

# **Sustainable or Status-quo: investigating sustainability assessment of residential estate development**

**Joe Hurley**

**RMIT University, Environment and Planning Program.**

## **Postal address:**

Joe Hurley

School of Global Studies, Social Science and Planning

GPO Box 2476V

Melbourne VIC 3001

## **Email:**

[joe.hurley@rmit.edu.au](mailto:joe.hurley@rmit.edu.au)

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**Abstract:**

Urban fringe residential estates continue to dominate the residential development sector in Australia. Several practice based sustainability assessment tools have recently been developed which acknowledge the impacts of such developments and attempt to improve outcomes. This paper examines how sustainability principles and concepts are presented and applied in such assessment tools, focusing on two Australian based examples, the Sustainable Community Rating Tool and EnviroDevelopment. The paper argues that the increasing use of sustainability rhetoric in the assessment of residential estate development is often tenuously connected to sustainability principles, and that more rigour is required in the adoption and application of sustainability principles in such assessment.

## **Introduction:**

Four years ago at the 2005 State of Australian Cities Conference, Nicholas Low and Brendan Gleeson provocatively suggested that “if sustainability is everything, maybe its nothing” (2005:1). Their paper title and subsequent discussion invoked Wildavsky’s (1973) famous challenge to urban planning in his paper “if planning is everything, maybe it’s nothing”. While arguing that sustainability is a critically important concept, Low and Gleeson highlighted the danger in non-critical application of sustainability: sustainability “as a sanitised, green-washed growth that cannot infect or injure the broader growth project of neo-liberalism nor the key industrial interests it sustains” (2005:6).

This paper considers the application of sustainability principles to urban development. There are several mechanisms utilised in practice that aim to facilitate this application of principles, both regulatory measures such as planning schemes and building codes and non-regulatory mechanisms. This paper focuses on the use of sustainability assessment tools as non-regulatory mechanisms for interpreting and applying sustainability principles in the planning and delivery of new residential estates. It builds on previous research, including a review of existing and emerging assessment approaches (Hurley and Horne 2006), and a detailed evaluation of Ecological Footprint Analysis as a decision making tool in urban development (Hurley et al 2007). Two Australian contributions from the development industry will be considered: the Sustainable Community Rating Tool; and EnviroDevelopment. While there are other existing and evolving tools of this type, these two tools form the focus of this paper as they are: targeted specifically at the residential estate scale of development; offered as tools to serve the whole development sector (they are not in-house tools); and actively seek to increase developer engagement with sustainability. The paper examines how the language

and concepts of sustainability and sustainable development are used in and applied through these assessment tools.

### **Operationalising Sustainability in Residential Estate Development:**

The growth of Australian cities continues to take place predominantly on the urban fringe, despite a strategic planning emphasis on containment and consolidation. In Victoria, the current strategic plan, *Melbourne 2030*, sets a clear agenda for shifting development from fringe expansion to consolidation in strategic locations within the existing urban form, including the establishment of an Urban Growth Boundary (UGB), and legislative protection for a belt of ‘green wedge’ land (State of Victoria 2002). However, several government actions since the release of *Melbourne 2030* have led many to question commitment to this strategic vision, such as the expansion of the urban growth boundary in 2005 (State of Victoria 2005); and the introduction of the Urban Growth Zone in 2008 “to bring forward enough land for 90,000 new residential blocks” on the urban fringe (GAA 2008 [online]).

In December 2008, the Victorian Government released *Melbourne 2030: a planning update – Melbourne @ 5 million* (State of Victoria 2008). With its focus on investigating large tracts of Melbourne’s green wedges for further expansion of the urban growth boundary, some critics see it as the end of the *Melbourne 2030* strategic agenda (Goodman 2009), with prominent planning academic Michael Buxton early this year declaring the plan “stone dead” (The Age 2009:12). The release of *Delivering Melbourne’s Newest Sustainable Communities* in June 2009 (State of Victoria 2009) arguably represents the final death-knell for *Melbourne 2030*’s containment approach, significantly expanding the UGB and annexing swathes of former green wedge land to cater for urban fringe growth corridors - and all this under the banner of ‘sustainable communities’.

