

Supporting a Green Cleaning Program – Course Notes

Course Overview:

This introductory sustainability course covers the knowledge and skills required to participate in environmentally sustainable work practices more commonly known as a 'Green Cleaning Program'. The course is designed for all staff working in any cleaning operation.

The course teaches students to identify current resource usage in the workplace; understand how to perform a simple site audit to recognise sustainable (green) improvements; eliminate and/or replace hazardous chemicals with less hazardous chemicals; reduce the use of resources and select appropriate chemicals and equipment to support a green cleaning program.

All areas of a cleaning and/or housekeeping program are reviewed and processes for improvement identified for each key area.

Throughout this course emphasis is placed on communicating positive outcomes to the team, management and building occupants. People need to see results and understand improvements to ensure everyone supports the green cleaning program.

In this course you will learn how to:

Section 1 - Identify and measure resources

Section 2 - Implement and follow procedures

Section 3 - Improving environmental performance

This course covers all required knowledge content for the following competency units:

CPPCMN3001B Participate in environmentally sustainable work practices

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Section 1 – Identify and measure resources – part 1 (1.1)

When you finish this section you will have an understanding of the following concepts and ideas:

- Introduction to the environment, sustainability and sustainable work practices
- Environmental legislation
- Getting everyone on board – communicating with everyone

1.2 Introduction

Some definitions of sustainability include:

"...development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

and

"...using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be maintained."

The environment

The environment is the space we live in and the space we work in; it includes our natural resources, the community and even our buildings.

The environment is the water, the land and the air that supports us, plus the flora, animals and people who inhabit this world.

We all have a responsibility to recognise the potential environmental impact of our work practices.

The environment of an organisation

The internal environment consists of the people, policies and systems that act to ensure that work is planned, actioned and completed and that goals are attained.

1.3 Why is sustainability important?

A growing number of businesses are recognising that their operations have a significant environmental impact through their use of electricity and water, and their production of waste.

Electricity: Most of the electricity in Australia comes from power stations burning coal, which produces large quantities of carbon dioxide, the major greenhouse gas that contributes to global warming.

Water: With continuing water restrictions in many states of Australia, and little prospect of predictable rain, everyone in the community needs to reduce water consumption as much as possible, including business.

Waste: Waste is a sign of inefficiency and a burden on the community. Minimising waste and recycling more are two ways to save money and take responsibility.

1.4 What are the sustainability issues?

Change in climate (global warming) - Rising sea levels and erosion of our beaches

Air Pollution in our cities - Increase in air pollution affecting health and causing acid rain

Water pollution - pollution of our water ways and in particular pollution of our drinking water

Drought - less rain due to changes in climate

Loss of natural habitat - reduce forest and farming land with increased population.

Limited resources - there is only so much oil in the world.

Waste - problems large amounts of waste generated in cities and where to put it.

1.5 What is an environmentally sustainable work practice?

An environmentally sustainable work practice is a practice that:

- ✓ Identifies its key sustainability issues and procedures to reduce these issues
- ✓ Implements these identified procedures
- ✓ Monitors and reports on the procedures to ensure they continue and have the most effective outcome and
- ✓ Reviews the procedures to ensure continuous improvement.

Some simple examples of sustainable work practices we can all easily implement include:

- ✓ More efficient use of electricity in a workplace can reduce the potential impacts of climate change
- ✓ Ensuring fresh air flow in a workspace can improve indoor air quality
- ✓ Purchasing recycled paper products can reduce loss of biodiversity from forest clearing and
- ✓ Recycling waste could reduce the amount of waste sent to landfill.

1.6 Taking the first step - developing a Green Cleaning Program

So how do you go about taking action? The first step is to understand the available options, and to work out what's feasible for your business.

Every business can make a differences and improve their sustainability – it is often the little things that could make a difference and lots of little things can add up to large improvements.

Sustainable building operations

Buildings are the single largest contributor to the world's greenhouse gas emissions, using 40 per cent of global energy and generating around 30 per cent of the carbon emissions.

In Australia, commercial and residential buildings alone contribute 23 per cent of Australia's total greenhouse gas emissions.

The majority of these buildings perform well below our current best practice environmental standards.

1.7 Environmental legislation

In this section we will review current environmental legislation in Australia; the role of the Green Building Council of Australia (GBCA); the importance of indoor air quality in green cleaning and how professional cleaners can contribute to greener, cleaner buildings.

Australian legislation regarding compliance with sound environmental practices is quite complicated.

Federal, state and local governments all administer environmental legislation through joint agreements..

At a federal level the *Environmental Protection and Biodiversity Conservation Act 1999*, administered by the Federal Department of Environment, Water, Heritage and Arts, oversees matters of national environmental significance.

State governments impose further legislation (Acts and Regulations) which pertain more to business activities that are subject to licenses and permits.

- ACT - Environment Protection Act 1997
- NSW - Protection of the Environment Operations Act 1997
- NT - Environmental Assessment Act 1982
- QLD - Environmental Protection Act 1994
- SA - Environment Protection Act 1993
- TAS - Environmental Management and Pollution Control Act 1994
- VIC - Environment Protection (Amendment) Act 2006
- WA - Environment Protection Act 1986

Any business found to be in breach of environmental legislation can be subject to penalty infringement notices and on-the-spot fines. Serious or ongoing misconduct may lead to court proceedings and consequently, hefty fines.

