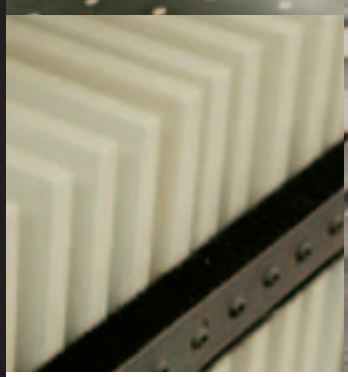
ENVIRONMENTAL ACTION FOR

MANUFACTURERS OF FURNITURE AND TIMBER PRODUCTS



our environment it's a living thing

Department of **Environment and Conservation** NSW

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- Hunter Institute of TAFE

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Please note:

This guide provides information relevant at the time of publication. It is not a regulatory document and does not provide legal advice. If you need more information regarding legal obligations, consult a lawyer, the legislation, DEC or your local Council.

While reasonable efforts have been made to ensure the contents of this guide are factually correct, DEC does not accept responsibility for the accuracy or completeness of the contents and is not liable for any loss or damage that may occur directly or indirectly through the use of, or reliance on, the contents of this guide.

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CONTENTS

USEFUL TOOLS

ABBREVIATIONS

EPA	Environment Protection Authority – part of the Department of Environment and Conservation NSW	MSDS	Material Safety Data Sheet/s
		OH&S	Occupational Health and Safety
DEC	Department of Environment and Conservation NSW	POEO Act	*Protection of the Environment Operations Act 1997*
		VOCs	Volatile organic compounds

PRIORITY ACTIONS

FOR MANUFACTURERS OF FURNITURE AND TIMBER PRODUCTS

1. DUST

- Collect dust close to source – connect cutting and sanding machines to dust extractors
- Regularly vacuum, sweep and wipe surfaces to control dust build-up
- Use strong, sealed bags or containers for storing dust and shavings
- Keep dust and debris away from stormwater drains

2. AIR QUALITY AND ODOURS

- Carry out spray painting inside a spray booth. Ensure that the booth is installed and maintained in-line with Australian standards
- Check filters regularly to protect staff and the environment
- Keep lids on containers to minimise evaporation, VOC emissions and odours

3. CHEMICAL USE AND STORAGE

- Store chemicals, such as paints, solvents and adhesives, in a bunded and covered area so that accidental spills cannot reach stormwater drains or soil
- Check storage areas regularly for signs of leaks or damage to containers
- Ensure you have an up-to-date MSDS for every chemical used or stored on-site

4. SPILLS

- Train staff in how to prevent spills when handling hazardous liquids
- Develop an emergency response procedure for chemical spills
- Keep spill clean-up materials in a handy place – clearly labelled and ready for use

5. NOISE

- Consider noise reduction measures such as shielding or muffling noisy equipment and machinery
- Locate noisy equipment away from doorways
- Find out about low-noise options when purchasing new equipment

6. HAZARDOUS WASTE

- Do not use evaporation as a disposal method for volatile chemical waste
- Do not allow chemicals to soak into the ground
- Store hazardous liquid waste in a covered and bunded area so spills cannot escape
- Do not dispose of hazardous liquids in your solid waste bin
- Make sure your waste is transported and disposed of lawfully

OVERVIEW AND OPPORTUNITIES

This guide is part of an Environment Action Series prepared by the Department of Environment and Conservation NSW (DEC) to provide information for businesses on improving their environmental performance.

Similar guides for other business sectors are available through the DEC Environment Line on 131 555 or visit the DEC website – **www.environment.nsw.gov.au**.

THE INDUSTRY

This guide is for businesses that use timber or manufactured board to create their products.

It applies to:

- Furniture manufacturers
- Kitchen and bathroom cabinet manufacturers
- Joiners
- Shop fitters
- Timber product assemblers.

WHAT IS THE PURPOSE OF THIS GUIDE?

This guide is designed to help NSW manufacturers of furniture and timber products:

- Understand the environmental risks and responsibilities associated with the industry.
- Take action to improve the environmental management of their operations.
- Take advantage of the business benefits that result from improved environmental practices.

This guide provides information for owners, managers and staff. It will also be useful to environmental officers employed by local government. The guide does not provide legal advice but will provide the reader with an understanding of regulatory requirements under environment protection laws.

The 'Useful tools' section of the guide contains templates to help you develop your own environmental management tools, such as checklists and an action plan. It also contains an 'Environmental self-assessment' checklist of the types of questions that an officer from your local Council or the EPA could ask when visiting your premises. You can use this self-assessment to evaluate the environmental performance of your business and identify areas for improvement.

OCCUPATIONAL HEALTH AND SAFETY

Many of the issues addressed in this guide are also relevant to occupational health and safety (OH&S). In fact, many businesses with good OH&S procedures are also excellent performers with respect to the environment. This publication does not address OH&S issues in detail so it's important that you contact WorkCover NSW for more information.

WHAT ARE THE KEY ENVIRONMENTAL ISSUES?

Key environmental issues for furniture and timber product manufacturers are:

- Dust
- Air emissions and odour
- Hazardous materials including chemicals
- Sustainable timber use.

ENVIRONMENTAL MANAGEMENT – RISKS AND OPPORTUNITIES

For manufacturers of furniture and timber products, improving environmental performance is about managing risk and taking advantage of opportunities that will boost efficiency and profits.

A good starting point is to identify and prevent risks to your business from poor environmental management. High solvent emissions from spray painting operations or high levels of dust in your premises for example, could pose the risk of:

- Environmental prosecutions and fines
- Harmful effects on the health, safety and productivity of staff
- Damage to company reputation.

Odours, a chemical spill or other environmental incidents could also harm the local environment, which belongs to all members of the community and impacts on their quality of life.

Improving environmental management also provides opportunities to make a business more profitable and viable in the long-term. Even small changes can save money. For example, many manufacturers have cut electricity costs by installing or cleaning skylights and regularly fixing leaks in air compressors. These simple improvements are often called 'cleaner production', which is described in more detail in Information sheet 2.

The benefits of a high standard of environmental management go beyond 'housekeeping' and efficiency. They also include benefits from:

- An enhanced reputation as a company that is well-managed and a valuable long-term business partner.
- Becoming a 'supplier of choice', particularly to corporate and government clients who are starting to consider environmental performance of suppliers and products as part of their green procurement policies.

Environmentally responsible employers are more likely to retain staff.

- Improved employee satisfaction, retention and productivity. Companies with a good environmental record are more likely to win the 'battle for talent' in attracting and retaining staff. As well, employees are generally happier and more productive in a workplace that is clean, healthy and environmentally responsible.

Successful manufacturers of furniture and timber products are coming to understand that good environmental practice is a business opportunity. These opportunities are maximised when management of environmental issues is integrated with other business planning and becomes part of continuous improvement. Better results are also likely when staff at all levels are involved in identifying and delivering environmental projects.

Further information

- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au**
- Your local Council
- Envirowise (the United Kingdom's environmental assistance centre for industry) has a comprehensive section on the furniture industry – **www.envirowise.co.uk/home**

ENVIRONMENTAL COMPLIANCE – MEETING YOUR LEGAL RESPONSIBILITIES

NSW has a number of laws and regulations to help protect the environment and give guidance to business.

The Protection of the Environment Operations Act 1997 (POEO Act) is the main piece of NSW environmental legislation covering water, land, air and noise pollution and waste management.

In some cases breaking environmental law carries serious penalties. If you end up in court, the prosecutor may not have to prove that you intended to cause the damage or pollution. Even accidents can result in prosecution and penalties.

Everyone involved in your business (including owners, managers, supervisors, operators, contractors and subcontractors) needs to be aware of environmental laws that apply to your operations. Individuals are required to minimise the risk of an environmental incident by implementing precautionary and control measures.

By gaining awareness of environmental laws, and how your business has the potential to affect the environment, you will be in a better position to manage risk in your business.

Managers and directors can be prosecuted for offences committed by their company, unless they can demonstrate that they exercised all due diligence to prevent the contravention of the POEO Act or that they could not influence the conduct of their company in relation to the contravention. They cannot use lack of knowledge about the contravention as a defence.

A comprehensive approach to addressing regulatory requirements includes:

- Developing a plan that incorporates environmental management.
- Undertaking staff training and supervision.
- Completing a self-assessment process or independent audit.

These ideas are discussed in this guide.

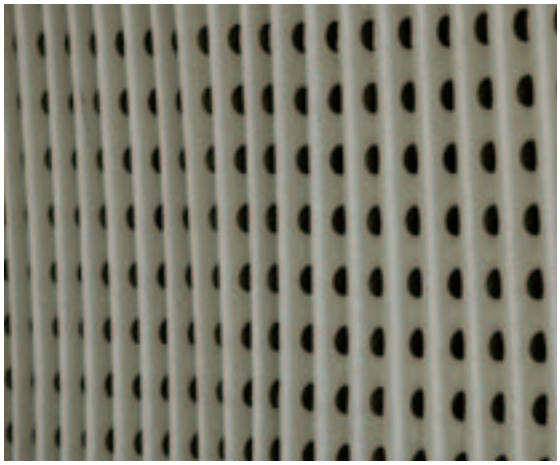
WATER POLLUTION

Under section 120 of the POEO Act it is illegal to pollute waters.

Under the Act, 'water pollution' includes introducing litter, sediment, oil, grease, wash water, debris and flammable liquids such as paint, etc. into waters or placing such material where it is likely to be washed or blown into waters or the stormwater system or percolate into groundwater.

An individual guilty of water pollution under section 120 of the POEO Act may be fined up to $250,000, plus up to $60,000 per day for a continuing offence. A company committing the same offence may be fined up to $1,000,000, plus up to $120,000 per day for a continuing offence.

Alternatively, on-the-spot fines of $750 for individuals and $1500 for corporations may be issued for the same offence.



Well-maintained spray booths and dust extraction systems minimise air pollution.

You should take all practicable steps to make sure that unforeseen events, such as spills or leaks, do not result in polluted water entering the stormwater system or groundwater. This means keeping chemicals in a properly maintained and operated bunded and covered storage area, having adequately stocked spill kits on hand and making sure staff know how to use them. Under no circumstances should you hose a chemical spill down the drain.

AIR POLLUTION

Air pollution means emitting any impurities into the air, including odours, volatile organic compounds (VOCs), smoke, dust, gases, fumes and solid particles of any kind.

