This document contains a preliminary list (by no means exhaustive) of some of the guidelines/principles outlined by various organizations dealing with sustainable land management issues in a national or international context. The first draft of the AILA Landscape Principles takes as its starting point common themes extracted from these approaches. Brief comments (in blue print) at the head of each document note aspects considered relevant to this process.

*This initiative is probably the most directly relevant example to date for our profession. Currently being developed in the US, it is intended to ultimately function as a stand-alone tool for assessment of site sustainability, as well as supplementing existing green building and landscape guidelines/assessment methodologies. Structurally, it is a pretty good example of how to link principles/guidelines with practice/measurable outcomes in this field.

Guiding Principles of the Sustainable Sites Initiative™

As the pace of development accelerates, it becomes increasingly urgent to reduce the harm done to the environment and to preserve and renew our natural and cultural resources. Sustainable Sites will provide the information and tools necessary to integrate the functions of healthy systems and natural processes into land development and management practices, relying on the best available science and credible professional practice. These principles reflect the values of the initiative and should be used to guide future site development.

Do No Harm

Make no changes to the site that will degrade the surrounding environment. Promote projects that occur where there has been previous disturbance or development that presents an opportunity to regenerate ecosystem services through sustainable design.

Precautionary Principle

Be cautious in making decisions that could create risk to human and environmental health. Some actions can cause irreversible damage. Examine a full range of alternatives—including no action—and be open to input from all affected parties.

Design with Nature and Culture

Create and implement designs that are responsive to economic, environmental, and cultural conditions with respect to the local, regional, and global context.

Use a Decision-Making Hierarchy of Preservation, Conservation, and Regeneration

Maximize and mimic the benefits of ecosystem services by preserving existing environmental features, conserving resources in a sustainable manner, and regenerating lost or damaged ecosystem services.

Provide Regenerative Systems as Intergenerational Equity

Provide future generations with a sustainable environment supported by regenerative systems and endowed with regenerative resources.

Support a Living Process Continuously re-evaluate assumptions and values and adapt to demographic and environmental change.

Use a Systems Thinking Approach Understand and value the relationships in an ecosystem and use an approach that reflects and sustains ecosystem services; re-establish the integral and essential relationship between natural processes and human activity.

Use a Collaborative and Ethical Approach
Encourage direct and open communication among colleagues, clients, manufacturers, and users to link long-term sustainability with ethical responsibility.

Maintain Integrity in Leadership and Research
Implement transparent and participatory leadership, develop research with technical rigor, and communicate new findings in a clear, consistent, and timely manner.

These guiding principles are intended to steer the decision-making process toward innovative and sustainable solutions. Chapter Four, Progressing toward Site Sustainability, explores ways to implement these principles.

*A lot is covered in this document, but there is confusion between guiding principles and outcomes/strategies for intervention – there needs to be a clear hierarchy of information ranging from the ethical values espoused in the guiding principles down through to the implementation strategies or construction technologies which those principles inform. (Important to separate guiding principles from strategies in order to create a responsive, adaptive framework for future development).

ASLA Declaration on Environment and Development - adopted unanimously by the ASLA Board of Trustees in Chicago, Illinois - October 2, 1993

PRINCIPLES

The following principles reflect the fundamental and long-established values of the American Society of Landscape Architects. Many of these principles were re-emphasized in the 1992 Rio Declaration on Environment and Development.

- The health and well-being of people, their cultures and settlements; of other species; and of global ecosystems are interconnected, vulnerable, and dependent on each other.
- Future generations have a right to an environment with at least the same qualities and quantities of environmental assets as present generations.
- Long-term economic progress and the need for environmental protection must be seen as mutually interdependent.
- Environmental and cultural integrity must be maintained even while sustaining human well-being and the level of development needed to achieve it.
- Human harmony with the environment is the central purpose of sustainable development*, ensuring health for both nature and humankind.
- In order to achieve sustainable development, environmental protection and ecological function must be integral parts of the development process.
- Developed countries must acknowledge the responsibility that they bear to pursue internal and international sustainability in view of the pressures their societies place on the global environment.

* For the purpose of this document, the term "sustainable development" is defined as "development that meets the needs of the present without compromising the future."

Since the landscape encompasses the basic processes that support life, meeting human needs require a healthy landscape. Since the landscape is a

living complex, always in the flux of growth and decay, a healthy landscape requires ongoing regeneration. There is no sustainability without regeneration. Nurturing the processes of regeneration and self-renewal in the world's healthy landscapes and reestablishing these in the vast areas of the world's degraded landscapes are fundamental purposes of the profession of landscape architecture.

OBJECTIVES

The following objectives provide a conceptual framework for the implementation of sustainable development and a strategic direction for the ethics, education, and practice of landscape architects.

Landscape architects commit themselves to:

- Accept responsibility for the consequences of their design, planning, management and policy decisions on the health of natural systems and cultural communities and their harmony, equity and balance with one another.
- Generate design, planning, management strategies, and policy from the basis of the cultural context and the ecosystem to which each landscape belongs at the local, regional and global scale.
- Develop and specify products, materials, technologies and techniques which exemplify the principles of sustainable development and landscape regeneration.
- Seek constant improvement in their knowledge, abilities, and skills, in their educational institutions, their professional practice and organizations, to more effectively achieve sustainable development.
- Actively engage in shaping decisions, attitudes and values that support human health, environmental protection, landscape regeneration and sustainable development.

STRATEGIES

The following strategies offer more specific guidelines for the implementation of sustainable development objectives by the landscape architecture profession. These should be applied in every aspect of professional work, including internal workplace culture, professional consulting and volunteer activities.

