green lease guide

for commercial office tenants

'Big savings can be easier and cheaper to achieve than small ones if you combine the right ingredients in the right way.' Amory Lovins

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Disclaimer

This document has been prepared as a guide only and is unlikely to contain all the information that prospective tenants or their advisors may expect or require in order to make informed decisions on 'green' choices. Prospective tenants should therefore rely on their own enquiries in the decision-making process.

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Abbreviations used in this guide

ABGR	Australian Building Greenhouse Rating
HVAC	heating, ventilation and air conditioning
LED	light emitting diode
NABERS	National Australian Built Environment Rating System
VOCs	volatile organic compounds

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for commercial office tenants

This Guide accompanies the Investa precedent lease.

Investa's precedent lease is regarded as a 'green lease' because it sets out environmental and social objectives as part of the relationship between building owner and tenant.

Commitments in this Guide apply to:

Building name and address

1 Why a green lease?

This Guide explains how a green lease will benefit your organisation.

The checklists in this Guide set out:

2 Building owner's commitments What can this building do for you?	✓
3 Tenant's commitments How can your office add value to your business?	✓

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1 Why a green lease?

What's in it for your organisation?

Many leading organisations are starting to use their workplaces to meet a range of financial drivers and to secure competitive advantage. The way you choose, design and manage your workplace can help you to:

Enhance your reputation

Organisations are increasingly expected by shareholders and the community at large to demonstrate corporate social responsibility—'doing the right thing' in respect to the environment, employees and the community. Leading organisations are showing that corporate social responsibility starts at 'home', using their workplaces as a practical demonstration. This enhances reputation and minimises potential risks to reputation, which has an indirect but potentially enormous financial benefit.

Attract and retain talented employees

The importance of attracting and retaining talented employees is increasing in the face of a predicted decline in Australia's workforce. Employees are increasingly aware of their wellbeing at work, and the workplace has been shown to influence attraction and retention of staff. Demographic research shows that younger generations in particular have an increased awareness of environmental and social responsibility and are likely to choose employers whose values align with theirs. The ability to retain talented staff has significant financial benefits including avoiding replacement costs and improving business continuity.

Enhance employee wellbeing and productivity

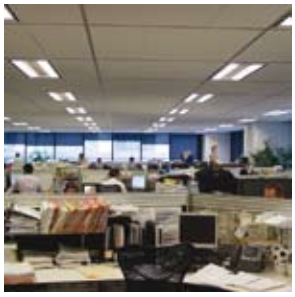
Research indicates a strong link between a good indoor environment in offices and improved employee wellbeing. While this is difficult to measure compared to more tangible benefits like energy savings, there is significant and growing evidence to support this link. Improved productivity and reduced absenteeism lead to potentially massive financial benefits. Enhanced amenities (nearby facilities such as childcare, public transport, cafés etc.) can also have an influence on productivity and wellbeing.

Enhance and protect organisational knowledge

Your workplace design influences the way staff share and develop knowledge. Workplaces that are open, flexible and designed to encourage informal interactions have been linked to improved organisational learning. The sharing and retention of knowledge within an organisation is critical to sustaining its productivity into the future.

Reduce your liability

It is an employer's duty of care to ensure a safe and risk-free working environment. Employees are becoming more demanding about their wellbeing at work. Occupational health and safety regulations in NSW already encompass aspects of indoor environment quality, and national regulations are likely to follow suit. Prosecutions for poor indoor air quality have already occurred in Australia. The liability implications now extend beyond the organisation to individual directors and managers.



'Investa believes there is a direct connection between the success of our tenants and our long-term investment returns.'

Campbell Hanan, Group Executive, Investa Property Group

Increase your profitability

And last but not least, all of these benefits can create significant cost savings for your organisation!

In addition, you'll receive direct cost savings such as lower electricity bills. Other building costs that you may not directly pay for (waste management, water use, air conditioning, etc.) are lower in a green building and these savings are often indirectly passed on to tenants.

Lastly, a productive and pleasant workplace environment is one that you and your employees are more likely to want to stay in once your lease expires. This will reduce costs associated with future relocation.

How this relates to your commercial lease

This *Green Lease Guide* accompanies the Investa precedent lease. It provides an opportunity to identify, discuss and commit to objectives that will:

- save you money over time
- provide an excellent working environment for employees, and
- enhance your organisation's reputation.

Investa recognises that the fundamental purpose of office buildings is to provide a productive and effective place for people to work. While we don't directly determine the design of our tenants' office accommodation, by supplying the space, air, lighting, access and other services we have a large role to play.

We differentiate our buildings by delivering higher quality services that reflect what people want. This goes beyond the obvious provisions such as air conditioning, cleaning and lifts to include enhanced amenities and better environmental performance. We believe that the best outcomes for us and for our tenants are achieved through a cooperative approach. With this *Green Lease Guide* we hope to support our tenants in capturing the range of benefits discussed here.

How this Guide works

This Guide is designed to help you ask the right questions and make the right choices.

Section 1 explains what a green lease is and why it's of interest to organisations like yours.

Section 2 explains what to look for when choosing a building. Your building manager will fill out the schedule to summarise the various benefits on offer.

Section 3 explains important aspects to consider when designing your office fitout, and explains the benefits of implementing each of these aspects. This is where you have the opportunity to make commitments that will benefit your organisation now and into the future.

Section 4 provides valuable tips on designing your office fitout and choosing equipment, and suggests sources of further information.

2 What can this building do for you?

Building owner's commitments

'We are confident that our new office will contribute to improving the productivity and effectiveness of our firm going forward.' Michael Ryan, CEO, Ebsworth and Ebsworth.

Section 1 of this Guide explained why many progressive organisations see the performance of their office space as a source of competitive advantage and central to sustaining business vitality.

It's a common misconception that to be 'green' a building has to demonstrate state-of-the-art technology and contemporary design. Some of the best performing buildings are older buildings where the building manager has taken measures to optimise performance and supports tenants to do the same. Good building management is critical to achieving positive environmental and social outcomes.

How to use this section

Whether you're looking at a new or older building, this section will help you to capture financial, environmental and social benefits.

What's covered here?

This section explains the most important things to look for in a building, under the following categories:

- comfortable, productive and healthy indoor environment
- low energy use and greenhouse gas emissions
- sustainable and healthy transport options
- low potable water use
- recycling of office waste
- cleaning services
- building management and tenant support
- further innovations.

When the following checklists have been completed you will know exactly what's on offer and why it's of value to your organisation.

Key benefits

Under each heading, key benefits have been summarised in three categories:

- Annual savings for your organisation
- Employee wellbeing, satisfaction and productivity
- Reputation and corporate image

1 out of 3 = some benefit

2 out of 3 = moderate to high benefit

3 out of 3 = high benefit.

Checklists

The building owner or manager will complete the following checklists to indicate which services, facilities or attributes apply to this building.

City of Melbourne's new building Council House 2 (CH_2) is expected to achieve a 4.9% increase in staff productivity compared to council's previous building. This equates to $1.12 million in annual savings due to increased productivity and reduced staff absenteeism.
Green Building Council of Australia.

Comfortable, productive & healthy indoor environment

A comfortable, productive and healthy indoor environment is one of the most important things you can provide for your employees. It has potentially huge financial benefits for your organisation. Some elements of the building's design and management—such as air quality, lighting quality and comfortable indoor temperatures—have a significant impact on the quality of the workspace.

$ $ $ Offers huge potential savings by improving employee productivity and reducing employer liability

Improves ability to attract and retain staff, improves their wellbeing, reduces absenteeism

Demonstrates concern for employee wellbeing

Checklist 1: Management of indoor environment quality

To use these checklists: tick the attributes that apply to this building ✓

Regular carbon dioxide monitoring (for all situations where a component of return air is recirculated)	
HVAC regularly tested for contaminants, and contaminants removed	
Regular indoor air quality testing	
Maintenance contracts specify all paints, sealants and adhesives are no or low-emission*	
Monitoring and maintenance of indoor temperature at set summer and winter ranges	
Prompt action in response to performance issues	

NOTES:

Types of monitoring systems in place and the frequency of reporting?
Any additional measures in place?

* 'Low emission' materials contain minimum levels of volatile organic compounds (VOCs) and other airborne pollutants with a potentially harmful impact on health. See Section 4 for more information on VOCs.

Low energy use & greenhouse gas emissions

Climate change is now a major international concern. Investors, clients and employees will increasingly be asking what the organisation is doing to reduce greenhouse gas emissions which contribute to climate change. Choosing a building with low greenhouse gas emissions will save your organisation money and enhance its reputation.

$ $ Reduces base building energy costs, which are passed on to tenants—indirectly or directly

Responds to employee concern about climate change

Demonstrates leadership in addressing climate change

Approximately 90% of Australia's electricity is generated by burning coal, a major source of greenhouse gas emissions and pollution.

Checklist 2: Management of energy use and greenhouse gas emissions

Energy management guarantee for tenants (caps on bills and greenhouse gas emissions)	
Monitoring and reporting of tenancy energy use and greenhouse gas emissions	
Monitoring and reporting of base building energy use and greenhouse gas emissions	
Regular maintenance and recalibration of base building services	
Prompt action in response to performance issues	
Australian Building Greenhouse Rating conducted annually for the base building, and rating disclosed	
Accredited GreenPower™ electricity supply contracts available to tenants	

NOTES:

Types of monitoring systems in place and the frequency of reporting?
Any additional measures in place?

