

ECOMAPPING

a guide for the motor trade

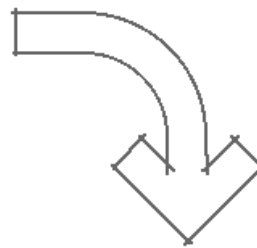
Acknowledgements

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Ecomapping Introduction

WHAT IS ECOMAPPING?

Ecomapping is a straightforward, practical DIY starter kit for environmental management. This starter kit uses simple hand drawn "Mud Maps" to map the water, energy, waste, noise, soil contamination and environmental risks of a business.

Ecomapping is a simple 'step by step' process that gathers information on environmental issues and formulates an Environmental Action Plan through the engagement of staff. It is a toolbox containing 11 working steps that is partly undertaken in the office, but mainly on the shop floor.

GETTING STARTED

Ensure that management at the highest level are involved and support the project.

Get-together with your staff and explain the Ecomapping process and why it is important for staff and the business. Encourage staff participation and consider offering rewards for staff that contribute great ideas.

Ecomapping Instructions

PREPARATION

Once you have approached the staff and explained the eco-mapping process and its importance ask each staff member to undertake the Eco-Opinion Poll. This short survey should take no more than two minutes, providing you with insight into the perceptions of the staff and highlighting issues which need to be addressed.

After completing the Eco-Opinion Poll the next step is to produce seven Ecomaps to determine the environmental impacts of the business. An existing 'Floor Plan' of your business can be utilized (e.g. like those used for fire exit maps). If one is not available, a hand-drawn plan can be used – it doesn't have to be to scale and only needs to show the basic outline of the major areas. Make seven copies of the map.

With help from staff undertake each Ecomap using the checklists below. Symbols or abbreviations should be used to write the information on the map. Attached is a template of abbreviations and symbols which you can use or, you can develop your own. Ensure that an explanation of the meaning behind the symbols is kept with the maps so that they can be interpreted further down the track

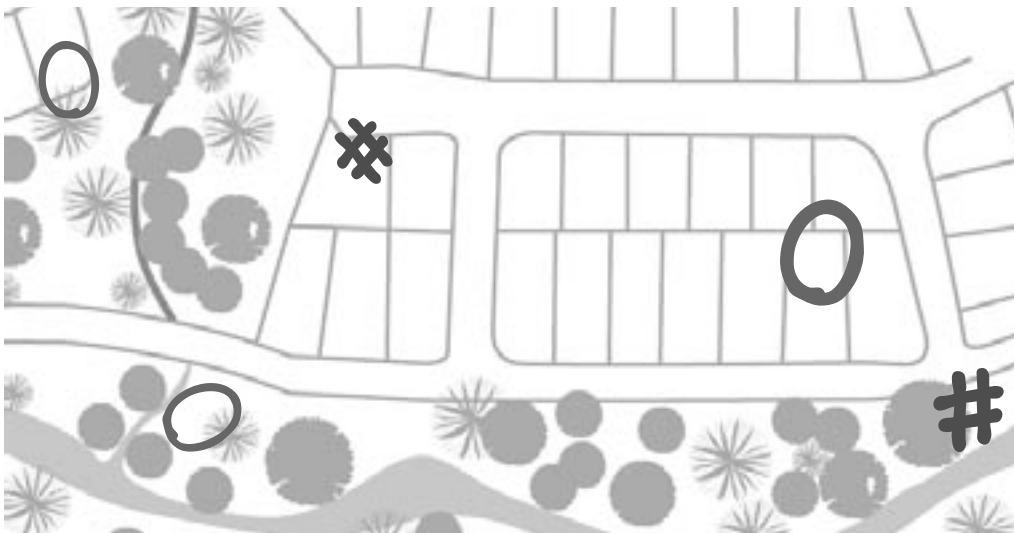
The following two symbols are important and should be used to highlight the issues that need to be addressed; it is beneficial to do this in a different colour so that these areas of concern are immediately identifiable on the map.

