

## Track 6: Market Transformation & Green Building Management

### Session 1.9: Practices & Methodologies for Green Building Management (1)

#### Incorporating Sustainability Criteria in Commercial Workplace Fit-Out Guidelines for A Banking Operation

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#### ABSTRACT

Organisations are increasingly expected by shareholders and the community at large to demonstrate corporate social responsibility in consideration of the environment, employees and the community. Leading organisations are demonstrating that corporate social responsibility starts at 'home', using their workplaces as practical exemplars of their commitment. This study investigated the key performance areas and priorities of a major international banking organisation in developing and incorporating sustainability criteria into the design and decision-making processes that govern the commercial workplace fit-outs. The sustainability guidelines established the performance indicators and benchmarks for the workplace environments consistent with the organisation's expectation for quality, value and sustainability for the accommodation and office environments.

A key issue in achieving sustainability in office fit-outs is to be informed of the options and their potential impacts and being able to make design decisions that will maintain the integrity of the design but have the smallest ecological footprint. The theoretical framework of life cycle thinking (LCT) is a vital part in understanding sustainability. The selection of the standards and criteria which form this guide drew on this principle and aims to promote holistic decision-making during the fit-out design process and implementation. The Sustainability Guidelines is based on the environmental principles, effective practices and concepts featured in the rating systems Green Star and NABERS (Australia), LEED (US), BREEAM (UK) and BCA Green Mark (Singapore). The guideline is applied to the fit-out of commercial workplace projects, including new facilities and changes to existing facilities. It provides a framework of considerations for reducing environmental impacts and contains information on opportunities and strategies to illustrate achievement of key performance benchmarks. It identified the mandatory minimum standards and facilitates the material specification for sustainable fit-out design and on-going ecologically sustainable development (ESD) solutions and initiatives outcomes for the bank's commercial workplace fit-outs.

**Keywords:** *corporate social responsibility, sustainability guidelines, workplace fit-out*

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#### 1. INTRODUCTION

Expectations on organisations to exercise social responsibility in their corporate performance have led to most to consider their commitment to the environment, employees and the community as a crucial aspect in gaining competitive advantage. These companies are increasingly operating in rapidly changing and more challenging global operations, where the shifting landscapes combined with significant changes in populations and demographics, urbanisation, resource utilisation, climate change, and employee and consumer attitudes have become the impetus to review corporate governance, social and environmental performance.

Leading organisations are demonstrating that corporate social responsibility starts at 'home', using their workplaces as practical exemplars of their commitment. This study investigated the key performance areas and priorities of a major international banking organisation in developing and incorporating sustainability criteria into the design and decision-making processes that govern the commercial workplace fit-outs. The sustainability guidelines established the performance indicators and benchmarks for the workplace environments consistent

with the organisation's expectation for quality, value and sustainability for the accommodation and office environments. This paper reports on the process undertaken to formulate the bespoke sustainability guidelines for the office fit-out.

## 2. DEFINING SUSTAINABILITY IN ACCORDANCE WITH THE ORGANISATION'S ASPIRATIONS AND PRIORITIES

Setting common standards for sustainability initiatives for an organisation with an extensive and diverse property portfolio across different global regions poses a unique challenge. Multiple factors can render readily available prescriptive standards impractical or irrelevant due to project-specific constraints and opportunities. This study was guided by the main objective to develop and incorporate sustainability criteria into the design and decision making processes that govern commercial fit-outs across the operations of the organisation. It was highlighted that the criteria need to address the organisation's vision of environmental sustainability and must be interpreted by a global audience of operational units. The standards will leverage existing guidance available through best practice guidelines and relevant rating systems. Standards will adopt a form that is sufficiently detailed to guide the development of detailed, project specific, specifications, however retaining sufficient flexibility to enable deployment globally.

From the outset, the formulation of the guidelines reflected the fact that the banking organisation commitment to the four pillars of sustainability, namely economy in general, the industry, society and the environment. Sustainability understanding in the financial services industry was the underpinning guiding principle for the study. All organisations in this services industry sector will have some issues surrounding these sustainability pillars relative to each other. The approach taken for this study was not designed to be comprehensive nor prescriptive in judging what is good, good enough or bad practice. It was based on a consistent approach of analysing objective and quantitative measures which can be adjusted by the organisation as appropriate for incorporation.