Under the POEO Act (Sections 124-126), businesses must maintain and operate equipment and deal with materials in a proper and efficient manner to prevent air pollution at all times.To prevent dust-related air pollution:

- Make sure all cutting and sanding machines are connected to dust extractors
- Regularly sweep or use an industrial vacuum cleaner to keep dust levels down
- Make sure all dust and shavings from extraction systems, and from vacuuming or sweeping, are kept in a strong sealed bag, box or container until collection or disposal. The bag should be strong enough to prevent tearing when it's moved.

Under Section 129 of the POEO Act, businesses licensed by the EPA must not cause or permit the emission of any offensive odour from the premises.

LAND POLLUTION

Under section 142 of the POEO Act it is an offence to pollute land. Additionally, section 116 of the POEO Act makes it an offence to wilfully or negligently cause any substance to leak, spill or otherwise escape in a manner that harms or is likely to harm the environment.

HAZARDOUS MATERIALS AND WASTE

When handling hazardous materials and waste keep in mind that it is an offence to cause any substance to leak, spill or otherwise escape in a manner that harms or is likely to harm the environment (POEO Act section 116).

Make sure you're aware of the legal requirements before using, storing, transporting and disposing of hazardous materials (e.g. dangerous goods and chemicals). The laws relating to chemical storage vary depending on the amount that you are storing. For more information contact WorkCover NSW.

The movement of most hazardous waste must be tracked during its transport to a facility for treatment, recycling or disposal. Waste may be tracked online–for more information contact the DEC Environmental Line on 131 555.

The most effective way of dealing with hazardous materials is to:

- Avoid them by replacing them with less toxic materials.
- Use work practices that minimise their use.

OFFENSIVE NOISE

By law (POEO Act sections 139 and 140), you must not allow noise from your premises to be generated as a result of the failure to maintain or operate machinery or deal with materials in a proper and efficient manner.

Regulatory authorities may also issue notices and directions requiring you reduce or cease noise from your premises that could be found offensive. 'Offensive noise' means that by reason of its level, nature, character, quality or the time at which it is made, or any other circumstance, the noise is harmful or interferes unreasonably with the comfort of people who are outside your premises.

WASTE

Under the POEO Act there are heavy penalties for unlawful disposal of waste. The owners of waste (as well as the transporters and receivers) have a responsibility to ensure their waste is managed, transported and disposed of appropriately.

The *Waste Avoidance and Resource Recovery Act 2001* encourages the most efficient use of resources, to reduce environmental harm and to provide for an ongoing reduction in waste generation.

Sanding timber and board creates fine dust and requires sufficient extraction equipment.

INFORMATION SHEET 1

The following hierarchy for managing waste, from most desirable to least desirable, meets the objectives of the Act:

1 Avoid unnecessary resource consumption.
2 Recover resources (including reusing, reprocessing and recycling) and recover energy.
3 As a last resort, dispose of the material safely and lawfully.

Are you required to report your emissions to air, land and water?

The National Pollutant Inventory (NPI) is an internet database that displays information about the annual emissions from industrial facilities and diffuse sources of 90 different chemical substances to air, land and water. Your facility may be required to report to the NPI if you trip any of the reporting thresholds such as using 10 tonnes or more of any of the NPI listed substances.

For more information visit the NPI website: www.npi.gov.au or phone the DEC Environment Line on 131 555.

WHO 'POLICES' ENVIRONMENTAL LAW?

Environmental laws are policed by the 'appropriate regulatory authority' – generally the EPA (part of the Department of Environment and Conservation NSW) or the local Council.

The EPA regulates the activities listed in Schedule 1 of the POEO Act, usually large companies and industries that have the potential to seriously affect the environment. See 'Do you need an Environment Protection Licence?' on page 10.

Local Councils regulate other, usually smaller, businesses and industries through notices and prosecutions. They can also regulate using development consents.

You must report incidents that harm the environment

If a pollution incident occurs during an activity and it causes or threatens 'material harm' to the environment, by law you must tell the appropriate regulatory authority – either the local Council or the EPA.

You must contact them as soon as you can after you become aware of the incident. This 'duty to notify pollution incidents' extends to employers, the person carrying out the activity, employees, occupiers, contractors and agents. For more information call the DEC Environment Line on 131 555.

You must report land contamination

You must notify the EPA of any land contamination that poses a significant risk of harm to human health or the environment (*Contaminated Land Management Act 1997*). This 'duty to notify contamination' falls on the owner of the property and on the person whose activities have caused the contamination.

For more information call the DEC Environment Line on 131 555, or refer to *Guidelines on the Significant Risk of Harm from Contaminated Land and the Duty to Report (1999)*. You can find these guidelines on the DEC website – www.environment.nsw.gov.au.

What are the penalties for environmental offences?

The most serious offences (Tier 1 offences) are wilful breaches of the law that harm or are likely to harm the environment. These carry penalties of up to $5 million for a company or $1 million for an individual and/or seven years imprisonment.

Where breaches are negligent, the penalties for the most serious offences are up to $2 million for a company or $500,000 for an individual and/or four years imprisonment.

Most other offences (Tier 2 offences) carry penalties of up to $1 million (plus a daily penalty of up to $120,000 for continuing offences) for companies or $250,000 (plus a daily penalty of up to $60,000 for continuing offences) for individuals.

Less serious breaches can result in an 'on-the-spot' fine (penalty notice) with a penalty of $750 for individuals and $1500 for companies. Penalty notices (Penalty Infringement Notices or PINs), operate very similarly to a speeding ticket and are administered by State Debt Recovery Office, which is the fines division of the Office of State Revenue.

ENVIRONMENT PROTECTION NOTICES

Clean-up Notices

A clean-up notice may be issued when a pollution incident has occurred or is occurring. Clean-up notices may direct an occupier of a premises or the polluter to take clean-up action as specified in the notice. An administration fee (currently $320) is payable to the EPA or local Councils for the issuing of a clean-up notice. There is no right of appeal against a clean-up notice.

Prevention Notices

Prevention notices can be issued if an activity has been or is being carried out in an environmentally unsatisfactory manner. Prevention notices require that actions specified in the notice are carried out. Prevention notices can include directions – such as installing bunding around a chemical storage area to prevent spills. An administration fee (currently $320) is payable to the EPA or local Council for the issuing of a prevention notice. There is a right of appeal against a prevention notice to the Land and Environment Court.

Dust control should be part of the regular housekeeping routine.

Noise Control Notices

Noise control notices can be issued to prohibit an activity, or the use of equipment, from emitting noise above a specified noise level. There is a right of appeal against a noise control notice to the Land and Environment Court.

LICENCES AND PERMITS

Do you need an Environment Protection Licence?

The EPA is the appropriate regulatory authority for activities listed in Schedule 1 of the POEO Act and is responsible for issuing Environment Protection Licences to conduct those activities.

A licence may also be required if certain waste activities are carried on your facility, such as the storage or generation of certain hazardous wastes.

Small and medium size businesses generally do not require an Environmental Protection Licence. A licence is mainly required by larger businesses or in industries that have been identified as having potentially significant environmental impacts.

Licences are usually issued with conditions. These conditions may include requirements for pollution limits, monitoring, mandatory environmental audit programs, pollution studies, pollution reduction programs or financial assurances.

To find out if you require a licence:

- Call the DEC Environment Line on 131 555, or
- Refer to the *Guide to Licensing Under the POEO Act 1997* and check Schedule 1 of the POEO Act which can be downloaded from the DEC website – **www.environment.nsw.gov.au**.

Businesses that do not require a licence are still required to comply with environmental laws.

Trade waste permit or agreement

Generally, businesses must have a written agreement or permit to discharge trade wastewater to the sewer. You must negotiate a trade waste permit with your water authority (either Sydney Water, Hunter Water Corporation or your local Council) before discharging any trade waste to the sewer. The permit establishes the discharge conditions for the wastewater.

Dangerous goods

Dangerous goods include flammable, toxic or corrosive substances, such as solvents, which should be stored in containers displaying the relevant diamond-shaped label. Since 1 September 2005 businesses that store dangerous goods in their premises may have to notify WorkCover NSW – the need to notify depends on the amount stored.

FURTHER INFORMATION

- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au** for:

  Guide to Licensing Under the POEO Act 1997

  Recent significant changes to legislation administered by DEC

  Noise Guide for Local Government

  Local Government Air Quality Toolkit
- Your local Council
- Environmental Defenders' Office – phone (02) 9262 6989 or **www.edo.org.au** for the *Environmental Law Fact Sheets*.
- WorkCover NSW – phone 13 10 50 or **www.workcover.nsw.gov.au**

  NSW Code of Practice for the storage and handling of Dangerous Goods

  Notification of Dangerous Goods on Premises
- Sydney Water – phone 13 20 92 or **www.sydneywater.com.au**
- Hunter Water Corporation – phone (02) 4979 9589 or **www.hunterwater.com.au**
- New South Wales Consolidated Acts – text of all NSW Acts on line – **www.legislation.nsw.gov.au**

RESOURCE EFFICIENCY

Good managers understand that an efficient business is a profitable business.

Efficiency in running a business includes reducing the use of resources (raw materials, water and energy) and lowering the volume and toxicity of waste and other emissions. This efficiency is often referred to as 'LEAN manufacturing' or 'cleaner production'. It involves finding ways to reduce costs and environmental impacts along the entire production or service delivery process, from the supply of raw materials to operations and distribution.

Implementing resource efficiency measures is 'easy' for managers who know their business and are prepared to have a close, systematic look at inefficiencies. It is an opportunity to profit from:

- Reducing the use of energy, water and raw materials.
- Avoiding waste and reusing and recycling materials.
- Minimising waste volumes and reducing waste toxicity to lower the cost of treatment and disposal.
- Implementing process changes to increase production and reduce spoilage.
- Reducing the use of hazardous and dangerous materials to minimise dangerous goods storage and environmental and OH&S liability risks.
- Providing a safe, clean and pleasant work environment that leads to increased staff productivity.

WHERE DO I START?

Plan and organise

Dozens of resource efficiency success stories prove that a team approach is best. With management support, establish an environment team that includes staff from different areas of the business. Appoint a 'champion' or team leader and consider inviting suppliers or customers to join the team on occasions.

Ideally, the environmental champion will have the full support of management and other staff.

From the outset, identify how you will integrate resource efficiency into business planning and staff responsibilities to make it a continuous process.

Assess and measure

The environment team needs to assess the processes, material flows and costs within the business, and identify any internal barriers that may be preventing the implementation of more efficient practices.

The team should start by collecting baseline data on resource use and waste – what gets measured gets considered! The team should also complete an initial business and process assessment, which could include brainstorming sessions, a facility 'walk-through' or a more formal audit. It's also wise to involve an outside person with technical expertise who can provide a 'fresh pair of eyes' and ideas from other companies.