- Accept responsibility for the consequences of our design, planning, management and policy decisions on the health of natural systems and cultural communities and their harmony, equity and balance with one another.
- Anticipate the long-term consequences of landscape architectural design, planning, management and policy in order to equitably meet the developmental, environmental and cultural needs of present and future generations through the use of long-range, comprehensive approaches and inclusive processes.

- Use solutions which solve multiple problems in order to realize efficiencies which recognize the magnitude and scale of challenges.
- Actively participate in global partnerships to conserve, protect and restore the health and integrity of the Earth's ecosystem and its human cultures.
- In developing landscape architectural design, planning, management and policy projects, identify and involve stakeholders -- both communities and individuals -- in helping to make decisions which affect their life and future; ensure that they have appropriate access to relevant information, presented in an understandable form; create opportunities for them to contribute to solutions.
- Favor prevention over mitigation.
- Through the design and planning of places, encourage the adoption of healthy, environmentally sound and responsible lifestyles and attitudes by people who inhabit or use them.

- Generate design, planning, management strategies and policy from the basis of the cultural context and the ecosystem to which each landscape belongs at the local, regional and global scale.
- Foster biological and cultural diversity. Strive to maintain, conserve, or reestablish the integrity and diversity of biological systems and their functions.
- Heal, regenerate, restore, reclaim and nurture degraded ecosystems as part of the landscape design and planning process. Strive to restore diversity and a sense of place. Commit to the use of indigenous and compatible materials and plants and the creation of habitat for indigenous species of animals. Avoid the use of plants which are known to be invasive to indigenous ecosystems.
- Respect and incorporate the cultural values of clients, users and affected communities; protect and conserve culturally meaningful places, structures and artifacts.
- Recognize that other animal species are essential components of ecosystems and their functions; conserve their existing habitats; and recreate habitat where it has been destroyed.
- Ensure that activities support rather that damage the environment within or beyond the limits of the site. Commit to solving problems within the site; don't transfer problems or postpone solutions.

- Develop, use and specify products, materials, technologies and techniques which exemplify the principles of sustainable development and landscape regeneration.
- Develop and use technologies -- high, low and indigenous -- that are appropriate for the ecosystem, the culture, and the project's maintenance and management; favor indigenous technology, materials and techniques.
- When development is part of a project, ensure that the resulting construction is of the highest quality, that site protection is integral to the project, and that low impact construction technology is used during all phases of the process - from initiation all the way through site restoration.

- Specify materials and products which are non-toxic both in their final form and in their production process; favor recycled products and products which can be recycled or reused.
- Produce designs and specify products or materials which curtail further loss of endangered or threatened species, non-renewable resources, or ecosystems.
- Specify materials and products which are designed to last; design structures which are easy to maintain, and flexible, in both their current use and/or their eventual transformation.
- Use renewable and sustainable energy sources and ensure efficient energy use.
- Treat all site components -- soil, rock, water, and vegetation, as resources, not waste products; where waste exists, reuse, recycle and transform waste materials.

- Seek constant improvement in knowledge, abilities, and skills, in educational institutions, and professional practices and organizations to more effectively achieve sustainable development.
- Advance the practice of sustainability through generous and proactive sharing of knowledge and experience within the profession, to related professionals and organizations, to clients, decision-makers, community leaders and citizens.
- Build networks between professional, political and academic communities that expand multi-disciplinary cooperation and teamwork in order to exchange information which furthers environmental responsibility and sustainable development and supports cooperative, complementary, non-competitive approaches to these endeavors.
- Engage in or contribute to research which results in sustainable and equitable design, planning and management processes, techniques, and products; distribute this research broadly and promptly.
- Use and improve forecasting, monitoring, assessment and auditing of environmental impacts.
- Actively seek and acquire new knowledge, abilities and skills; further existing knowledge, abilities and skills; and improve practices that apply the concepts of sustainable and equitable development and landscape regeneration.

- Actively engage in shaping decisions, attitudes and values that support human health, environmental protection and sustainable development.
- Create awareness of sustainable development issues among the public, clients, all levels of government, students, and organizations and institutions involved in environmental protection and development. Develop and share information which helps define the issues or contributes to solutions that focus on sustainable and equitable development.

- Join with other organizations and groups to more effectively advocate and advance sustainable and equitable development and landscape regeneration concepts.
- Encourage the formation of new economic measures that foster cultural and environmental resources; and identify, develop and encourage economic and other incentives for the preservation, protection, restoration and regeneration of these resources.
- Strengthen and upgrade existing environmental legislation, regulation, standards and guidelines and encourage the enforcement of these measures. Support and contribute to the use of environmental impact assessment for proposed activities that are likely to have a significant impact on the environment.
- Propose, develop and contribute to new laws, regulations, standards and guidelines where these measures would advance sustainability and landscape regeneration.

*Four principles outlined here are key sustainability principles which recur frequently in govt. agency documents dealing with land management since this date. (Concepts of 'robustness' and 'resilience' in environmental systems are a more recent development, in relation to greater understanding of the nature of uncertainty and how it impacts on intergenerational equity)

Australian Natural Heritage Charter 1996: Principles:

Extract; page 3: ETHOS OF THE CHARTER

This Charter encompasses a wide interpretation of natural heritage and is based on respect for that heritage. It acknowledges the principles of intergenerational equity, existence value, uncertainty and precaution.

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

The **principle of existence** value is that living organisms, earth processes and ecosystems may have value beyond the social, economic or cultural values held by humans.

The **principle of uncertainty** accepts that our knowledge of natural heritage and the processes affecting it is incomplete, and that the full potential significance or value of natural heritage remains unknown because of this uncertain state of knowledge.

The **precautionary principle** is that where there are threats or potential 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.

