

Worksheet 4.3A

Checklist for sustainable fitouts

*Applicable
(yes/no)*

Planning phase

Objective: To identify and integrate into the project, through a systematic process, a sustainability vision for the building fitout consistent with the core values, policies and commitment of the tenant organisation or building owner.

Agree on a sustainability vision for the project

Identify the sustainability vision and desired outcomes for the project. Focus on practical and achievable outcomes that will allow the fitout to demonstrate the organisation's commitment to sustainability. Include this information in the project manager's brief and the tender documents for the design team.

Consider benchmarking against existing industry rating tools such as Green Star Office Interiors or NABERS Energy.

Use a competitive tendering process to engage a design team (and project manager if necessary) with the appropriate skills and experience for achieving the sustainability vision.

Integrate vision into project design brief and budget

Incorporate the process of exploring, discussing and confirming agreed sustainable design initiatives into the project design brief. (See the design phase recommendations regarding a Sustainable Design Plan, below.)

Make sure the brief addresses space planning and density requirements including workspace allocations and flexible working arrangements. Flexible working arrangements should consider capacity to 'hot desk', moveable walls to support multiple space uses, and maximisation of open plan environments. Consider how IT infrastructure, computer specifications, cabling access to workstations and the use of laptops instead of desktops could increase flexibility, promote productivity and reduce cable wastage.

Set a Green Star Office Interiors rating as part of the project vision

Determine a preliminary budget for realising the sustainability vision and make sure this is included in the project budget. Capital allowances should recognise the whole-of-life financial savings (e.g. reductions in energy costs) likely to be achieved through environmentally responsible design.

Identify how outcomes will be measured

Develop the key performance indicators for measuring environmental and workplace achievements. Where possible work out a whole-of-office baseline so comparisons can be made between the working environment pre and post fitout. Refer to Green Star Office Interiors for potential indicators.

	<i>Applicable (yes/no)</i>
Depending on the lease structure, relevant indicators could include consumption of energy (electricity and gas) and water per square metre (or person), costs of utilities per square metre, indoor environment quality measures and quantity of waste created and recycled in the working environment. Other indicators could include sick leave attributed to working conditions, staff morale, annual productivity, staff working hours and staff retention rates. Some initiatives may be achieved for no or small additional cost.	
Explore opportunities for the lease	
Discuss opportunities to achieve 'win-win' sustainability outcomes with the managing agent e.g. opportunities to incorporate energy efficient initiatives for both the base building and the tenancy in the lease, or core building upgrades that give the tenant greater control of indoor comfort and lighting without imposing unacceptable costs on core building services. Consider a 'green lease' to formalise shared benefits and allow the tenant to be represented on the building management committee. It may also assist in the Green Star rating process.	
Design phase	
Objective: To put together a design team and facilitate a design process that rewards innovation and systematically addresses and evaluates design options for achieving the sustainability vision within the available resources.	
Selecting and briefing the design team	
Evaluate tender responses to the design brief and select a team based in part on their understanding of your vision and their capability and experience with sustainable design. Look for innovation in past projects, familiarity with green building design tools and team cohesion. Consider a specialist environmental design facilitator to coordinate the sustainable design process.	
Integrate sustainable design into the design process	
Develop a Sustainable Design Plan (SDP) as a component of the project brief. The design team should develop this further and use it to facilitate the design process. See Section 4.1 of this Guide for further detail.	
Where appropriate, consider using criteria in Green Star Office Interiors and NABERS to focus aspects of the design effort. Make sure the design team is familiar with Green Star and NABERS and recognises its role in identifying and achieving good environmental design as modelled in Green Star and NABERS.	
Allocate responsibility for using the SDP as a facilitation tool to a key member of the design team. This could be the project manager, lead architect or specialist environmental facilitator. Alternatively, consider using an accredited Green Star professional (essential if a rating is to be undertaken) to support the design process.	