1.8 Green Building Council of Australia (GBCA)

In the cleaning industry there are clearly defined environmental standards developed by the Green Building Council of Australia (GBCA).

These GBCA standards explain how managers can improve the environmental performance of their buildings.

Existing buildings represent the single biggest opportunity to reduce the environmental impact from the built environment.

Mission: The mission of the Green Building Council of Australia 'To develop a sustainable property industry for Australia and drive the adoption of green building practices through market-based solutions'.

Green Star – Performance certification?

In 2003 GBAC released the Green Star environmental rating system for buildings. Green Star rating tools help building owners to reduce the environmental impact of buildings, improve air quality for people working in the building and save money by reducing use of electricity and water and reducing waste..

1.9 What is the purpose of green star performance?

Green Star – Performance will enable building owners to compare their buildings' environmental sustainability performance with other buildings of similar use.

The 5 Star Green Star – Retail Centre Design refurbishment of Westfield Sydney makes it the largest fully-rated Green Star retail centre in Australia. The centre was designed to reduce water consumption by 80 per cent and greenhouse gas emissions by 35 per cent when compared with an average retail centre of equivalent size.

There are a number of advantages for buildings to improve their environmental performance including:

Higher returns: Green Star-rated buildings deliver consistently higher returns on investment than their non-green buildings because they are better to work in.

Reduced operating costs: Energy costs can represent up to 35 per cent of a typical building's operating costs.

Assessing Green Building Performance found that green buildings consume 26 per cent less energy than the average building and generate 33 per cent less greenhouse gas emissions.

Benefits for people: Green buildings provide a wide range of benefits for people, including improved health and education outcomes through to increased workplace productivity.

Productivity gains: It has been proven people work better in offices with more sunlight and fresh air.

Health improvements: It has been proven people have less days off work when working in offices with more sunlight and fresh air and better air quality.

1.10 Introduction to the Concept of Green Chemistry

Green cleaning chemicals have less negative impact on the environment.

Green chemical are less toxic (less dangerous) for the person using the chemical and the environment.

GECA: Good Environmental Choice Australia (GECA) is an independent, not-for-profit organisation that runs the internationally recognised Environmental Choice Australia Eco-labelling Program.

GECA's mission is to help people choose goods and services that are better for the environment.

1.11 Green cleaning and indoor air quality

Clean is a very important part of maintaining a building in good condition and protecting the building from damage and providing a health environment.

Poor cleaning can lead to shorter-than-expected life cycles, expensive repair requirements, or high replacement costs.

People spend as much as 90 percent of their time indoors – therefore the indoor environment and the quality of air we breathe inside buildings is important to our health.

The United States Environmental Protection Agency estimates that the indoor air may be two to five times as polluted as the air outside.

Indoor air pollutants include the dirt, dust, and other contaminants people bring in from outside.

It can also include gasses released from furniture and building materials, the germs we spread as we touch things or cough and sneeze, and the products we use to clean and maintain the building.

1.12 The professional cleaner

As a professional cleaner we need to understand our cleaning quality affects people's health.

When we clean properly with the correct chemicals and equipment we not only remove dust and dirt, we also remove germs, bacteria, viruses and other indoor pollutants.

Many of us lose sight of the simplicity of cleaning and make it sound technical and complicated. We should look at our cleaning from two very simple starting points:

- (i) Removing pollutants from inside the building and placing these pollutants outside the building and
- (ii) Minimising the introduction of new pollutants into the building when we clean.

Additional Information (this information is not part of your assessment)

The late 1990's and early 2000's saw the introduction of green cleaning. In 2007 a book titled "Green Cleaning for Dummies" provided a step by step process for companies to introduce green cleaning systems and procedures and in the process changed the way many people looked at green cleaning.

Many people think of green cleaning only as reducing environment impact of our buildings and cleaning processes and fail to understand that indoor air quality, the air we breathe, is one of the foundations of a green building and green cleaning program.

1.13 Getting everyone on board – communicating with everyone

No green cleaning program can be successful without the support of several critical stakeholders (different people and their company's).

Key Stakeholders: These are the cleaning staff, key management of your cleaning company, building management and building occupants whose approval, support, and cooperation you need.

Before you can implement a successful green cleaning system you need to convince these people of the benefits for them personally in supporting your green cleaning program.

Does green cleaning cost more than traditional cleaning?

Green cleaning requires an A+ cleaning standard. If the client is not paying of an A+ cleaning standard then implementing an effective green cleaning program will cost more.

Remember: Cost reduction is not a goal of green cleaning programs.

Whilst some green cleaning products may cost a little more it should not impact significantly on your cleaning costs.

You will need to review the type of equipment and supplies you are using to ensure they are going to meet the standards required of your green cleaning program.

You'll implement an effective employee training and development program.

1.14 It isn't easy going green

Reaching agreement among the various stakeholders is the most important and difficult of all the stages.