It is clear that urban fringe development will continue to play a key part in the growth of Australian cities, if not remain the dominant focus. Therefore attention to the performance of such development is vital. Within a sustainability context, urban fringe growth presents a particular set of problems and impacts. Expanding city limits subsume agricultural land and established ecosystems, depleting local bioproductivity and biodiversity, and threatening surrounding areas through the encroachment of intensive human activity. Urban fringe development in Australia is characterised by low density detached housing and car dependency, increasing both the area of land required for such development, and the level of private fuel consumption required to meet mobility needs. For urban sustainability to be achieved, or even attempted, the form and function of our cities – particularly new growth areas – must change.

There has, however, been reluctance in the private development sector to change established practices in delivering housing products to the market and very little innovation in the environmental performance of new urban developments. This is exemplified by the poor energy performance of contemporary housing stock in Australia compared to relevant overseas examples (Horne & Hayles 2008). In recent years, with increased attention on the performance of such development, several practice-based sustainability performance assessment tools have been developed to inform project implementation and attempt to improve outcomes.

Such assessment and decision-making approaches have emerged as the primary methods for implementing sustainability concepts in the residential estate scale of development. As such, it is critical that they are subjected to analysis to ensure that their claims to sustainability are

based on a foundation of recognised sustainability principles. The fact that many of these assessment approaches are voluntary tools, created within the urban development industry, further highlights the importance of external review and analysis.

### **Revisiting sustainability principles:**

Low and Gleeson's (2005) proposition that the use of sustainability as an organising concept in urban planning and development is often ineffective and lacking in significance has been echoed by other researchers discussing the operationalisation of sustainability principles (Campbell 1996; Marcuse 1998; Hopwood et al 2005; Dovers 2007). This suggests that the process of operationalising sustainability is not effectively translating principles into action. The following discussion revisits sustainability principles, before examining how these principles are reflected in assessment tools.

The conceptual power of sustainability, and more particularly sustainable development, comes from the combination of two driving forces often cast in opposition: the need to protect what is valued (to sustain); while recognising the need to change and improve (to develop). Given this, the appeal of the concept is evident: at its simplest, sustainable development is about changing the things we need to change and sustaining the things we need to sustain (Sutton 2004; Low and Gleeson 2005). The challenge arises in defining what to sustain, and what to develop; and more critically, how the conflicts between the desire to sustain and the desire to develop are resolved. These challenges have been the subject of vigorous and extensive debate over the meaning and priorities of sustainability and sustainable development, sparked by the frenzy of international activity surrounding the 1987 Bruntland report (WCED 1987), and the 1992 United Nations Conference on Environment and Development.

Taking its lead from the Brundtland report, Agenda 21 presents principles of sustainable development (UNSD 1992). While many of the Agenda 21 principles in fact refer to implementation strategies, or the role of nation states, two fundamental principles are evident: inter-generational equity; and intra-generational equity. The principle of inter-generational equity states that development must meet the needs of present *and* future generations. It demands that the quality of life we create for society now must be available for future generations – it must be able to be sustained. As such, it can be regarded as the ‘sustainability’ component of sustainable development (George 1999). It recognises the essential role that ecological systems play in supporting life; that these systems have limited regenerative (sustainable) capacity; and that therefore ecosystems must be protected and restored to ensure their ongoing viability (UNSD 1992; Wackernagel and Rees 1996; Low and Gleeson 2005). Intra-generational equity, on the other hand, refers to equity in well-being (or quality of life) *within* generations, and is about the human development side of sustainable development (George 1999). Sustainable development is therefore a particular kind of development – one that seeks to improve equity and well-being, while sustaining the earth’s ecological systems.