	<i>Applicable (yes/no)</i>
After preparing the SDP, this person's initial task could be helping to brief the design team before design process begins to make sure the team members understand what is expected of them.	
Make sure the design phase timeline adequately recognises the time that will be required to explore environmental design options.	
Encourage the team to seek innovative solutions to desired design outcomes. Make sure the whole life cost of design alternatives are properly considered so the client can make informed decisions when looking at trade-offs between capital costs and longer-term operational savings.	
Investigate technologies, products and materials that can help improve the environmental performance of the fitout.	
Where feasible, use computer analysis, life cycle assessment and life cost modelling to test design options.	
Sustainable design reviews and design considerations	
Undertake regular and scheduled sustainable design reviews. Use the SDP as a reporting tool to make sure these design reviews are given appropriate attention from the outset. They should be part of the scheduled design team meetings wherever possible to involve all of the design team members. See Section 4.1: 'Sustainable building through design management'.	
Involve key decision makers in the design reviews. Make sure they understand the design intent well enough to be able to explain it to their senior management and staff.	
Adopt passive design solutions wherever possible, such as maximising natural light and ventilation, providing all occupants with access to views and installing stairs for internal circulation where practical. Optimise use of natural light through features such as internal light shelves, reflective wall finishes or internal operable blinds.	
Investigate capacity for optimising use of energy efficient lighting and lighting controls that allow flexibility for the occupants. If feasible, consider using multiple lighting zones to accommodate efficient after-hours lighting. Consider controls that can reduce the energy consumption of fluorescent lights after start-up.	
Where tenant HVAC is proposed, make sure high efficiency equipment is used with controls that reflect the required usage periods.	
Encourage the designers to explore all feasible options for using environmentally friendly fitout materials and finishes with proven low indoor air quality risks. See Section 3.8: 'Managing indoor environment quality'.	
Where desirable, optimise flexibility in the workspace. For example, consider whether moveable wall systems could be used to adapt spaces for a variety of uses.	

	<i>Applicable (yes/no)</i>
Check the design team obtains and critically reviews any certification or documentation provided by material or product manufacturers that claims stated levels of environmental performance e.g. timbers from sustainable forestry sources. Give preference to products or materials with third party certification e.g. the Australian Environmental Labelling Association's Good Environmental Choice label or a listing with ecospecifier. Seek explanations of any environmental claims made by suppliers, including performance documentation.	
Make sure material durability is commensurate with the life expectancy of the fitout. Choose durable, long-lasting materials over short-lived alternatives.	
Optimise use of materials that have a high proportion of recycled content or are known to be readily reusable or recyclable at the end of their useful life.	
Consider ease of disassembly for fitout partitions and workstations in situations where the lease requires the tenant to strip out and return the space to core facilities. Minimise alterations to the base building. Elements damaged or changed may have to be made good at lease termination. These considerations should be included whether it's the tenant's responsibility to make good or not.	
Check that construction methods do not reduce the reusability or recyclability of materials (e.g. use screws and bolts instead of adhesives).	
Check that equipment and appliances that use water are highly efficient in their water usage. Encourage the building owner to install waterless urinals, rainwater collection devices or greywater reuse technologies where practical.	
Assess and list all materials or building components that should be retained, partially modified, or removed during demolition for sale, recycling or landfill. Targets for material recycling and diversion from landfill should be estimated and included in tender documentation. Optimise retention of materials where practical and desirable—this could include workstations, walling, doors, floor coverings, ceiling tiles and light fixtures.	
Tender phase	
<p>Objective: To manage the process for evaluating and selecting products, materials and construction services (and incorporate this in the tender and contract documentation) so the following is achieved:</p> <ul style="list-style-type: none"> • the construction market is fully informed of the minimum and required environmental quality of products, materials and construction services • opportunities are maximised for market competition to provide environmentally superior products, materials and services • certification is provided for the environmental performance of products and materials • suppliers and contractors are committed to a high level of environmental performance. 	