- Hatched lines should be used to highlight any small issues, which need to be monitored or studied.
- Circles should also be used to point out any large problems that require corrective action. The bigger the issues are, the thicker the circle should be drawn.

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Note: put the date and title on each map for future reference along with the name of the person who conducted the mapping.



Step 1



Management Commitment

It is important to make a commitment to undertake environmental improvements. This can be done by advising your staff that you're serious about the environment and that you will need their assistance to make successful environmental improvements. This may result in a formalised Environmental Commitment Statement.

Step 2



Eco Opinion Poll

The first task is to undertake the "perception survey" - this is designed to take 2 minutes - literally! Completing this survey will provide an insight into how environmental issues are perceived by all individuals working for the business.

Issue	Excellent	Good	Average	Bad	Terrible
Effective use of consumable products & resources (e.g. paper, cardboard)					
Effective use of energy (fuel, electricity)					
Effective use of water					
Separation of wastes and recycling					
Are air pollution, dust and odours minimized					
Are noise levels controlled and minimized					
Secure storage of products					
Degree of green purchasing (e.g. buying recycled goods)					
Level of personal security					
Level of health and safety in the workplace					
Prevention of environmental accidents					
Environmental policy information-internal					
Neighborhood relations					
Motivation of senior managers					
Motivation of employees					

THE QUESTIONS:

See the above template for a generic list of questions for the staff to answer. You can modify it to suit your own circumstances.

Hand out a copy of the questionnaire to staff members and get them to score each question in the range of Excellent to Terrible. Put down the first answer - "the gut feel" rather than deeply pondering over each question.

ASSESSMENT OF THE ANSWERS:

Now that all the staff have completed the Eco Opinion Poll, it is important that the results of the survey are examined. This can be done by collating the replies and entering them into the attached excel spreadsheet which will calculate the results and produce a graph for you. Other wise you can employ your own methods to analyze the results. Applying a simple weighting to each response is the best method, for example 5 for the excellent answers, down to scoring 1 for the terrible answers.

Once you have determined your results have a look at which areas received high or low scores, the low scores will highlight the areas which need to be addressed. Also take note of any perceptions which are inaccurate, either better or worse than they really are and take action to correct these.

INSTRUCTIONS FOR ECOMAPPING CHECKLISTS

Step 3 to 9 involves using the following checklists to map the environmental issues associated with the business. While undertaking each section of the checklists, consider if any items need to be improved or poses a risk to the environment. Using one of the maps, mark on the map with symbols or abbreviation the checklist items. Note on the map the information suggested in the checklist e.g. write the operating hours. Finally identify where there are opportunities to make improvements, if you determine opportunities for improvement circle them on the map so they can be easily distinguished. Follow the same process for each map checklist.

Step 3



Urban Situation

The Urban Situation Map takes into consideration the premises location and any issues that may arise as a result. For example a crash repairer next to a river would have to be very conscious of managing spills.

Mark on the map:

- Properties on all sides (e.g. commercial, industrial and residential)
- Nearby roads and footpaths
- Public areas (e.g. shops, parks and gardens)
- Traffic flow on and off your property

Note on the map:

- Your normal operating hours
- Sources of complaints (e.g. noise complaints) – circle them!
- Potential sources of annoyance to the neighbors (e.g. after hours work) – circle them!

Identify where there are opportunities to:

- Install timers or turn off equipment after hours (e.g. air conditioners and compressors)





The Water Map takes into consideration all the water used and wasted within the business and any environmental issues that may arise. For example issues that may be identified include, car washing facilities that are not banded and do not drain to an oil separator or where chemicals or waste water drains to the stormwater drain.