While Agenda 21 identifies other important principles, such as the precautionary principle, the primacy of inter-generational and intra-generational equity is evident in the literature. George (1999:178), for example, argues that sustainable development can be wholly defined by the combined application of these two concepts: “Inter-generational equity is a necessary condition for sustainability. Intra-generational equity is a necessary condition for development, in the form which was envisaged by the [Stockholm and Rio] conferences and the [Brundtland] commission”. This aligns with Wackernagel and Yount’s (2000:22) concept

of sustainability as being made up of two imperatives: the “socio-economic imperative”, requiring “an adequate quality of life for people all over the world”; and the “ecological imperative” ensuring that providing quality of life “must not be done at the expense of using the earth’s bioproductive capacity beyond its ability to regenerate”.

However, despite general agreement on these broad principles, there remains a complex field of debate with differing interpretations of meaning and emphasis. Wackernagel & Rees (1996:33), for example, highlight the tension between an emphasis on *sustaining* ecological systems, with efforts necessarily focused on “ecological and social transformation”; and a focus on *development*, most commonly interpreted as “more sensitive growth” in a “reformed version of the status quo”. Many have attempted to survey and analyse this field of debate (see for example McManus 1996; Dobson 1996; Mawhinney 2002; Connelly 2007).

Hoopwood et al (2005) provide one such analysis, mapping approaches according to their degree of environmental concern versus their degree of socio-economic concern (expressed as seeking equality) (see figure 1).

**Insert Figure 1 here.**

Lélé (1991) argues that there is vagueness in many of these approaches, which is a reflection of politics and ideology, rather than a lack of intellectual capacity or understanding of the human-environment relationship. For example, the concept of “sustainable economic growth” (Diesendorf 1997:71) effectively dissolves the meaning of sustainable to become merely a synonym for “successful” (Lélé 1991:608). The problem with such vagueness and ambiguity of meaning is that sustainable development can become a “rhetorical cloak for environmentally and socially undesirable policies” (Connelly 2007:25), allowing “business



and governments to be in favour of sustainability without any fundamental challenge to their present course” (Hopwood et al 2005:40).

In order to operationalise sustainability there is a need for effective and convenient frameworks by which to objectively measure performance. Given that sustainability and sustainable development have become such widely used and contested concepts, it is important that any interpretation of sustainability definitions and principles is transparently and clearly presented, and that value judgements are made clear (Mawhinney 2002; Connelly 2007; Lélé 1991; Hodge 1997; Diesendorf 1997). It is therefore desirable that sustainability assessment tools clearly identify and justify how concepts of sustainability and sustainable development are employed. This enables any particular approach to be validly debated, assessed and accepted (or rejected) in the public realm (Lélé 1991; Connelly 2007).

This paper evaluates two urban development assessment tools - Sustainable Community Rating Tool and EnviroDevelopment – applying the following questions, drawn from the above discussion:

- How do the stated purpose and objectives of the assessment tool reference sustainability?
- How is the assessment tool informed by the principle of inter-generational equity, with its embodied recognition of dependence on ecological systems and focus on limits to appropriation of ecological services and resources?
- How is the assessment tool informed by the principle of intra-generational equity, and its focus on correcting imbalance in well-being and quality of life?

### **EnviroDevelopment:**

EnviroDevelopment, launched in 2006, was produced by the Urban Development Industry Association Queensland branch (UDIA (Qld) 2006). Its motivation was the perceived need for an “an incentives-based framework to encourage and reward innovation in sustainable urban development” (Plant et al 2006:309). The stated aim of EnviroDevelopment explicitly refers to sustainability and sustainable development: “EnviroDevelopment has been created to increase the uptake of sustainability in all aspects of development”, and in doing so its “purpose is to mainstream more sustainable development” (UDIA (QLD) 2006:2). The framework, however, contains no further elaboration on sustainability concepts, nor does it attempt to align with any particular definitional approach to sustainability or sustainable development. For example, while directly invoking “sustainable development”, the reference here to development is more in line with development as *built urban form*, rather than as *improvement in equity and well-being*. This conceptual difference is particularly common in the urban development sector. The way in which sustainability is conceptually employed by the framework is therefore best understood by an analysis of the structure and content of the assessment framework.