Australian Building Greenhouse Rating—base building

The Australian Building Greenhouse Rating (ABGR) measures a building's actual yearly greenhouse emissions and forms the basis of the NABERS* Office Energy Rating. Almost a third of the national Australian office market (by net lettable area) has been rated using ABGR. Ratings can be obtained for the base building, your tenancy and the building as a whole.

The difference in energy costs between a high and low base building ABGR can exceed $10/m² per annum.

* National Australian Built Environment Rating System

It takes only 16m² of typical office space (280 kg of CO_2/m^2) to match the annual greenhouse gas emissions from a typical Australian car.

Checklist 3: Australian Building Greenhouse Rating—base building

Current base building ABGR	
Future base building ABGR commitment (after 1st year of lease)	

5-star ABGR = exceptional (best building performance)
4-star ABGR = excellent (strong performance)
2.5-star ABGR = market average

More information: www.abgr.com.au

'In NSW almost 100,000 people ride their bicycles to work. Cycling employees ... generally have lower levels of stress, anxiety and depression and [are] less likely to be involved in an accident at work.'
Cycling to work, works!
Roads and Traffic Authority, NSW.

Sustainable & healthy transport options

Transport is responsible for 13% of Australia's greenhouse gas emissions* and significant air pollution. By providing a conveniently located office space you are reducing the environmental impacts and costs associated with staff travel to and from work, and travel to and from meetings. Cycling facilities also provide employees with healthy transport options.

- Saves costs associated with transport to and from meetings
- Provides employees with convenient, healthy and affordable transport options
- Demonstrates leadership by responding to climate change and air pollution

Checklist 4: Key strategies for reducing travel demand and car dependency

Proximity to a range of public transport options (high number and frequency of services)	
Secure bike storage	
Showers, change facilities and lockers for cyclists	
Spaces for small cars, mopeds and motorbikes	

NOTES:

Do the items which have been ticked meet or exceed the minimum criteria set out in Green Star**?

* Australian Greenhouse Office 2004.

** The Green Star rating tools for new and existing office buildings include a transport category and can be downloaded from www.gbcaus.org.

Low potable water use

Australia is the driest continent on earth, and drought is a high-profile issue in the community. Choosing a water-efficient building that is well-managed will demonstrate environmental leadership and save you money. Approximately a quarter of water consumed by Australia's commercial buildings is due to leaks and wastage. Water-based air conditioning systems can account for around a third of the building's total water consumption.

- Saves money on water bills, directly or indirectly
- Responds to employee concern about water shortages
- Demonstrates leadership to shareholders, stakeholders and the community

Checklist 5: Efficient water management

Submetering of major base building water uses (e.g. cooling towers, bathrooms etc.)	
Regular monitoring and reporting of base building water use	
Regular inspections for leaks and other base building performance issues	
Prompt action in response to performance issues	
NABERS water rating conducted annually	

NOTES:

Types of monitoring systems in place and the frequency of reporting?
Any additional measures in place?

NABERS

The National Australian Built Environment Rating System (NABERS) is a performance-based tool that rates a building on the basis of its measured operational impacts. The NABERS office water tool measures a building's actual yearly performance with regard to water consumption and sewage volume.

Checklist 6: NABERS water rating

Current NABERS water rating	
Future NABERS water rating commitment (after 1st year of lease)	

5-star NABERS rating = exceptional (best building performance)
4-star NABERS rating = excellent (strong performance)
2.5-star NABERS rating = market average

More information: www.nabers.com.au

Waterless urinals typically save 150,000 litres per year per urinal.

Experience has shown that water savings of between 30–40% are often achievable in office buildings. Water Efficiency Guide: Office and Public Buildings.

Investa's King's Row complex in Milton, Queensland, is saving 9,450 kL/year due to more efficient irrigation.

In 2005–06 Investa recycled approximately 17,600 fluorescent tubes. Fluorescent lamps contain mercury which is toxic to the human nervous system, but by recycling, up to 99.9% of the recovered mercury can be reused.

Recycling of office waste

What we commonly call 'waste' can be a valuable resource and a cost-saving opportunity. Waste management costs are passed on directly or indirectly to tenants. A comprehensive waste minimisation and recycling service can generate significant savings. Landfill costs are increasing significantly in comparison to recycling costs and this trend is expected to accelerate.

- Saves on building owner's landfill fees, which may be passed on to you
- Responds to employee concern about pollution and waste
- Demonstrates leadership to shareholders, stakeholders and the community

Checklist 7: Efficient waste management

Facilities for separate storage and recycling of paper, cardboard, containers* and food waste	
Regular monitoring and reporting of waste going to landfill	
Prompt action in response to performance issues	
Waste audit or NABERS waste rating conducted annually	
Systems for recycling of items such as toner cartridges, fluorescent tubes, batteries and mobile phones	

NOTES:

Types of monitoring systems in place and the frequency of reporting?
Any additional measures in place?

* plastic, glass and metals (cans)

Cleaning services

It's important that cleaning services align with the building's environmental objectives. For example, some organic chemical solvent-based cleaning products can compromise indoor air quality. Lack of cooperation from cleaners with the waste management policy can undermine its effectiveness and end up costing more in landfill fees.

- Achieves an environmental benefit without costing more
- Maintains good indoor environment quality
- Demonstrates environmental leadership and concern for employee wellbeing

Checklist 8: Cleaning services alignment with environmental objectives

Cleaning contracts specify use of natural, solvent-free and hydrocarbon-free cleaning products	
Cleaning contracts specify compliance with waste management and energy efficiency policies	
Cleaning contracts specify relevant cleaning and maintenance procedures for specialist 'green' products (e.g. waterless urinals)	
Awareness-raising and training program for cleaners	

NOTES:

Any additional measures in place?

An ongoing dialogue between cleaners and waste contractors has helped Investa to increase recycling levels by enabling all to learn about what works, what doesn't and what strategies could be employed to make recycling more effective.

Building management & tenant support

Building management that incorporates regular monitoring, maintenance and reporting can help tenants save money, meet their reporting obligations and retain a competitive edge.

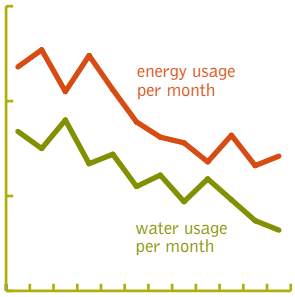
- Reduces ongoing costs, savings can be passed on to tenants
- Maintains a productive and healthy workplace, aligns with increasing employee environmental awareness
- Enhances performance and helps demonstrate your achievements

Checklist 9: Building management and tenant support

Green lease certificate issued annually to tenants	
Building user guide for tenants	
Environmental management plan for building	
Regular reporting to tenants on base building environmental performance	
Formal mechanisms for gathering tenant feedback (e.g. regular surveys)	
Dedicated contact for tenants within the building management staff	

NOTES:

Frequency of reporting? Any additional measures that support tenants in meeting their environmental objectives?



'When deciding to renew our lease, Investa's management commitments were just as important to us as the building's physical attributes.'
Graeme Williamson, Queensland Department of Public Works.

Further innovations

There are many additional ways your building owner or manager can help you as a tenant to demonstrate corporate social responsibility. This can include socially responsible initiatives such as providing on-site amenities for use by tenants and the local community (e.g. childcare facilities, meeting spaces, recreation spaces) or environmentally responsible initiatives such as removing 'make-good' clauses for departing tenants from leases and negotiating the reuse/recycling of fitout materials. Ask your building owner or manager to list any further sustainability initiatives they will provide to you.

Further sustainability initiatives

3 How can your office add value to your business?

Tenant's commitments

and further commitments by the building owner where appropriate

'... then I thought, why stop there? I looked around and thought we could implement a green policy throughout the office.' Chris Jordan, NSW Chairman, KPMG (SMH, 2004).

The fitout stage provides your organisation with a cost-effective opportunity to enhance its reputation, boost employee satisfaction and lock-in significant ongoing cost savings over the lease period.

At this stage you have the opportunity to make decisions that can, at little or no additional upfront cost:

- improve employee productivity and organisational learning
- help you to attract and retain staff
- enhance your corporate image and provide competitive advantage
- reduce your energy bills and other expenses
- minimise your occupational health and safety liabilities.

These benefits all have an impact on an organisation's commercial success and exposure to risks.

How to use this section

The following set of checklists is for you to complete. Tick all of the items that your organisation will make a commitment to.

This section of the Guide is in two parts:

3.1 Fitout design and construction helps you to lock-in significant benefits by identifying design and construction principles for your fitout. We recommend that you include this completed schedule in your brief to your designers and contractors.

Some aspects of your fitout (e.g. lighting, carpet) may be provided by the building owner. If so, ask the owner's representative to fill out the relevant commitments in this schedule.

3.2 Office management provides tips on office management and equipment purchasing. We recommend that you give this completed schedule to your office manager and those responsible for equipment purchasing.