Extract; page 10: PART B: CONSERVATION PRINCIPLES

Article 2. The aim of *conservation* is to retain the *natural significance* of a *place*.

Article 3. *Conservation* is based on respect for *ecosystems* , *biological diversity* and *geodiversity* , and should involve the least possible physical intervention to *ecological processes* , *evolutionary processes* and *earth processes* .

Article 4. *Conservation* should make use of all the disciplines and experience that can contribute to the study and safeguarding of a *place*. Techniques employed should have a firm scientific basis or be supported by relevant experience.

Article 5. ***Conservation*** **of a** ***place*** **should take into consideration all aspects of its** ***natural significance*** **without unwarranted emphasis on any one aspect at the expense of others.**

*First four principles outlined here are copied from previous document, with the last being derived from the Burra Charter approach – (suggest that AILA Landscape Principles be developed in a way that they can be used as framework guidelines for all policy documents)?

AILA URBAN TREE CHARTER (draft only): 05.05.08

Page 11 – "Ethics and Values"

This Charter acknowledges the principles of:

- **Inter-generational equity.** This asserts that the present generation should ensure that the health, diversity and productivity of our environment is maintained or enhanced for the benefit of future generations.
- **Existence value.** This asserts that living organisms, earth processes and ecosystems may have value beyond the social, economic or cultural values held by us.
- **Uncertainty.** This asserts that our knowledge of natural heritage and the processes affecting it is incomplete, and that the full potential significance or value of natural heritage remains unknown.
- **Work with nature.** This asserts that our designs and actions are responsive to the local environmental conditions and as close as possible reflect the tree's ecological processes and natural habitat. We should endeavour to work with nature rather than against it.
- **Caution.** A cautious approach to change should be applied. Do as much as necessary to care for the tree and the surroundings it depends on and to make it safe, but otherwise change it as little as possible so that its cultural significance and other characteristics are retained.

*An example of confusion between guiding principles and strategies for intervention – first three principles are basically respect for existing value & work with nature, but the other two deal with management and process issues arising from these. (Important to separate guiding principles from strategies in order to create a responsive, adaptive framework for future development).

WSUD Key Principles

The key principles of Water Sensitive Urban Design as stated in the Urban Stormwater - Best Practice Environmental Management Guidelines (Victorian Stormwater Committee, 1999) are:

Protect natural systems - protect and enhance natural water systems within urban developments. Promoting and protecting natural waterways as assets allows them to function more effectively and supports the ecosystems that rely on them.

Integrate stormwater treatment into the landscape - use stormwater in the landscape by incorporating multiple use corridors that maximise the visual and recreational amenity of developments. The natural stormwater drainage system can be utilised for its aesthetic qualities within parklands and walking paths, making use of natural topography such as creek lines and ponding areas.

Protect water quality - improve the quality of water draining from urban developments into receiving environment. Through filtration and retention, water draining from urban developments can be treated to remove pollutants close to their source. This approach reduces the effect that polluted water can have upon the environment and protects the natural waterways.

Reduce runoff and peak flows - reduce peak flows from urban development by local detention measures and minimising impervious areas. Local detention and retention enables effective land use for flood mitigation by utilising numerous storage points in contrast to the current practice of utilisation of large retarding basins. This approach subsequently reduces the infrastructure required downstream to effectively drain urban developments during rainfall events.

Add value while minimising development costs - minimise the drainage infrastructure cost of the development. The reduction of downstream drainage infrastructure due to reduced peak flows and runoff minimises the development costs for drainage, whilst enhancing natural features such as rivers and lakes that add value to the properties of the area.

*In his book ‘A Vision of Britain’ (Doubleday, 1989), Prince Charles presented the following guiding principles, used in his model urban development, Poundbury, a planned addition to the ancient town of Dorchester. These were predominantly focussed on visual/romantic aspects of urban development, (and subject to a great deal of criticism within architectural circles because of this).

Prince Charles’s Ten Design Principles

- Place: understanding and blending with the landscape.
- Hierarchy: relationship of buildings to each other and the relative significance of their different elements.
- Scale: relating to human proportions and the scale of the buildings in an area.
- Harmony: blending buildings with the local and natural environment.
- Enclosure: defined boundaries to development and define areas such as squares and courtyards.
- Decoration: careful craftsmanship enhancing every aspect of every building.
- Art: part of the whole environment, and rich in symbolism and meaning.
- Signs and Lights: well-designed street signs, advertising in its place, and careful use of artificial light.
- Community: a sense of pride and a feeling that everyone contributes to the planning and organization of the place.

*The Adelaide-based Architecture firm, Ecopolis Architects, employ the Prince's principles together with the following Development Principles to inform their approach to urban design – the first five principles are concerned with "minimizing the ecological footprint" of developments, the last five with "maximizing human potential". It is clear that the latter category poses problems in terms of relating those principles to on-the-ground outcomes, (thereby pointing to the potential contribution of landscape architecture…)

Ecopolis Development Principles

by Paul F Downton

 1. Restore Degraded Land

 2. Fit the Bioregion

 3. Balance Development

 4. Create Compact Cities

 5. Optimise Energy Performance

 6. Contribute to the Economy

 7. Provide Health and Safety

 8. Encourage Community

 9. Promote Social Justice and Equity

 10. Enrich History and Culture

Aim

The Ecopolis Development Principles seek to:

- Minimise Ecological Footprints (biophysical)

  and

- Maximise Human Potential (human ecology).

in order to:

- Repair, replenish and support the processes that maintain life.

History

Initially drafted in association with Chérie Hoyle and Emilis Prelgauskas, the Ecopolis Development Principles (EDP) were intended to provide a clear set of precepts for developing human settlement that restored, rather than destroyed, ecological health.