The framework for EnviroDevelopment starts from a ‘domains’ conception of sustainability. The domains approach is dominated by the ‘Triple Bottom Line’ (TBL) of economic, social and environmental spheres – an approach initially focused on expanding the scope of business reporting processes (Elkington 1998), but now extensively used as a sustainability assessment framework across government and other sectors. The EnviroDevelopment framework is divided into six categories, referred to as “elements”: ecosystems; waste; energy; materials; water; and community. Developers can seek accreditation from the UDIA in any of these elements. While the elements focus on “environmental and community sustainability issues” the framework is still presented as a “triple bottom line” approach, as “economic impacts

have been considered and integrated into the standards and will also be considered by developers on a case-by-case basis in their choice of environmental solutions” (UDIA (QLD), 2006:2).

EnviroDevelopment’s connection to the principle of inter-generational equity is most apparent via its clear connection to ecological concerns, with five of the six elements centred on protecting ecological systems and reducing resource use and waste/pollution. While the framework doesn’t explicitly engage with the concept of limits, each element has a reasonably clear target statement attached (see table 1), with the water and energy elements actually including a measurable target.

**Insert table 1 here.**

EnviroDevelopment is weaker in its treatment of intra-generational equity, with relevant criteria concentrated in the community category, covering a broad spectrum of issues under the headings of consultation; transport; community design; local facilities; safe, accessible housing; and indoor environmental quality. There is little focus on equity issues such as catering for diversity and affordability, with only a few optional measures under the community design section. As a voluntary accreditation system, EnviroDevelopment is targeted at the “top 10-20%” of developments (UDIA (QLD) 2006:2). As such, it is difficult to attribute any meaningful engagement with intra-generational equity issues, with the framework only intended to engage a small proportion of developments at the higher end of the residential estate development market; developments typically devoid of social diversity.

**Sustainable Community Rating Tool:**

‘Sustainable Community Rating Tool’ (SCRT) has been developed by VicUrban, the Victorian Government’s land development agency. SCRT is based on the VicUrban Sustainability Charter, an assessment tool initially developed to ensure that VicUrban incorporated “measurable principles of economic, environmental and social sustainability” into its projects (VicUrban 2006:5). A process began in 2007 to develop the VicUrban Sustainability Charter into an assessment tool that had the potential to be used industry-wide, resulting in the re-named Sustainable Community Rating Tool in December 2007. In August 2009 a new phase was announced in the transition of SCRT to an industry wide tool, with primary responsibility for of the development and implementation moving to the Green Building Council of Australia (GBCA 2009). This analysis, however, focuses on the currently available suite of tools developed by VicUrban. Three different sets of performance measure tables have been developed for the SCRT: the Master Planned Community Assessment tool, based largely on the VicUrban Sustainability Charter; the Urban Renewal Community Assessment tool; and the Provincial Community Assessment tool. The latter two are currently still in draft form, so this assessment is focused on the Master Planned Community Assessment tool only.

The suite of Sustainable Community Rating Tools are presented with the aim of “provid[ing] developers of new communities with a common language and framework to assist them in the planning and delivery of sustainable communities”; with the key functional component of the tools being the Performance Measure tables, which “aim to identify best practice for the development of new communities” (SCR 2009 [online]). The tools explicitly adopt the language of sustainability, and aspire to SCR setting the agenda for “best practice” in “common language” across this development sector. The SCRT is based on 5 core objectives, which are the same as VicUrban’s organisational sustainability objectives (see table 2).

Commercial success is the only objective that clearly articulates the outcome required to achieve that objective, with all projects required to meet or exceed an economic hurdle return rate. The other four describe, in aspirational and less obviously measurable terms, what each objective pertains to.