Without clear agreement on a plan your green cleaning program will never be implemented. Some of the challenges of implementing a green cleaning program include:

- You're proposing change and many people to do like change.
- You're working with very busy people. They may not have time to spend on the green cleaning program.
- Your green cleaning program may bring together a variety of different people and departments with different ideas. You will need to manage this process and keep everyone happy.
- Cleaning is not a high priority for most building owners, managers and tenants, so getting them interested may be hard.

Additional Information (this information is not part of your assessment)

Unfortunately, we can't give you a magic formula to suddenly make everyone get along. The most important thing you can do is to prepare your introduction carefully and thoroughly. Bring the points down to a personal level to help each person feel and understand the importance and benefits for your green cleaning program. You are not just delivering cleaning services; you are developing a healthier, more productive environment for everyone working in the building. Not to mention all participants will be playing a small part in building a better and cleaner world.

For some, health issues may be the critical issue. For others, it may be environmental benefits and for others it may be financial, cost avoidance, productivity, marketing, community relations, sustainability, meeting organizational goals, legislative or regulatory requirements, and other issues.

Section 2 – Identify and measure resources – part 2

When you finish this section you will have an understanding of the following concepts and ideas:

- Establishing your present position – conducting a site audit
- Developing your green cleaning plan
- Prioritising a green cleaning action plan
- Some quick fixes for sustainable buildings
- Identifying environmental hazards

2.1 Establishing your present position – conducting a site audit

In this section we will discuss how to evaluate your building's current environmental performance; how to develop a green cleaning team and green cleaning action plan to improve environmental performance.

If you do not know what direction you are travelling, any road will take you there! Quote from Bob Harmer

The starting point with your green cleaning plan is to understand where you are now by conducting a cleaning audit.

The Cleaning Audit

It is essential to know the types and amounts of energy, water, waste and materials (chemicals, consumables & equipment) that are being used in the building you are cleaning.

Review the cleaning chemicals on site. Collect all the name and brands and check the chemicals for dangerous ingredients. Some of the current chemicals could be replaced by green cleaning chemicals.

Review all the cleaning equipment: When counting the machinery, be sure to check each machine to see whether it works, note its general condition, look for broken plugs, frayed cords, missing parts, and so on.

Evaluate toilet and tissue paper and garbage bin liners. Make note of the recycled content and be sure your paper products actually fit the dispensers in your building.

Evaluate and record any other cleaning equipment and supplies. Be on the lookout for dust mops, wet mops, handles, frames, buckets, cloth wipers (rags), spray bottles, dispensers, feather or wool dusters, microfiber cloths, and so on. Make note of the condition of these products.

Conduct a general housekeeping walk through. Evaluate the overall quality of the current cleaning and look for problems as well as opportunities for improvement.

Review any recycling programs in place. In your walk through, pay attention to recycling containers. Are they being used properly?

Get a copy of the current cleaning specifications. Are the specifications accurate and reflect reality? Are the specifications being followed? Where they are not, make notes regarding why the specifications are not being followed.

2.2 Developing Your Green Cleaning Plan

The implementation of a green cleaning plan will firstly requires a green cleaning team. The team should comprise of the cleaning manager, cleaning staff representatives and input from the building management.

The green cleaning team should develop a green cleaning plan based on all the information they collect from the cleaning audit.

This information should then be used to develop a green cleaning plan for the building.

The plan should cover what products and procedures will be changed, including when those changes will happen, and who will be responsible.

There is no right or wrong plan. The key is to develop a plan that gets the support from your team, your management, building management, and any other important stakeholders.

IMPORTANT: Always do the easy things first. It is important to demonstrate progress very quickly; if weeks or months go by without results you will lose interest from your team and other stakeholders. So act quickly, demonstrate progress and communicate your positive results to everyone.

Some of the things you can do are outlined on the next page.

2.3 Going Green

Some of the most common changes which should be made when starting a green cleaning program include:

Cleaning chemicals

- Replace your current cleaning chemicals with green cleaning chemicals.
- These chemicals should be certified with chemicals GECA or Australian Standards AS4351.
- Replace all "Ready to use" chemicals with concentrated chemicals that can be diluted with water.
- Use dispensing and measuring systems to prevent over use of chemicals.
- Replace all spray bottles with flip top caps. Chemical sprays (aerosols) add chemicals to the air we breathe.

Waste

- Implement a recycling program.
- Standardize waste receptacle sizes and purchase liners appropriate for the sizes.

Floor care

- Replace traditional dust mops, damp mops, and finish application mops with microfiber flat mops to capture more dust and improve productivity and ergonomics. Replace feather or wool dusters and all cloth wipers with micro-fibre cloths to improve productivity and performance.
- Install an effective matting system to reduce introduction of outdoor pollutants.

Paper products

- Replace paper products made from virgin tree fibre with products made from recycled products, tree-free fibres, or rapidly renewable resources.
- Replace multi-fold hand towels with large roll towels, and use hands-free dispensers.

Equipment

- Replace current vacuum cleaners with ergonomically designed units fitted with HEPA filters (High Efficiency Particulate Air filters) to improve removal of microscopic dust particles and other potential irritants.
- Ensure that each piece of equipment is in usable condition and meets all safety guidelines.

