global agreements and have begun to be placed in legislation over the past decade in Australia and overseas, but the social and economic aspects of sustainability have rarely been included. The State Sustainability Strategy deliberately attempts to change this.

The first seven principles in the Strategy are foundation principles that establish the basis of sustainability through long-term economic health (see Box 11), equity, ecological integrity, efficiency (see Box 12), community, net benefit and common good. The last four principles are process principles that stress the need for integration, transparency and engagement, precaution and hope through gradual change towards a broad vision.

FOUNDATION PRINCIPLES

Long-term economic health

Sustainability recognises the needs of current and future generations for long-term economic health, innovation, diversity and productivity of the earth.

Equity and human rights

Sustainability recognises that an environment needs to be created where all people can express their full potential and lead productive lives and that significant gaps in sufficiency, safety and opportunity endanger the earth.

Biodiversity and ecological integrity

Sustainability recognises that all life has intrinsic value and is interconnected, and that biodiversity and ecological integrity are part of the irreplaceable life support systems upon which the earth depends.

Settlement efficiency and quality of life

Sustainability recognises that settlements need to reduce their ecological footprint (i.e. less material and energy demands and reduction in waste), while they simultaneously improve their quality of life (health, housing, employment, community...)

Community, regions, 'sense of place' and heritage

Sustainability recognises the significance and diversity of community and regions for the management of the earth, and the critical importance of 'sense of place' and heritage (buildings, townscapes, landscapes and culture) in any plans for the future.

Net benefit from development

Sustainability means that all development, and particularly development involving extraction of non-renewable resources, should strive to provide net environmental, social and economic benefit for future generations.

Common good from planning

Sustainability recognises that planning for the common good requires equitable distribution of public resources (like air, water and open space) so that ecosystem functions are maintained and a shared resource is available to all.

PROCESS PRINCIPLES

Integration of the triple bottom line

Sustainability requires that economic, social and environmental factors be integrated by simultaneous application of these principles, seeking mutually supportive benefits with minimal trade-offs.

Accountability, transparency and engagement

Sustainability recognises that people should have access to information on sustainability issues, that institutions should have triple bottom line accountability, that regular sustainability audits of programs and policies should be conducted, and that public engagement lies at the heart of all sustainability principles.

Precaution

Sustainability requires caution, avoiding poorly understood risks of serious or irreversible damage to environmental, economic or social capital, designing for surprise and managing for adaptation.

Hope, vision, symbolic and iterative change

Sustainability recognises that applying these principles as part of a broad strategic vision for the earth can generate hope in the future, and thus it will involve symbolic change that is part of many successive steps over generations.

BOX 11 BALLIOL AND ARALUEN: LONG-TERM THINKING

Horticulturalist, ABC TV weather presenter and Araluen Foundation President John Colwill tells a story about sustainability thinking in action and the importance of long-term thinking.

Balliol College at Oxford University discovered that beetles were eating the oak superstructure of its dining hall. The great beams of oak were 500 years old and the engineers suggested that they should be replaced but oak trees of sufficient size were no longer available. It appeared that the engineers would have to come up with an alternative. Fortunately the master of Balliol mentioned the problem to the head gardener who responded, 'We was wondering when you was going to ask sir. 500 year ago we planted a forest just for this purpose. It's ready now.' So, thanks to considerable foresight, Balliol College was able to replace its beautiful oak structure. The Araluen Botanic Park Foundation recently refurbished the park's massive memorial pergola with old growth jarrah and realised that such timber is unlikely to be available in the future. Taking a leaf from the Oxford gardeners they have set aside some land and planted it with jarrah. The trees are protected by a covenant that dedicates them for use in the Park's maintenance programs over the next 50 to 100 years.

Source: John Colwill

BOX 12 RESOURCE USE AND SUSTAINABILITY

One of the key characteristics of sustainability is the decoupling of resource use and wealth, that is, it is now possible to increase wealth while decreasing resource use. For most of the past two hundred years it has been assumed that as wealth increases then so will the consumption of resources such as energy, minerals, water and land.

Although the benefits of decoupling this relationship can be easily seen at the individual level of a firm or a household, where using fewer resources costs less, the situation is less obvious at a societal level. Sustainability has helped to show that this link can and should be uncoupled after a certain minimum level of material prosperity is achieved. The process has been clearly demonstrated with electricity consumption in the past few decades where in many developed countries per capita wealth has grown but electricity cost per capita has declined. This has corresponded with the change to the knowledge economy.

In Australia, a similar situation applies with water use. In the past 10 to 15 years most Australian cities have reduced per capita water consumption, except Perth where this occurred in the previous decade. The consumption of water demonstrates that demand management has reduced the use of water at the same time as our economic health has improved.

In cities, land consumption per capita used to parallel wealth per capita, that is, wealthier people chose bigger blocks and lived further and further out of the city. This has reversed in the past decade with increased demand for smaller blocks closer to the city. This has resulted in reduced transport energy, not only due to the shorter distances travelled, but from improved public transport and easier walking and cycling[9]. The equity aspects of these trends are considered under *Sustainability and settlements*.