**Insert table 2 here.**

In addition to the above aims and objectives, the Brundtland definition of sustainable development is provided on the Sustainable Community Rating website (SCR 2009 [online]). However, it is not made clear how Brundtland (WCED 1987), with its focus on inter-generational and intra-generational equity, informs the tool. Instead, sustainability in the SCRT is conceptualised via the 5 core objectives discussed above. As with EnviroDevelopment, this clearly aligns with a domains conception of sustainability, with the typical triple bottom line being broadened and modified to include five domains. Under each of the five domains, the SCRT contains lists of performance criteria, the key functional component of the assessment tool. Evidence of response to the principle of inter-generational equity is apparent in individual criteria, but such connections are often difficult to discern. Ecological measures are concentrated in the Environmental Leadership section; although some criteria under the Urban Design Excellence section also impact on ecological sustainability. As an incremental criteria-based tool, engagement with the concept of ecological limits is all but absent.

SCRT has a stronger focus on issues linked to intra-generational equity than EnviroDevelopment, with one of the five sections devoted to Housing Affordability; and criteria relating to accessibility, localised service provision, and social inclusion occurring in

other sections. The Affordable Housing section places considerable emphasis on the provision of rental housing - “minimum 10% of project total offered for affordable rental housing managed by an accredited not-for-profit housing agency”; and on affordable housing – with a target of 40% “in the lowest quartile of the local market” (SCR 2009 [online]). These criteria, in combination with improved accessibility and local service provision, demonstrate a meaningful attempt to engage with the principle of intra-generational equity in the context of urban fringe development.

## **Discussion:**

The rhetoric of sustainability and sustainable development has come to dominate attempts to frame the performance of urban development. The two attempts recently developed in Australia and examined here, EnviroDevelopment and SCRT, aim to aid the application of the concepts of sustainability to residential estate development. Both explicitly engage sustainability and sustainable development as the conceptual foundations for assessment. However, the way in which these concepts are interpreted and used to inform the intent and functionality of assessment is less clear, with neither assessment tool transparently outlining what sustainability or sustainable development is taken to mean in their particular context. The use of the terms sustainability and sustainable development are accepted as uncontested, and seemingly seen as justification in and of themselves, giving the tools an unquestioned validity of purpose. It is up to the user, then, to interpret these concepts themselves via the assessment framework, criteria, and procedures for use. This is a weakness in both assessment tools, making it difficult for an independent observer to ascertain how they position themselves in relation to sustainability, and therefore difficult to judge, and accept, their intent and integrity. It also leaves the tools open to accusations that the language of

sustainability is merely being used to justify and solidify status quo approaches to development (Low and Gleeson 2005; Connelly 2007).

In the absence of any clarification on the interpretation of sustainability, judging how the assessment tools respond to sustainability fundamentals requires careful examination of the individual criteria and their associated scoring and weighting to try and identify connection with sustainability principles and the significance allocated to them. It is a reasonably straightforward process to categorise criteria under either social, economic or environmental domains. However it is less obvious to draw connections between criteria and the maintenance of ecological systems; the provision of inter-generational or intra-generational equity; or the ability to sustain a given development in the context of ecological limits. This is characteristic of TBL type frameworks. Sutton (2004:20) argues that while TBL is effective as a “scope-widening mechanism” (as indeed it was initially intended, broadening the business focus from the economic bottom line to include social and environmental concerns), “the simple act of adopting a triple bottom line approach does not mean that an organisation is actively tackling sustainability issues”.

These criticisms lead to assertions that TBL type assessment tools, such as SCRT and EnviroDevelopment are acting merely as measures of elements that may lead improved performance, rather than measures of the significance of outcomes with respect to sustainability principles. Pope (2003:12) suggests that TBL assessment frameworks generally “avoid attempting to define criteria or conditions for sustainability, and limit themselves to minimising negative triple bottom line outcomes or maximising positive ones”. This type of assessment may indicate improved performance upon current practice, but does not indicate whether the subject of assessment could be considered sustainable, or what would need to be

changed to deliver a sustainable outcome. Such criticism is particularly relevant to the SCRT, which is based on VicUrban's own sustainability objectives, which are in turn derived from VicUrban's operation agenda, rather than from any fundamental sustainability principles.