Procedures

- Modify cleaning procedures to complete cleaning tasks that require the use of potentially dangerous chemicals (e.g. floor stripping chemicals or heavy duty carpet stain removers) or involve wet floors or carpets during times when fewer occupants are in the building.
- Clean and organize all cleaning storerooms and supply areas.
- Provide hand sanitizers in "high touch" areas of the facility such as reception areas and near elevators and public telephones.

2.4 Prioritising a green cleaning action plan

Once an audit has been undertaken, it is important to outline the savings and efficiency potential or goals.

This outline will be the practical guide to achieving your resource conservation targets.

Making changes in any business requires an action plan and support of both management and staff.

Start with the easy things first and show everyone (all stakeholders) some quick environmental improvements.

2.5 Some quick fixes for sustainable buildings

In this section we will introduce to some quick fixes for overall building performance improvement that are applicable to all buildings, irrespective of their intended use.

Electricity

- Having the air conditioner temperature set-point too high or too low is unnecessarily wasteful, as is running air conditioning outside business hours.
- Replace old lights with new energy efficient light bulbs. New energy efficient light bulbs cost more but last up to (6) six times longer than a normal light bulb.

Water

Water consumption improvements - some quick fixes:

- Install flow restrictors with aerators to all taps
- Install dual flush toilets
- Waterless urinal system: Waterless urinal systems eliminate the need to flush urinals
- Institute appropriate purchasing policies for equipment.
- Plant drought-tolerant vegetation

Note: A typical leaking tap dripping 10 litres of water an hour wastes more than 89,000 litres of water per year. If you notice a leaking tap, get it fixed.

Waste

The introduction of recycling systems has the potential to reduce the volume of waste going to landfill.

Waste reduction improvements - some quick fixes:

- Institute recycling policies
- Have separate and distinctive bins for food wastes, general wastes and recyclables in easily accessible locations to minimise sending items to the landfill that can be recycled, composted or reused
- Review purchasing decisions and prioritise recycled, recyclable and compostable products
- Buy in bulk and in concentrated form, such as concentrated chemicals, double length toilet paper
- Switch from disposable items to reusable ones
- Use microfiber cleaning cloths to reduce chemicals usage

2.6 Identifying environmental hazards

A commercial building has the potential to produce all kinds of hazardous waste.

In the cleaning and maintenance of commercial buildings common potential hazardous wastes include:

- Polishes (used on the floor, metal, shoes and furniture).
- Cleaning and disinfecting products (carpet and oven cleaners, detergent, bleach, spot removers and pool chemicals).
- Office products (white-out fluids, permanent ink markers, photocopying and printing fluids).
- Pesticides, fungicides, and herbicides used around the building.
- Solvents and aerosols, including air fresheners.
- Oil based paints and varnishes.
- Cooling tower and chilled water chemicals, and freon products.
- Flammables (Sterno gas, lubricating oil).
- Motor oil.

Consider what you buy

One way to reduce the amount of waste generated is to scrutinise each product before you buy it, by asking the following:

- Do we really need this product? How much of this product do we actually need?
- Have we checked the product label to see if the product is hazardous? Is there something similar we can use that is less hazardous? Purchase green chemicals where possible.

2.7 Storing hazardous materials

When you have hazardous waste products around, store them in a safe, secure environment until they are disposed of properly.

Storing hazardous waste safely requires careful thought and planning. Make sure that product labels are attached and readable, and containers are in good condition. Ensure that:

- The area that you are to store the products has a floor surface that does not allow liquids to pass through it (i.e. timber floor) and can be monitored for leaks and spills.
- Products are not in areas open to activities that could damage containers or result in chemical spills.
- The area is not accessible to all staff and the public, and is locked to discourage theft and vandalism.

Take due care with disposal

- All businesses are legally responsible for the safe and correct disposal of hazardous waste. Not following proper procedures and regulations can result in not only damages to the environment but also significant fines.

Section 3 – Implement & Follow Procedures

When you finish this section you will have an understanding of the following concepts and ideas:

- Implementing green cleaning procedures – covers the key areas of most cleaning operations including; matting, general cleaning, carpets, hard floors, restrooms, food areas, waste and recycling.
- Reporting and recording environmental breaches

3.1 Implementing green cleaning procedures

In this section we will discuss how to introduce a green cleaning program across the different areas of your building cleaning operation.

Green Cleaning Procedures

The techniques of green cleaning are no different from those employed in traditional cleaning systems.

Traditional cleaning systems tend to focus on the appearance of clean, whereas, green cleaning focuses on using less toxic chemicals, more efficient cleaning equipment and improved indoor air quality.

When developing a green cleaning program you are looking to:

- Use fewer types of chemicals. Every new chemical you add to the cleaner's closet represents additional resource consumption, packaging material, transportation impacts, and disposal impacts on the environment. Simpler is better.
- Use green certified cleaning chemicals
- Implement chemical dispensing systems to reduce overuse of chemicals.
- Reduce the amount of paper, waste bin liners, and other consumable products that you use.
- Use recycled paper products and paper products made from sustainable methods.
- Reduces waste by using more concentrated products or procedures that are more resource efficient.
- Buy good quality cleaning equipment and supplies that last longer.
- Maintain all equipment in good order so it lasts longer.