Key benefits

As for Section 2, the key benefits under each subheading have been summarised in three categories:

- Annual savings for your organisation
- Employee wellbeing, satisfaction and productivity
- Reputation and corporate image

1 out of 3 = some benefit

2 out of 3 = moderate to high benefit

3 out of 3 = high benefit

Merit—[a] [b] or [c]

Some items in the following checklists are rated [a], [b] or [c], indicating their relative sustainability merit, with [a] being the most preferable option.

3.1 Fitout design & construction

Include this completed checklist in the brief to your design and construction contractors

Over 1.3 million tonnes of construction and demolition waste is disposed of each year in Sydney, accounting for 29% of all waste disposed. Department of Environment and Climate Change NSW.

When you move out of your existing tenancy, reuse whatever you can. 'Make good' clauses in leases often lead to significant wastage of materials such as carpet, light fittings and furnishings.

Ask your existing building owner or manager whether it's possible to leave fixtures and furnishings in good condition for reuse by future tenants. Also, check with your proposed new building owner or manager whether elements of the previous tenancy fitout can be reused. This approach can result in significant cost savings for you.

What's covered here?

In this schedule you and your building manager will nominate key commitments in relation to:

- fitout ratings
- lighting
- floor finishes
- walls and ceilings
- joinery (doors, built-in furniture, kitchenettes)
- workstations
- general office furniture
- kitchen fittings and appliances
- paints, sealants and adhesives
- bathrooms and toilets
- supplementary air conditioning
- submeters and 'smart' meters
- indoor plants
- demolition and construction waste management.

Fitout rating commitments

Green Star Office Interiors

Green Star Office Interiors is a nationally recognised standard that assesses an office interior on all key areas of environmental performance. Green Star rates the capability of the office design to reduce environmental impact, rather than its actual performance in operation. The Green Star Office Interiors tool is easy to use and can be downloaded from the Green Building Council of Australia's website: www.gbcaus.org.au.

The Green Star Office Interiors rating can be used to demonstrate leadership in the design and construction of your workspace. It will help ensure your office is a comfortable, productive and healthy place for staff to work, and this has been linked to significant ongoing financial benefits. The rating can also help you to minimise ongoing costs such as energy and water bills.

- Earns potentially huge savings in employee costs (productivity) and savings on energy costs
- Provides a productive and healthy environment for employees
- Demonstrates leadership to shareholders, stakeholders and the community

Checklist 10: Green Star Office Interiors rating

To use these checklists: tick the items that apply to your fitout ✓

6-star (world leader)	
5-star (Australian excellence)	
4-star (best practice)	

Many of the options presented throughout this section are rated under Green Star. For example, Investa's 5-star head office rating was achieved through efficient lighting, a 5-star ABGR, vegetable-based paints, recycled materials and a host of other initiatives that cost a little extra upfront but will pay back over the duration of the lease.

Australian Building Greenhouse Rating—tenancy

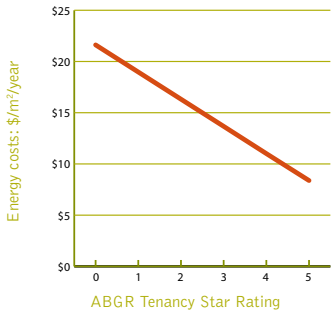
The Australian Building Greenhouse Rating (ABGR) measures a building's actual yearly greenhouse emissions and forms the basis of the NABERS Office Energy Rating. Almost a third of the national Australian office market (by net lettable area) has been rated using ABGR. Ratings can be obtained for the base building, your tenancy and the building as a whole.

The ABGR tenancy rating will measure and rate your actual annual greenhouse emissions from your electricity bills.

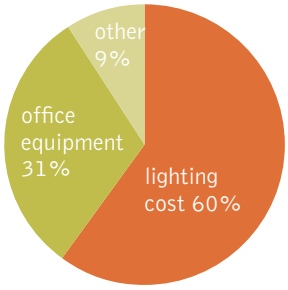
- Saves on energy costs
- Responds to employee concern about climate change
- Demonstrates leadership in greenhouse gas reduction to shareholders, stakeholders and the community

At the fitout stage you can commit to an agreed level of performance by signing a tenancy commitment agreement. This allows you to start advertising your rating straight away, instead of waiting until you have a year's worth of operational data. The ABGR tool and tenancy commitment agreement can be downloaded from: www.abgr.com.au.

The challenge businesses face is how to respond to climate change in a way that makes good environmental, social and economic sense. City of Sydney's 3CBDs Greenhouse Initiative engages and educates commercial office tenancies to increase their energy efficiency by committing to achieving a 4-star ABGR rating or higher: www.3cbds.com.au.



Moving from 0 to 5 stars (tenancy ABGR) could reduce energy bills from $21/m² to $8/m² per annum.



Lighting is the biggest energy cost-saving opportunity in your fitout.

The basic principles of efficient lighting are:

- select the most efficient fittings
- make sure they are switched off when not needed.

Avoid 'low voltage' dichroic, halogen and incandescent special purpose lighting. An LED spotlight uses about a tenth the energy of an incandescent or dichroic lamp with the same light output. It also generates negligible heat, reducing the load on air conditioning.

Checklist 11: Australian Building Greenhouse Rating—tenancy commitment agreement

5-star ABGR = exceptional performance	
4.5-star ABGR	
4-star ABGR = excellent performance	

Greenhouse guarantee

Your building owner or manager may be able to help you achieve a rating commitment by providing technologies or expertise. They may also be able to take responsibility for meeting your tenancy's ABGR commitment. Ask about opportunities for the following.

Checklist 12: Greenhouse guarantee

[a] Guaranteed cap on tenancy greenhouse emissions	
[a] Guaranteed cap on tenancy energy bills	
[a] Guaranteed tenancy ABGR	

Lighting

Fitout lighting accounts for more than 60% of the average tenant's energy costs and represents the largest single opportunity for energy savings.* If you've chosen a tenancy space that makes good use of natural light, you're already ahead. In addition, efficient lighting design and management can reduce your lighting energy bill by 40–80%.* Efficient lighting also reduces the heat load on the base building air conditioning, resulting in further indirect cost savings.

$ $ $ Earns significant ongoing savings in energy bills

Creates a more comfortable and productive work environment for employees—avoids glare and eye strain

Reduces your tenancy's greenhouse emissions by up to half

Checklist 13: Tenancy lighting	provided by tenant	provided by building owner
General office lighting: [a] Efficient fluorescent, electronic ballast (less than 10 W/m²)		
Special purpose lighting: [a] Compact fluorescent or LED		
Lighting controls: [a] Comprehensive occupancy-based lighting control system with appropriate zoning and daylight linking		

More information: 4.2 Lighting

* www.abgr.com.au

Floor finishes

Over the life of an average office building, floor finishes have the greatest single environmental impact of any fixed item. This is because they tend to be replaced at the end of every lease cycle.* If retaining the existing floor finishes is not possible or practical, many environmentally friendly options are available at similar and sometimes lower cost than standard alternatives.

Australians install 60 million m² of carpet and send 60,000 tonnes of used carpet and offcuts to landfill every year.

Achieves environmental benefits at the same cost as alternatives, and sometimes less cost

Contributes to good indoor environment quality

Reduces environmental impact significantly

Checklist 14: Floor finishes	provided by tenant	provided by building owner
[a] Retain existing floor finishes		
[b] Modular carpet, reconditioned or with recycled content, low emission**		
[b] Timber: Recycled, FSC-certified*** or fast-growing plantation e.g. bamboo		
[b] Other eco-preferable material e.g. linoleum instead of vinyl		

* Building Research Establishment, 2002, figures based on 5-year replacement cycle over 60 years. The study excluded loose fittings and furnishings.

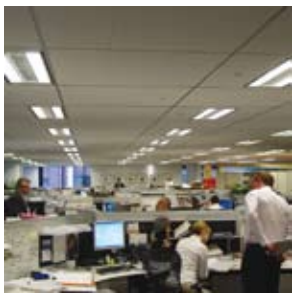
** Minimum levels of VOCs or other airborne pollutants with a potentially harmful impact on health. For more information on VOCs see Section 4.

*** Forest Stewardship Council (FSC) certification is generally recognised as the most rigorous labelling standard for sustainable timber. For more information see Section 4.

More information: 4.2 Floor finishes

Walls & ceilings

Research indicates a link between open plan work environments and improved organisational learning. This is significant from a business perspective, given that tacit, informal learning is critical to the success of organisations. A study of one organisation found that the move from cellular offices to an open plan work environment led to significantly more internal communication, in the form of more frequent but shorter interactions between staff, and claims from staff that they were learning more.



Fewer walls mean less expense, more natural light and more effective air conditioning.

Reduces upfront costs, generates potentially significant organisational learning productivity benefits

Improves organisational learning, provides opportunities for improved natural light and ventilation

Can reduce environmental impact significantly

Checklist 15: Tenancy walls and ceilings	provided by tenant	provided by building owner
Internal walls:		
[a] Minimise new walls, open plan design		
[b] Modular, reusable wall systems, high recycled content		
[c] Wall linings and glazing frames with recycled content		
Ceilings:		
[a] Retain existing ceilings		
[b] New modular ceiling, eco-preferable material		

More information: 4.2 Walls and ceilings

City of Melbourne's CH_2 building provides shelving built into partitions, minimising impact on office floor space.