The initial assessment and data will provide you with a benchmark against which to measure ongoing improvement.

Costs savings can be achieved by installing skylights and roof insulation and by using energy-efficient lighting.

Avoid loss of raw materials and reduce VOC emissions by keeping lids on chemical containers and fitting taps.

Identify opportunities and implement priority actions

Our assessment of resource use will almost certainly identify immediate opportunities for cost savings, and these should be implemented as quickly as possible. These 'small wins' will help to maintain the team's enthusiasm. Other ideas may need further research and assessment and may take longer to implement.

The team should record ideas and options and prepare a simple action plan outlining opportunities, issues requiring further investigation, priorities, timeframes and staff responsibility for actions. As a starting point, the team could use the environmental action plan template in the 'Useful tools' section of this guide, and adapt it to suit your business.

Document results and evaluate success

Record financial investment in resource efficiency projects and the time taken to recover these costs – known as the 'payback' period. Set up simple spreadsheets or other tools to document project results in terms of their financial, environmental and other outcomes. Take the time to note 'qualitative' results such as staff enthusiasm, improved working relationships with suppliers and comments from customers. These records will help to justify further resource efficiency projects.

Reward and revisit

The work of the environment team should be acknowledged and the team should be encouraged to continue to look for new ideas. Consider 'refreshing' the group by alternating leaders and inviting new team members. Remember, efficiency is a continuous process and the resource efficiency action plan should be regularly revisited.

What if my business is too small for an environment team?

Simply follow this suggested process on your own or with one or two workmates.

OPPORTUNITIES FOR MANUFACTURERS OF FURNITURE AND TIMBER PRODUCTS

Cost-effective resource efficiency opportunities can be found in several areas.

Good housekeeping

Improved efficiencies

- Minimise dust build-up around blades during cutting to reduce unnecessary wear on the blades (see 'increasing blade life' case study on page 18).

- Change spray booth filters regularly. This can increase the life span of extraction fans, reduce fire hazards and prevent emissions of particulates and dust.
- Service spray booths and extraction systems regularly to make sure they operate efficiently. This can increase their life span.
- Vacuum, sweep and wipe surfaces to control dust build-up.
- Collect dust from dust extractors in strong plastic bags that can be sealed before they are moved. This will reduce time wasted on dealing with broken or leaking dust bags.

Saving energy

- Check the efficiency of the dust extraction system (see 'cutting gas bills' case study below).
- Clean filter bags regularly.
- Check your compressed air system for leaks and fix them. They make compressors run unnecessarily and result in higher electricity use.
- Operate air compressors with variable speed drives at minimal pressure to reduce air leaks and energy use.
- Turn off air compressors and lights on non-working days and during breaks.
- Install skylights, use high-efficiency lighting and use natural lighting where possible. Keep skylights and lamps clean.
- Increase the thermostat setting on your air conditioner by 1 to 2°C in warm weather, and decrease it slightly in cool weather.
- Improve building insulation and enclose and ventilate heat-generating equipment.
- Use high efficiency electric motors and install electricity usage meters to measure the amount of electricity used in different parts of the business.
- Improve the efficiency of your transport and delivery system. Reduce fuel bills by improving transport routes and loading vehicles efficiently.
- Ask your electricity supplier about using power factor correction equipment. This will regulate the power received in your premises and may result in substantial cost savings.

Minimising waste

- Service equipment regularly to reduce spoilage from equipment malfunction.
- Separate the dust and shavings generated from timber from those generated from manufactured board. To reduce your waste disposal costs, find someone who will take your timber dust and shavings.
- Aim to cut the maximum number of pieces out of board to reduce off-cuts.

Saving water

- Ensure all taps are turned off when not in use.
- Fit water minimising controls where possible, e.g. spray nozzles on hoses, AAA-rated low-flow taps or tap aerators, dual-flush toilets and water-efficient showerheads (which also save energy by reducing hot water use), low-flush toilets and sensor urinal flushing controls.
- Keep water-using equipment well-maintained and check it periodically for leaks. Make sure staff are encouraged to report leaks and that leaks are repaired quickly.
- Use water meter data to identify leaks.

CASE STUDY

Cutting gas bills

With help from a cleaner production consultant, a company that manufactures bathroom products reduced its gas bill by over 30%. The consultant was able to pinpoint a problem with the spray booth filtration system. Because the filter was operating inefficiently, an excessive amount of gas was being used to heat cure paint. Adjusting the filter improved air flow into the booth, allowing more air to enter the gas burner. As a result the company reduced its LPG use from 1900 to 1200 litres a year, achieving an immediate cost saving with minimal implementation cost.

Chemicals and toxic materials

- Conduct an inventory of your chemicals and assess if you can stop using some of them.
- Organise your chemical storage area so that older chemicals are readily accessible.
- Minimise paint usage by adjusting spray distance and spray pressure.
- Consider using water-based paints, as they contain less chemicals.
- Keep lids on chemical containers and fit taps to reduce evaporation and avoid loss of raw materials.

Working with suppliers and customers

- Ask your chemical supplier for less toxic alternative products.
- Check with your chemical supplier to see if empty containers can be returned for reuse.
- Use your environmental credentials to differentiate your product in the market and boost your company's reputation. Educate your customers about the benefits of environmentally sustainable manufacturing.
- Design your products so they are easier to reuse, refurbish or recycle and let your customers know about this.
- Make sure the timber you purchase has sound environmental credentials. You could ask your suppliers to provide you with timber certified by the Forest Stewardship Council (FSC). If you use FSC certified timber you can assure your customers that your products are not contributing to the destruction of the world's forests.

Technology upgrades

- When you add new equipment to your workshop, consider also adding a new dust extraction system. Extraction systems use a significant amount of electricity, and adding new equipment to an existing system can reduce its efficiency. Ask an equipment supplier or energy consultant for advice on how to set up an efficient extraction system, in terms of its energy use and effectiveness in dealing with dust.
- Use nozzles that reduce paint overspray and rebound – this will save on paint usage.
- Recycle solvents using a solvent recovery unit.

Don't forget the feedback

Don't forget to regularly communicate resource efficiency successes to your staff, customers and suppliers.

FURTHER INFORMATION

- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au** for:

  Cleaner production case studies

  Profits from Cleaner Production: A Self-help Tool for Small to Medium-sized Businesses
- Sydney Water – phone 13 20 92 or **www.sydneywater.com.au** for information on the 'Every Drop Counts' program (a water saving program for businesses) and water saving ideas
- Department of Energy, Utilities and Sustainability – **www.deus.nsw.gov.au** for water and energy saving ideas
- Queensland EPA has a free 'ecoBiz' tool that can help in identifying cost savings – **www.epa.qld.gov.au**
- Envirowise (the United Kingdom's environmental assistance centre for industry) has a comprehensive section on the furniture industry – **www.envirowise.co.uk**
- Forest Stewardship Council (FSC) – **www.fsc.org**

AIR EMISSIONS – MANAGING DUST

Dust created by cutting, sanding and shaping timber or manufactured board is an ongoing management issue.

The OH&S dangers of working with dust are well documented and Workcover NSW can provide information on reducing health risks. As well, dust that is allowed to escape from your premises can pollute waterways and create nuisance fallout onto cars, washing and vegetation.

Smaller dust particles are more difficult to manage than larger shavings and can travel further.

GOOD HOUSEKEEPING

There are two main ways of managing dust:

- Good housekeeping
- Collecting the dust as close to its production source as possible.

Connecting equipment to a dust extractor is the easiest way to control dust at source. Cutting and sanding equipment can be connected to a centralised dust extraction unit via ducting, or individual equipment can have its own extraction system. Some companies use sanding booths.

Be careful when adding new equipment to an existing centralised extraction system – make sure there is enough extraction for the new combined load. Adding extra ducting, bends and joints over time can reduce the system's efficiency.

As well as having an efficient extraction system, control dust build-up by vacuuming, sweeping and wiping down surfaces. This should be part of your regular housekeeping routine.

Before using high-pressure air to clean parts and products, first use an industrial vacuum cleaner to remove surrounding dust and shavings.

CASE STUDY

Improving finish quality by controlling dust

A joinery with a strong reputation for quality found that a multi-faceted effort to control dust improved the high gloss finish of its products:

- All equipment is connected to dust extraction units and sanding is carried out in a sanding booth.
- All dust extraction systems are regularly checked to make sure they operate at maximum efficiency.
- Work areas are swept and vacuumed daily to prevent dust travelling away from its source.
- A less frequent but regular vacuuming routine removes dust build-up in out of the way, unseen places. This makes sure no dust leaves the factory. There is no risk of stormwater contamination or nuisance to neighbours, even on windy days.

Without such an effective dust control regime the quality of the high gloss finishes would be compromised.

Centralised dust extraction system.

Connecting equipment to a dust extractor is the easiest way to control dust.

CHEMICALS IN DUST

Dust from timber may contain chemicals that pose a risk to human health and the environment. Some manufactured boards also contain preservatives and adhesives that are potentially harmful.

When cutting or sanding components that have already been finished, or when using recycled timber or manufactured board from older sources, extra care should be taken to manage dust. It may contain lead from older paints, preservatives or other coatings.

Dust may contain chemicals that pose a risk to human health and the environment.

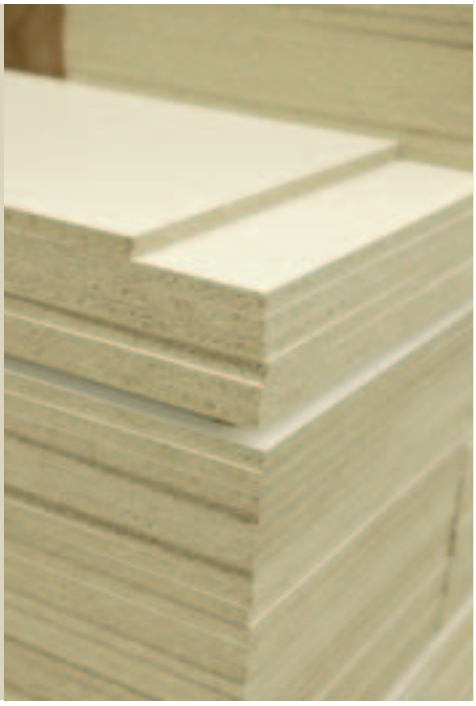
CASE STUDY

Increasing blade life

One company discovered that by adjusting the dust extraction system it could get more cuts out of its blades, saving on replacement costs.