Additional Information (this information is not part of your assessment)

Building occupants expect to see something different when you implement a green cleaning program. However, this is often not the case, so to head off complaints it is important to effectively communicate with building managers and building tenants regarding changes and improvement. For example if you change to green cleaning chemicals with GECA approvals, this should be communicated to everyone. You need to tell them you have improved in environmental sustainability and indoor air quality by introducing certified environmentally friendly, non-hazardous chemicals into the building.

If you change from spray bottles to flip-tops caps – this should be communicated to your clients as spraying less chemicals into the air, irrespective if they are green chemicals or not. Other changes could include improved recycling, changing to recycled paper products, use of new green equipment etc. This is all good news for your clients.

3.2 Efficient Cleaning Methods

Looking for more efficient and better ways to clean; for example, by spending more time cleaning entryways, you can stop more soils from entering the building.

Keeping dirt and soils out means a cleaner building and less intensive cleaning – it's that simple.

Whilst installing effective entry matting can be expensive, it can significantly reduce the amount of dirt and soil being tracked into a building.

Following are a number of simple cleaning tasks to reduce soil entering a building:

Vacuum first: Vacuum entry matting with a good quality vacuum cleaner on a daily basis. If you are not removing the dirt from the mats then the dirt will enter the building. Note: Backpack vacuums are not effective for removing all the dirt from entry mats. You will need a stronger vacuum such as a twin motor upright to effectively remove soil from entrance matting.

Address the outside: The outside of entrances is as important as the inside. Sweep, hose-down, or power wash entrance areas as needed. Reducing the amount of dirt around external entrances helps to keep the dirt outside.

3.3 Efficient Cleaning Methods - Entry Matting

One of the biggest problems with most existing entryway matting programs is that they're simply too small.

An entry mat needs to be long enough for each foot to hit the mat at least twice. That means the mat must be at least 3 metres and preferably 5 metres long.

Studies show that 10 metres of a high-quality, well-placed entry matting system covering both immediately outside as well as inside the entry can remove nearly 100 percent of dirt, sand, and moisture!

Keeping the dirt out of the building is a major step forward in a green cleaning program because less resources are required to keep soil out, then removing it once it enters the building.

Some buildings may not have enough space to install large mats. In these situations install the largest mats possible in the space available.

3.4 Efficient Cleaning Methods - Dust Mopping

Traditional dust mopping procedures tend to move the dust from place to place rather than capturing and removing contaminants.

Consider using microfiber dust mops instead of the traditional cotton or nylon loop mop heads. Microfiber cloths are designed to attract and retain the dust particles, preventing them from being re-deposited elsewhere or kicked into the air.

Another alternative to traditional dust mopping is vacuuming hard floors with either lightweight, ergonomically designed backpack vacuums or large-area vacuums fitted with HEPA filters.

3.5 Efficient Cleaning Methods - Dusting and Spot Cleaning

Like the dust mop, traditional dusting tools such as the feather duster or wool duster tend to move dust from one location to another. They spread the dust back into the air rather than collecting the dust for disposal.

Consider microfiber cloths for dusting and spot cleaning most surfaces. A dry microfiber cloth designed for dusting can retain three to four times the dust particles captured by traditional cleaning cloths. Microfibre cloths can be laundered hundreds of times before they need to be replaced.

You can find microfiber cloths designed for removing tougher marks and spots with no water or chemicals.

For damp or wet cleaning in break areas, kitchens, and restrooms, a special microfiber cloth outperforms traditional rags or paper towels, and you can use it with few or no chemicals.

Chemical Application Methods

To minimize the amount of chemicals in the air:

- Stop the use of any aerosol sprays
- Stop using spray bottles
- Use a flip top cap on the bottle. This method of cleaning has been used in our hospitals for many years. Squirt a bit of detergent onto your cleaning cloth and apply to the surface.

3.6 Efficient Cleaning Methods - Hard Floor Cleaning

The goal of a sustainable floor care program is to reduce or eliminate the need for:

- ✗ **Spray buffing or burnishing:** Both processes are labour and equipment intensive, generate additional dust or spray product into the air, and increase maintenance costs.
- ✗ **Deep scrubbing and recoating:** This is a labour intensive and chemical intensive process that increases exposure to potential irritants and opportunities for slip-fall accidents.
- ✗ **Stripping and refinishing:** The most labour intensive part of a floor care program, stripping and refinishing often require potentially dangerous products (stripping solution). This is a high-cost operation that increases the opportunity for injury.

3.7 Efficient Cleaning Methods - Carpet Care

As with the other procedures we've discussed, a green carpet-care program begins with choosing the appropriate chemicals.

Equipment choice is the next consideration. Carpet acts like a sink, capturing and holding a tremendous amount of soil before we can see it. A typical commercial carpet can hold five to ten times its weight in dirt before we can see it.

As you look at commercial carpets, consider why most of them are earth tones (brown colours)! These coloured carpets are better at hiding the dirt.

Some general considerations when cleaning carpet includes the following:

- Try to use environmentally friendly carpet cleaning chemicals such as d-limonene (orange oil) solvents.
- When extracting carpets, schedule the activity when the building is closed or has minimal occupancy.