In its first incarnation there were 12 principles. The revised version here has 10 principles divided into ‘biophysical’ and ‘biosocial’ groups - one being about minimising ecological footprints, the other being about maximising human potential.

TEN PRINCIPLES

MINIMISE ECOLOGICAL FOOTPRINTS

1. Restore Degraded Land

Use urban development to restore the health and vitality of the land

Rehabilitate and maximise the ecological health and potential of land as a consequence of the development of human settlement.

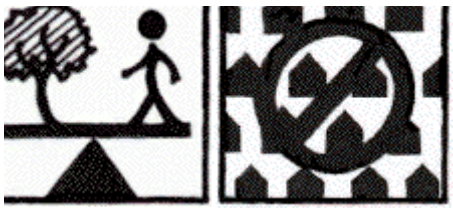
- Clean-up contaminated land
- Heal degraded rural areas
- Re-establish native vegetation
- Encourage farming practices which sustain ecological health
- Introduce green corridors of native vegetation in rural and urban area

It is only possible to make healthy places for humans by maintaining the health of non-human habitats. (Hough 1995)

MINIMISE ECOLOGICAL FOOTPRINTS

2. Fit the Bioregion

Create human settlements which work with the natural cycles of the region



Conform to the parameters of the bioregion, fit the landscape with the patterns of development which follow the inherent form and limitations of the land, understood in socio-biophysical terms.

- Maintain the natural cycles of water and nutrients in the landscape
- Create buildings and urban form that fit the landscape and respond to the climate
- Conserve water and recycle effluent
- Use locally produced building materials as much as possible
- Respond to the culture of the region - 're-habitation'
- Introduce green corridors of native vegetation in rural and urban areas

…to become dwellers in the land…the crucial and perhaps only all-encompassing task is to understand place, the immediate specific place where we live…' we need to appreciate *'the cultures of the people, of the populations native to the land and of those who have grown up with it, the human social and economic arrangements shaped by and adapted to the geomorphic ones, in both urban and rural settings…* (Sale 1991 p.42)

MINIMISE ECOLOGICAL FOOTPRINTS

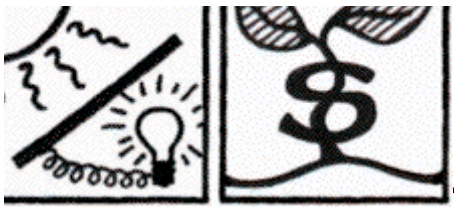
3. Balance Development

Balance development with the ‘carrying capacity’ of the land

Balance the intensity of development against the ecological carrying capacity of the land whilst protecting all viable existing ecological features. Develop and enhance links between urban and rural areas of an integrated city-region approach.

- Reduce the impact of the city on the land beyond its boundaries (the 'ecological footprint')
- Encourage the diversity of land-use: residential, commercial, recreational, educational, etc
- Develop urban food producing gardens
- Recognise the place of all living organisms in the environment - urban design for non-human species

MINIMISE ECOLOGICAL FOOTPRINTS



4. Create Compact Cities

Reverse sprawl and stop ad-hoc development from consuming the landscape

Develop human habitation at relatively high density within inviolable green belts of natural or restored ecologically viable landscape with the overall development density constrained by ecological limits.

- Have clearly identifiable (but not 'hard') boundaries for urban areas
- Provide for most daily needs within the city
- Create 'walkable' cities and promote non-motorised forms of transport
- Develop integrated transport networks which minimise car use
- Access by proximity
- 3-dimensional built form

In living nature, the notion of unlimited sprawl seems to be adopted by organisms at the lower levels of evolution. (Soleri 1987 p.12)

MINIMISE ECOLOGICAL FOOTPRINTS

5. Optimise Energy Performance

Generate and use energy efficiently

Operate at low levels of energy consumption, using renewable energy resources, local energy production and techniques of resource reuse. All ecological development should seek to be energy self-sufficient. The primary energy base for development should come from renewable sources.

- Minimise energy consumption
- Use renewable energy of solar and wind power
- Generate power locally
- Reduce fossil fuel consumption
- No nuclear power
- Design buildings with solar access and natural ventilation
- Use effective insulation and 'thermal mass' in buildings
- Climate responsive design

MAXIMISE HUMAN POTENTIAL

6. Contribute to the Economy

Create work opportunities and promote economic activity

Support and develop ecologically and socially responsible economic activity. Materials and component manufacture should be derived from, or be located in the local bioregion to the maximum practicable extent. Finance for ecological development from ethical sources, exclude financial support derived from exploitative activity. Capital input to ecological development should be local and financial structures should ensure that ownership and control ultimately rests with the users and inhabitants of the development.

- Develop ecologically responsible industries
- Develop exportable "green technologies"; and services
- Create appropriate information technologies
- Provide incentives for innovation and enterprise linked to ecologically responsible performance

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MAXIMISE HUMAN POTENTIAL

7. Provide Health and Security

Create healthy and safe environments for all people

Employ appropriate materials and spatial organisation to create safe and healthy places for people to live, work and play in the context of an ecologically resilient environment.

- Reduce pollution and promote environmental quality
- Ensure a safe water supply, Recycle effluent, Maintain clean air
- Provide food security - urban agriculture
- Provide habitat for animals and birds

The evidence we have all points in the same direction: passers-by help in deterring crime. More visible neighbours is better than fewer, good visual relations to the public domain is better than seclusion. (Hillier and Shu 1999 p.6)

MAXIMISE HUMAN POTENTIAL

8. Encourage Community

Cities are for everyone

Create cities with strong citizen involvement - community participation, not just consultation. The community should govern itself. Community needs must

drive ecological development. Ecological development must meet community requirements including the community of life that is the eco-system.