A further criticism of assessment based on a domains framework is the tacit facilitation of trade-offs: the notion that while it may not be ideal, it is acceptable to do well in one domain at the expense of another. In the EnviroDevelopment accreditation framework, developments can be accredited in one, several, or all of the six areas. Whilst this may increase the likelihood that more developers may engage with the accreditation process, it also encourages the 'pick and choose' mentality that pervades domain-based criteria list frameworks. In practice, VicUrban have presented SCRT as operating within a "portfolio approach" to development projects, "with a balance across each development project contributing to the overall result" against their five sustainability objectives (VicUrban 2008:15). As such, it appears that it is acceptable for individual developments to under perform in several areas, as long as each area has some level of engagement across the portfolio.

In the context of urban development in Australia, the implications of the principle of intra-generational equity are less explored than the implications of the principle of inter-generational equity. In a first world setting, the principles of sustainable development are generally seen to have more relevance via the inter-generational equity principle. However the criticisms of social exclusion, spatial isolation, and car dependence that are often levelled at urban fringe development (Dodson and Sipe 2006; 2008) can be understood as issues of intra-generational equity. SCRT presents a more significant engagement with the issues of service provision, housing affordability, accessibility and diversity via its assessment criteria than that of EnviroDevelopment. Ultimately, though, both assessment tools are voluntary and



developers must proactively choose to engage with them. They are likely to only attract developers who can see benefit – those that have decided that part of their portfolio will target the higher end, ‘green-consumer’ sector of the market. Importantly, there is no requirement to apply the assessment tool across a whole portfolio of development, so a developer can receive ‘green’ accreditation based on a small portion of their overall housing stock, regardless of whether the majority of their stock meets only standard (or even minimum) practice.

These voluntary industry based tools therefore present weaknesses via their opacity in engagement with sustainability principles, in assessment methods, and in implementation. This in turn makes evaluating their effectiveness in facilitating real and significant change difficult. To redress this, there is a need for more transparency in such tools, a level of independence of assessment, and third party assurance/verification of methods and application. However, for developers to continue to engage with such tools they need clear motivation, either through gaining a market edge (‘green consumer’); provision of developer incentives (such as planning process short-cuts), or through a legislative requirement. As such, there is obvious potential for government to play a more active role, either via facilitating a fast-track planning approval process; through fostering the ‘green consumer’ market (via programs such as green loans or compulsory star rating of houses at resale); or the potential for government to take a greater role in developing and implementing sustainable assessment processes, using planning approval processes to require developer engagement.

Recent research by Fyfe et al (2008) was commissioned by the Australian Government Department of the Environment, Water, Heritage and the Arts to consider the need for a National Sustainability Assessment Methodology (NSAM) for urban development. In doing

this, it offers a review and evaluation of several assessment approaches. Informed significantly by consultation with current developers of assessment tools, the report recommends the development of a national framework to provide “national and strategic guidance on principles and objectives for sustainable urban development, and guide the future evolution of tools” (Fyfe 2008:vii). It suggests the possibility that such a national framework could inform national sustainability benchmark standards and an accreditation system for existing sustainability assessment tools. However, despite finding that all of the tools reviewed have deficiencies, particularly in auditing and operational monitoring, and that none “comprehensively address systems thinking” (Fyfe 2008:v), the report dismisses the prospect of developing federal government driven sustainability assessment tools. It reports that the “large majority [of stakeholders]” were against “the development of a national sustainability assessment tool ... for neighbourhood-scale development ..., believing that it would be counterproductive given the plethora of tools already available” (Fyfe 2008:vi).