Extraction of minerals continues to increase as the world grows in population and wealth. However, there is the potential for this to slow as patterns of consumption begin to reflect the cleverer use of resources, more recycling, a reduced priority on consumption, and slowing growth in population (as discussed in *Population, development aid and environmental technology*).

In general terms, the same could also apply to agriculture. The viability of Western Australian agriculture has been under consideration for some time as terms of trade for agriculture have been declining for decades.

The trend towards decoupling resource use and consumption raises two important policy considerations:

- the need to diversify the economy and embrace the knowledge economy more fully and directly and
- the need to constantly demonstrate the sustainability of our primary production.

Both are pursued in the State Sustainability Strategy.

Around the world increasingly knowledgeable purchasers tuned into sustainability will look for products that are 'clean and green' and add social criteria to their consumption choices. As has occurred with forest products, people will increasingly choose not to buy products that they perceive are produced unsustainably. Western Australian companies have an opportunity to win markets in the future not just through competitive pricing but also through demonstrating sustainable quality production.

[9]P Newman and J Kenworthy, Sustainability and Cities, 1999, Island Press, Washington.

Sustainability visions for Western Australia

These eleven principles can be applied to any sustainability issue whether it is to do with a firm, an institution or a State like Western Australia. The State Sustainability Strategy also defines a set of visions for governance, global contributions, natural resources, settlements, community and business so that the sustainability principles begin to become more practical.

VISIONS

Governance

Western Australia's system of governance is world famous for responding to sustainability issues, implementing effective and financially responsible programs, supporting transparent and inclusive processes and reflecting the State's globally significant responsibilities towards the land and its people.

Global contributions

Western Australia contributes to the solution of global sustainability issues particularly population pressures and poverty, climate change, threats to biodiversity, and oil vulnerability and in so doing creates significant local opportunities for new jobs in the rapidly growing sustainability economy.

Natural resources

Western Australia's vast landscape and seascape, intricate web of biodiversity and other natural resources are conserved, managed and used sustainably for the common good, and the community is involved in management and planning processes that are transparent and visionary.

Settlements

Western Australia's settlements are among the most attractive places to live in the world, constantly becoming more innovative and efficient in their use of resources and management and use of wastes while simultaneously being more liveable and equitable.

Community

Western Australian communities in cities and in regions have a strong sense of place and supportive networks receptive to the diversity of local needs, and through this can respond uniquely to the sustainability agenda.

Business

Western Australian businesses, large and small, are globally innovative and receptive, leading to the resolution of sustainability issues at home and abroad and achieving competitive advantage and prosperity.

Once the visions are in place it is necessary to see what they can mean in terms of goals and priorities for the government. What should be the goals to deliver these visions and what are the priority areas for government action?

Sustainability goals and priority issues for government

The State Sustainability Strategy has six goals which together guide government action towards achieving the visions for a sustainable Western Australia. The priority areas for sustainability in Western Australia are listed under each goal. Each of the goals corresponds to a section of the Strategy.

GOALS

Goal 1 Ensure that the way we govern is driving the transition to a sustainable future

Sustainability assessment
Institutional change
Embracing sustainability in government agencies
Partnerships for action
Planning for sustainability
Sustainability in the regions
Indigenous communities and sustainability
Research and development for sustainability
Measuring and reporting on sustainability

Goal 2 Play our part in solving the global challenges of sustainability

Population, development aid and environmental technology
Maintaining our biodiversity
Responding to greenhouse and climate change
Oil vulnerability, the gas transition and the hydrogen economy

Goal 3 Value and protect our environment and ensure the sustainable management and use of natural resources

Sustainable agriculture
Sustainable fisheries and aquaculture
Sustainable forestry and plantations
Sustainable mining and petroleum production
Sustainable tourism
Protecting drinking water and aquatic systems
Sustainable coastal and marine environments
Sustainable rangelands management

Goal 4 Plan and provide settlements that reduce the ecological footprint and enhance quality of life at the same time

Managing urban and regional growth
Revitalising declining centres and suburbs
Sustainable urban design
Integrating land use and balanced transport
Managing freight and regional transport
Preserving air quality
Reducing waste and managing it as a resource
Our water future
Sustainable energy
Conserving cultural heritage and landscapes and creating 'sense of place'
Building sustainably

Goal 5 Support communities to fully participate in achieving a sustainable future

Community services and development
Housing and sustainability
Sustaining healthy communities
Education and community awareness for sustainability
Sustainability through culture and the arts
Sustainability through multiculturalism

Goal 6 Assist business to benefit from and contribute to sustainability

Training and facilitation for sustainability
Financial reform and economic policy for sustainability
Eco-efficiency and industrial ecology
Corporate social responsibility and industry sustainability covenants

Actions and tools

On the basis of the Sustainability Framework the State Sustainability Strategy examines 42 areas of government activity and develops a set of recommendations for action within each area. These actions are illustrative of how the sustainability agenda can begin now and also how Western Australia can start the processes related to more long-term issues over the next 10 years and beyond. There will be many additional items that will emerge as agencies, industry and the community begin to adopt sustainability and practice the innovation it engenders. The sustainability agenda is growing rapidly in its conceptual understanding, its institutional expressions and its tools (see Box 13).