- Create development as a community driven process
- Ensure community involvement in public administration and management
- Provide community facilities

…there is room for everybody in the ecocity effort. It is not vicarious but participatory, not to be dictated, but to be created in a million ways simultaneously from the grassroots to the highest levels of planning and back down again, with a role for each of us.(Register 1987 p.49)

MAXIMISE HUMAN POTENTIAL

9. Promote Social Justice and Equity

Equal rights and access to services, facilities and information

Employ economic and management structures which embody principles of social justice and equity. Ensure equal rights and access to essential services, facilities and information. Alleviate poverty and create work opportunities.

- Involve all levels of the community in development processes
- Provide affordable housing
- Public use of public space
- Direct democracy

What is interesting to note in the urban context is that certain integrated land use and public transport policies — assuming no other changes — can have an income and substitution effects on the less well-off; for example, if a household does not require two private motor vehicles to travel to work and engage in other everyday activities of modern living, there is more money available for, say, housing. (Hundloe & McDonald 1997 p.93)

MAXIMISE HUMAN POTENTIAL

10. Enrich History and Culture

Respecting the past whilst looking to the future

Maximise the value of previous worthwhile human endeavour in terms of both heritage and manufactured artifacts.

- Restore and maintain cherished local monuments and landmarks
- Identify and celebrate the spirit of place
- Celebrate and encourage cultural diversity
- Respect indigenous peoples' inhabitation of the land

Diverse cultural and social groups provide the basis for socially vital cities

Support and promote cultural diversity, incorporating ecological awareness into all aspects of the making and maintenance of human settlement. Art and craft should be integral to both the construction and the operation of ecological development from the individual site to the city and its region.

- The whole process of creating ecological development and its subsequent operation requires education and skill development.
- Develop culture by involving all aspects of the arts including music, electronic media and technology
- Develop culture by integrating the arts and sciences with both daily life and special events and occasions
- Promote ecological awareness as part of cultural development
- Support community art and craft events, fairs, fêtes and functions and develop festivities and events which relate to the locality
- Encourage multicultural art and festivities

Spaces should be created for cultural expressions, such as music, amateur theater, and the arts.
(Streeten 1997 p.204)

*Basic key principles concepts all here, but their expression is messy and unorganized, (meaning the ideas become more difficult to translate into practical, measurable outcomes).

National Strategy for the Conservation of Australia's Biological Diversity

Department of the Environment, Sport and Territories, 1996
ISBN 0 6422 4427 8

Goal

The Strategy recognises that:

- The conservation of biological diversity provides significant cultural, economic, educational, environmental, scientific and social benefits for all Australians.
- There is a need for more knowledge and better understanding of Australia's biological diversity.
- There is a pressing need to strengthen current activities and improve policies, practices and attitudes to achieve conservation and sustainable use of biological diversity.
- We share the earth with many other life forms that have intrinsic value and warrant our respect, whether or not they are of benefit to us.
- It acknowledges the core objectives of the National Strategy for Ecologically Sustainable Development:
    - to enhance individual and community wellbeing 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.
- And it accepts the guiding principles of the National Strategy for Ecologically Sustainable Development:
- 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.

The goal is to protect biological diversity and maintain ecological processes and systems.

Principles

The following principles have been adopted as a basis for the Strategy's objectives and actions and should be used as a guide for implementation:

1. Biological diversity is best conserved in-situ.
2. Although all levels of government have clear responsibility, the cooperation of conservation groups, resource users, indigenous peoples, and the community in general is critical to the conservation of biological diversity.
3. It is vital to anticipate, prevent and attack at source the causes of significant reduction or loss of biological diversity.
4. Processes for and decisions about the allocation and use of Australia's resources should be efficient, equitable and transparent.
5. Lack of full knowledge should not be an excuse for postponing action to conserve biological diversity.
6. The conservation of Australia's biological diversity is affected by international activities and requires actions extending beyond Australia's national jurisdiction.
7. Australians operating beyond our national jurisdiction should respect the principles of conservation and ecologically sustainable use of biological diversity and act in accordance with any relevant national or international laws.
8. Central to the conservation of Australia's biological diversity is the establishment of a comprehensive, representative and adequate system of ecologically viable protected areas integrated with the sympathetic management of all other areas, including agricultural and other resource production systems.
9. The close, traditional association of Australia's indigenous peoples with components of biological diversity should be recognised, as should the desirability of sharing equitably benefits arising from the innovative use of traditional knowledge of biological diversity.

*Ditto comments on previous document – a better strategy is to “say it once, but say it clearly.”

WA STATE SUSTAINABILITY STRATEGY

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.

*Guiding principles (policy making) and strategies (program implementation) within the one document.

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.

*Basic key principles concepts all here, but their expression is messy and

unorganized, (i.e. ideas become more difficult to translate into practical, measurable outcomes). Also, have to be careful that process or implementation strategies aren't "woolly" (e.g. the last 'process principle' listed) – but that they are clearly aligned with goal-setting and methods of measuring achievement against those goals.

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 sustainability framework consists of:

• *seven foundation principles* and *four process principles* that reflect the core values of sustainability:

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.

*This initiative is currently a direct copy of New Zealand's Protocol document. Principles outlined cover key areas such as existence value, intergenerational equity, designing with nature & culture etc., but just in a more 'wordy' manner (– tends to become a bit difficult to tie into practical strategies for measurable outcomes because of this)

URBAN DESIGN PRINCIPLES [3]

The New Zealand Urban Design Protocol identifies seven essential design qualities (the Seven Cs) that create quality urban design. These have been adopted for the draft Australian Urban Design Protocol.