Allowing dust to build up around blades during cutting causes unnecessary wear. The company found that adjusting the air extraction system to increase the effective flow rate at the cutting blades means that blades last for up to 90 cuts. Previously they were replaced at around 30 cuts.

The company also adopted a more accurate cutter speed and more accurate profiles on the cutters. As well as saving on the cost of the blades there are further savings due to spending less time replacing and checking blades.



KEEPING COSTS DOWN

Removing dust at source is generally cheaper than cleaning up afterwards.

The following ideas may also help reduce your running costs.

- Dust extraction systems can be large users of electricity. If you keep adding new equipment to an existing extraction system its efficiency may drop. Installing a new extraction system with simplified ducting could result in a more energy-efficient set up. Your equipment supplier or an energy consultant can help you work out the most effective solution.
- Clean filter bags regularly – this can reduce energy consumption.
- Separate timber dust and shavings from those generated from manufactured board. You may be able to find someone who can use the timber dust and shavings. This could save on waste disposal costs.
- If your products require high quality surface finishes, efficient dust control procedures can help maintain quality standards and reduce spoilage.

WHAT THE LAW SAYS

It is an offence to cause air pollution (which includes dust) through the inefficient operation or maintenance of equipment or handling of materials.

This means you need to:

- Make sure that all cutting and sanding machines are connected to dust extractors.
- Regularly sweep or use an industrial vacuum to keep dust levels down.
- Make sure all dust and shavings from extraction systems, and from vacuuming or sweeping, are kept in a strong sealed bag, box or container until collection or disposal.

No dust should leave your premises. Because dust is so difficult to control, especially on windy days, this really means that no dust should leave your building. An efficient extraction system and effective housekeeping will address this.

FURTHER INFORMATION

- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au** for:

  The Local Government Air Quality Toolkit
- Yellow Pages – **www.yellowpages.com.au**, look under 'Dust and Fume Control Equipment', 'Vacuum Cleaners – Industrial and dusty waste'
- Your local Council
- WorkCover NSW – phone 13 10 50 or **www.workcover.nsw.gov.au**

Top left: Broken or leaking bags are a common problem that can easily be solved by using stronger bags and making sure they are sealed properly before moving them.

Bottom left: While it is good environmental practice to reuse materials, extra care should be taken to manage dust, as recycled timber may contain lead from older paints, preservatives or other toxic coatings.

Right: Regular sweeping and vacuuming will help to control dust build-up and will minimise the risk of emissions.

AIR EMISSIONS – VOLATILE ORGANIC COMPOUNDS AND ODOURS

Many of the chemicals used in the manufacturing of timber and board products contain volatile organic compounds (VOCs). These compounds vapourise readily at room temperature, are flammable, often odourous and can be harmful to human health. VOCs also cause hazy air pollution known as photochemical smog.

The main sources of VOCs are emissions from using and storing chemicals such as paints and lacquers, solvents, varnishes, stains, adhesives and preservatives.

VOCs are the main culprits when it comes to odour. Spray painting, leaving lids off containers, hand applying surface finishes and cleaning with solvents can all generate odours. Odours that can be detected by neighbours may lead to complaints and regulatory action, and they can also indicate that your operations are inefficient and costing you money. This applies to other types of air emissions too, such as particulate fallout from poorly contained spray painting.

SPRAY PAINTING

There are two important environmental issues related to spray painting:

- Paint overspray escaping due to a poorly maintained spray booth with ineffective filtration.
- VOCs escaping due to poor work practices or inadequate exhaust dispersion, leading to odour complaints.

A properly functioning spray booth filtration system removes the particulate component of paints and allows the volatile components to escape from the work space. However, it is not desirable for the volatile components to escape to the environment. Pollution control equipment specifically designed to remove VOCs (such as carbon adsorbers or thermal or catalytic oxidisers) is the only means of preventing their escape to the environment.

Requirements for spray booths

Businesses should have development consent from their local Council for the installation and operation of a spray booth. Advice from a suitably qualified air quality consultant should be sought (and a consultant's report submitted to Council for review) before installing a spray booth.

Spray painting should be conducted in spray booths that comply with:

- AS/NZS 4114.1:2003, Spray painting booths, designated spray painting areas and paint mixing rooms – Design, construction and testing.
- AS/NZS 4114.2:2003, Spray painting booths, designated spray painting areas and paint mixing rooms – Installation and maintenance.

Electrical apparatus and wiring located in and around the booth should comply with the requirements of AS/NZS 2381.1:2005 *Electrical equipment for explosive gas atmospheres – Selection, installation and maintenance – General requirements.*

Minimising emissions from spray booths

Spray booth operation:

- Keep doors closed at all times during spraying and curing/baking.
- Keep doors closed for at least 5 minutes after spraying and curing/baking.
- Make sure the spray booth sealing is effective and does not allow paint to escape.

Spray painting techniques:

- Conduct spray painting, including touch-up work, in a spray booth with a filtered exhaust and ventilation system. With both dry fibre and water filter systems, it is important that the spray booth is regularly inspected and maintained to make sure that paint overspray is captured by the filtration system.
- Minimise the amount of paint or coating used for each application by selecting the best nozzle to reduce overspray and rebound and by adjusting the spray distance and spray pressure.
- Paint on undercoats with a brush or roller.
- Mix only the amount of paint required.

Spray painting guns:

- Clean guns in a gun wash station.
- Spray guns should only be pointed at and used on the surface to be sprayed.
- Aim guns at the centre of the spray pattern. Match up with the bottom of the previous stroke creating a 50% overlap.

Spray booth filters

- Make sure filters are correctly installed and there is no gap between the filter material and support frame.
- Regularly change the filters. This helps to increase the life span of exhaust fans, reduce fire hazards and prevent emissions.
- If using dry filters, keep spare filters on the premises and make sure they cover the entire support frame when fitted.
- Service and maintain extraction and filtration systems according to the booth manufacturer's instructions. This includes choosing and maintaining chemicals for use in water filters.
- Make sure someone at the premises is properly trained in installing new filters.

If you're purchasing a new spray booth, ask the supplier where you can buy replacement filters and make sure they are readily available.

Are your spay booth doors securely closed during operation?

Spray painting should be conducted in a spray booth with an exhaust system that removes chemicals and effectively disperses vapours.

The aim of both dry fibre and water filters in spay booths, is to capture particulates from the spray painting process. The VOCs remain in a gaseous state and are not captured by these filtration systems. They escape to the environment and are a common source of odour complaints.

Pollution control technology specifically designed to remove VOCs from spray booth extraction systems is not yet required by law, but its installation will benefit the environment and your business reputation.

If you don't have equipment to remove VOCs, make sure your exhaust stacks are positioned so that mixing with clean air is sufficient to prevent odours. Exhaust stacks should be designed so that fumes are directed upwards to avoid vapour accumulating at ground level. Exhaust stacks should comply with AS 1668.2-2002. *The use of ventilation and air-conditioning in buildings – Ventilation design for indoor air contaminant control,* and any local Council requirements.

CHEMICAL USE

Air pollution is generated when volatile chemicals are used outside of ventilated or exhausted areas.

To reduce emissions from activities such as pouring and mixing chemicals, applying finishes and using adhesives you should:

- Reduce quantities of chemicals used or ask your supplier for less volatile alternatives. For example, water-based cleaners and paints may be suitable.
- Keep lids on chemical containers and fit taps to minimise loss of product through pouring.
- Regularly check chemical containers to ensure they are not rusted, dented or show signs of deterioration.
- Clean spray nozzles and other equipment in fully enclosed systems or, if soaking equipment, make sure the lid is always on.
- Investigate using a solvent recovery unit and a chiller to condense solvent vapour.

Make sure staff understand the dangers that VOCs pose to themselves and to the environment and know how to minimise this risk.

All painting should take place in a well-maintained spray booth.

If you do not have equipment to remove VOCs prior to release to the environment, make sure that your exhaust system is positioned so that adequate mixing with clean air occurs.

KEEPING COSTS DOWN

The following ideas may help reduce your running costs:

- Regularly inspect and service your spray booths and exhaust systems. This will ensure the equipment is operating efficiently and can increase its life span.
- If using solvents is unavoidable, install a solvent recovery unit – this may result in cost savings over time.
- If you use heat for curing, it may pay to have a specialist check thermostat settings to make sure you aren't using more electricity than is necessary.
- Save on cleaning (and paint losses) by batching spray jobs so that jobs using the same colour are carried out one after another. Schedule lighter paint jobs first, followed by darker colours.
- Fewer air emissions means less chemical is being used and therefore less money is being spent on chemical wastes.
- Odours are not good for business reputation and can harm client perception of your professionalism. They can also harm staff retention and productivity and lead to time consuming problems with neighbours and regulators.

WHAT THE LAW SAYS

It is an offence to cause air pollution (which includes dust and odours) through the inefficient operation or maintenance of equipment or handling of materials.

In practice, this means you need to:

- Make sure a spray booth is used for any activities likely to result in air emissions.
- Regularly inspect and maintain your filtration system, ventilation system, air intake and vent stack to make sure they are working efficiently.
- Keep records of inspection and maintenance procedures.
- Make sure lids are kept on chemical containers so vapours cannot escape unnecessarily.

Ensure odours generated by your operations are not detectable beyond your boundary. If odours are affecting any person outside the boundary of your premises then you may be issued with a notice requiring you to carry out work to prevent the odour or be open to other regulatory action.

Open air burning and incineration of wastes is illegal in most local council areas, unless you are expressly permitted to do this by an Environmental Protection Licence or by an approval under the POEO (Control of Burning) Regulation.

Never use evaporation as a method for disposing of spent solvents.

FURTHER INFORMATION

- Detailed information and best practice guidelines for spray painting, *Warringah Council Air Quality Guidelines* – **www.warringah.nsw.gov.au**
- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au** for:
  The Local Government Air Quality Toolkit
  Draft Policy *Assessment and Management of Odour from Stationary Sources in NSW*
- WorkCover NSW – phone 13 10 50 or **www.workcover.nsw.gov.au** for *Spray Painting Safety Guide*
- Your local Council
- Yellow Pages – **www.yellowpages.com.au**, look under 'Environmental and/or Pollution Control Consultants', 'Air Filters', 'Air Pollution Monitoring Equipment'
- Standards Australia – phone 1300 65 46 46 or **www.standards.org.au**

STORMWATER AND TRADE WASTEWATER

Keeping stormwater and ground water free of pollution and taking care with trade wastewater, are important issues for your business and are directly related to your site management and work practices.

