Environmental Sustainability and Industry

Road to a sustainable future

Findings of the National Survey on Environmental Sustainable Practices

Executive Summary

September 2007

AUSTRALIAN INDUSTRY GROUP

Sustainability victoria

Victoria The Place To Be

Environmental Sustainability and Industry

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The study

1 The Australian Industry Group in conjunction with Sustainability Victoria has completed the largest survey of environmental practices by Australian industry.

2 A total of 810 companies in the manufacturing and commercial construction sectors participated in the study. These companies had sales revenue of around $41 billion and employed over 56,300 people. This is equivalent to 10.5% of activity within the two sectors.

3 The overall objective of the study was to understand and document business environmental performance. It examines management attitudes and practice with respect to environmental sustainability; the levels of consumption of electricity, gas and water and the efforts made by companies to lower usage; as well as waste management and product design.

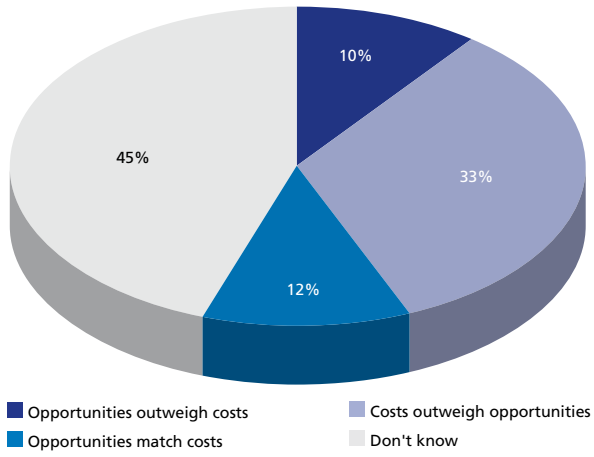
Management attitudes

4 Businesses regard the highest risk from climate change to be market risk, such as a loss of competitiveness (26% of firms) from higher costs.

5 In contrast, the majority of companies (56%) saw opportunities from climate change to promote their company as socially responsible and to improve energy efficiency and lower costs.

6 Reflecting the complexity of the issue, many companies (45%) are undecided as to whether climate change is a net loss, gain or neutral for their business.

Opportunities from climate change

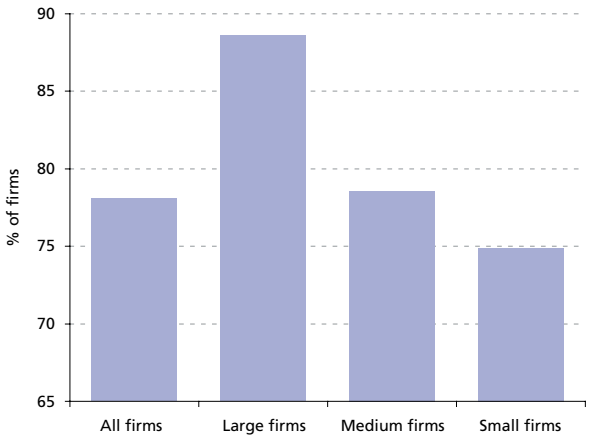


7 Beyond disposal and recycling of products, most companies believe they were poorly informed about strategies and approaches to managing climate change and greenhouse gas emission reduction. Only one in ten companies felt they were well informed about managing the risks associated with climate change.

8 Consistent with electricity being the largest resource consumed in the production process (relative to gas, water and fuel), the most critical priority identified by companies was managing electricity usage (identified by 45% of firms).

9 The vast majority of companies (78%) believe they had a responsibility to contribute to a reduction in carbon emissions, even if it adds some costs to the business.

Responsibility by firm size



10 Only 14% of companies stated they understood the concept of an emission trading scheme (ETS) well or very well. Just under half of companies had a poor understanding and around 40%, no understanding.