BOX 13 TOOLS FOR SUSTAINABILITY

Increasing effort is being directed to developing a set of practices or techniques for sustainability. A number of the techniques relevant to Western Australia and currently in use by national, State and local governments and progressive industries and businesses are listed below. Many of these techniques are designed to aid in decision-making.

The State Sustainability Strategy advocates the demonstration of these innovative techniques through pilot projects prior to their broader application to programs, policies and legislation.

Ecological economics
Seeking economic valuation of environmental and social assets and services, the 'polluter pays' principle, the need for full life cycle costing of goods and services (including asset replacement and waste disposal) and incentive mechanisms for achieving sustainability goals.

Ecological footprint
A technique for calculating the global area of impact generated by a particular settlement based on its resource consumption.

Eco-efficiency, industrial ecology and waste minimisation
Reducing resource requirements in industrial processes, exchanging wastes for resource needs in industrial estates, minimising waste through recycling and re-use, and seeking zero waste discharge.

The Natural Step
The Natural Step provides a common framework comprising easily understood, scientifically based principles that can serve as a compass to guide society towards a just and sustainable future. The framework uses two key tools: four 'system conditions' and backcasting to assist corporations, governments, small business and local communities to chart their course towards a sustainable future.

Facilitating sustainable technology options
Facilitating renewable energy, energy efficient modes of transport, resource efficient appliances and buildings, and other sustainable technology by providing the infrastructure and increasing the ability of people to choose these options.

Multi-criteria analysis
Assessment of options by listing criteria, measuring these where possible or rating them where not, weighting the criteria through community involvement, and providing integrated options from the analysis.

Voluntary partnerships
Providing partnership agreements between all levels of government and between business, the community and government to provide voluntary commitments to mutually beneficial solutions.

Breaking down barriers
Seeking holistic solutions through breaking down the barriers between different disciplines, different professions and different government agencies

Regulation, enforcement and opportunity
Providing enforceable regulation to ensure common good outcomes in such a way that they form the basis for new economic opportunities.

Strategic and statutory plans
Providing long-term visions from transparent and fully engaging community processes to provide achievable, organic steps towards sustainability goals, with the detailed frameworks that express common good outcomes defined in statutory plans.

Sustainability checklists
Key criteria are determined on projects and examined for all options. A variant of this is the Sustainability Scorecard for development control (see *Building sustainably*)

Community development processes
Enabling community-based solutions through development approaches that recognise and value diversity and the inherent ability of local people to be creative and innovative and which assist through the removal of barriers and provision of access to information and resources.

Artistic innovation
Facilitating artistic creativity focused on the changes required in unsustainable elements of our culture, community and a greater sense of place.[10]

Scenario planning
Creating alternative future visions with linkages to the present through 'backcasting' to the first steps for change. This is an experts' process but communities can be involved in helping choose preferred end points.

Community visioning
A technique developed in Portland, Oregon, and now well established to create a preferred vision for a community or region through a values-oriented process of imagining scenarios for the future.

Value frame analysis
Analysing the different value frames used by various parties in dispute over a sustainability issue to find common ground for a solution.

Education
Providing sustainability education (formal and informal), training and accreditation of all professional activity that recognises and increases awareness of sustainability principles and how they can be applied in daily life.

Research, innovation and demonstration
Facilitating solutions to long-term issues with significant environmental, social and economic outcomes through scientific research and commercial development on sustainability issues, as well as the use of social demonstration projects to enable innovations in sustainability to be tested.

> CHANGE AND SUSTAINABILITY

The sustainability agenda has emerged from people's deep desire to preserve and protect the best in their environment (the human, built and natural environment) and at the same time a recognition of the need for change.

Change is needed to create jobs, improve public transport, support eco-housing, provide better community facilities, increase recycling, revive dying country towns and suburbs, increase supplies of renewable energy, and improve health and education…

Change is needed in the environment as well. In Western Australia the density of population is the lowest in the world, yet there are many sustainability issues. In the wilderness area of the Prince Regent River in the Kimberley, feral donkeys are threatening rare flora. Management is needed. The landscape of this vast ancient State with all its special areas, was modified by humans over thousands of years. It continues to need to be understood and managed with humility and care.

Sustainability and change are closely intertwined. Even to protect a heritage building can require finding a contemporary use that can maintain it. The dichotomy is false between keeping things as they are and changing, between stasis and growth.

Sustainability helps us to define the changes we want from development: leadership from government; the vast and largely untapped potential of business to contribute; the desire of communities to provide better places and have a strong sense of who they are and what they want to protect.

The State Sustainability Strategy is built on the premise that it is possible to have change that enables environmental protection, social advancement and economic prosperity.

Herein lies the hope for the future.

[10] C Landry, 2000, T*he Creative City: A Tool Kit for Urban Innovations*, Earthscan.