PROTECTING WATERWAYS

The drain is just for rain!

Stormwater is rainwater that flows directly across outside surfaces into stormwater drains or directly into waterways. Keeping stormwater clean is important. The stormwater from your business travels via gutters and drains to local creeks or canals and eventually ends up in our rivers, harbours and beaches.

Stormwater should not contain any pollution from your business activities. If pollutants such as adhesives, stains, paints, lacquers, preservatives, varnishes, solvents, hydraulic oil, dust or other substances are allowed to enter the stormwater system they can cause serious damage to the environment and pose a health hazard for humans.

To prevent stormwater pollution:

- Clearly mark all stormwater drains on your premises and surrounding your site. Make sure all staff know where the street drains are located and understand that they should only collect rainwater.
- Set up a bunded and covered storage area (see 'Information sheet 6' for further information on bunding and managing spills) to ensure chemicals and other liquids spills cannot escape. Prepare a spill response plan and have spill kits ready to manage chemical spills and prevent them from entering stormwater drains.
- Do not hose-down work areas unless the water can be collected or directed through an approved trade wastewater system.
- Do not hose your outdoor surfaces into the stormwater drains. Sweep or vacuum instead. Also be aware that the hosing of all hard surfaces may be prohibited during water restrictions.
- Sweep driveways and work areas to keep them free of litter and other potential contaminants. Dispose of litter in the waste bins and provide containers for cigarette butts.
- Sweep or vacuum to collect dust in work areas and use dust extraction equipment to collect dust at source. Make sure rainwater does not enter work areas where it could pick up dust and other debris.
- Store waste bins, chemicals and dust bags away from stormwater drains.
- Make sure that rainwater does not enter your site where it could pick up anything on its way to the stormwater drain. Contamination, and even the *possibility* that contamination could happen, is defined as pollution and can result in prosecution.

Stormwater drains are part of the same drainage system as street gutters and they flow directly to creeks, rivers and beaches. Only clean water should enter stormwater drains.

Can dust pollute stormwater?

Yes – dust and sediment accumulation *can* pollute stormwater, with serious consequences. This can occur when dust is swept, hosed or left to be washed by rain into gutters or the stormwater system.

Although timber dust may seem to be a natural product, it can damage creeks and rivers. Dust in the water can starve fish, frogs and other aquatic life of oxygen. Oxygen is depleted because the dust increases the carbon load on the water. Manufactured board can produce dust that contains toxic chemicals that are not only harmful to human health but also to the environment.

TRADE WASTEWATER

Trade waste is any liquid, and any substances contained in it, produced by an industrial or commercial activity at a business premises.

Trade wastewater may contain pollutants such as sediment, particles and chemicals. It isn't necessarily toxic or harmful, but it might cause practical problems in sewerage systems (such as suspended solids from dust accumulation). Trade wastewater doesn't include wastewater from toilets, kitchens, bathrooms or non-commercial kitchens or laundries.

Trade wastewater must not enter the stormwater system. It should be discharged to the sewer or to storage tanks. For example, work areas must be connected to the sewer (through an approved trade waste treatment system if necessary) or to an underground tank that is emptied by a licensed contractor.

INFORMATION SHEET 5

Small, raised drains like the ones shown below are inlets to the sewer system. If you are disposing liquid wastes to sewer, you must have a trade waste agreement with your local water authority.

INFORMATION SHEET 5

Do you need a trade waste permit or agreement?

You must have a written agreement or permit from your local water authority to discharge trade wastewater to the sewer.

The two main water authorities in NSW are Sydney Water in the Sydney, Blue Mountains and Illawarra areas, and Hunter Water Corporation in the Newcastle region. Outside these areas local Councils are the local water authority and manage trade wastewater.

Your agreement or permit will set out the discharge conditions for trade waste. Most water authorities require businesses to treat trade waste before discharging it to the sewer. As a guide, the minimum treatment required for discharge to the sewer is a coalescing (corrugated) plate interceptor (CPI). A CPI directs wastewater to a tank in which the solids and liquids separate. If they meet the requirements set by the local water authority the liquids can be discharged to the sewer.

Sydney Water and Hunter Water Corporation have trade waste officers who can help you fill out an application form for your trade wastewater permit.

Stormwater drains are just for rain.

GROUND WATER

Ground water is water found below the surface of the earth in a layer of rock, soil, sand or gravel. Ground water can flow to the surface to form springs that feed water into creeks and rivers. If ground water becomes polluted it can be very difficult to clean up.

You must not allow any material, including hazardous substances or other chemicals, which may pollute soil or waters to soak into the ground within your premises, or in any other area.

If the soil beneath your site is very porous (or the ground water is used as a water supply) you will need to take greater care than normal to prevent leaks and spills.

For information about bunding, containment and preventing spills see 'Information sheet 6: Hazardous materials and liquid waste'.

WHAT THE LAW SAYS

Environmental laws require that you do not 'pollute waters'. For more information on legal requirements, refer to 'Information sheet 1: Environmental compliance'.

In practice this means that you should:

- Not hose dust or chemical spills down the stormwater drain.
- Not store waste or chemicals near a stormwater drain.
- Keep chemicals in a bunded and covered storage area.
- Do all spay painting in a spray booth.

Any spills or pollution incidents that cause material harm to the environmental must be reported by phoning the DEC Environment Line on 131 555 or on **www.environment.nsw.gov.au**.

FURTHER INFORMATION

- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au** for information on stormwater
- Your local Council
- Hunter Water Corporation – phone (02) 4979 9589 or **www.hunterwater.com.au** for information on trade waste agreements and water saving ideas
- Sydney Water – phone: 13 11 10 or **www.sydneywater.com.au** for information on trade waste agreements and water saving ideas

HAZARDOUS MATERIALS AND WASTE

Spill prevention and appropriate storage, usage and disposal of chemicals will benefit your staff and the environment.

STORING AND USING CHEMICALS

The nature of your business will determine which chemicals you use, including whether you need to use hazardous chemicals. The types of chemicals you use might include:

- Adhesives
- Stains, paints, lacquers and varnish
- Preservatives
- Paint removers
- Solvents
- Hydraulic oils.

Fire hazard prevention and occupational health and safety (OH&S) are important considerations affecting how you store, use and dispose of chemicals. You need to comply with the WorkCover NSW requirements relating to chemical hazards in the workplace. WorkCover NSW publishes a range of useful guides about this.

Chemicals present a risk, not only to health and safety, but also to the environment. Chemical spills that reach stormwater drains can pollute local creeks and rivers. Fires involving chemicals can spread toxic fumes.

To reduce risks to the environment:

- Store all chemicals in bunded and covered areas (see information on bunding below).
- Keep an inventory of the chemicals you store and use on-site, even if only small amounts are stored.
- Check container labels regularly to make sure they are in good condition. Labels help you identify the product, its ingredients and any hazards or dangers.
- Make sure you have an up-to-date Material Safety Data Sheet (MSDS) for every chemical used or stored on-site. If you don't have one for a product contact the supplier. MSDS provide important information about appropriate storage and the clean-up of spills.
- Keep MSDS in an easily accessible location and encourage all staff to read them.

BUNDING, CONTAINMENT AND PREVENTING SPILLS

Storing and using hazardous liquids requires a containment system, which generally takes the form of bunding. Bunds prevent stormwater pollution and can be made of any impervious material (material that liquids can't flow through) e.g. concrete or flexible rubber. Bunded chemical storage units can be purchased for smaller chemical storage needs or bunding can be constructed on-site.

Outdoor bunded areas should be roofed to prevent rain from entering them and washing chemicals out or rusting metal drums. Check with WorkCover NSW regarding safety considerations before installing a roof over bunded chemicals.

The following containment practices are recommended:

- Store all liquids and flowable solids in secondary containment systems, such as plastic trays or in a bunded area. Containment systems should be roofed and isolated from stormwater run-off.
- The bunded area should be large enough to hold the contents of the largest container stored inside the bund, plus 10% of the volume.
- Ensure the bund is built with impervious floors and walls.
- Regularly maintain the bund and ensure it is properly operated.
- Store non-compatible chemicals or materials well away from each other.
- Refer to MSDS for safe storage advice.

You can reduce the risk of spills by:

- Minimising the movement of chemicals or other liquids.
- Fitting taps to chemical containers so that hand pouring is not required.
- Using a funnel where you have to pour by hand.
- Creating and implementing a spill avoidance plan.

For more information on bunding and spill management visit the DEC's web site **www.environment.nsw.gov.au**.

Store chemicals in a bunded and roofed area to ensure chemical spills cannot enter the stormwater system.

Left: A bunded storage will prevent the escape of chemical spills.

Right: Spill kits contain equipment that will help to clean up small spills. They need to be checked regularly to make sure they remain well-stocked. Staff should be trained in correct spill procedures.

INFORMATION SHEET 6

DEALING WITH SPILLS

All chemical and other spills should be cleaned up immediately – no matter how small. Spill kits should be appropriate for the operation and the materials stored on-site. They should be kept stocked with relevant absorbent and clean-up materials. A clear sign outlining spill clean-up procedures and emergency contact numbers should be prominently displayed.

The general response for small scale spills is:

1. Eliminate the source of the spill immediately if it is safe to do so.
2. Contain the spill. Use the materials in the spill kit to contain the spill and control its flow. If necessary, stop the spill from entering any stormwater drains by blocking the drain inlets.
3. After referring to the relevant MSDS, clean up the spill promptly. It is important to clean up all spills quickly, even small ones, as they can easily flow into stormwater drains or be washed there by rain.
4. For serious spills, or where there is any doubt about the safety of the situation, contact the Fire Brigade immediately on 000.
5. Store all waste generated from spill clean up in sealed vessels (limiting emission of odorous or volatile compounds) and in a bunded and covered area.
6. Contact a waste contractor who is licensed to dispose of the absorbents used in the spill clean-up.

If a spill occurs that causes or threatens material harm to the environment, you must tell the EPA or your local council immediately after you become aware of it.

AVOIDING LAND CONTAMINATION

You must not allow hazardous liquids or other chemicals to soak into the ground within your premises, outside your premises or in any other area. Chemicals can accumulate in the soil and seep to ground water, causing contamination and limiting future use of the land.

Never use soil as a means of disposing of chemicals. Accumulated chemicals in soil will be identified when the site is sold. Pre-acquisition audits are normal practice on industrial land and are likely to find any contamination. Clean-up costs are substantial and will reduce the value of the land.