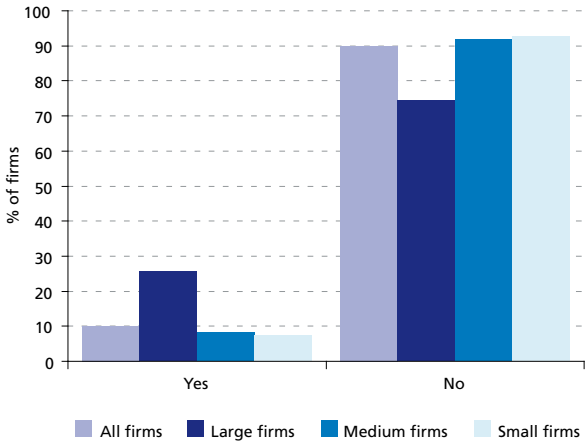
11 Given the low level of understanding of an emissions trading scheme, it is not surprising that 69% of firms were undecided on their support for an ETS for Australia.

Management practice

12 Significant resources are being allocated to environmental issues. Over 1,300 staff and consultants were identified in the study with some environment responsibility duties.

13 Despite these resources, only one in ten companies identified they knew the volume of greenhouse gases emitted by their firm. A significant factor in this low response was that for many companies greenhouse gases were emitted indirectly from suppliers (such as electricity) rather than directly from the factory floor.

Awareness of greenhouse gases emitted by firm size



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14 Around 40% of companies overall indicated they had taken one or more actions to lower greenhouse gas emissions. Among large firms, 70% had taken one or more actions to lower their greenhouse gas emissions.

15 Around one in three companies have a written environment policy, with a further 10% of firms in the planning stage. By size of firm, 73% of large firms had a written environment policy compared with 16% for small firms and 37% for medium firms.

16 About 14% of companies report their environmental performance to the community, with 60% of large firms doing so.

17 Over one in every two firms had undertaken audits on electricity and other resources over the last three years.

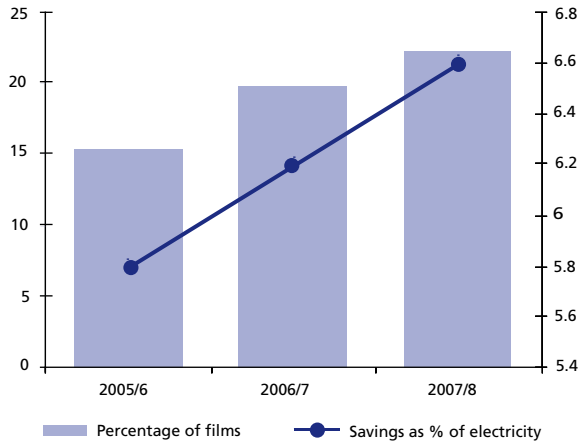
18 The vast majority of activity on environmental sustainability has been undertaken by companies using their own funding.

Electricity and gas

19 Electricity is the resource business has to manage relative to gas, water and waste. As a percentage of sales, it averaged 0.5%, or around $1.6 billion nationally in 2005/6.

20 Around 15% of firms have initiated changes that have contributed to savings in electricity usage in 2005/6. The percentage of firms expecting to achieve savings in 2006/7 and the following year rises to 20% and 22% respectively.

Savings on electricity



21 The savings in electricity usage was equivalent to 5.8% of electricity costs in 2005/6, rising to 6.2% in 2006/7 and 6.6% in 2007/8.

22 If applied nationally, these savings are calculated to be $14.3 million in 2005/6, rising to $19.6 million in 2006/7 and $23.4 million in 2007/8.

23 Examples of electricity saving practices include:

- Turning off lights and appliances when not in use
- Installing energy efficient globes
- Installing skylights and improved lighting systems
- Power factor correction
- Putting time clocks on heaters
- Acquiring more efficient equipment and plant
- Moving to a more eco-efficient site
- Exploring installation of co-generation plant

Electricity and gas (cont)

- Reduce air conditioning use and lowering settings
- Rewiring of factory premises
- Reduce air leaks from compressors
- Changing manufacturing processes (lean manufacturing)
- Using solar power
- Introducing off-peak manufacturing.

24 Gas was less important as an energy source. Only two out of every three firms had installed gas. As a percentage of sales, excluding non-users, it averaged 0.5% of sales. On a national basis, consumption of gas is calculated to be around $740 million.

25 Just over 4.8% of companies have initiated changes that have contributed to savings in gas usage in 2005/6. The percentage of firms expecting to achieve savings in 2006/7 and the following year rises to 6.4% and 7.8% respectively.

26 The savings in gas usage was equivalent to 4.8% in 2005/6, rising to 6.3% in 2006/7 and 7.6% in 2007/8.

27 If applied nationally, these savings are calculated to be $2.1 million in 2005/6, rising to $3.0 million in 2006/7 and $4.3 million in 2007/8.