The decision to reject the possibility of developing federal sustainability assessment tools appears to be based primarily on the views of a limited and self-interested set of stakeholders, made up of current developers of assessment tools and land developer representatives, rather than on an assessment of how sustainability can be most effectively operationalised in urban development. The issue at task is that if no assessment tool currently meets expectations of both sustainability principles and objectives, and the expectations of rigorous, transparent, verifiable assessment, then one should be sought. This could come, as suggested by Fyfe et al, from a process of evolving existing tools, guided by a framework of principles, benchmarks and targets. But equally, new assessment tools could be relevant, especially if tailored to act within a revised policy and legislative approach to the urban development sector.

## **Conclusion:**

It would appear that fundamental principles of sustainability are not well understood or addressed in applications designed to aid the implementation of sustainability in residential estate development. This paper has investigated two such attempts, SCRT and EnviroDevelopment. It is acknowledged that sustainability assessment tools such as these have a great deal to offer to the growing debate surrounding the implementation of sustainability principles in urban development. EnviroDevelopment brings a strong focus on environmental impacts of urban development, and an encouraging level of engagement from the key industry peak body in the sector. SCRT, while giving primacy to economic concerns, presents a concerted effort to bring issues of environmental concern as well as concerns of equity and well-being, to the decision-making process. They can be viewed as important steps in an ongoing process of change. As voluntary industry developed and promoted assessment tools, they can play a role in developing capacity within industry; facilitating examples of 'best-practice' urban development, which in turn influence other developers and the market. They also have potential to improve understanding of sustainability in the marketplace, with potential flow-on effects to increase 'green' demand, and such voluntary frameworks could, in time, become the basis for mandatory tools.

However, in considering the use of sustainability and sustainable development concepts in assessment tools it is evident that there is a lack of rigour, transparency and accountability. There is a lack of rigour in explicitly defining sustainability concepts and principles in context, and in translating these principles into frameworks for action. There is limited transparency in the interpretation of sustainability, with detailed analysis of the assessment criteria and scoring methods needed to discern intent. And there is a lack of accountability,

with assessment tools often being developed by industry actors, with little independent critical assessment; and applied within industry without independent verification of process.

With sustainability principles clearly pointing to the need for significant and transformative change in urban fringe development, the risk is that such assessment tools, if accepted without critical attention, will fall well short of producing the end outcomes we should expect of something labelled *sustainable*. As Dovers (2007:33) argues, while sustainability principles are these days “universally endorsed”, in practice, they are at best “underachieved”. We risk accepting a situation where an assortment of frameworks exists, with little accountability, that are selectively applied by only a few developers to only a few high-end developments. In this scenario, the assessment tools are ultimately acting as green-marketing tools for the small proportion of the developers that are responding to the ‘green-consumer’ market sector. Such an outcome could be fairly criticised as doing little more than dressing up the status-quo as sustainable development, diverting and distracting attention from the more substantial transformation required; and deferring the development and implementation of more effective assessment, governance and policy frameworks.

These findings suggest that there is a need for assessment approaches based on a more rigorous understanding and application of the foundation concepts of sustainability. In providing a rigorous and transparent engagement with the implications for sustainability in residential estate development, there is a need, as Fyfe et al (2008:vii) recommend, for a national framework to provide “principles and objectives for sustainable urban development”. In addition, if the current multiplicity of assessment tools is maintained, then accountability through auditing and accreditation becomes essential. Finally a stronger role for government-led assessment approaches should be considered as part of an integrated policy response to the

development approval process. Such action is required to ensure that the concept of sustainability is not abused and diffused to the point where it is in fact “nothing”; to reinforce the fundamental sustainability principles of improving equity and well-being while sustaining ecological systems and services.