When chemicals spill onto unsealed areas and soak into the soil, special care needs to be taken to remove the contamination. Contact your local Council or DEC if your land has areas where chemicals have soaked into the soil.

Hazardous waste that cannot be recycled or reused on-site should be segregated by type and stored in a bunded area while awaiting collection by a licensed transporter.

Storing liquid waste requires extra care. It should be stored in a bunded and secure area so that spillage cannot enter gutters or stormwater drains.

DANGEROUS GOODS

Certain substances (including solvents) are classified as dangerous goods and their use and storage is controlled by legislation. WorkCover NSW can provide information about the requirements for proper storage of dangerous goods. If you use or store flammable liquids you need to comply with Australian Standard AS1940-2004, *The storage and handling of flammable and combustible liquids.*

MANAGING HAZARDOUS WASTES

Storing liquid hazardous waste requires extra care. It should be stored in a bunded, covered and secure area so that any spillage cannot enter stormwater drains or gutters. Spent solvents should be stored in containers with tight lids until collected. Under no circumstances should evaporation be used to dispose of spent solvents.

As a rule, hazardous wastes cannot go to landfill or be discharged to the sewer or stormwater system. If you are a generator of hazardous waste you are responsible for ensuring that it is transported to a facility that is licensed to receive and/or treat that type of waste. Your waste contractor should be able to provide advice on these issues.

Note: In this document 'hazardous waste' includes wastes classified as hazardous, industrial or Group A in accordance with the DEC *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes.*

INFORMATION SHEET 6

To be accepted at a licensed liquid waste facility, hazardous waste must be assessed and classified according to the DEC *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes*. When sending hazardous waste for treatment or disposal, make sure that:

- The transporter is appropriately licensed.
- The waste is being sent to a facility that can lawfully take it.
- You keep all collection receipts.

The movement of most hazardous waste must be tracked during its transport to a facility for treatment, recycling or disposal.

Generally, if you store more than two tonnes of hazardous waste you are required to hold an Environment Protection Licence.

For information about online waste tracking or your need for a licence, contact the DEC Environment Line on 131 555.

INFORMATION SHEET 6

Ask your chemical suppliers if there are less-toxic alternatives for products you're using.

CASE STUDY

Recycling solvents

Disposing of used solvents was becoming a significant business expense for a furniture manufacturing company, so it decided to install a solvent recycling unit. Solid waste output from the system is disposed of using the existing waste skip and the solvent is reused. Not only has the cost of disposing of a hazardous waste been removed, the company has also significantly reduced its spending on new solvent. The unit paid for itself within a year.

KEEPING COSTS DOWN

The following ideas may help reduce your running costs:

- Ask your chemical suppliers if there are less-toxic alternatives to the products you're using.
- Cut your waste bill by checking with suppliers to see if empty containers can be returned.
- Install a solvent recycling unit.
- Organise the chemical storage area so older chemicals are used first. This will ensure chemicals do not become 'out of date'.

WHAT THE LAW SAYS

Under the POEO Act, manufacturers of furniture and timber products are required to ensure that pollutants from their operations do not enter waterways and the stormwater system.

In practice, this means they are responsible for:

- Storing hazardous waste in a safe and appropriate manner.
- Avoiding leaks and spills.
- Reporting spills or leaks causing or threatening material harm to the environment to the EPA or local Council.
- Correctly assessing and classifying hazardous waste according to the DEC *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes.*

The movement of most hazardous waste must be tracked during its transport to a facility for treatment, recycling or disposal. Wastes may be tracked online. For more information contact the DEC Environment Line on 131 555.

FURTHER INFORMATION

- DEC Environment Line – phone 131 555 or **www environment.nsw.gov.au**, for

  Liquid Waste Facts Sheets – information on the handling, storage and disposal of liquid waste

  Bunding and Spill Management

  Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes

  NSW Waste Tracking Requirements – An Update

  Hazardous materials (Hazmat) on-line register of suppliers who can provide resources, equipment, products and advice to minimise the environmental effects of hazardous materials incidents
- Standards Australia – phone 1300 65 46 46 or **www.standards.org.au**, for AS 1940-2004 – *The storage and handling of flammable and combustible liquids*
- Workcover NSW – phone 13 10 50 or **www.workcover.nsw.gov.au**, for information about managing dangerous goods
- Your local Council
- National Occupational Health and Safety Commission – **www.nohsc.gov.au**
- Yellow Pages – **www.yellowpages.com.au**, look under 'Chemical Spill Equipment'
- NSW Fire Brigade – **www.nswfb.nsw.gov.au**, for fire safety measures
- Fire Protection Association of Australia – **www.fpaa.com.au**

SOLID WASTE MANAGEMENT

Waste disposal can be expensive and businesses able to reduce the volume of waste sent to landfill enjoy considerable cost benefits.

Manufacturers of furniture and timber products should use the following hierarchy as the underlying principle for managing waste:

1. Avoid unnecessary resource consumption.
2. Recover resources (including reusing, reprocessing and recycling) and recover energy.
3. As a last resort, dispose of the material safely and lawfully.

For information about managing hazardous waste see 'Information sheet 6: Hazardous materials and waste'.

AVOIDING WASTE

Waste is best avoided in the first place. To reduce waste in your workplace:

- Aim to cut the maximum number of pieces out of timber or manufactured board to reduce off-cuts and save on raw material costs.
- Avoid spoilage of raw materials, such as damaging timber or manufactured board. Consider whether savings from buying in bulk outweigh the costs of spoilage. Would 'just-in-time' purchasing yield similar savings?
- Reduce waste disposal costs by purchasing products with less packaging.
- Service equipment regularly to reduce spoilage from equipment malfunction.
- Minimise your own delivery packaging and encourage customers to return it for reuse.

REUSING WASTE

When avoiding waste is not possible, consider reusing the waste in your business:

- make use of off-cuts
- use packaging from materials you have purchased to package your own products.

RECYCLING WASTE

Investigate local recycling opportunities:

- Assess all wastes generated in your business, including timber, paper, cardboard, toner cartridges, glass, plastic bottles and drink cans. Separate your waste and look for recycling opportunities.
- Contact your local Council about local recycling services.
- Talk to your waste contractor about the wastes you're disposing of – perhaps they have a cheaper rate that may apply to some of your wastes.
- Separate timber shavings and dust – composting operations or pet shops may be interested.
- Establish a return system for used containers.
- Talk to your suppliers about options for collecting pallets and chemical containers.
- Look in the Yellow Pages under 'Recycling' or 'Waste Reduction and Disposal – **www.yellowpages.com.au**.

Computerised beam saws can be programmed to cut the maximum number of pieces out of board to reduce off-cuts.

DISPOSING OF WASTE

To keep costs down, consider waste disposal as a last resort.

Waste that you put in your industrial waste bin will generally go to landfill. Place only dry, solid, inert wastes in industrial waste bins. Do not put liquid or hazardous waste in your bin.

Copper chrome arsenate (CCA) treated timber waste from industrial sources should only be disposed of to certain landfills, in accordance with DEC's *General approvals of immobilisation of contaminants in waste*. For more information on 'CCA treated timber waste' visit the DEC web site – www.environment.nsw.gov.au.

Never burn wastes on-site, not even timber wastes, unless you are expressly permitted to do so by your Environmental Protection Licence or your local Council. Waste chipboard, laminated bench tops, treated timber, lacquered or painted timber can contain highly toxic chemicals. If burnt these toxic chemicals are released and could be inhaled by your staff or the surrounding community. CCA-treated timber must not be burned or used as mulch or a soil additive.

INFORMATION SHEET 7

STORING WASTE

If your waste is being stored for reuse, recycling or disposal it is important to make sure the waste storage area does not contaminate the environment, by:

- Storing waste under cover to prevent rain running through the waste and contaminating stormwater.
- Making sure wind can't blow unsecured waste around, causing litter or potential stormwater contamination.

KEEPING COSTS DOWN

The following ideas may help reduce your running costs:

- Conduct a waste audit to identify where you can save on waste disposal costs.
- Review work practices and product design with your staff. Is it possible to create less waste during production and therefore save on the cost of raw materials?
- Find markets for your waste products – landscaping or composting facilities may be prepared to take timber wastes.
- Donate waste products such as off-cuts or damaged board to TAFE, schools or other organisations.

WHAT THE LAW SAYS

Under the POEO Act penalties apply for unlawful disposal of waste. Both the person who dumps the waste and the person who owned the waste may be liable – so it's important that you make sure your waste is managed, transported and disposed of appropriately.

Donate waste products such as off-cuts or damaged board to TAFE, schools or other organisations.

Ask your suppliers to take back and reuse delivery pallets.

INFORMATION SHEET 7

Waste and recycling bins need to have a lid that is kept closed at all times. It will prevent rain running through the material and creating contaminated stormwater. Ideally, waste and recycling areas should be located under cover.

Other legal considerations include:

- Open air burning and incineration of wastes is illegal in most local Council areas, unless you are expressly permitted to do this by an Environmental Protection Licence or by an appropriate regulation.
- Do not bury wastes or pour liquid wastes onto the ground.
- Wastes awaiting removal should be stored so that they cannot blow or wash into stormwater drains or gutters.
- See also 'Information sheet 6: Hazardous materials and waste'.

FURTHER INFORMATION

- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au**

  Cleaner production case studies

  General approvals of immobilisation of contaminants in waste

  Information on CCA treated timber waste
- NSW Waste Contractors and Recyclers Association – phone (02) 9604 7206 or **www.wcra.com.au**
- Yellow Pages **www.yellowpages.com.au**. Look for 'Waste Reduction and Disposal Services' and 'Recycling services'
- Your local Council, for a list of approved recyclers

MANAGING NOISE

Noise generally becomes 'pollution' when someone finds the noise offensive.

Typical noise issues for neighbours include:

- Overall noise from your operation – such as vehicle movements, shouting, public address or telephone systems, filling and emptying waste bins (especially if early in the morning) or machinery noise generated inside or outside the building.
- Specific units or machines – often located outside buildings and close to neighbours, such as air conditioners, air compressors, extraction systems and fans.
- Rattling or ringing that can sometimes be generated from exhaust stack vibrations.

IMPROVING NOISE MANAGEMENT

To improve noise management:

- Take a regular walk around your premises and the neighbouring area to monitor noise from your business activities, especially hums or rattles from units located on the outside or rear of your building as these may not be noticeable from the inside.
- Make contact with your neighbours – build a working relationship so that any concerns about your operations that may arise in the future can be readily addressed.
- Be mindful that background noise levels can be reduced after normal business hours and the noise of your operation may seem louder to neighbours.
- Consider introducing noise reduction measures such as shielding or muffling for noisy equipment and machinery. An acoustic consultant can help you do this. Look under 'Noise Control Equipment', 'Noise Insulation' or 'Acoustic Materials and/or Services' in the Yellow Pages – **www.yellowpages.com.au**.
- Locate noisy equipment away from doorways.
- Find out about low-noise options when purchasing new equipment.