CONTEXT

Quality urban design sees buildings, places and spaces not as isolated elements but as part of the whole town or city. For example, a building is connected to its street, the street to its neighbourhood, the neighbourhood to its city, and the city to its region. Urban design has a strong spatial dimension and optimises relationships between buildings, places, spaces, activities and networks. It also recognises that towns and cities are part of a constantly evolving relationship between people, land, culture and the wider environment.

Quality urban design:

- takes a long-term view
- recognises and builds on landscape context and character
- results in buildings and places that are adapted to local climatic conditions
- examines each project in relation to its setting and ensures that each development fits in with and enhances its surroundings
- understands the social, cultural and economic context as well as physical elements and relationships
- considers the impact on the health of the population who live and work there
- celebrates cultural identity and recognises the heritage values of a place
- ensures incremental development contributes to an agreed and coherent overall result.

CHARACTER

Quality urban design reflects and enhances the distinctive character and culture of our urban environment, and recognises that character is dynamic

[3] New Zealand Urban Design Protocol Ministry for the Environment March 2005

and evolving, not static. It ensures new buildings and spaces are unique, are appropriate to their location and compliment their historic identity, adding value to our towns and cities by increasing tourism, investment and community pride.

Quality urban design:

- reflects the unique identity of each town, city and neighbourhood and strengthens the positive characteristics that make each place distinctive
- protects and manages our heritage, including buildings, places and landscapes
- protects and enhances distinctive landforms, water bodies and indigenous plants and animals
- creates locally appropriate and inspiring architecture, spaces and places
- reflects and celebrates our unique culture and identity and celebrates our multi-cultural society.

CHOICE

Quality urban design fosters diversity and offers people choice in the urban form of our towns and cities, and choice in densities, building types, transport options, and activities. Flexible and adaptable design provides for unforeseen uses, and creates resilient and robust towns and cities.

Quality urban design:

- ensures urban environments provide opportunities for all, especially the disadvantaged
- allows people to choose different sustainable lifestyle options, locations, modes of transport, types of buildings and forms of tenure
- encourages a diversity of activities within mixed use developments and neighbourhoods
- supports designs which are flexible and adaptable and which will remain useful over the long term
- ensures public spaces are accessible by everybody, including people with disabilities.

CONNECTIONS

Good connections enhance choice, support social cohesion, make places lively and safe, and facilitate contact among people. Quality urban design recognises how all networks - streets, railways, walking and cycling routes, services, infrastructure, and communication networks - connect and support healthy neighbourhoods, towns and cities. Places with good connections between activities and with careful placement of facilities benefit from reduced travel times and lower environmental impacts. Where physical layouts and activity patterns are easily understood, residents and visitors can navigate around the city easily.

Quality urban design:

- creates safe, attractive and secure pathways and links between centres, landmarks and neighbourhoods
- facilitates green networks that link public and private open space
- places a high priority on walking, cycling and public transport
- anticipates travel demands and provides a sustainable choice of integrated transport modes
- improves accessibility to public services and facilities
- treats streets and other thoroughfares as positive spaces with multiple functions
- provides formal and informal opportunities for social and cultural interaction
- facilitates access to services and efficient movement of goods and people
- provides environments that encourage people to become more physically active.

CREATIVITY

Quality urban design encourages creative and innovative approaches. Creativity adds richness and diversity, and turns a functional place into a memorable place. Creativity facilitates new ways of thinking, and willingness to think through problems afresh, to experiment and rewrite rules, to harness new technology, and to visualise new futures. Creative urban design supports a dynamic urban cultural life and fosters strong urban identities.

Quality urban design:

- emphasises innovative and imaginative solutions
- combines processes and design responses that enhance the experience we have of urban environments
- incorporates art and artists in the design process at an early stage to contribute to creative approaches
- values public art that is integrated into a building, space or place
- builds a strong and distinctive local identity
- utilises new technology
- incorporates different cultural perspectives.

CUSTODIANSHIP

Quality urban design reduces the environmental impacts of our towns and cities through environmentally sustainable and responsive design solutions. Custodianship recognises the lifetime costs of buildings and infrastructure, and aims to hand on places to the next generation in as good or better condition. It creates enjoyable, safe public spaces, a quality environment that is cared for, and a sense of ownership and responsibility in all residents and visitors.

Quality urban design:

- protects landscapes, ecological systems and cultural heritage values
- manages the use of resources carefully, through environmentally

responsive and sustainable design solutions

- manages land wisely
- utilises 'green' technology in the design and construction of buildings and infrastructure
- incorporates renewable energy sources and passive solar gain
- creates buildings, spaces, places and transport networks that are safer, with less crime and fear of crime
- avoids or mitigates the effects of natural and man-made hazards
- considers the ongoing care and maintenance of buildings, spaces, places and networks
- uses design to improve the environmental performance of infrastructure
- considers the impact of design on people's health.

COLLABORATION

Towns and cities are designed incrementally as we make decisions on individual projects. Quality urban design requires good communication and co-ordinated actions from all decision-makers: central government, local government, professionals, transport operators, developers and users. To improve our urban design capability we need integrated training, adequately funded research and shared examples of best practice.

Quality urban design:

- supports a common vision that can be achieved over time
- depends on leadership at many levels
- uses a collaborative approach to design that acknowledges the contributions of many different disciplines and perspectives
- involves communities in meaningful decision-making processes
- acknowledges and celebrates examples of good practice
- recognises the importance of training in urban design and research at national, regional and local levels.

* Guiding principles and strategies within the one document make the message less clear. Can wind up with 'motherhood' statements which aren't easily translatable into practical strategies.

