



EPA VICTORIA CLEANER PRODUCTION PARTNERSHIP PROGRAM

GUIDELINES FOR WRITING CLEANER PRODUCTION CASE STUDIES

Background

Cleaner production is a proactive business management strategy aimed at reducing industrial waste, environmental risks, greenhouse gas emissions and use of raw materials. It generally results in a win-win business and environment; for example, the implementation of a new technology which reduces waste may have a very short pay-back period then an ongoing financial benefit in reduced costs to the company. The experience gained in completing a successful cleaner production project, and in addressing barriers to the completion of these programs, can help others and assist the State's drive toward business sustainability.

EPA Victoria is keen to publicise the implementation of cleaner production initiatives; to share this information and promote the uptake of innovative ideas. In this process EPA Victoria will also be promoting the efforts of companies and industries leading the way in cleaner production.

These guidelines have been prepared to establish the form and content for the preparation of cleaner production case studies. Adopting a common approach will aid both publication of the results and uptake of the information.

Title

Include a full page-width title with 'Cleaner Production Case Study' and, on the next line, the full company name.

The process

Describe briefly the production processes undertaken, the industrial wastes produced and energy used. If possible include any audit results or benchmarks measured before the initiatives were introduced. You should also discuss the significant environmental risks or impacts of these processes.

The initiative

Describe the new activities that were implemented. These could be the installation of new equipment, management changes and/or training. The initiative should contain sufficient detail to help readers understand all of the steps that contributed to the result achieved.

Barriers

Every cleaner production project will have to overcome some barriers. These could be knowledge, attitudes or start-up capital. Explain the barriers to effectively implementing the initiative and how these were addressed.

Achievements and savings

Describe the achievements of the project and the results in terms of cost savings, payback periods, industrial waste, energy or risk reduction, improving benchmarks, community satisfaction or other benefits.

Lessons

Describe the major lessons that came out of the project, both for the company and those that may be beneficial for other organisations and groups; for example, did your project overcome any barriers relevant to your industry.

Contact details

Provide details of a contact point in your company (name, address, email, telephone and fax), so that other companies are able to contact you for more information.

Acknowledgment of EPA Victoria

The text shall acknowledge any support given by EPA Victoria and provide EPA Victoria's contact details for further information.

Editorial points

Main headings to be 16 pt Times New Roman font and body text to be 10 pt Times New Roman font. Pages to be set out in two columns in the same format as these guidelines. Case studies should not exceed two to three pages. The inclusion of photographs to highlight significant issues and achievements is encouraged.

Note: Provision of case studies in electronic form as well as printed is desirable.

**FURTHER INFORMATION ON CLEANER
PRODUCTION AND THE PREPARATION OF
CASE STUDIES MAY BE OBTAINED FROM THE
EPA VICTORIA**

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Cleaner Production Case Study

RIVERLAND OILSEED PROCESSORS PTY. LTD.

The process

Riverland Oilseed Processors is an oilseed crushing and extraction plant located at Numurkah, Northern Victoria.

The company processes a variety of Australian-grown oilseeds, including Canola, Sunflower, Safflower and Soybean, into high quality vegetable oils and protein meals. The oils are used as table spreads, and the meals as livestock feeds.

The plant was upgraded in 1996 by installing solvent extraction technology to augment the existing mechanical separation process and increase production capacity.

The vegetable oil is extracted from the oilseed using a combined mechanical and solvent extraction process – less than 1% of the oil remains in the meal. Solvent consumption is minimised throughout the process by recycling and reclaiming.

The plant expansion created a number of unexpected environmental problems including hydrogen sulphide emissions, particulate and fugitive dust emissions and product loss to the drainage system.

The company decided to implement an environmental improvement plan to address these environmental issues. This was done in consultation with EPA Victoria and the local community.

Cleaner production initiatives

The company has implemented a number of cleaner production initiatives to improve the environmental and economic performance of the plant:

- installation of additional dust extraction units (recovered dust is processed into meal);
- installation of an inline moisture homogeniser to add water to meal and reduce product loss from dust emissions;
- replacement of sodium hypochlorite with hydrogen peroxide as the chemical oxidant to reduce the sodium discharge to trade waste;

- use of a vacuum truck to clean particle spills in preference to hosing down; and
- conducting environmental management systems training for staff.

In addition to the above, the company has trialled and implemented a recycling system for reprocessing sodium from the scrubber system into the protein meal.

The company has spent close to \$1 million on improving its environmental performance over the past three years. Although much of this expenditure was on improvement activities, the cleaner production initiatives are delivering savings in the order of \$200,000 per annum.

Achievements and savings

Specific results include:

- A 35% reduction in solid waste disposal.
- A reduction in product loss.
- A 50% reduction in trade waste costs, from approximately \$100,000 per annum to \$50,000 per annum.
- Reductions in phosphorus and nitrogen discharge to sewer.

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