KEEPING COSTS DOWN

Equipment that is making more noise than usual could be running inefficiently and using excess electricity. Make sure your equipment is regularly serviced – you'll benefit from safer, quieter and more efficient performance, and reduced energy costs.

WHAT THE LAW SAYS

The POEO Act provides regulatory authorities with powers to require that offensive noise be ceased. If someone can hear your business activities and they have reasonable grounds to be annoyed by this, then you may be creating offensive noise and could be issued with a notice or direction to cease making offensive noise. It is an offence to continue the noise in breach of the notice or direction.

You may also be committing an offence if noise is emitted from your premises due to your failure to maintain or operate equipment efficiently, or to deal with materials in a proper and efficient manner.

Your local Council is responsible for dealing with noise complaints about your premises (unless you hold an Environment Protection Licence). Check your development consent for conditions relating to noise and hours of operation.

If necessary, Council officers can work with you and your neighbours to help resolve noise issues. However, council or EPA officers can also issue notices and directions to reduce noise from your premises.

FURTHER INFORMATION

- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au** for

  Noise legislation

  Noise Guide for Local Government
- Your local Council
- Yellow Pages – **www.yellowpages.com.au**. Look for 'Noise Control', 'Noise Control Equipment' and 'Noise Insulation'

Find out about low-noise options when purchasing new equipment.

Locate noisy equipment away from doorways.

BRINGING IT ALL TOGETHER – PLANNING

This information sheet is about the use of good planning to minimise risk and help achieve best practice.

There are many steps along the path to best practice. Here are some suggestions:

- Make a commitment to yourself and your staff that you will consider the environmental impact of your business in your day-to-day decision-making, such as deciding which chemical stock to purchase.
- Commit yourself to increasing your environmental awareness. Reading this guide and offering staff time to read this guide can help in this process.
- Create an environment team or committee to identify environmental issues and propose solutions, or identify someone as a 'champion' who can foster the adoption of environmental practices.
- Make contact with your local Council and industry association to tell them what you are doing. They may have some advice or may know of programs that could help you.
- Make contact with your neighbours. Build a working relationship so that any concerns about your operations that might arise in the future can be readily addressed.

DOCUMENTING YOUR PROGRESS

There are several advantages to planning and documenting measures to improve the environmental performance of your business.

- Directors and managers may have a defence in the event of an environmental pollution offence committed by their company if the directors or managers can demonstrate they used all due diligence to prevent the offence.
- Taking active steps to prevent pollution occurring means it is less likely that you will commit an environmental offence and may reduce your culpability if an offence does occur. If an environmental incident occurs on your site, providing documentation that shows that you have been acting responsibly and actively trying to avoid such incidents could reduce your culpability.
- Customers may have a preference for businesses that are able to demonstrate their environmental credentials.
- Planning and reviewing allows you to be systematic in improving your environmental performance and documenting your cost savings.

Types of documents you can keep

If you are already considering environmental issues on your site, regularly checking and maintaining your equipment to minimise pollution, and planning improvements, then why not document it? Helpful documents include:

- An environmental policy
- An environmental action plan
- Records of staff training, staff inductions, waste disposal receipts and maintenance and inspection schedules.

An environmental policy could be as simple as a one paragraph or one page statement that articulates your commitment to complying with environmental laws and implementing best practice wherever possible.

An environmental action plan sets out environmental risks and opportunities and what is being done to address them. It doesn't have to be a large document and could be part of your OH&S documentation. The important thing is that somewhere you have a document that:

- Contains **actions** for environmental improvement (both ongoing and planned)
- Indicates **who** is responsible for carrying out each action
- Indicates **when** (by what date or how often) these actions will be carried out
- Contains quantified **reduction targets** (in volume, weight or costs) for resource efficiency savings and other environmental impacts.

It's a good idea to review and change your environmental action plan regularly. A sample action plan is included in the 'Useful tools' section of this guide.

Examples of daily and weekly checklists are also included in the 'Useful tools' section. You can adapt these to suit your business and incorporate OH&S issues as well.

DEVELOPING OR REDEVELOPING A NEW SITE

If you are relocating or starting up a business at a new site, you have a great opportunity to factor better environmental management into the design of your new workplace.

Ask your architect for ideas on reducing the environmental impact of your facilities and reducing costs. This might include:

- Using recycled timber (or Forestry Stewardship Council certified timber) and recycled content products.
- Selecting less toxic paints – they 'off gas' lower amounts of harmful VOCs.
- Energy efficiency ideas such as building orientation, wall and ceiling insulation, efficient heating, cooling, hot water, lighting and equipment to reduce energy consumption.
- Water conservation methods such as including a rainwater tank or planting low water usage gardens.
- Waste management plans may be required as part of the planning process. Many Councils have incorporated the Waste Not Development Control Plan into their local environmental plan.

The local Council will also have requirements and conditions that will need to be satisfied as part of the development application process.

FURTHER INFORMATION

- DEC Environment Line – phone 131 555 or **www.environment.nsw.gov.au**

  Cleaner production case studies

  Profits from Cleaner production: A Self-help Tool for Small to Medium-sized Businesses
- Your local Council
- Yellow Pages – **www.yellowpages.com.au**. Look for 'Environmental and/or Pollution Control Consultants'
- Queensland EPA has a free 'ecoBiz' tool that can help in identifying cost savings – **www.epa.qld.gov.au**

SELF-ASSESSMENT CHECKLIST

This checklist can help you evaluate your environmental performance and identify areas for improvement.

You can use this as a starting point and refine it, where needed, to best suit your business. It's strongly recommended that you complete some form of environmental self-assessment for your business on a regular basis.

This checklist is comprehensive and may take over an hour to complete.

Date of assessment: _____

Company name: _____

Property address: _____

Person conducting assessment: _____

Area/building being assessed: _____

What types of activities are carried out in this area/building? _____

_____

Is a site plan available? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed: _____

If yes, please attach a copy of the site plan.

The following questions are designed to help you identify and prioritise actions for environmental improvement. The checklist will also help you identify a way forward to best practice and determine if you are vulnerable to prosecution and fines under environmental legislation.

Once you have completed the checklist, take a look at the questions that you consider require further investigation or action. Use these questions to develop an environmental action plan. A sample 'Environmental action plan' is included in the 'Useful tools' section of this guide.

REGULATORY ISSUES

Are you aware of the environmental laws and regulations relating to your operations? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you comply with the conditions of consent provided in your development approval? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you hold an Environment Protection Licence? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

If so, do you comply with the environmental obligations specified in your Environment Protection Licence? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

ENVIRONMENTAL MANAGEMENT

Are daily or weekly checks carried out to make sure correct procedures are being followed to protect the environment? (Refer to the sample daily and weekly checklists in the 'Useful tools' section of this guide). Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have an environmental policy? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have an environmental action plan? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

If so, does the environmental action plan have objectives, targets, responsibilities and budgets (where applicable)? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have an emergency response plan (including a spill management plan and emergency response plan)? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Have all staff been trained in environmental responsibility – such as preventing dust, minimising VOCs emissions, avoiding spills, minimising waste, etc.? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have a procedure in place to deal with complaints from the public, regulatory authorities or staff regarding environmental issues? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have formal reporting requirements in place for recording accidents and spills that harm or may harm the environment (i.e. an incident reporting form)? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are your staff aware of your commitment to improving the environment? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are your customers aware of your commitment to improving the environment? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

STORMWATER MANAGEMENT

Do you know where the stormwater drains are located on and surrounding your premises? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are the stormwater drains around your business always kept free of pollutants such as litter, dust build-up and shavings? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have any structures – such as a bunded storage area – or procedures in place to prevent stormwater pollution? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are stormwater drains protected from accidental spills? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you undertake all work inside your workshop? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have measures in place to prevent solid wastes from washing or blowing into stormwater? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are staff aware that it is illegal to sweep or hose dust, shavings or any pollutants into stormwater drains? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

WASTEWATER MANAGEMENT

Does any liquid waste go to the sewer? Yes* ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have a trade waste agreement or permit? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Does any liquid waste go to the sewer? Yes* ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Is wastewater treated before it goes to the sewer? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Is there any evidence of ground contamination anywhere on your site? (e.g. visual stains, odours, affected vegetation) Yes* ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

AIR QUALITY MANAGEMENT

Have all potential sources of air emissions been reviewed, for example dust, paint and solvents? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do dust and shavings build up on the floor and other surfaces? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have measures in place to contain dust and prevent dust build-up on floors and other surfaces? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Is there evidence of dust and shavings outside any buildings? Yes* ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have measures in place to prevent dust from leaving the buildings? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are all tools and equipment connected to dust extractors? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are work and storage areas regularly swept or vacuumed? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Is all sanding carried out in a sanding booth? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

If you do spray painting, is it always carried out in a spray booth? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are spray booth filters checked regularly? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do staff know how to check that spray booth filters are working effectively? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Is there someone on-site who is trained to change spray booth filters when needed? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do spray booths comply with the relevant Australian Standards and WorkCover NSW requirements? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are lids kept on chemical containers when not in use? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Can you detect odour from your premises when you are outside the property boundary? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

HAZARDOUS MATERIALS AND DANGEROUS GOODS MANAGEMENT

Does the hazardous material storage area meet dangerous goods legislation and appropriate Australian Standards? For example, is the area bunded, covered and fire-proofed, and are non-compatible materials separated? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Have you notified WorkCover NSW of the dangerous goods stored and handled on premises? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you keep an up-to-date register of all of the chemicals stored at the site? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are the contents of all containers identified and labelled? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have copies of all relevant Material Safety Data Sheets (MSDS)? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do all staff know where to find the Material Safety Data Sheets (MSDS) on-site? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have an emergency response plan? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are spill kits available? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do the spill kits contain the correct materials to deal with spills from all of the hazardous materials and dangerous goods kept on-site? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do staff know how to prevent, contain and clean-up spills? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are spill kits regularly checked and refilled? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

HAZARDOUS AND SOLID WASTE MANAGEMENT

Has a waste review been carried out?