DESIGN FOR LONDON

Core Values:

Design for London promotes:

• Good design and the importance of involving architects and urban designers throughout the development process.

• High standards of environmental performance and sustainability in all of its work.

• Legible, accessible and democratic streets and spaces where the citizen has unrestricted public access.

• The very best designers in their fields as well as opportunities for young and new designers to build their reputation.

• Innovation, research and debate around best practice, particularly in sustainable design, high density and affordable housing and the design of public spaces and streets.

• Broader spatial thinking and the master-planning of areas to guide investment and development decisions and to capture the longer term benefits for communities throughout London.

• Wide participation in design debates.

• Research into new and innovative ways to fund the enhancement of public spaces in London.

*Basic key principles are in here, but need to incorporate the concept of uncertainty and how we respond to this in order to achieve robustness and resilience in outcomes. Also need to structure the message to make strong connections between landscape principles and how we intervene in the landscape – (i.e. the link between planning/design theory and practice), and to make the principles *applicable* within the profession and a wider context.

The Australian Landscape Charter

Australian Registered Landscape Architects commit to the following Landscape Principles:

Diversity

Protection and enhancement of biological diversity, maintaining essential ecological processes and life support systems.

Interdependence

Recognition of and support for the interdependence between the cultural, economic and physical environments, and incorporate design responses that address the pressing realities of climate change and the global impacts of our use of the landscape.

Equality and Equity

Respect for the rights of individuals and communities and promote the highest standards of social equity and gender equality.

Values

Acceptance of the moral and ethical responsibility in planning and modifying the environment to consider impacts on the future community.

Quality of Life

Improvement to the quality of life for all, both now and in the future, through aesthetically, economically, socially and environmentally sustainable solutions.

Sense of Place

That the cultural and spiritual vitality of the community who will be affected by a project should be enhanced through the involvement.

design stewardship collaboration leadership

* Example of an 'rating/assessment tool' type system set up to deal with landscape issues – weakness in terms of the 'buy in' nature of the system means that issues such as site selection aren't realistically on the agenda. Areas which deal with important but more subtle aspects of landscape design (e.g. place-making, cultural identity, asethetics) are not examined or assessed.

EnviroDevelopment Standards

Version 1.1
Urban Development Institute of Australia (Queensland)

1.Ecosystems Element of EnviroDevelopment

TITLE: Ecosystems
OBJECTIVE: Healthy, sustainable ecosystems based on natural processes and rich with native biodiversity
TARGET: Development that aims to protect and enhance existing native ecosystems and
encourages natural systems and native biodiversity and rehabilitates degraded sites.
PRINCIPLES
• Encourage maintenance (during and after construction) of native vegetation where existing, and rehabilitation of locally native vegetation where not already in existence in a healthy state
• Encourage protection (during and after construction) of existing habitats for native animals or rehabilitation of such habitats where not already in existence in a healthy state
• Protect habitats and maintain connectivity to reduce fragmentation
• Avoid water pollution and degradation of water quality in waterways and natural systems and remediate any water quality problems occurring on-site or in neighbouring areas
• Minimise disruption to landform and natural ecosystems
• Encourage development on previously developed or degraded sites, whilst considering affordability
• Promote biodiversity awareness

2. Waste Element of EnviroDevelopment

TITLE: Waste
OBJECTIVE: Reduced waste sent to landfill, more efficient use of resources
TARGET: Development that has implemented waste management procedures and practices which reduce the amount of waste to landfill and facilitates recycling.
PRINCIPLES
• Encourage recycling of construction and demolition materials and reduce the amount of waste being dispatched to landfill
• Minimise on-site pollution during the construction phase
• Promote the re-use of existing buildings and materials and reduce demand for resources
• Promote occupancy awareness of waste generation and encourage recycling, composting and waste reduction through the provision of appropriate facilities
• More efficient use of resources

3. Energy Element of EnviroDevelopment

TITLE: Energy
OBJECTIVE: Reduced usage of polluting and non-renewable energy sources

TARGET: Measures that would achieve 40% reduction in greenhouse gas (GHG) production from energy use across the development (compared to recent historical data and/or 'traditional' development meeting basic regulatory standards)

PRINCIPLES

To reduce energy use there are two fundamental options, although the solution for a development may be a combination of these options:

• Reduce overall energy use by 40% compared to recent historical data or plausibly modelled performance of a comparable non-EnviroDevelopment development. This will be more than the energy efficiencies mandated under the Queensland Development Code in 2006 (which includes energy efficient lighting and more sustainable water heating systems).

• Encourage alternative energy sources (e.g. solar, wind, biomass, gas, hydro) for a portion of the development's energy use (without increasing energy use unnecessarily/unreasonably) such that the overall emissions are reduced by 40% compared to recent historical data or plausibly modelled performance of a comparable non-EnviroDevelopment development (prior to March 2006).

4. Materials Element of EnviroDevelopment

TITLE: Materials

OBJECTIVE: Environmentally responsible material usage

TARGET: Development that predominantly utilises environmentally responsible materials to lower environmental impacts in preference to other materials when such options are available
and feasible, without significantly jeopardising the functionality or liveability of the development.

PRINCIPLES

• Encourage selection of materials from environmentally responsible sources such as:
– reuse resources (including buildings, structures and materials)
– use recycled resources (e.g. materials)
– renewable sources
– non-polluting sources
– low lifecycle energy materials (i.e. encourage choice of materials that are not energy-intensive to produce, are locally available and durable)
– materials that are non-toxic and do not liberate toxic gases or dangerous particles
• Decrease use of less environmentally responsible materials
• Encourage high indoor air quality through choice of materials
• Maintain design and performance standards
• Encourage use of materials that can be recycled or reused at the end life of the development
• Maintain affordability within reasonable parameters

5. Water Element of EnviroDevelopment

TITLE: Water

OBJECTIVE: Improved water use efficiency

TARGET: Measures that would achieve 40% reduction in potable water use across the development (compared to recent historical data and/or 'traditional' development meeting basic regulatory standards).