Joinery (doors, built-in furniture, kitchenettes)

Loss of biodiversity has been identified in a recent national State of the Environment Report as one of Australia's most pressing environmental problems, caused in part by the use of rainforest and old growth timber. The growing importance of corporate social responsibility presents an incentive to use the many environmentally friendly alternatives available. Minimising use of formaldehyde and other volatile organic compounds (VOCs)—commonly found in composite timbers, glues and varnishes—presents an opportunity to create healthier indoor environments for employees.

Achieves significant environmental benefit at no or marginal additional cost

Creates a healthier indoor environment

Demonstrates leadership in protection of biodiversity

Checklist 16: Joinery	provided by tenant	provided by building owner
Retain existing materials:		
[a] Retain existing doors		
[a] Retain existing built-in joinery (if applicable)		
[a] Retain existing kitchenette		
New joinery:		
[b] Recycled, FSC-certified or plantation timber (incl. veneers)		
[b] Low-emission composite* timber		
[b] Low-emission laminates, finishes and glues		

* Composite timber includes ply, MDF and particleboard.

More information: 4.2 Joinery

Formaldehyde has been evaluated by the International Agency for Research on Cancer as Group 1 (carcinogen to humans), and by the European Union as a Category 3 carcinogen (possibly carcinogenic).

Workstations

Workstations can have a significant environmental impact, particularly if they are not designed for easy disassembly, reuse and recycling. You can save money and protect the environment by reusing existing workstations where practicable. You can also improve indoor environment quality by minimising the use of products that contain VOCs.

Investa's workstation screens are made from 'eco-panel'—100% recycled PET. The desktops are melamine on E0 board with no PVC edge stripping.

- Achieves environmental benefits at no additional upfront cost, and sometimes lower upfront cost
- Creates a healthier indoor environment
- Reduces environmental impact significantly

Checklist 17: Workstations

[a] Existing workstations reused	
[b] New eco-preferable workstations used	

More information: 4.2 Workstations

General office furniture

A significant percentage of the waste going to landfill in Australia is from office 'churn'. This includes office furniture. Save money by reusing as much of your office furniture as you can. Cost-effective, environmentally friendly and healthy (no or low-VOC) products are readily available, and some manufacturers also take back products for reuse and recycling at the end of their life.

The Herman Miller 'Mirra' chairs used by Investa are up to 96% recyclable at the end of their useful life and are comprised of 42% recycled materials.

- Achieves benefits without costing more upfront (there are many cost-effective environmentally friendly products available)
- Creates a healthier indoor environment
- Reduces environmental impact significantly, provides a tangible demonstration of this to employees and visitors

Checklist 18: Office furniture

Chairs:	
[a] Reuse existing chairs	
[b] New, eco-preferable product	
Workstation partitions:	
[a] Reuse existing partitions	
[b] New, eco-preferable product	

Checklist 18 continues next page

Checklist 18 continued

Cabinets and shelving:	
[a] Reuse existing cabinets and shelves	
[b] New, eco-preferable product	
Tables:	
[a] Reuse existing tables	
[b] New, eco-preferable product	

More information: 4.2 Office furniture

Water-saving appliances save energy too, because they help cut down on hot water.

Kitchen fittings & appliances

On average, kitchen appliances only account for 2% of office energy use, but it still makes sense to choose the most efficient models. Energy and water efficiency can be achieved at little or no extra cost.

- Generates a small to moderate energy and water saving opportunity at no or marginal extra upfront cost
- Likely to align with employee values
- Provides tangible demonstration of energy and water saving to employees and visitors

Checklist 19: Fittings and appliances	provided by tenant	provided by building owner
[a] Water-efficient fixtures		
[a] Water and energy efficient appliances (e.g. fridge, dishwasher)		
[a] No hot water boiler (use kettle with auto switch-off)		
[a] Kitchen waste sorter with separate recycling bins		

More information: 4.2 Kitchen fittings and appliances

Natural paints contain no VOCs or toxic additives, regardless of the colour. This is not the case with all low-emission paints.

Paints, sealants & adhesives

Minimising the VOC content of paints, adhesives and sealants will contribute to a healthy and pleasant environment for staff. Low-VOC paints are readily available and cost around the same as standard paints. Natural paints tend to cost a little more than standard paints, but are completely VOC-free and provide a tangible demonstration of your commitment to maintaining a healthy environment for employees.

Achieves benefits without cost penalty (low-VOC products)

Provides a healthy and productive environment for staff

Provides a tangible demonstration of your concern for employee wellbeing

Checklist 20: Paints, sealants and adhesives	provided by tenant	provided by building owner
Interior wall paints:		
[a] Natural (plant-based)		
[b] Low-VOC		
Varnishes, stains and enamels (joinery, floors etc.):		
[a] Natural (plant-based oils, natural resins, waxes)		
[b] Low-VOC		
Glues/adhesives:		
[a] Low-VOC		
[b] Water-based		

More information: 4.2 Paints, sealants and adhesives

Bathrooms & toilets

(if included within tenancy fitout)

If bathrooms are new, installing efficient fittings and fixtures won't cost you any extra, and will save you money on your water bills for the life of the tenancy. If you are upgrading existing bathrooms, there are some very cost-effective things you can do to reduce your water use.

Saves a lot of water at little or no additional cost

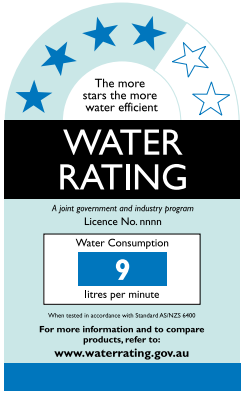
Likely to align with employee values

Contributes to a good NABERS* water rating for your building

Checklist 21: Bathroom fixtures	provided by tenant	provided by building owner
[a] Water-efficient toilets and urinals (incl. waterless urinals)		
[a] Water-efficient showerheads		
[a] Water-efficient taps		

More information: 4.2 Bathrooms and toilets

* See page 10.



Over 10 years, a 1-star rated toilet will require approximately 100,000 litres more water for flushing than a 4-star rated equivalent.

By choosing efficient lighting and controls you may be able to downsize supplementary air conditioning systems and achieve savings in capital costs as well as operating costs.

Supplementary air conditioning

If you need supplementary air conditioning for server rooms or other special purposes, it's important to choose the most energy-efficient system possible. Since air conditioning is a major contributor to peak demand for energy it can contribute disproportionately to energy bills.

- Achieves moderate to significant cost-saving opportunity (especially if you can avoid the need for it!)
- Maintains better comfort levels if it's an efficient and properly sized system, rather than oversized
- Contributes to a high ABGR tenancy rating

Checklist 22: Supplementary air conditioning

[a] No supplementary air conditioning required		
	provided by tenant	provided by building owner
[b] Energy-efficient supplementary air conditioning sized for maximum efficiency		

More information: 4.2 Supplementary air conditioning

Submeters & 'smart' meters

Installing submeters or 'smart' meters to measure different energy and water uses enables you to better monitor, improve and promote your office's good performance.

- Helps detect and fix performance problems, therefore saving you money
- Likely to align with employee values, raises awareness of energy and water use
- Promotes your performance, contributes to a high ABGR tenancy rating

Checklist 23: Smart metering	provided by tenant	provided by building owner
[a] Separate metering of tenancy lighting, IT rooms and general power		

Indoor plants

Research has found that indoor plants can contribute to the wellbeing of building occupants. Plants have been shown to reduce airborne concentrations of VOCs, and there is some evidence to link indoor plants to improved productivity, lower workplace stress and a decrease in respiratory disorders.

Costs more upfront but is likely to pay back in improved employee productivity and wellbeing

Positively influences productivity, health and wellbeing

Demonstrates your concern for employee wellbeing, improves the look of your office

Checklist 24: Indoor plants	provided by tenant	provided by building owner
[a] Indoor plants with low water use (at least one plant per work setting)		

More information: 4.2 Indoor plants

The Institute for Sustainable Futures at UTS uses a combination of Peace Lillies, Kentia Palms and Chinese Evergreens to enhance air quality and provide a pleasant environment for staff.

Demolition & construction waste management

Reducing the amount of waste you send to landfill presents a huge opportunity to save money and reduce your environmental impact, given that most office fitout materials in Australia ultimately end up in landfill. Following the rule of 'reduce, reuse, recycle' will save you money in new material costs and expensive landfill fees.

Reaps cost savings in cities where landfill charges are high

Likely to align with employee values

Demonstrates your commitment to reducing resource use and waste going to landfill

Checklist 25: Waste minimisation	provided by tenant	provided by building owner
[a] Reuse materials on site where practicable		
[a] Demolition contractors to maximise recycling of redundant fitout materials (more than 80%*) and provide certification		
[a] Contractors to maximise diversion of construction waste from landfill (more than 80%*) and provide certification		

More information: 4.2 Demolition and construction waste management

* by weight

Over 80% of the construction and fitout waste (by weight) was reused or recycled by Bovis Lend Lease when constructing Investa's head office fitout at 126 Phillip St, Sydney.