- When restorative cleaning carpet (e.g. hot water extraction, encapsulation, dry cleaning), provide adequate ventilation to reduce the risk of mould contamination. If the carpet is over-wet or stays wet for too long after cleaning, there is a risk mould will grow in the base of the carpet.

Additional Information (this information is not part of your assessment)

If you follow your daily carpet cleaning program, project maintenance (hot water extraction) can be reduced and mostly confined to high traffic areas such as corridors. At some point, a deeper or more restorative cleaning is required. You should develop a schedule for maintenance projects, but let the traffic and soiling of the building be the guide, not an arbitrary specification.

Evaluate some of the new technologies — low-moisture foam systems, counter-rotating brushes or microfiber rollers, encapsulation systems, and others. Equipment manufacturers are investing heavily into new machines that are more efficient, use fewer chemicals and less water and allow carpets to dry faster.

3.8 Efficient Cleaning Methods - Restroom Care

Poorly cleaned restrooms generate more complaints than any other area of a building, so it is important to have high quality cleaning procedures for restroom cleaning.

Outside of entryways, the restrooms are the most heavily trafficked and used area of the building.

Begin planning restroom procedures by choosing the right chemicals.

You actually need very few for daily cleaning: A general purpose cleaner, a non-acid bowl cleaner, disinfectant (depending upon the environment and specification), and a neutral floor cleaner are the core products for restroom cleaning.

A clean restroom does not have any odours - pleasant or unpleasant. Most fragrances added to restrooms are added to cover unpleasant odours. The result, a mix of the good and bad is usually worse than the original offensive odour.

If your client uses strongly fragranced products in their building's restrooms, you need to re-educate the occupants and explain a clean bathroom has no odour!

If the restroom is cleaned properly but still has an odour, you have a different problem. Involve building operations or the maintenance contractor and look at drains, traps, and other places where moisture can be trapped and allow the growth of smelly bacteria.

Bathroom Odours – Where they are found?

Many cleaning professionals misunderstand the source of persistent bathroom odours. Failure to understand sources of such odours can result in client complaints and leave your company looking unprofessional.

Most bathroom odours come from either the **floor drain** or the **urinal drain**.

Floor drains: Modern cleaning methods minimise the use of water and over a period of time the u-bend in the drain pipe can dry out, allowing odours from the sewerage pipe to enter the bathroom. The simple solution is to pour 5-10 litres of water down the floor drain on a weekly basis.

Urinal drains: Over a period of time urinal drains can become encrusted with uric acid crystals, which are found in urine. To remove the build-up of uric acid crystals the drain cap must be removed and the pipe scrubbed with toilet bowl cleaner and a toilet brush.

The final considerations in the restroom procedures involve paper and dispenser choices. Talk to you paper supplier regarding the most effective an efficient paper systems.

3.9 Efficient cleaning methods – other areas

Food Areas

Addressing cafeterias, lunch rooms, and other food areas is critical for minimising potential pest infestations.

Recycling

Beginning a recycling program starts with conducting an audit of the waste streams.

Determine exactly what is being disposed of so that you can create a plan for best reducing or eliminating it.

. An effective recycling program can reduce solid waste disposal volume between 50 and 90 percent, which can have significant impacts on reducing the cost of waste disposal.

Participating in a recycling program lets the building's occupants be a part of the process and contribute to meeting the overall goals of reducing impacts.

Waste Bins

Try to standardise the sizes of waste bins in the building. Settling on a few sizes (appropriate for intended use) cuts down on the number and variety of liners that you need to purchase and stock. Remember, smaller bins can lead to less waste.

Indoor plants

If the building uses a contract service to provide and care for indoor plants, review expectations with them. Make sure that any fertilisers or pest-control products meet the green chemical standards.

3.10 Reporting and recording environmental breaches

In this section we briefly discuss the importance of reporting problems and breaches of your green cleaning program.

When responding to breaches of environmental procedures follow your company policies and procedures. Like any quality or continuous improvement system, when things go wrong they should be seen as opportunities for improvement rather than mistakes.

Most people think reporting a breakdown in procedure is similar to telling their supervisor/manager someone is not doing their job properly.

Whilst in some situations this may be the case, more often fault lies in company procedures.

If a team member makes a mistake, the first reaction from a manager should be to question whether their training has been sufficient and whether other team members could make the same mistake.

Should the incident pose an immediate danger to the health and well being of yourself, other staff or clients, it should be acted upon immediately and within your level of responsibility.

Should the incident pose an immediate threat to the environment it should also be acted upon immediately.

Section 4 - Improving environmental performance

When you finish this section you will have an understanding of the following concepts and ideas:

- Buying green – covers purchasing green chemicals, equipment, microfibre cleaning tools, paper and paper dispensing.
- Continuously communicating your improvements

4.1 Green cleaning chemicals

Traditional products aren't necessarily bad, but CERTIFIED green cleaning chemicals have been independently tested to be safer on people using the chemical and safer on the environment.

So what makes a cleaner a green product?