Sustainability has been defined contextually in numerous ways. The popular and often quoted definition is from the 1987 Report of the World Commission on Environment and Development, "Our Common Future" [Brundtland Report]. Simply put, this defines sustainability as referring to human society being capable of continuing indefinitely. The development that will move society in that direction is sustainable development. However, the concept of sustainability become relevant only when the un-sustainability inherent in the current activities of society is understood. "Sustainability is a term that arises in response to a potential environmental and human disaster ... and cannot be separated from that other great concept ...globalisation".

Predominant models of sustainability include the "triple bottom line" (TBL), coined by Elkington in which the environmental, social and financial outcomes are taken into account (Figure 1).

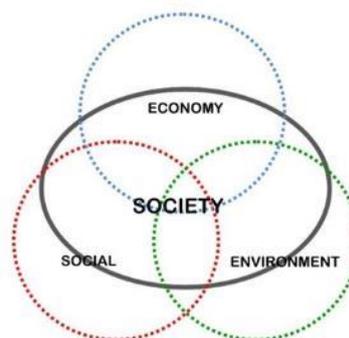


Figure 1: Triple bottom line framework for sustainability

Miller et al further contend that building sustainability knowledge requires a fundamentally different approach to the ways organisations coordinate capacity building and research and how it relate to society.

### 2.1 Sustainability knowledge as the guiding principle: Overarching sustainability principles

In the development of the set of generic environmental sustainability requirements relating to office fit-out which reflect the organisation's corporate sustainability vision, the research team, in collaboration with the bank's heads

of Sustainability and Property Advisory Services, drew on the bank's corporate responsibility framework and priorities (CRF). The organisation is committed to reducing the impact of its business activities and operations on the environment. The CRF guides and underpins this commitment to improve environmental performance which is integral to the bank making a sustainable contribution to society (Figure 2).

The bank has demonstrated this commitment by achieving a carbon neutral footprint across its portfolio globally. In its commitment to invest in the management of environmentally, socially and commercially sustainable banking operations, it has established targets for greenhouse gas (GHG) emissions, energy use, water use, paper use and waste to landfill to assist in the management of its environmental performance.

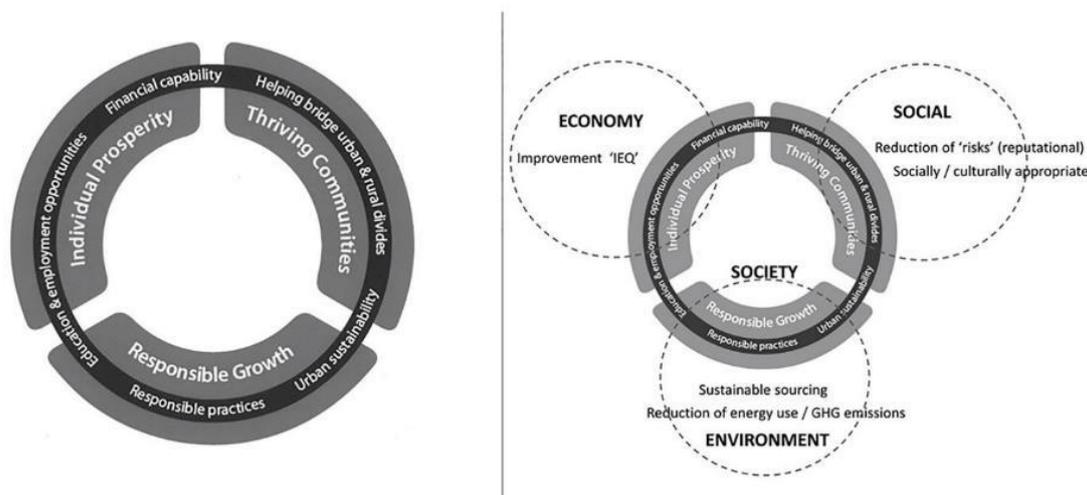


Figure 2: Translation of the corporate responsibility framework (CRF)

### 3. APPLICATION OF SUSTAINABILITY PRIORITIES: FRAMEWORK FOR THE SUSTAINABILITY GUIDELINES

The outcome of the study is a document that provides general standards for achieving sustainability outcomes in the bank's new commercial office fit-outs. The guidelines were presented within a framework that provided explanation and rationale. The objectives and scope for formulating the document allow its suitability for deployment as part of a generic design brief provided to fit-out designers and will be sufficient to enable detailed project specifications to be developed.