	<i>Applicable (yes/no)</i>
Check that the tender documentation clearly states the desired environmental performance levels of products, materials and fitout based on industry good or best practice. Where possible specify outcomes and the audit trail that will be required, rather than proprietary products. See Section 4.2 'Sustainable projects through tendering' for more detail.	
Make sure the contract documentation, including plans and specifications, is written so as to achieve the project's sustainability objectives. The design team leader or project manager should sign off tender documentation in compliance with project brief requirements.	
Consider tendering arrangements such as alliances or partnerships with subcontractors and suppliers or leasing contracts in which fitout elements such as carpets, workstations and partitioning are leased. A leasing contract should identify environmental standards to be met, including durability, recycled content, recyclability, low emissions, replacement and maintenance requirements.	
Require tenderers to provide information on their past relevant environmental experience, regulatory environmental record, and capacity to commit to project-related environmental actions. See Section 4.2 of this Guide for more detail.	
Provide opportunities for innovation such as encouraging tenderers to nominate alternatives e.g. environmentally friendly materials or construction processes.	
Where reasonable, and particularly for large or complex fitouts, include a requirement for an outline Environmental Management Plan (EMP) with a strong focus on waste minimisation, recycling, pollution avoidance and noise control. This may assist in Green Star accreditation.	
Where the contract works involve a development approval, consent conditions are likely to require that a construction Waste and Recycling Management Plan (WMP) is prepared and implemented by the head contractor, including management of subcontractors' demolition and construction waste.	
Check that contract documentation commits the head contractor to being responsible for the environmental performance of subcontractors and suppliers.	
Check that contract documentation commits the head contractor to regularly report on progress of either the EMP or WMP or other environmental management requirement.	
Check that contract documentation provides for commissioning and tuning to ensure that the performances targeted in the design and documentation are achieved in practice.	
Check that contract documentation commits the head contractor to provide third party certification of any significant environmental claims made for products or materials supplied to the project e.g. sustainable timber sources, chlorine-free material, energy efficient products or materials.	

*Applicable
(yes/no)*

Demolition and construction phase

<p>Objectives: To ensure contractual requirements are in place to control or mitigate environmental impacts to air quality, waste, indoor amenity and stormwater and to ensure the sustainability objectives of the project are effectively delivered.</p>	
<p>Note: There are opportunities within the construction phase to achieve a high level of environmental performance but adequate consideration has to be given and systems set in place during the previous project delivery phases.</p>	
<p>Review any contract variations (particularly alternate products or materials) in accordance with the sustainability objectives for the project as set out in the design brief or Sustainable Design Plan.</p>	
<p>Check that the head contractor produces and adequately implements a Demolition Waste Management Plan (DWMP) detailing how waste will be dealt with, how much will be recycled, reused and sent to landfill, and measures to record actual waste for project performance reporting.</p>	
<p>Check that the contract requires demolition and recycling contractors to obtain and keep detailed weighbridge receipts and records to substantiate waste performance for project records.</p>	
<p>Environmental management</p>	
<p>Make sure the construction phase project manager is capable of and committed to managing environmental outcomes in compliance with the project brief and as set out in the contract and agreed construction Environmental Management Plan or construction Waste and Recycling Management Plan (as applicable).</p>	
<p>Before works begin, ensure the head contractor, the project manager and others (as necessary) meet at the start of the project to confirm the approach to be taken to environmental management including work practices, compounds, material ordering and waste management. Make sure that all people involved understand what is expected of them, their responsibilities and outcomes that need to be reported.</p>	
<p>Monitor progress against the environmental management plans and, in particular, deal with noise abatement and dust suppression. These are often the root cause of complaints from other occupants or neighbours.</p>	
<p>Check that the head contractor and subcontractors are complying with the waste separation and recycling opportunities set out in the construction Waste and Recycling Management Plan – in particular, the collection for off-site reprocessing of demolition materials such as plasterboard, timber framing, metals and carpets. The contract should encourage contractors to minimise offcuts wherever practical.</p>	
<p>If included in the contract, consider the collection for resale of toilet fittings and kitchen or hub furniture and fittings if not appropriate for reuse in the new fitout.</p>	

	<i>Applicable (yes/no)</i>
Check that the building's HVAC system adequately isolates the construction area to avoid dust dispersion throughout the building, and that the AC vents and filters are cleaned after construction.	
If not detailed in development consent conditions, consider undertaking very noisy activity or activity that creates noxious emissions (e.g. some carpet glues, timber floor finishes) after hours or during weekends and work with the building management to ensure where possible that noxious emissions are fully vented.	
Optimise off-site fabrication of fitout components so that waste generation and manufacturing impacts are not occurring on site and are minimised.	
Where the head contractor has established a works compound and material handling area on the property (e.g. in a carpark) check that adequate provision is made for dust, stormwater run-off and safe storage of potentially hazardous materials. The latter should be kept to an absolute minimum.	
Commissioning	
Comprehensive pre-commissioning, commissioning and quality monitoring should be required in the contract and performed by the appropriate contractors, suppliers and trades on site. NOTE: The Property Council of Australia (PCA) recommends the use of independent commissioning before occupation and upon completion of the HVAC and services package or works or the full contract. The PCA also advises tenants to test systems to check they are working as designed and to obtain a commissioning report before formal hand-over. Green Star Office Design and Interiors Tool, Management category, gives credit for tuning and commissioning and provides useful guidance.	
Occupation phase	
<p>Objectives:</p> <ul style="list-style-type: none"> • Provide a safe, stimulating and productive environment for staff and visitors. • Ensure appropriate monitoring of indoor environment quality against recognised healthy building standards. • Optimise opportunities for occupants to be able to control the thermal comfort and level of lighting within their work areas. • Ensure occupants understand the environmental features of their fitout and are aware of their individual responsibilities, particularly regarding energy use and waste recycling. • Where appropriate, implement a plan to manage and monitor energy consumption and waste recycling in tandem with the building manager's facility management plans to make sure core building environmental management supports the tenancy objectives, and vice versa. 	