3.2 Office management & operation

Give this completed schedule to your office manager and administration staff

'This kind of approach reflects a natural progression of values from home and school into the workplace.'
Sue Leak, NSW Department of Health.

What's covered here?

In this schedule you will nominate key commitments in relation to:

- company policies and procedures
- purchasing smart office equipment
- managing office equipment
- purchasing stationery and consumables
- lighting and HVAC management
- waste management
- sustainable transport
- electricity supply contract
- cleaning and maintenance contracts.

Company policies & procedures

It is well recognised that the marketing value of a 'total package' is worth more than its individual parts. For recognition, a comprehensive approach to sustainability is much more valuable than a few isolated initiatives. There are many things an organisation can do internally to reduce the environmental impacts of its activities and promote the wellbeing of employees and the community at large, as part of a comprehensive sustainability policy.

Sustains and increases profit

Reinforces employee and community wellbeing as core values for a sustainable organisation

Provides a major opportunity to demonstrate leadership in corporate social responsibility

Your organisation may be considering or already implementing some of the options outlined below. If so, here is an opportunity to incorporate these commitments into your green lease.

'Sustainability behaviours add value to commercial endeavour and make good business sense, and sustainability is a particularly useful device for managing intangible assets such as brand and reputation.'
S Mays and BT Financial Group: *Corporate Sustainability—an Investor Perspective*.

Checklist 26: Company policies and procedures

To use these checklists: tick the items that apply to your office ✓

Policies and implementation mechanisms:	
[a] Organisational sustainability policy and implementation plan*	
[a] Mechanisms in place to encourage staff accountability, awareness and participation	
Organisational targets:	
[a] Annual targets for greenhouse gas reduction	
[a] Annual targets for water use reduction	
[a] Annual targets for reduction of office waste going to landfill	
Tenancy level monitoring and reporting:	
[a] Annual ABGR rating	
[a] Annual office waste audit	

* Make sure this policy includes sustainability guidelines for all purchasing decisions.

The NSW Government has a Waste Reduction and Purchasing Policy (WRAPP) that covers the efficient use and responsible purchase of office paper. As a result, paper use across government agencies has decreased by 14%, and an 82% recycling rate for cardboard and paper has been achieved.

After lighting, efficient office equipment is the next biggest opportunity to reduce ongoing energy costs at no additional upfront cost.

Purchasing smart office equipment (electronics)

Office equipment accounts for 31% of the average tenancy's energy use. Computers and monitors should be a focus, as they account for about 85–95% of office equipment energy costs.* The savings don't stop at energy—the biggest ongoing cost saving is probably the reduction in paper use made possible by choosing equipment that allows double-sided printing and print size reductions. Flat screens and efficient multi-function devices take up less office space too.

Reduces energy, paper and toner costs—savings can be significant for no extra upfront cost!

Reduces heat load from equipment and improves workspace comfort levels

Reduces tenancy greenhouse emissions and paper waste

Checklist 27: Purchasing office electronic equipment

[a] Energy-efficient computers (particularly laptops) and LCD monitors	
[a] Energy-efficient photocopiers that allow efficient use of paper and toner	
[a] Energy-efficient printers that allow efficient use of paper and toner	
[a] Paperless faxing capacity	
[a] Energy-efficient faxes that allow efficient use of paper and toner	
[a] Energy-efficient scanners	
[a] Energy-efficient audio-visual equipment	
[a] Video-conferencing and tele-conferencing capacity	

ENERGY STAR

CHANGE FOR THE BETTER WITH ENERGY STAR

Office equipment that displays the ENERGY STAR logo must meet established, continually updated energy efficiency standards. ENERGY STAR features include an ability to power down or sleep during periods of inactivity and wake up again when needed. Since between 20–80% of the energy is used when office equipment is activated but doing nothing useful**, it is extremely important to choose equipment that has efficient sleep and hibernation modes as well as operating modes.

More information: 4.3 Choosing office equipment (electronics)

* Commonwealth of Australia, 2001, *Green Office Guide*, Sustainable Solutions Pty Ltd

** www.abgr.com.au

Managing office equipment (electronics)

Simply ensuring the energy saving settings are enabled on all equipment can halve the electricity consumption of your office equipment. Further reductions can be achieved by turning equipment off when it's not in use.

- Reduces energy, paper and toner costs significantly
- Reduces heat load from equipment and improves workspace comfort levels
- Reduces tenancy greenhouse emissions and paper waste

Checklist 28: Managing electronic office equipment

[a] Checks are in place to make sure energy-efficient settings are enabled on all equipment	
[a] Equipment is switched off at the power point over holiday periods	
[a] Information or reminders for staff on saving energy and paper (e.g. signs)	

More information: 4.3 Managing office equipment (electronics)

Purchasing stationery & consumables

A purchasing policy that focuses on choosing socially responsible products with low environmental impact will demonstate your organisation's commitment to corporate social responsibility. This doesn't need to cost you any more—in fact it may save you money.

- Achieves benefits at no additional upfront cost, with small savings possible
- Likely to align with employee values, provides a tangible demonstration to employees
- Demonstrates leadership in reducing resource use and waste

This checklist focuses on paper and toner—products consumed in significant quantities by offices, and for which there are readily available environmentally friendly options. See Section 4 for guidelines on further sustainable product purchasing.

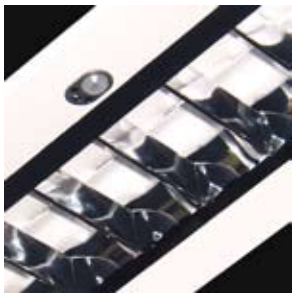
Checklist 29: Stationery and consumables

[a] Office paper has high (60% or more) post-consumer recycled content, locally manufactured	
[a] Remanufactured/refilled toner cartridges for printers and photocopiers	

More information: 4.3 Selecting stationery and consumables

Every tonne of paper recycled saves about 13 trees, 2.5 barrels of oil, 4100 kWh of electricity, 4 cubic metres of landfill and 31,780 litres of water. Visy.

Lighting at CH_2 (City of Melbourne) is provided by a combination of highly efficient ceiling-mounted fittings and desk lamps.



Light fittings with 'built-in' occupancy detectors can eliminate the need for switches and separate control circuitry.

Lighting & HVAC management

Heating, ventilation and air conditioning (HVAC) accounts for around a third of total energy costs in commercial buildings. Lighting accounts for more than 60% of the average tenant's energy costs. Efficient management has the potential to significantly reduce costs associated with HVAC and lighting. If you have installed HVAC systems to supplement the base building system, you can reduce their energy use by 20–70% just by using and maintaining them correctly.

$ $ Significant potential for savings on energy bills

Likely to align with employee values, provides a tangible demonstration to employees

Demonstrates leadership in reducing greenhouse emissions, contributes to a high ABGR rating

Checklist 30: Lighting and HVAC

Lighting management:	
[a] Control systems regularly checked and maintained	
[a] Signs for employees and cleaners to turn off lights after use	
[a] Lights cleaned periodically to remove dust build-up	
HVAC thermostats (if controlled by tenant):	
[a] Settings: 22–25°C (summer); 20–23°C (winter)	
Supplementary HVAC:	
[a] Use temperature sensors and timers or occupancy sensors to control energy use	
[a] Make sure the system is regularly checked and maintained	
[a] Set IT room temperature higher than surrounding office space (e.g. set to 24°C)*	

* This prevents the supplementary systems fighting against the base building plant and therefore saves energy.

Waste management

Over half of a typical office's potential waste is paper. Used paper is increasingly being recognised as a valuable resource. Reduction and recycling schemes can reduce the costs and environmental impacts of paper use by 75–95%.

$ Achieves direct savings in avoided paper costs and indirect savings in avoided landfill costs

Likely to align with employee values, provides a tangible demonstration to employees

Demonstrates leadership in reducing waste to landfill

Checklist 31: Waste minimisation and recycling

[a] Waste minimisation strategies in place (e.g. products purchasing criteria, paper reuse, double-sided printing)	
[a] Secure document destruction contractor processes waste to recycling, not landfill	
[a] Recyclables separated in accordance with building's waste management policy	
[a] Mechanisms in place to engage staff in waste minimisation and recycling	

Office waste is approximately 55% paper. Studies carried out in three Sydney office buildings found that double-siding had the potential to save (for the three buildings) $88,000, $96,000 and $119,000 a year in paper costs. Department of Environment and Climate Change NSW.

Sustainable & healthy transport options

Policies that promote sustainable and healthy transport will demonstrate corporate social responsibility and help your employees save money, particularly in the context of rising petrol costs. Policies that support flexible work arrangements (e.g. work from home or other locations) reduce travel demand and have been linked to increased employee satisfaction.

$ $ Saves on car space rent, creates opportunities to save on business travel (taxis etc.) by providing alternatives

Improves employee satisfaction

Demonstrates leadership in corporate social responsibility

Why not form a workplace Bicycle User Group? (BUG) BUGs can organise rides and training sessions for novice riders and provide a social group for employees to join. Bicycle NSW can provide advice on how to set up a BUG and can also direct you to the peak bicycle organisations in other States.