Although there is no such thing as zero risk (everything has some potential to cause harm), green products reduce the potential for harm to take place compared to traditional products used for the same purpose, for example, many traditional cleaners contain 2-butoxyethanol (CAS 111-76-2), often referred to as a *butyl cleaner*. This solvent is very effective but, among other concerns, is suspected of damaging a person's reproductive system.

From an environmental point of view, most traditional cleaners are derived from petroleum, a valuable but limited and non-renewable natural resource. Many of these products emit volatile organic compounds (VOCs) that can cause respiratory and other problems to the occupants of a building and the person doing the cleaning.

Over the last 20 years the cleaning industry has developed a large range of less toxic and more environmentally friendly cleaning products. Many of these newer generation chemicals are derived from plant based materials rather than petroleum.

These new technologies clean as effectively and cost about the same as the traditional products but reduce the potential for causing harm to human health as well as the environment, and can contribute to a more sustainable future.

Additional Information (this information is not part of your assessment)

Good Environmental Choice Australia (GECA) is Australia's leading certifier of environmentally preferable goods and services.

GECA's mission is to work toward environmental sustainability by identifying and promoting environmentally responsible products, purchasing, and production.

Through its standard setting, certification and programs, GECA:

- ✓ Identifies products that are designed and manufactured in an environmentally responsible manner*
- ✓ Offers scientific analysis to help businesses and consumers make educated purchasing decisions regarding environmental impacts*
- ✓ Ensures consumers that any product bearing the Green Seal Certification Mark has been scientifically tested to ensure it meets GECA standards.*
- ✓ Encourages manufacturers to develop new products that are significantly less damaging to the environment than their predecessors*

4.2 Choosing green cleaning equipment

There are no green cleaning standard for equipment. In this section we will review some of the things you should consider when purchasing equipment.

Auto-scrubbers and carpet extractors

Recent improvements in technology to reduce water consumption include the use of foam and/or microfiber pads, which reduce both water and chemical consumption.

Tennant equipment sells a scrubbing machine that does not use any chemicals and they claim is cleans as good as a machine with chemicals.

Look for scrubbers and carpet-cleaning machines that use less water, often substituting foam for dumping gallons of water on the floor. The foam cleans at least as well, is easier to pick up, and dries faster.

Vacuum cleaners: In the case of a vacuum cleaner, you need to look at both its ability to capture the soil as well as its ability to retain the dust. Only purchase vacuum cleaners with HEPA filters. True HEPA filters are able to trap at least 99.97 percent of particles of 0.3 micro-metres or greater.

Buffing and burnishing equipment: Buffing or burnishing equipment should include active vacuum attachments to capture the dust created during burnishing and prevent it from being breathed in.

Other equipment: Equipment manufacturers continue to increase their research and development spending to develop greener equipment. Some of the new developments include:

Vapour or steam cleaning devices may be a good alternative to chemical cleaners such as those that use chlorine for removing mould and mildew. These tools have other applications, including the removal of floor finish to reduce the use of floor-stripping compounds, which are very hazardous cleaning chemicals. These are especially useful on baseboards.

Additional Information (this information is not part of your assessment)

Vacuum filtration

HEPA Filters or "High Efficiency Particulate Air" filters are a type of filter that can trap a large amount of very small particles that other vacuum cleaners would simply recirculate back into the air of the building you are cleaning. True HEPA filters will have a serial number assigned to them if they are able to trap at least 99.97 percent of particles of 0.3 micro-metres or greater. Whilst other filters may claim to be HPA filters and are made of similar materials, they may only capture 80-90 percent or less of fine particulate matter. So if you are serious about HEPA filters – look for the serial number on the filter.

Now let's take a look at our vacuum cleaner with poor filtration. When we are using a vacuum cleaner not fitted with an approved HEPA filter, our task of vacuuming is transferring dust and fine particulate matter from the carpet pile (where it is not doing anyone harm) and filling the room full of fine respiratory size particles; some of which may be hazardous to our health. Most of us have been in a room and started sneezing or had other reactions when someone has been vacuuming – this is evidence of dispersing fine respiratory particles into a room.

Particles of less than 10 micro metres cannot be seen by the human eye and are easily dispersed and float through the air, and are therefore breathed into our lungs. Particles of less than 1 micro metre may be hazardous to people's health. Once in our lung these particles can be absorbed into our bodies and some of these particles may cause significant health problems and allergies.

4.3 Choosing green consumables

Understanding recycled content - which in the case of paper means material that doesn't come directly from virgin tree pulp (cutting down trees) - is a little more complicated than you might think.

Post-consumer content is the material that was collected after products were purchased, used, and discarded. When you toss out a newspaper, it becomes post-consumer waste. This is what most people consider to be recycling and this is what you should look when purchasing sustainable paper supplies.

Total recycled content: This may mean this paper DOES NOT contain any recycled paper that has been used outside the factory. In other words this would not be considered recycling for most people.

Bleached paper

Most paper is bleached to make it perfectly white. The traditional bleaching process uses chlorine or chlorine dioxide. When chlorine enters the environment where it mixes with other naturally occurring organic material in the waste stream it can produce dangerous chemicals, which can kill plants, animals and people.