PRINCIPLES

• Reduce potable water use. There are two fundamental strategies to achieve this, although a combination of these strategies may also be selected:
– Reduce overall water use by 40% – e.g. through water efficiency mechanisms – more than mandated under Sustainable Housing Code (i.e. AAA showerheads and dual flush toilets).

– Utilise alternative water sources (e.g. rainwater, stormwater, dual reticulation) for more than 40% of the development's water use (without increasing water use unnecessarily/unreasonably). If underground water/bore water is to be used to supplement potable supplies, there will also need to be evidence of water efficiency mechanisms and water balance calculations to show aquifer recharge.
Notes:
• Where estimations of rainfall are necessary to calculate the water usage (e.g. for landscape and gardens) or supply/harvesting (e.g. for rainwater and storm water solutions) to determine the water saving, the calculations should be based on median rainfall from at least 10 years of recent data.
• Where there are known historical water usages for the types of land uses the development will include, these may be used as the baseline against which efficiency is measured. (This could include different types of developments or land uses such as golf courses for example.) Otherwise, calculations will also need to be submitted about the predicated water use if it was developed 'traditionally', to compare with the water use for the proposed EnviroDevelopment.

6. Community Element of EnviroDevelopment

TITLE: Community
OBJECTIVE: Vibrant, cohesive, healthy, happy, adaptable, sustainable communities
TARGET: Development that encourages community spirit, sustainable local facilities, reduced use of private motor vehicles and accessible and flexible design that welcomes a diversity of people and adapts to their changing needs.
PRINCIPLES
• Consult with surrounding community and traditional owners
• Encourage community cohesiveness through facilities, networks and sub-division layout design/masterplan
• Encourage use of public transport or walking and cycling etc.
• Accessible local employment, education and services to encourage cohesive community and reduce the need for regular travel beyond the local area
• Encourage safe, accessible, comfortable housing and facilities
• Protect heritage where appropriate
• Maintain community assets

* The only document so far which dares to invoke the concept of the relationship between 'spirit and matter' in sustainable design (!) (How have these notions become so unspeakable in the modern discourse on landscape?)

"GUIDING PRINCIPLES OF SUSTAINABLE DESIGN"
Office of Professional and Employee Development, Denver Service Center, National Park Service.

THE PRINCIPLES OF SUSTAINABILITY

Sustainability does not require a loss in the quality of life, but does require a change in mind-set, a change in values toward less consumptive lifestyles. These changes must embrace global interdependence, environmental stewardship, social responsibility, and economic viability.

Sustainable design must use an alternative approach to traditional design that incorporates these changes in mind-set. The new design approach must recognize the impacts of every design choice on the natural and cultural resources of the local, regional, and global environments.

A model of the new design principles necessary for sustainability is exemplified by the "Hannover Principles" or "Bill of Rights for the Planet," developed by William McDonough Architects for EXPO 2000 to be held in Hannover, Germany.

1. Insist on the right of humanity and nature to co-exist in a healthy, supportive, diverse, and sustainable condition.
2. Recognize Interdependence. The elements of human design interact with and depend on the natural world, with broad and diverse implications at every scale. Expand design considerations to recognizing even distant effects.
3. Respect relationships between spirit and matter. Consider all aspects of human settlement including community, dwelling, industry, and trade in terms of existing and evolving connections between spiritual and material consciousness.
4. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems, and their right to co-exist.
5. Create safe objects to long-term value. Do not burden future generations with requirements for maintenance or vigilant administration of potential danger due to the careless creations of products, processes, or standards.
6. Eliminate the concept of waste. Evaluate and optimize the full life-cycle of products and processes, to approach the state of natural systems in which there is no waste.
7. Rely on natural energy flows. Human designs should, like the living world, derive their creative forces from perpetual solar income. Incorporate this energy efficiently and safely for responsible use.

8. Understand the limitations of design. No human creation lasts forever and design does not solve all problems. Those who create and plan should practice humility in the face of nature. Treat nature as a model and mentor, not an inconvenience to be evaded or controlled.
9. Seek constant improvements by sharing knowledge. Encourage direct and open communication between colleagues, patrons, manufacturers, and users to link long-term sustainable considerations with ethical responsibility, and reestablish the integral relationship between natural processes and human activity.

These principles were adopted by the World Congress of the International Union of Architects (UIA) in June 1993 at the American Institute of Architect's (AIA) Expo 93 in Chicago. Further, the AIA and UIA signed a "Declaration of Interdependence for a Sustainable Future." In summary, the declaration states that today's society is degrading its environment and that the AIA, UIA, and their members are committed to:

- Placing environmental and social sustainability at the core of practices and professional responsibilities
- Developing and continually improving practices, procedures, procedures, products, services, and standards for sustainable design
- Educating the building industry, clients, and the general public about the importance of sustainable design
- Working to change policies, regulations, and standards in government and business so that sustainable design will become the fully supported standard practice
- Bringing the existing built environment up to sustainable design standards

In addition, the Interprofessional Council on Environmental Design (ICED), a coalition of architectural, landscape architectural, and engineering organizations, developed a vision statement in an attempt to foster a team approach to sustainable design. ICED states: The ethics, education and practices of our professions will be directed to shape a sustainable future. . . . To achieve this vision we will join . . . as a multidisciplinary partnership."