Checklist 32: Sustainable transport strategies

[a] Reduction in number of car spaces required (compared to standard tenancy)	
[a] Strategies to reduce travel demand (e.g. flexible work arrangements, teleconferencing)	
[a] Transport access guide (public transport information) for staff and clients	
[a] Carbon offsets purchased for business travel	

More information: www.livingthing.net.au

Electricity supply contract

After you've taken measures to reduce energy use and implemented sustainable transport strategies, accredited GreenPower™ can provide the next step in reducing your organisation's greenhouse gas emissions. Some leading businesses are becoming 'carbon neutral' by purchasing 100% accredited GreenPower™ and offsetting their plane and vehicle travel.

- Costs more upfront, but marketing benefits can outweigh the cost
- Likely to align with employee values
- Demonstrates leadership in corporate social responsibility

Accredited GreenPower™ comes from renewable sources such as wind and solar energy. See www.greenpower.gov.au. Make sure your electricity retailer can provide you with accredited GreenPower™. Your building owner or manager may be able to help you access accredited GreenPower™. Alternatively, you can purchase carbon credits to offset greenhouse emissions from your office energy use and travel.

Checklist 33: GreenPower™

[a] All electricity used by the tenancy is accredited GreenPower™	
[b] At least 50% of tenancy electricity is accredited GreenPower™	
[c] At least 10% of tenancy electricity is accredited GreenPower™	

For many businesses, switching from night to day cleaning can result in reduced out-of-hours lighting, happier cleaners, better results and lower costs.

Cleaning & maintenance contracts

An environmentally responsible cleaning service doesn't have to cost you more. It's important to make sure your cleaners will work with you, and not against you, to implement your environmental and social commitments.

- Achieves benefits without extra costs
- Maintains good indoor environment quality for employees
- Demonstrates concern for employee wellbeing

If you are arranging your own cleaning contracts for your tenancy, make sure all the following items are covered. If the cleaning service is provided for you as part of your lease, refer to the information on building management in Section 2 of this guide.

Checklist 34: Cleaning and maintenance contracts

[a] Cleaning contracts specify use of natural, solvent-free and hydrocarbon-free cleaning products	
[a] Cleaning contracts specify compliance with the building's energy and waste management policies	
[a] Cleaning contracts specify relevant cleaning and maintenance procedures for specialist 'green' products	
[a] No herbicides, fungicides, insecticides or pesticides on plants	

4 Further information

4.1 Other information sources

The business case for sustainable office buildings

The Dollars and Sense of Green Buildings sets out a comprehensive business case for green office buildings, including a section specifically focused on drivers for tenants. The report can be downloaded from the Green Building Council of Australia's website: www.gbcaus.org.

Colliers International's report *Lifeblood* examines the relationship between the workplace and drivers for Australian businesses. It provides a valuable summary of the benefits of green buildings from a tenant perspective. The report can be purchased from Colliers International: www.colliers.com/Markets/Australia/KnowledgeCentre/LifeBlood.

Making your office sustainable

The NSW Government's 'Living Thing' website contains valuable tips on reducing your office's environmental impact. It covers a range of issues related to water, energy, recycling, transport, chemicals and waste. See: www.livingthing.net.au.

Practical tips on reducing water use

The Australian Government's *Water Efficiency Guide: Office and Public Buildings* provides tips for both building managers and tenants. See: www.deh.gov.au/settlements/publications/government/water-efficiency-guide.html.

Practical tips on reducing energy use

The Australian Building Greenhouse Rating website's diagnostic tool provides you with customised solutions for reducing your office's energy use and greenhouse emissions. See: www.abgr.com.au.

The 3CBDs Greenhouse Initiative encourages commercial office tenancies located in the City of Sydney, North Sydney and Parramatta CBDs to reduce greenhouse gas emissions by increasing their energy efficiency. By committing to a 4-star ABGR rating or higher, businesses can demonstrate environmental leadership and benefit from a range of educational and capacity-building marketing and communications collateral that outlines why energy efficiency makes good environmental, social and economic sense. See: www.3cbds.com.au.

Practical tips on waste minimisation and recycling

The Department of Environment and Conservation NSW website contains a range of tenant guides, factsheets and tools for waste minimisation in office buildings, including guides to purchasing paper and office products. See: www.environment.nsw.gov.au/education/spd_office waste.htm.

Choosing office equipment

The *Green Office Guide* provides advice on how to choose and manage environmentally friendly office equipment. It can be downloaded from: www.energyrating.gov.au/library/detailsgreenofficeguide.html.

Choosing sustainable materials and products for your office fitout

Ecospecifier is an Australian knowledge base of over 3,000 environmentally preferable products, materials and technologies. It's an invaluable resource for sourcing fitout building materials and office furnishings. See: www.ecospecifier.org.

Tenancy rating tools

The Green Star Office Interiors tool is available online in Excel format. Green Star technical manuals and training courses are also available from the Green Building Council of Australia: www.gbcaus.org.

The Australian Building Greenhouse Rating website contains information about the scheme and how to obtain an accredited rating. It also contains a self-assessment tool. See: www.abgr.com.au.

4.2 Fitout guidelines

This section contains further information on how to implement the commitments listed in Section 3.

Ecospecifier (www.ecospecifier.org) can be used to source environmentally friendly products in all of the categories below. Check that your fitout designer and contractors subscribe to ecospecifier.

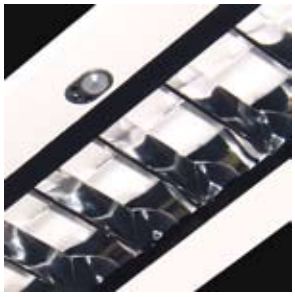
Lighting

Energy-efficient lighting costs no more to install than less efficient alternatives, lasts longer (reducing replacement costs) and can generate significant savings on energy bills. Efficiency depends on a range of variables including the lamp, the fitting, the type of ballast, the lighting controls and the lighting design (appropriate layout and power density).

The principle of good lighting design is to provide light levels appropriate to the various tasks carried out in the space, while using as little energy as possible.

Lighting tips

- Paint your office walls and ceilings a light colour to minimise lighting demand.
- Use efficient fluorescent lights with specular reflectors and electronic ballasts for general office lighting.
- Use compact fluorescent or light emitting diode (LED) lighting for special purpose lighting. These are up to ten times more efficient than low voltage dichroic, halogen or incandescent lights. 'Low voltage' does not mean 'low energy'—it's the wattage that's important.
- Control lights with motion-based sensors.
- Light sensors are useful near windows.



A T5 fluorescent triphosphor lamp is about 38% more efficient than the commonly used T8 halophosphor fluorescent lamps and lasts approximately twice as long. *Tenant Energy Management Handbook*, NSW Department of Energy, Utilities and Sustainability.

In its office fitout the Institute for Sustainable Futures at UTS used modular carpet made from recycled fibre (at no extra cost). Interface, Tarkett and Onterra all produce modular carpets with low environmental impact.

Volatile organic compounds (VOCs)

Many of the materials commonly used in commercial office fitouts emit VOCs—chemical substances that become airborne at room temperature. Exposure to VOCs has been linked to a range of health problems including headache, fatigue, respiratory problems and skin irritations. VOCs are commonly emitted by paints, glues, composite timbers and synthetic fabrics and finishes. Low-VOC options are categorised by the following standards:

E1	good
E0	better
super E0	best

Floor finishes

Environmentally friendly carpet tiles and a variety of alternative flooring options can be found on ecospecifier. Most of these cost around the same as standard options.

Checklist for carpet—what to look for

- Modular (e.g. tiles)—these are easier to repair and replace, and result in less waste.
- High recycled content.
- Low-VOC carpet tiles and glues.
- Virgin (non-recycled) PVC content minimised.
- Lease option or manufacturer take-back program.
- Use of pesticides and fire retardants minimised.
- Measures in place to reduce ecological impact of manufacturing process.

Left: these office partitions use fabric made from recycled plastic bottles. Middle: melamine desk top on E0 MDF substrate. Right: office chairs made from 42% recycled materials.

Workstations

Workstations can have a significant environmental and health impact, depending on the materials and energy needed to manufacture them, the toxicity of the glues and solvents used and how easy they are to disassemble and reuse. There are several environmentally friendly options available at competitive prices.

Checklist for workstations—what to look for

- Design and fabrication minimises materials use and waste.
- Recycled, FSC-certified or plantation timber (plantation good, FSC better, recycled best).
- Recycled-content steel or aluminium.
- Design for easy disassembly and recycling.
- Manufacturer take-back scheme.
- No or low-VOC glues and solvents (including those used in MDF/ply).
- No virgin PVC (may use environmentally preferred alternatives such as linoleum, high density polyethylene).
- Measures in place to reduce ecological impact of manufacturing process.

Walls and ceilings

Environmentally friendly options for walls and ceilings are available, and they are likely to cost marginally more (+10%) than standard alternatives.

Wall and ceiling tips

- Reduce wall material required through open plan design.
- Eliminate unnecessary linings, and use materials that don't require a finish or are pre-finished.
- Use modular systems that can be easily disassembled and reused.
- Use mechanical fixings in preference to adhesives (easier disassembly, adhesives contain VOCs).
- Wall panels & sheet linings with recycled content are available.
- Demountable and reusable wall systems are available (check they avoid or minimise use of PVC).
- Ceiling tiles with recycled content (e.g. fly ash and paper) are available.