Complete the following to obtain baseline information on your wastes:

Landfill waste_____ kg/month disposal cost $ _____ per month

Hazardous waste_____ kg/month disposal cost $ _____ per month

Liquid waste_____ L/month disposal cost $ _____ per month

Is your hazardous waste (e.g. waste solvents and acidic and caustic cleaning chemicals) collected by a licensed waste contractor and taken to waste facility legally permitted to receive it? Yes ☐ No ☐ N/A ☐ Don't know ☐

Contractor name:

Waste facility name:

Actions needed:

Do you dispose of any liquids into general waste bins? Yes* ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you store all your hazardous waste in appropriate containers and in a bunded and covered area to avoid pollution of the environment? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you keep your solid waste bins with the lid on and stored in a covered area to prevent the wind blowing waste away? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you separate different types of waste so they can easily be reused, recycled or returned to the supplier? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you encourage your suppliers to take back packaging wastes, such as crates and pallets? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Have you talked to your waste company about recycling options? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you recycle or reuse:
Paints/ Stains/ Lacquers/Waste glues? Yes ☐ No ☐ N/A ☐ Don't know ☐

Contractor name:

Actions needed:

Do you recycle or reuse solvents? Yes ☐ No ☐ N/A ☐ Don't know ☐

Contractor name:

Actions needed:

Do you have a solvent recovery unit? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you recycle or reuse hydraulic oils? Yes ☐ No ☐ N/A ☐ Don't know ☐

Contractor name:

Actions needed:

Do you recycle or reuse:
Timber/ manufactured board/ wood shavings Yes ☐ No ☐ N/A ☐ Don't know ☐

Contractor name:

Actions needed:

Do you recycle or reuse: Aluminium cans/ Glass containers/ Paper and cardboard? Yes ☐ No ☐ N/A ☐ Don't know ☐
Contractor name:

Actions needed:

Do you recycle or reuse plastic drums and containers? Yes ☐ No ☐ N/A ☐ Don't know ☐

Contractor name:

Actions needed:

NOISE MANAGEMENT

Are you aware of the effects of your noise on your neighbours? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are noise complaints followed up? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Can you hear your business activities from your site boundaries? Yes* ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you regularly check and maintain noisy equipment, such as compressors, grinders and generators? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Are any pieces of equipment, motors or fans left running after business hours? Yes* ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

RESOURCE EFFICIENCIES

Complete the following to obtain baseline information on your utility use:

Cost of electricity $ _____ per month

Cost of water $ _____ per month

Cost of waste $ _____ per month

Other $ _____ per month

Total $ _____ per month

Do you have a team or 'champions' looking at on going efficiency improvements? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you monitor raw material, electricity and water use and waste disposal? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have energy, water and waste reduction procedures and targets in place? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you use energy efficient motors? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you have a preventive maintenance program to make sure all machines are operating efficiently? For example, are air compressors regularly checked for leaks? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Have you installed insulation to avoid heating or cooling energy loss (e.g. insulation of roof, wall, piping, etc.)? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Have you investigated alternatives to hazardous materials or dangerous goods? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

Do you minimise the amount of paint used by adjusting spray distance or pressure? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

FOLLOW-UP

Do you have a system in place to follow-up any concerns or actions that need to be addressed following this self-assessment? Yes ☐ No ☐ N/A ☐ Don't know ☐

Actions needed:

When you have completed this self-assessment checklist, go back over it and highlight the questions that you have answered with a:

'No'

'Don't know' or

'Yes*' (with an asterisk)

You have identified these questions as areas where you need to undertake further research, make improvements, or take immediate follow-up action. It's recommended that you:

- refer back to the relevant information sheets in this guide to find more information
- develop an environmental action plan
- get started on an environmental improvement program that will be good for your business, your staff and your customers.

It's a good idea to keep completed self-assessment checklists for your own records.

ENVIRONMENTAL ACTION PLAN

FOR FURNITURE AND TIMBER PRODUCT MANUFACTURERS

Sample only – expand and adapt this to your situation.

ENVIRONMENTAL ISSUE	ACTION OR MEASURE	WHO IS RESPONSIBLE?	WHEN?
1. COMPLIANCE			
Meet legal obligations under environmental legislation.	Set up inventory of relevant legislation.	Manager	January
	Provide ready access to all relevant Acts, Regulations, Standards and Codes of Practice.	Manager	January
	Keep copies of licences, approvals and certificates at hand.	Manager	January
	Write up daily and weekly checklists, taking into account inspecting dust extraction equipment, spray booth maintenance, routine actions to prevent VOC emissions, spills etc.	Manager (with staff help)	February
	Train staff in the issues of environmental responsibility, in using the checklists (daily and weekly) and in reporting areas of concern to managers.	Designated workshop staff	February
	Develop a daily or per-shift system to make sure the daily/weekly checks have been completed and signed off.	Manager (with staff help)	March
2. AIR QUALITY MANAGEMENT			
Keep air free of dust. (Dust can cause, environmental and OH&S problems and can also affect neighbours.)	Check the cutting and sanding machines to make sure dust extractors are connected.	Designated staff	Daily
	Sweep or vacuum dust and shavings regularly, and place them into sealed bags or containers for disposal.	Designated staff	Daily
	Wipe surfaces to reduce dust accumulation.	Designated staff	Daily
	Change spray booth filters regularly.	Workshop manager	Monthly or as required
Minimise VOC emissions. (VOCs are toxic and contribute to photochemical smog.)	Investigate alternative products: lower volatile chemicals, paints, solvents and lacquers.	Workshop manager	February
	Reduce fugitive VOC emissions by keeping lids on or fitting taps on chemical containers.	All workshop staff	February

ENVIRONMENTAL ACTION PLAN

ENVIRONMENTAL ISSUE	ACTION OR MEASURE	WHO IS RESPONSIBLE?	WHEN?
Minimise odours. (Odours affect neighbours and can lead to complaints and fines.)	Make sure spray-painting booths and equipment comply with relevant Australian Standards and WorkCover NSW requirements.	Workshop manager	March
	Regularly inspect and maintain spray booths. Check filters, filter installations, seals etc.	Designated staff	Weekly
3. HAZARDOUS MATERIALS AND WASTE			
Use, store and dispose of hazardous materials and waste safely. (They can be toxic if allowed to enter the environment.)	Check that all hazardous materials and waste are stored in a bunded and covered storage area.	Workshop manager	February
	Check that hazardous liquid wastes are segregated and stored in correctly labelled containers.	Designated staff	February and weekly
	Make sure waste transporters are provided with information on the nature of the hazardous waste you are disposing of. Make sure waste goes to an appropriate and legal waste processing facility, and that waste tracking information is kept in the office.	Workshop manager	February
	Set up an inventory of all chemicals and products used on-site.	Workshop manager	March
	Make sure all containers are labelled, dated, properly sealed and closed.	Designated staff	February and weekly
	Check that all chemicals (including flammable, toxic and corrosive substances) are stored in accordance with the Occupational Health and Safety (Dangerous Goods Amendment) Regulation 2005.	Workshop manager and staff	March
	Organise the chemical storage area so that older chemicals are used first.	Workshop staff	March
	Make sure MSDS for all chemicals are up-to-date and accessible at any time.	Manager	February
	Arrange for a recycler to collect recyclable chemicals or glues that are out-of-date or no longer used.	Workshop manager	March
	Fit taps to chemical containers so that hand pouring is not required.	Designated staff	February

ENVIRONMENTAL ISSUE	ACTION OR MEASURE	WHO IS RESPONSIBLE?	WHEN?
	Develop an emergency spill response procedure.	Manager and workshop manager	February
	Provide training to employees on emergency spill response.	Workshop manager and staff	February
	Display emergency procedure posters where they can be seen clearly within the workshop.	Workshop manager	April
4. RESOURCE EFFICIENCY			
Reduce resource use	Set quantified reduction targets for resource efficiency savings (eg raw materials, energy, water).	Manager and staff	January
	Clean dust extraction system filter bags regularly to reduce energy consumption.	Workshop staff	Weekly or as required
	Use nozzles that reduce paint overspray and rebound.	Workshop manager and staff	February
	Switch off lights and equipment when not in use.	Workshop staff	Daily or after use
	Investigate using water-based paints.	Workshop manager	May
	Check with chemical suppliers to find out if empty containers can be returned.	Workshop manager	March
	Investigate using a solvent recovery unit.	Workshop manager	June
5. NOISE			
Noise should not disturb neighbours.	Maintain all equipment so it's running efficiently.	Workshop manager	Weekly
	Check whether operational noises can be heard outside your premises and trace the source of noise.	Workshop manager	Daily
6. SOLID WASTE			
Prevent excess waste	Carry out a waste audit to find out how much waste is being generated.	Workshop manager and staff	April
	Review results of the waste audit and work out how waste can be eliminated, minimised, separated, reused or recycled.	Workshop manager (with all staff involved)	May
	Set quantified waste reduction targets (in volume, weight or cost).	Workshop manager (with all staff involved)	June

DAILY AND WEEKLY CHECKLISTS

Sample only – expand and adapt these checklists to your situation.

DAILY CHECKLIST	TICK
Cutting and sanding machines have been checked to make sure dust extractors are connected.	
All filter bags and dust extraction bins have been checked and emptied if necessary.	
Floors and equipment inside the building have been vacuumed or swept if necessary and are dust free.	
Surfaces have been wiped to reduce dust accumulation.	
Car parks and other external areas are clean and free of dust, litter or wastes.	
Chemical containers have been checked for leaks and all lids are properly sealed.	
Waste storage areas are not overfull and wastes cannot be blown or washed away by rain.	
All floor areas have been checked for spills and drips and have been cleaned up if necessary.	
Lights and equipment are switched off when not required.	
Checks carried out by: Signed: Date:	

WEEKLY CHECKLIST	TICK
Daily checklists have all been completed.	
Filters on spray booths have been checked: they are not clogged and are fitted properly in their frames.	
The spill clean-up kit has been checked and contains all necessary materials.	
A walk-around of the outside of the premises has been carried out, during normal operating hours, to check for noise and odours. Any noise or odours have been reported to the manager.	
Waste bins and storage areas have been checked to make sure there is no build-up of dust or shavings.	
Checks carried out by: Signed: Date:	

USEFUL CONTACTS

Sample only – expand and adapt this lists for your business.

ORGANISATION	PHONE NO.
Emergency Services	000
Local Council	
Department of Environment and Conservation (NSW)	131 555
NSW Workcover Authority	131 050
Poisons Information Centre	131 126
Local Sewage Authority Trade Waste Contact	
Waste Solvent Recycler	
Waste disposal contractor	
General recyclers	

Department of **Environment and Conservation** NSW