	<i>Applicable (yes/no)</i>
Raise awareness and define responsibilities	
Upon occupation, staff should be inducted into the operational features of the building and fitout and made aware of the environmental benefits of facilities such as lighting and comfort controls, waste and recycling systems, etc. Check that initiatives are in place for inductions and ongoing reinforcement so that staff awareness of their responsibility to 'do the right thing' is maintained.	
Make sure the building manager and any building contractors (e.g. cleaners) understand the sustainability features of the fitout. Copies of contract documentation, equipment manuals and work as executed documentation are normally required by the building manager, but they should also be invited to attend the staff induction upon occupation to gain an understanding of why and how certain levels of performance and responsibility are required.	
Environmental monitoring and management (EMM)	
Develop an EMM Plan (or similar) with a focus on ensuring energy use and waste management are within reasonable parameters. This plan could be included in the Office Operations and Maintenance Manual (or similar) and could include data on monthly tenant energy usage provided either by the building manager or via the energy retailer, where metering is provided. Fluctuations in usage above a pre-determined target should be investigated and improvements implemented. Staff may need to be periodically reminded of their role in ensuring the sustainable design features of the tenancy are properly used.	
Make sure appropriate attention is devoted to tenancy waste minimisation including appropriate location and signage for waste and recycling bins, and provision of multi-stream bin stations (paper, recyclables and residual waste). Collect monthly information from the building manager on waste and recycling collected from the tenancy, or where this is not readily identifiable, undertake periodic waste audits to quantify waste generation, recycling and levels of recycling stream contamination. Implement measures to ensure staff consider waste minimisation as a 'business as usual' activity. Consider specifying office materials and consumables that have low environmental impacts including minimal packaging.	
Minimise the use of toxic cleaners and pest treatments. Use natural cleaning products where possible. Use non-toxic pest treatment, rather than introducing poisons into the workplace, and integrated pest management if further treatment is required.	
Consider purchasing a percentage of GreenPower or similar from your energy retailer. This has the potential to significantly reduce your greenhouse gas emissions.	
Retain records of performance, particularly energy consumption where metering is provided. This will facilitate an energy efficiency rating of the tenancy by using NABERS Energy.	

	<i>Applicable (yes/no)</i>
Post-occupancy evaluation	
Within 12 months of occupation conduct a post-occupancy evaluation of the HVAC and lighting systems and physical character of the fitout including feedback from staff. Ensure the scope includes elements of the fitout contract as well as the systems and equipment provided by the tenant (e.g. computers, printers etc.) where new equipment is included in the fitout. The evaluation should also determine whether the relevant project sustainability objectives have been achieved and whether there are any indoor air quality issues that need to be addressed by the contractor or building manager.	
Consider undertaking a formal NABERS Energy rating. Check with authorities to confirm the scope of information required and then integrate this requirement into project delivery as early as possible.	
Maintenance	
Tenancy-specific maintenance plans may be desirable. They should be prepared in collaboration with the building manager as part of the tenancy commissioning process. Instigate systems so that tenancy features and tenancy-owned HVAC and lighting systems are properly maintained and integrated, where appropriate, with maintenance activities related to the core building.	
Check that maintenance activities include checking waste and recycling facilities within the tenancy, reviewing cleaning practices and cleaning materials, repainting common areas, replacing light fittings, deep cleaning carpets, checking proper operation of sun control devices either within or exterior to the tenancy, cleaning and repairing mechanical systems installed by tenants, etc.	
Where practical, integrate tenancy maintenance with core building maintenance, e.g. consolidate contracts such as painting and cleaning.	