Office furniture

A range of Australian and international manufacturers are now producing stylish, environmentally friendly office furniture. Cost tends to range from no extra to +10% more than standard.

Checklist for furniture—what to look for

- Modular design; design and fabrication minimises materials use and waste.
- Recycled content (structure, substrate, fabric and other finishes).
- Natural, renewable materials.
- Recycled, FSC-certified or plantation timber (substrate and veneers).
- High durability.
- Designed for easy disassembly and repair, reuse, recycling of components.
- Take-back program by manufacturer or lease program that incorporates end-of-life reuse or recycling.
- Use mechanical fixings in preference to glues where possible.
- No or low-VOC (including substrate material, glues and finishes).
- Low embodied energy.
- Use of fire retardants and pesticides minimised—in fabrics etc.
- Measures in place to reduce ecological impact of manufacturing process.
- ISO 14001-certified environmental management system (EMS) in place.

Joinery (doors, built-in furniture, kitchenettes)

Minimise adverse environmental impacts by avoiding old growth and rainforest timber. Reduce the likelihood of adverse health impacts by minimising levels of formaldehyde and other VOCs (commonly used in composite timbers such as MDF and plywood).

Recycled and FSC-certified timber is becoming easier to source, through websites such as ecospecifier and the Wilderness Society's One Stop Timber Shop (www.timbershop.org.au). Costs vary, but many options are available at the same cost as standard alternatives.

Forest Stewardship Council (FSC) Certification is an international labelling scheme for forest products that is recognised by environment groups as well as industry. All forest products carrying the FSC logo have been independently certified as coming from forests that meet the internationally recognised FSC Principles and Criteria of Forest Stewardship.

Composite timber can give off toxic emissions due to the glues and solvents used to bind the timber particles (such as formaldehyde). Low-VOC composite timber is becoming easier to source, particularly when ordering large volumes.

Substrate materials

- Use materials that are recycled or FSC-certified (preferably) or from sustainably managed plantations.
- Make sure composite timber is low-VOC.
- Use mechanical fixings in preference to glues.

Veneers, laminates and finishes

- Ensure timber veneers are FSC-certified or from sustainably managed plantations.
- Use natural finishes (e.g. plant-based oils and waxes) where possible.
- Otherwise, use low-VOC finishes and laminates.
- Avoid the use of PVC (for edge strips, etc.).

Kitchen fittings and appliances

Tap aerators cost a few dollars each and save much more in water over the life of your tenancy. Appliances with the best available star ratings for energy and water can sometimes be more expensive to buy. If you are cost-constrained, at least choose appliances with a rating of no less than one star below the best available. These should be available at competitive prices.

Taps

- Add flow restrictors to existing taps, or (if new) choose taps with the best available star rating.
- Use powder-coated or stainless steel tapware in preference to chromium-plated steel (where possible) because the latter generates toxic by-products in its production.

Fridge

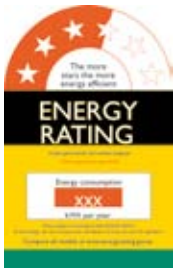
- Choose a fridge with a high star rating and low energy consumption (refer to the red box on the star label).
- Bigger fridges tend to use more energy, so be careful not to oversize the fridge for your needs.
- Choose a model that uses hydrocarbon refrigerants in preference to HFCs.
- Locate the fridge in a cool spot, with adequate ventilation around it.
- Check that the seals on older fridges are still effective.
- Set the thermostat no lower than 4 degrees.

Dishwasher

- Choose a model with a high star rating for energy and water (efficient dishwashers use half the water of non-efficient dishwashers).
- Only run the dishwasher with full load.

Hot water boiler

- Large hot water boilers can use as much electricity as 10 desktop computers.
- Electric kettles are the best option, approximately 60% more efficient than a standard boiling water unit.
- Choose a kettle with auto-switch off and water level indicator.
- If using a hot water boiler, ensure it has a timer and manual switch off, uses less than 50 W on standby, is well insulated and has a maximum capacity of 2.5 L.



Comparing ratings

- To compare appliance energy ratings: www.energyrating.gov.au.
- To compare appliance and tapware water ratings: www.waterrating.gov.au.

Paints, adhesives and sealants

Low-emission paints, adhesives and sealants cost around the same as standard alternatives. Natural paints cost more but contain no VOCs or toxic chemicals.

Interior wall and ceiling paints

- Using light colours on interior surfaces can save energy by reducing artificial lighting needs.
- Many low-VOC paints are commercially available at competitive prices. Compare by checking the VOC content (maximum allowable VOC content for low-VOC paints is 16 g/L, as compared to around 60–80 g/L for conventional paints).
- Adding darker pigments to a low-VOC paint base can increase the VOC content, so check with your paint manufacturer. This is not the case for natural paints, which contain no VOCs or toxic additives regardless of the colour.
- Some low-VOC paints also have other positive environmental attributes, such as those displaying the Good Environmental Choice Ecolabel. This certifies the paint conforms to other international best practice criteria such as limits on titanium dioxide content.
- To keep costs and emissions low, consider using a low-VOC paint for ceilings and light-coloured walls, and natural paints where you want darker or bolder colours, for example reception areas or feature walls.

Below left: Most major paint brands now have a low-VOC alternative and there are numerous suppliers of natural paints in the market.

Varnishes, stains and enamels

(joinery, floors etc.)

Where possible, use natural plant-based oils, resins and waxes as finishes to timber floors and joinery Otherwise, use low-VOC water-based finishes.

Glues

Use low-VOC, water-based glues.

Bathrooms and toilets

(if part of tenancy fitout)

Choosing water-efficient products costs no extra upfront and creates ongoing water savings.

WELS—the Water Efficiency Labelling and Standards scheme—rates water-using products, such as taps, showerheads, toilets, urinals and dishwashers. Ratings are from 1 to 6 stars, and the higher the rating, the more water-efficient the product. See: www.waterrating.gov.au.

To make existing fixtures more efficient:

- An aerator or flow restrictor can reduce a tap's water use by two thirds.
- Specialist products can be used to convert some urinal types to waterless use.
- Displacement devices or flush arresters can be installed in inefficient toilets to reduce water use.

Further information

- Water Services Association of Australia: www.wsaa.asn.au.
- Most water utilities have water saving information and products on their websites.
- Converting urinals to waterless use, Propag8: www.prosan.biz or Desert Cube: www.desert.com.au.

Middle and left: These blocks convert urinals to waterless use. They introduce a naturally occuring bacteria that eats the nutrients contained in urine.

Supplementary air conditioning

If you need supplementary air conditioning, base your choice on cost over the life of your lease in preference to upfront cost.

Before you install the system, reduce any unnecessary heat load through efficient lighting and enabling Energy Star on electronic equipment (and install shading if you're receiving heat load through windows).

Correct sizing of the system according to needs and the existing base building system is important. If the air conditioner is oversized it will cycle on and off more, reducing efficiency and creating greater temperature fluctuations. This also causes parts to wear out more quickly.

Choose an energy-efficient model with a high coefficient of performance (COP), or a high star rating if it is a room or split system (see www.energyrating.gov.au). A COP of 3 or more is considered good practice, 5 or more is best practice.

Install the system to allow easy access for servicing, and make sure it's maintained regularly. Ideally controls should be timer-based or linked to occupancy detectors so the system operates only when needed.

Indoor plants

Plants can absorb and break down harmful airborne substances, release moisture into the air, and absorb heat and noise. It is well recognised that people find workspaces with plants more pleasant, which can reduce stress and fatigue. Plants known for their effect on indoor air quality and suited to office environments include:

- Weeping Fig—suited to large open spaces and preferably high light levels.
- Peace Lily—grows well in low light, works well as underplanting beside Weeping Fig.
- Aglaonema or Silver King—variegated leaves, useful for adding accents, prefers high light levels.
- Kentia Palm—one of the best plants for removing indoor volatile airborne pollutants.
- Dracaena deremensis or Janet Craig—hardy, grows in low light, copes well with air conditioning.
- Areca Palm—best of the plants tested at removing xylene and toluene emissions.

Investa chose a combination of Parlour Palms, Happy Plants (and Janet Craigs), Peace Lillies and Kentia Palms to improve indoor air quality and the look and feel of the office space.

More information

- www.plants-in-buildings.com
- www.rentokiltropicalplants.com.au

Demolition and construction waste management

First, ensure waste minimisation principles are incorporated in your fitout design, for example:

- Reuse existing materials where possible.
- Use an open plan layout and minimise the need for new walls where appropriate.
- Use modular systems that are easy to deconstruct and reuse.
- Avoid unnecessary materials and finishes.
- Use materials with high recycled content.
- Ask materials suppliers to take back and reuse packaging from materials delivered to site where appropriate.

Ask your designer or contractor to prepare a waste management plan that includes targets for diversion of waste from landfill. Green Star Office Interiors gives points for diversion of waste from landfill, with up to 3 points available to projects which reuse or recycle 80% or more of their construction waste.

For large jobs, make sure the contractor has an environmental management plan (EMP) in place. More information: www.melbourne.vic.gov.au/rsrc/PDFs/Building/templates/ConstructionManagementGuidelinesJuly2006.pdf.