A key issue in achieving sustainability in office fit-outs is to be informed of the options and their potential impacts and being able to make design decisions that will maintain the integrity of the design but have the smallest ecological footprint. The theoretical framework of life cycle thinking (LCT) is a vital part in understanding sustainability. The selection of the standards which form this guide drew on this principle and aims to promote holistic decision-making during the fit-out design process and implementation.

#### 3.1 Reference to green building rating systems

The standards outlined in guidelines define the attributes of a sustainable commercial workplace fit-out and provide definitive criteria for evaluation of its performance from a 'tenanted space' perspective. The Sustainability Guide is based on the environmental principles, effective practices and concepts featured in the rating systems Green Star and NABERS (Australia), LEED (US), BREEAM (UK) and BCA Green Mark (Singapore). It was recommended that these ratings systems as well as the locally appropriate assessment tools be referenced in relation to the performance goals and technical strategies contained in the guide.

#### 3.2 Key performance areas and priorities

In close consultation with the bank, particularly the sustainability and corporate social responsibility teams, key principles from the five (5) reference green building rating systems were identified and formed as the standards to align with the four (4) overarching key performance areas and priorities of the bank (Figure 3): climate change and

resource use (CRU), well-being and health (WH), socially and culturally appropriate (SC), and reduction of risks (RR).

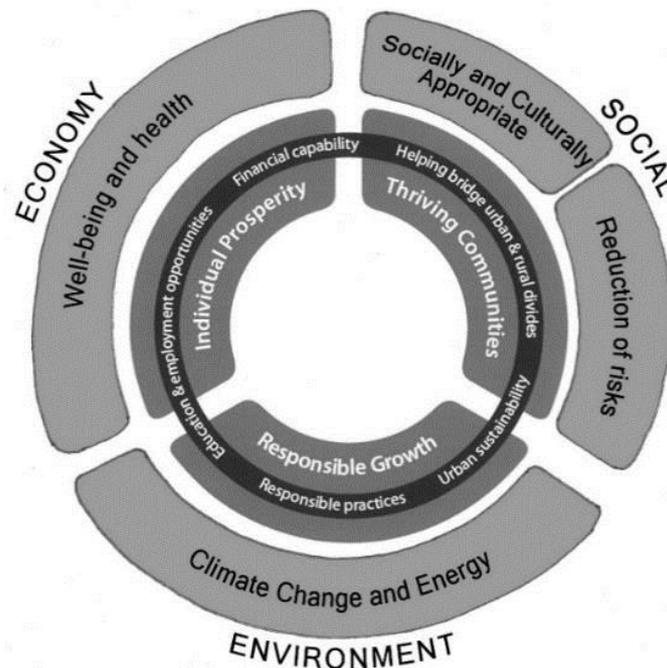


Figure 3: Application of sustainability priorities

Climate change and resource use (CRU)

- Energy management: Achieve benchmarks and performance targets in energy efficiency and minimising loads on energy supply infrastructure.
- Reduction in GHG emissions: Achieve performance targets in absolute emissions reductions.
- Water conservation: Achieve benchmarks and targets in water use reduction.

Well-being and health (WH)

- Indoor environmental quality (IEQ): Improve indoor environmental quality (IEQ) and achieve healthy internal building environments.

Socially and culturally appropriate (SC)

- Waste minimisation and Avoidance: Reduce waste generated by building occupants that is collected, hauled to and disposed of in landfills; material re-use.

Reduction of risks (RR)

- Materials: Minimise the environmental impacts materials used in the fit-out and works.
- Responsible sourcing: Supporting regional economies and reducing environmental impacts resulting from transportation and servicing.
- Management of risks and compliance issues: Minimising operation costs, potential compliance issues and reputation through recognition and management of risks related to the fit-out process and its implications for ongoing business performance.

### 3.3 Structure, interpretation and use of the guidelines

The Guidelines apply to the fit-out of office accommodation occupied by organisation, in Australia and its global operations. All up, 15 standards were identified and these provide a framework of considerations for reducing environmental impacts and contain information on strategies and opportunities relating to key performance benchmarks (Table 1).