In recent years, many paper mills have invested tens of millions of dollars to eliminate elemental chlorine originally used in their bleaching process and replace it with chlorine dioxide. This new type of chlorine is much less harmful to the environment.

Paper Dispensers

The style of paper towel and type of dispenser can have a significant impact on paper usage, waste, health, and costs.

Large rolls of toilet paper reduce packaging waste, are typically cheaper than many smaller rolls, and reduce the labour needed to change the rolls. This cuts down on costs and complaints from toilet-tissue dispensers being empty.

Make sure that when you consider the benefits, you also consider the costs for changing dispensers.

4.4 Using Micro fibre cleaning tools

Micro fibre, an extremely thin fibre made from polyester or nylon, is an excellent tool for green cleaning.

It can reduce or replace the need for chemicals.

Microfiber comes in hard or soft weaves, sometimes blended with cotton, and therefore is appropriate in a variety of different cleaning situations.

Cloths made from soft fibres are ideal for dusting, polishing, and general cleaning for any surface.

When blended with cotton, the cloth becomes useful for damp or wet cleaning, ideal for restrooms, break areas, or kitchens.

Some common uses for microfiber cloths include:

Dusting: Soft fibre cloths are ideal dusting tools. These require no spray polish or other chemical, yet they effectively trap and remove up to 99 percent of the soils. With a little elbow grease, you can use them to remove smudges and coffee rings from typical office furniture.

Glass cleaning: Blends of hard and soft fibres result in a cloth that is very effective at cleaning scratch-resistant surfaces with little water and no chemicals. These cloths make excellent tools for dry-cleaning mirrors and door glass.

Wet cleaning: Fibre cloths that are woven and blended with a small amount of cotton or other water-holding material allow for an excellent wet-cleaning cloth. These are ideal in kitchens and restrooms. Requiring minimal or no chemicals, these cloths clean, polish, and rinse clean for re-use.

Dust mopping: Used dry, microfiber mops are good replacements for the traditional dust mop. They

require no treatment and will collect more dust than any treated dust mop.

Wet mopping: The same mop used damp can effectively clean lightly soiled hard floors. This is an ideal tool for break areas and small tile sections in buildings that are primarily carpet.

Spraying a diluted general purpose cleaner on this mop makes it a good replacement for the traditional damp mop. Not only is it easier to use than a heavy wet mop, the user can leave the bucket and wringer in the closet!

Additional Information (this information is not part of your assessment)

Microfiber offers some fantastic benefits, but it isn't perfect. You need to launder your cloths between uses, and they're more expensive (per cloth) than typical cleaning wipes. However, when you look at the "all-in" cost — cost of purchase, number of launderings, how long between replacement, as well as savings in chemicals and labour — microfiber can prove to be one of the best bargains out there!

Consider buying different coloured microfiber cloths so that the colour-coding can help the cleaners separate the cloths used for dry dusting from those used for cleaning toilets and other contaminated surfaces and from those used for cleaning surfaces that occupants frequently touch.

4.5 Continuously communicating your improvements

Change can be difficult, and the occupants of your building won't necessarily believe that the changes you're making are good.

It is important you communicate effectively and let people know what's going to happen, why it's happening, and why it's good that this is happening.

As you introduce a green cleaning program, tell people about how important cleaning is in general. Many of your building's occupants probably think of cleaning as little more than removing the rubbish, replacing the paper towels, and vacuuming up the stray bits of paper on the carpet.

Stressing improvement

As you introduce your green cleaning program, you need to explain how your green cleaning program is going to improve their work environment and the health of the building.

Some examples of the benefits you can communicate with clients may include:

- A cleaner and healthier building will improve their health that's a personal benefit for everyone working in the building.
- Introducing green cleaning chemicals and explain these chemicals are less toxic and better for the environment.
- If you change from spray bottles to flip-tops caps – this should be communicated to your clients as spraying less chemicals into the air.
- Introduce micro-fibre cloths and hard floor cleaning tools and explain the benefits of reducing chemical usage and improvement in indoor health.
- Introduce new washroom systems, recycled paper and newer paper dispenser which use less paper.

Keep track of all your improvements – start a green cleaning communication book to track these changes. This is all great stuff for your customers and your company. Write a short annual report on improvements and keep them involve in your green cleaning journey.

4.6 Keeping the momentum

Whatever you do; do NOT communicate all your changes in the one go and leave yourself with nothing further to talk about with your clients.

You need to plan an ongoing communication strategy with the building manager and tenants throughout the life of the cleaning contract.

This is real marketing in action because developing strong relationships with tenants and management will make it more difficult for a competitor to replace you in the building.

Remember GREEN CLEANING is a continuous journey and does not stop when the green cleaning changes have been implemented.

If your communication with your building manager and tenants stops then the momentum will come to an end.

It only takes a 10-15 minute staff meeting on a monthly basis to keep staff informed and report any problems.

If you are a manager or supervisor, remember your staff feedback is vital not just to the green cleaning program but as an ongoing communication process with your building manager and tenants. Put another way, if you are not obtain feedback from your staff what are you going to communicate with your client.

If you get clients involved in your green cleaning journey they will be interested to know about your problems and battles as well as your successes – they will live your journey with you!