As part of the re-leasing of 7,383m² of office space at 255 Elizabeth St, Sydney, a waste management plan resulted in diverting from landfill to recycling all but 15 of 307 tonnes of demolition material.

4.3 Choosing office equipment

A local Council in Sydney with 400 PCs, 7 printers and 10 faxes saved around $7,800 a year and 120 tonnes of greenhouse gas just by enabling ENERGY STAR on all equipment.
Tenant Energy Management Handbook, NSW Department of Energy, Utilities and Sustainability.

Paper-efficient office equipment can significantly reduce paper costs and office waste. Energy-efficient office equipment can use half as much energy as standard equipment. It also generates less heat, which keeps your office more comfortable and can reduce air conditioning costs by up to 30%.* All of this can be gained at no extra upfront cost.

General tips

- Consider leasing arrangements with companies who commit to recycling or reuse of equipment at the end of its lease period.
- Check that the equipment is ENERGY STAR compliant and make sure this function is enabled (see 'Managing office equipment').
- Office equipment spends much of its time in low power modes, and there can be a wide variation in efficiency even amongst ENERGY STAR compliant equipment. Compare the energy use of all the different power modes (e.g. active, standby, sleep, deep sleep).
- Multi-function equipment (for example a combined fax/printer) can be a good idea if it saves you more energy than having separate machines—check the specifications.
- Seek out manufacturers that take back non-recyclable product packaging for reuse.

Selecting computers and monitors

Of all office equipment, computers and monitors represent the biggest opportunity to save money on energy bills, as they account for about 85–95% of office equipment energy costs.* Energy-efficient models cost around the same as standard options.

Monitors can consume more than twice the energy used by the computer. Choose efficient LCD flat-screen monitors that are ENERGY STAR compliant.

Laptop computers are by far the most energy-efficient option, and when efficiently operated can use up to 98% less energy than a desktop computer.* They also allow more flexible working arrangements (work from home or other locations), which is becoming increasingly important to employees, especially younger employees.

It's a popular misconception that screen savers save energy. Not only do they use as much energy as the regular screen display, but many require considerable processing energy as well. Choose 'none' or 'blank' as a screensaver option.

Selecting photocopiers

Cost savings can be achieved by choosing models that reduce demand for paper and consumables. Over a year, the cost of paper and toner is about 25 times the electricity cost of running a photocopier. Although photocopiers and printers account for only 3–6% of office equipment energy costs, it still makes sense to choose energy-efficient models, particularly as they don't usually cost more upfront.

A photocopier that meets the criteria below can save you up to 80% on electricity used for photocopying and cut your toner and paper bills in half.

Checklist for photocopiers—what to look for

- Low energy use compared to other models in range (for all power modes).
- ENERGY STAR compliant.
- 'Energy save' button (users can select low power mode as soon as they finish copying).
- Programmable power management features.
- Rapid wake-up from energy-saving mode.
- Automatic duplex (double-sided) printing.
- Print reduction capability.
- Uses reused and recycled components.
- Uses remanufactured or refillable consumables (e.g. cartridges).

* Commonwealth of Australia (2001) *Green Office Guide*, Sustainable Solutions Pty Ltd. Note: computer efficiency calculations are based on an efficiently operated laptop versus an inefficient desktop computer left on continuously.

In a scenario modelled for an office of 200 people, well-managed energy-efficient office equipment cost $5,000 a year in energy bills, compared to $42,000 a year for equipment that did not have ENERGY STAR features enabled and was left on all the time. *Green Office Guide*, Commonwealth of Australia.

- Warranty allows use of paper with high recycled content.
- Product take-back and recycle at end of life (including easy disassembly of components for recycling).
- Seven day timer (auto switch-off on weeknights and weekends).

Ask manufacturers to demonstrate the power management features to staff upon installation. Note that accessories such as document feeders or collators may consume a lot of energy if they don't power down with the rest of the machine. Ensure the quoted power rating in low power mode includes any power used by the accessories.

Selecting printers

Printers that meet the criteria below should save you at least $40 in energy per unit per year, and save you much more in reduced paper and toner costs. They will also reduce waste management costs, because more than half of office waste tends to be paper.

Checklist for printers—what to look for

- Low energy use compared to other models in range (for all power modes).
- ENERGY STAR compliant.
- Has duplex (double-sided) printing and print reduction (e.g. two-to-a-page) capacity.
- Toner/ink saving mode available.
- Trays for both double-sided and reused paper (single-sided) printing.
- Long-life consumables available.
- Uses recycled or remanufactured consumables.
- Product take-back and recycle at end of life.

Selecting fax machines

Faxes spend most of their time doing nothing, as actual use is on average less than an hour a day. For this reason, it's important to ensure the model you select has low energy use in all modes, particularly standby and sleep.

Also, make sure your office has paperless fax capability (staff able to send and receive faxes by computer) to save time, paper and toner.

Checklist for fax machines—what to look for

- Low energy use compared to other models in range (all power modes, particularly standby and sleep).
- ENERGY STAR compliant.
- Plain paper fax, warranty allows reused paper to be used.
- Toner/ink saving mode available.
- Able to scan double-sided pages
- Long-life consumables available.
- Uses recycled or remanufactured consumables.
- Product take-back and recycle at end of life.

Managing office equipment

Overseeing the efficient management of office electronics should be part of the job description of relevant staff, for example your IT manager or your office administrator. To make sure this is well implemented it should also be included in staff training and induction. Reminder signs on equipment can also help.

Simply ensuring the energy efficiency settings are enabled on all equipment can halve the electricity consumption of your office equipment. Further reductions can be achieved by turning equipment off when it's not in use.

On delivery of equipment, ask the supplier to enable ENERGY STAR and demonstrate the power management settings on equipment. The power management settings usually allow you to select the time lapse after which the equipment moves to low power, sleep and off modes (set to as low as is practical). The default settings are often conservative and can lead to unnecessarily high energy bills.

Some photocopiers require the lid to be closed to enable ENERGY STAR to function—check with your manufacturer and if this is the case use signage to remind staff to close the lid after use.

Efficient equipment management checklist

- Enable ENERGY STAR on all equipment (set lowest practical time spans to move to low power modes).
- Ensure staff switch off their computers and monitors overnight and when away from workstations for significant periods of time.
- Encourage use of ink and toner saving settings where appropriate.
- Encourage automatic duplex (double-sided) printing.
- Reuse any single-sided paper (in printers, photocopiers, for notepaper).
- Make sure staff know how to use paperless fax option.
- Use timers to switch off photocopiers overnight and on weekends.
- Switch off equipment at the power point over holiday periods.

Selecting stationery and consumables

Some of the general principles of sustainable product purchasing include:

- Minimise packaging (especially non-recyclable packaging).
- Buy locally (to save on transportation and support local industries).
- Choose durable, long-life products (avoid disposable items e.g. cutlery, cups where possible).
- Choose products with recycled content and a demonstrated low environmental impact.
- Choose socially responsible products (e.g. fair trade coffee, charity products).

The Institute for Sustainable Futures at UTS uses 'Australian' paper, which has 80% recycled content and is locally made. Cartridge Rescue picks up and refills printer toner cartridges, and the Fuji Xerox photocopier uses remanufactured toner cartridges.

Your feedback is welcome

If you have comments or questions relating to any of the material in this Guide, please email investa@investa.com.au and write 'Green Lease Guide' in the subject line.

Questions about specific building attributes and commitments should be addressed directly to your Investa representative.

Green Lease Guide Partners

Investa is rated as the leading company on the Dow Jones Sustainability World Index (DJSI World) in the financial services supersector and operates businesses that include Australia's largest listed office portfolio. We initiated the Green Lease Guide to help tenants who share our commitment to creating highly productive and environmentally friendly workspace better appreciate the range of benefits that can come from collaboration.

The Department of Environment and Climate Change NSW is committed to a healthy environment—cared for and enjoyed by the whole community and sustained for future generations. To help achieve this, the Department is pleased to support and fund the Green Lease Guide to encourage tenants to make informed decisions on environmental issues in their office accommodation.

The City of Sydney's goal is to make Sydney a more sustainable city and we are strongly committed to environmental leadership. We recognise the importance of working with tenants, who are instrumental in reducing the environmental impact of commercial buildings. The 3CBDs Greenhouse Initiative, which is a partnership between the City of Sydney, North Sydney and Parramatta, is putting tenants on the right path. In partnering with Investa to develop the Green Lease Guide, the City is taking a further step to assist tenants to negotiate leases with strong environmental credentials. Leading by example, the City plans to use the Guide to green its own commercial tenancies.

The City of Melbourne is a leader in environmental sustainability, and seeks to improve the environmental performance of the commercial office sector. Council is proud to have supported the development of the Green Lease Guide. We encourage tenants to use this Guide as a way of reducing their environmental footprint. City of Melbourne supports sustainable business. Visit www.melbourne.vic.gov.au/environment for further information on our programs.

The Institute for Sustainable Futures at UTS works with government, business and the community to create change towards sustainable futures. We recognise the best outcomes are achieved by a collaborative, cooperative approach—in this case between building managers and tenants. It has been our pleasure to contribute research expertise to the Green Lease Guide, which we see as an important initiative in creating a more sustainable property industry.