Mark on the map:

- Wet areas (e.g. kitchen, bathroom, toilet and sinks)
- Car washing facilities - designated areas
- Car washing facilities - adhoc - circle them!
- Area where high-pressure cleaner is used
- Water based Parts washer
- Evaporative Air Conditioner
- Hot Water System
- Single pass cooling systems (e.g. Spot welders)
- Spray booth and Spray gun washing facilities
- Stormwater drains (are they marked as such?)
- Stormwater treatment areas / devices (e.g. Humeseptor & filter pads)
- Evidence of Stormwater pollution (e.g. oil stains in outside areas) - circle them!
- Areas where "dirty work" is done outside (e.g. wet rubbing, dismantling) - circle them!
- Location of the water meter
- Waste water treatment devices (e.g. Oil Plate separators, Interceptors)
- Where waste water (used water) goes - to sewer* or stormwater* drains

Note on the map:

- Amount of water used in last 12 months (see SA Water account)
- Number for your current SA Water Trade Waste Approval (where needed)
- Name of the EPA licensed liquid waste contractor
- Location of wastewater transporters certificates & wastewater treatment service records.
- How your business is complying with water restrictions

Identify where there are opportunities to:

- Fix dripping taps
- Improve poor work practices that waste water
- Ideas or devices to conserve water (e.g. trigger nozzles)
- Possible use of alternative water (e.g. rainwater) or reuse (e.g. grey water reuse)

* Definitions

- Sewer drains are located in buildings to deliver wastewater (e.g. toilet and bathroom wastewater, industrial wastewater) to a treatment plant for removal of harmful pollutants.
- Stormwater drains are located in external areas around buildings (e.g. down pipes from roofs, car park drains) these drains direct rainwater to streams or directly to the ocean. The water is untreated and not designed for wastewater disposal.



The Soil and Storage Map takes into consideration all the areas where soil contamination could occur and the safe storage of hazardous substances. For example issues that may be identified include storage of oil or other hazardous substances that are not bunded or on sealed ground, soil or garden areas where soil contamination has occurred, and the slope of the ground which could pose a risk to soil or stormwater if a spill were to take place.

Mark on the map:

- Soil, garden and hard paved areas
- Evidence of ground contamination (e.g. visual stains, odours, affected vegetation) – circle them!
- Potential threats for soil or groundwater pollution (e.g. waste oil or radiator fluid leaks) – circle them!
- Where hazardous and flammable materials are stored and used (oil, coolant, chemicals etc)
- Direction of flow for spilled substances (slope of ground)
- Constructed features that contain spills (e.g. bunding)
- Areas where rubbish, solid, hard wastes are stored / held until collection
- Where oil/chemical leaks have occurred – circle them!
- Decommissioned storage tanks

Note on the map:

- Where MSDS (Material Safety Data Sheet) are stored or displayed

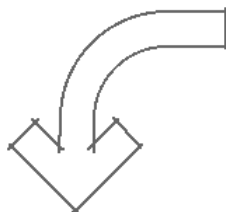
Identify where there are opportunities to improve:

- Labeling of hazardous / flammable materials
- Storage areas by ensuring they are bunded and roofed
- Housekeeping and maintenance practices

Service Stations

Note on the map:

- Location of fuel bowsers, underground fuel storage tanks and forecourt
- Date of integrity testing of the fuel storage tanks
- How you're complying with the Australian Institute of Petroleum (AIP) Code of Practice



Step 6



Air, Odours, Noise & Dust

The Air, Odours, Noise and Dust Map takes into consideration all the sources of air pollution. For example issues that may be identified include areas where there are high concentrations of fumes, spray booths that are not regularly serviced, sources of high noise.

Mark on the map:

- Chimneys, filters and pipes
- Ventilators and openings in the roof
- Doors and windows that provide ventilation
- Air pollution control and monitoring devices on site (e.g. air scrubbers in spray booths)
- Spray painting booths / dedicated area
- Areas where volatile products are used (e.g. petrol, thinners, and paints)
- Areas with high noise / vibration levels
- Areas with smoke, dust particles odours or exhaust fumes

Note on the map:

- Date spray booth filters changed (as per the manufacturers' recommendations)
- Type of filter used in spray booth
- License number to install, service or decommission vehicle air conditioners

Identify opportunities for improvement:

- Maintain equipment to reduce high noise / vibration levels
- Reduce air emissions (e.g. smoke, dust particles or odours)
- In ventilation systems (e.g. install exhaust fans, pedestal fans)

Step 7



Energy

The Energy Map takes into consideration all the Energy used on site, including high and low energy use items. For example issues that may be identified include unnecessary lights in use, kitchen, office equipment or workshop machinery left on.