Climate and Resource Use (CRU)		
	CRU 1-1	Lighting power density
	CRU 1-2	Lighting zones and controls
	CRU 1-3	Energy efficiency (equipment and appliances)
	CRU 1-4	Energy monitoring (energy sub-metering)
	CRU 1-5	Water efficiency (fittings)
Well-being and Health (WH)		
	WH 2-1	Visual comfort
	WH 2-2	Indoor air quality – low-emitting materials
	WH 2-3	Thermal comfort
	WH 2-4	External view and daylight
	WH 2-5	Internal noise levels
	WH 2-6	Water quality
Socially / Culturally Appropriate (SC)		
	SC 3-1	Reduction of waste
Reduction of risks (RR)		
	RR 4-1	Responsible sourcing
	RR 4-2	Regional materials
	RR 4-3	PVC Use

Table 13: Structure of standards

The purpose of the guide is to direct and complement the structured fit-out planning, design and construction process provided by design professionals. It facilitates the material specification for sustainable fit-out design and on-going ecologically sustainable development (ESD) solutions and initiatives outcomes. Each of the standards follows a common format which outlines the Intent – a summary statement of the key performance principles or practices, the performance Target which indicates the requirements, the rationale and benchmark for the standard, and a range of Potential Technologies and Strategies to be used in achieving the requirements. A number of the standards also contain opportunities Beyond Compliance which outlines the potential performance targets beyond the mandatory requirements. Information on Reference Protocols with achievable scores as required by the selected building rating tools is provided for each of the standards.

As an illustration, the standards CRU 1-1: Lighting power density and CRU 1-2: Lighting zones and control are as follows:

Sustainability standard	Target	Beyond compliance
<b>CRU 1-1: Lighting power density</b>		
[a] Efficient light fitting, electronic ballasts [b] Low standby power not greater than 0.001 watts per watt of lighting power [c] Fixture uniformity – maintain uniform lumen levels through group relamping	9 W/m <sup>2</sup> LPD	7 W/m <sup>2</sup> LPD
<b>CRU 1-2: Lighting zoning and controls</b>		
[a] Maximum lighting zones [b] Individual lighting controls [c] Occupancy sensors [d] Daylight controls for daylit areas [e] Daylight controls for 50% of the lighting load	to be 100m <sup>2</sup> for 90% (min) of office space 75% (min) of the connected lighting load.	

#### 4. REFLECTING SUSTAINABILITY REQUIREMENTS: SUSTAINABILITY GUIDELINES FOR COMMERCIAL WORKPLACE FIT-OUTS

The guide applies to the fit-out of all the bank's commercial workplace projects, including new facilities and changes to existing facilities. It provides a framework of considerations for reducing environmental impacts and contains information on opportunities and strategies to illustrate achievement of key performance benchmarks. The purpose of the guide was to direct and complement the structured fit-out planning, design and construction process of organisation's Workplace Environment provided by design professionals. Crucial and key to the formulation of the

guidelines was the close collaboration with the bank's sustainability team, property services, environmental and services project design. Prior to finalisation, training workshop session and sign-off, the draft document was circulated to key personnel interstate and overseas groups for review and comments. Complimentary feedback received from the bank's sustainability team generally referred to the guide meeting the needs of the organisation in being comprehensive yet concise and easily able to be used by both staff and external contractors and consultants.

The office fit-out contributes significantly to efficiency and operational effectiveness. For example, an energy-efficient office fit-out design offers the possibility of significantly increased worker productivity. Healthier working environments include favourable lighting, acceptable acoustic levels, indoor air quality and indoor thermal comfort are affected by many energy-efficiency measures. An increasing number of case studies reported that healthy indoor environments can increase employee productivity. Because office workers are by far the largest expense for most organisations (typically for offices, salaries are 72 times higher than energy costs and account for 92% of the life cycle cost of a building), therefore increased employee productivity has a significant effect on overall profitability. An audit of the organisation's offices, on average, salaries are approximately 45 times higher than energy costs.

Office fit-outs designed for energy-efficient performance have very attractive economic returns. A case in point is an efficient lighting design and well-managed lighting system which can contribute to significant improvements in energy efficiency in office tenancies. Although it varies from office to office, as an example, lighting can typically account for 30% of a commercial office tenancy's power consumption. Case studies indicated that, depending on the installation and usage patterns, energy savings on lighting in the range of 20-70% can be achieved in a typical office with a 3 to 5 year-payback of investment.

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