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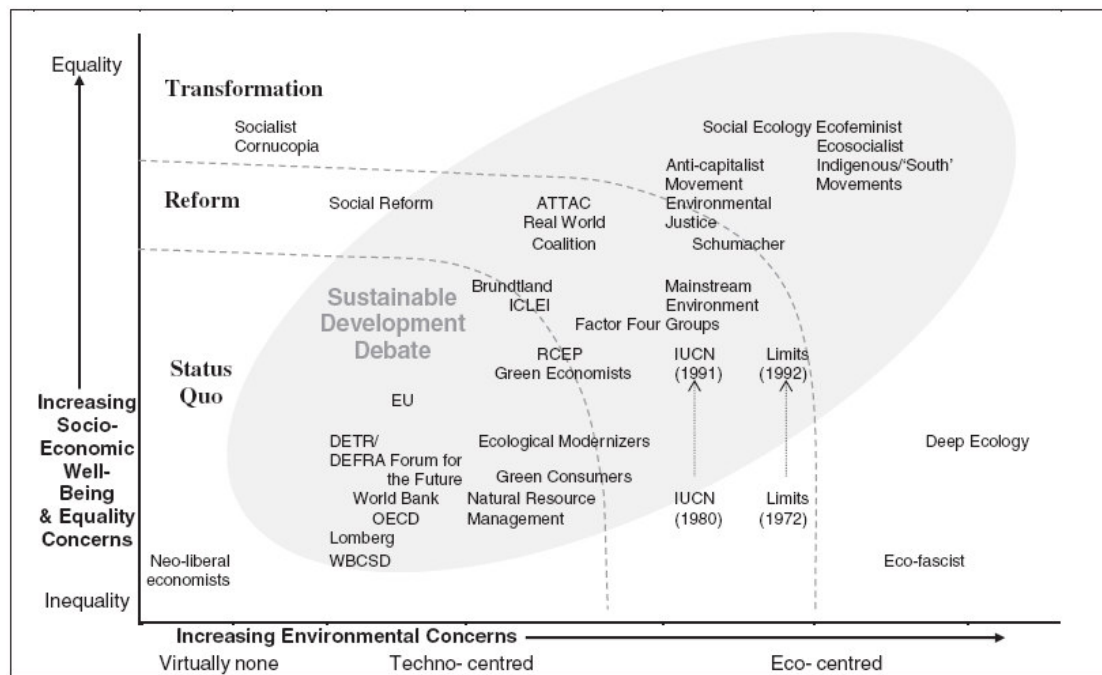
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**Figure 1: Mapping of views on sustainable development (Hopwood et al 2005:42)**

| <b>Element</b> | <b>Objective</b>                                                                             | <b>Target</b>                                                                                                                                                                                                                                                                       |
|----------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecosystems     | Healthy, sustainable ecosystems based on natural processes and rich with native biodiversity | Development that aims to protect and enhance existing native ecosystems and encourages natural systems and native biodiversity and rehabilitates degraded sites.                                                                                                                    |
| Waste          | Reduced waste sent to landfill, more efficient use of resources.                             | Development that has implemented waste management procedures and practices which reduce the amount of waste to landfill and facilitates recycling.                                                                                                                                  |
| Energy         | Reduced usage of polluting and non-renewable energy sources                                  | 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)                                                        |
| Materials      | Environmentally responsible material usage                                                   | 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. |
| Water          | Improve water use efficiency                                                                 | 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).                                                                                     |
| Community      | Vibrant, cohesive, healthy, happy, adaptable, sustainable communities                        | 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.                                                        |

**Table 1: EnviroDevelopment Elements - Objectives and Targets (UDIA (Qld), 2006)**

**Community Well-being:** The Community Well-being objective aims to deliver communities that are safe, healthy; have access to services, jobs and learning; foster active local citizenship, and are pleasant places in which to live, work and visit

**Environmental Leadership:** Environmental Leadership entails the protection and management of natural systems, habitat and biodiversity, and the innovative and efficient use and management of precious resources such as materials, water and energy

**Urban Design Excellence:** Urban Design Excellence is best achieved when design thinking concentrates on creating a sense of place within an urban landscape

**Housing Affordability:** Access to affordable and appropriate housing is a critical element in building sustainable and diverse communities

**Commercial Success:** Commercial success occurs when the hurdle rate of return on all developments is met or exceeded and environmental, social and economic benefits are maximized

**Table 2: SRCT five core objectives (SCR, 2009 [online]):**