Mark on the map:

- Position of meters and switchboards
- High energy use items (e.g. heavy machinery & welders)
- Excessive lighting – circle them!
- Heating and cooling devices (e.g. air conditioner, heater & baking ovens)
- Hot Water System (HWS)

Note on the map:

- Amount of electricity used in last 12 months (see retailers account)
- Amount of gas used in last 12 months (see retailers account)
- Number of gas cylinders used per year (e.g. welding gasses)
- Maintenance records of electrical items (e.g. air conditioner)
- When compressor air hoses, tools and connections were last checked for leaks
- Measures already implemented to save energy

Identify opportunities for improvement:

- Increase natural lighting (skylights, glass doors/windows)
- Install energy efficient globes, timers or sensors for lighting
- Install insulation for hot water pipes or air conditioner ducts
- Fit variable speed drives to motors
- Install solar Hot Water System (HWS) or solar panels to generate electricity
- Turn the compressor and air-conditioning off after hours

Step 8



Waste

The Waste Map takes into consideration all the waste products produced, stored and disposed of and any environmental issues that may arise as a result. For example issues that may be identified include the unsuitable temporary storage of waste products and inappropriate disposal of waste products to general rubbish instead of to a licensed contractor e.g. disposal of oil or oily rags.

Mark on the map:

- Where the following wastes are produced, stored and disposed of
 - used oil, oily rags & oil filters
 - used mechanical and electrical parts (e.g. brake pads & batteries)
 - old coolant and fluids (e.g. brake fluid, quick break degreasers)
 - spent refrigerant gas
 - empty paint tins and aerosols
 - contaminated solvents
 - non metallic car body parts (e.g. glass, plastics & tyres)
 - include items from the office & lunchroom (e.g. packaging, plastic & cardboard)
- Temporary placement of waste materials during work procedures.

Write on the map:

- Amount of waste produced in last 12 months (see billing accounts)
- Name licensed waste contractor
- Where waste management records are kept
- What items are reused, recycled, disposed or collected (refer to table below)
- Waste products that are being disposed of illegally (ie. Asbestos brake pads)

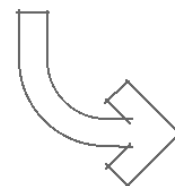


Identify opportunities for improvement:

- Options to segregate waste before disposal
 - Opportunities for reduction or avoidance of waste
 - Opportunities for reuse or recycling
-
- The following products in the first table must be collected by a licensed contractor.
 - The second table contains waste products which should be recycled.
 - Go through each table and ensure that you are disposing of these waste products in the best possible way.

Must Dispose of to Licensed Contractor

Tyres	
Batteries	
Oil	
Oil Filters	
Coolant	
Solvent	
Thinners	
Paint	
Parts Washer Fluid	
Refrigerant Gas	
Rags/absorbent Pads	
Should Recycle	
Metal Car Parts	
Steel	
Aluminum	
Lead	
Brass	
Copper	
Glass	
Plastic Parts	
Plastic Packaging	
Paper	
Cardboard	
Timber	





The Risks Map takes into consideration the risks associated with the business. For example issues that may be identified include inadequate spill kits, risks to soil and water contamination and risks to staff.

Mark on the map:

- Emergency exits, fire extinguishers, first aid kits
- Spill kits
- Personal protective equipment
- Measures to contain spills/contaminated water from entering drains (e.g. slope of floor, bunds)
- Poorly maintained machinery
- Risks related to fire and spills (e.g. where solvents & oils are stored)

Note on the map:

- History of environmental incidences (e.g. spills)
- Date of most recent staff training in emergency procedures (major spills, fire/explosions)
- Location of emergency plan, emergency contacts and procedures

Identify where there are opportunities too:

- Improve your spill clean up procedure?
- Minimize the amount of hazardous materials stored on site
- Incorporate OHS&W issues on to the risk map