28 Examples of gas saving practices include:

- Introducing new technology and equipment
- Reducing steam loss from boilers
- Improving boiler efficiency
- Improving roof insulation to reduce heat loss
- Reducing bottle storage inefficiencies
- Reducing gas heating temperature
- Using waste heat from air compressors
- Ensuring industrial gas bottles are turned off
- Checking for leaks in bottles
- Monitoring consumption
- Switching from gas to (more efficient) electricity powered furnaces.

Water and trade waste

29 Water is the smallest input (relative to electricity and gas) to production costs in manufacturing and construction. As a percentage of sales, it averaged 0.15%. On a national basis, consumption of water is estimated to be $480 million.

30 Companies understand they have an obligation to the community to lower water usage, with just under one in two companies indicating that their water reduction activities were driven by this concern.

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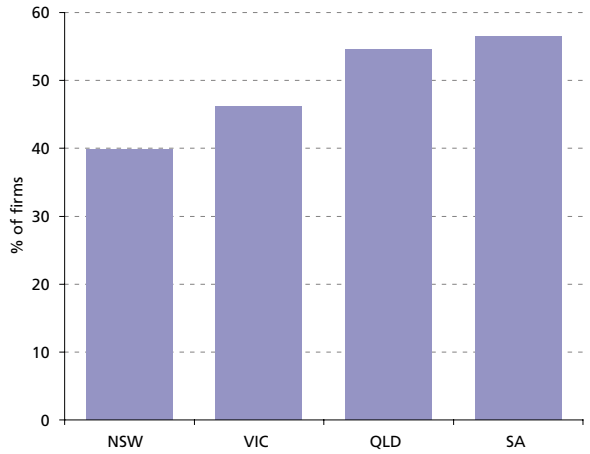
Recognition of community obligations by state



31 Close to 45% of firms considered reduction of water use their most critical priority for water management, with over 40% of firms favouring the strategy in 2005/6. By firm size, 44% of large firms undertook this strategy, compared with 40% for small and 41% for medium firms.

32 While just under 26% of companies had initiated changes to their water use, most of these related to domestic use of water in kitchens and toilets. Many of these companies indicated they had achieved little or no savings in water use. Consequently, for those companies that had identified a cost reduction, a saving of 5.6% in water use was achieved in 2005/6. In the following years, the percentage of firms expecting a saving rises to 6.4% in 2006/7 and 7.8% in 2007/8.

33 Savings in water was equivalent to 8.3% in 2005/6, rising to 8.4% in 2007/8 after falling back to 7.5% in 2006/7.

34 Applied nationally, savings are calculated be to $2.2 million in 2005/6, $2.3 million in 2006/7 and $3.1 million in 2007/8.

35 Examples of water saving practices include:

- Automation of water usage in production
- Capture of rain water and installing water tanks
- Completion of recycling water pump station
- Dual flush toilets or waterless urinals
- Use of recycled/grey water
- Eliminating water leaks
- Fitting water flow restrictors
- Improving cooling tower efficiency
- Better treatment of trade waste water
- Accurately metering water used in production.

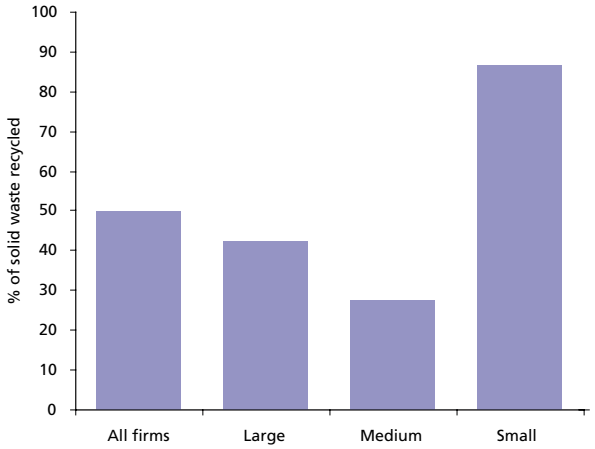
36 Of the liquid (trade) waste generated by firms, about 70% is recycled with the remainder sent to treatment/sewers.

Solid wastes

37 The cost of managing solid waste is low relative to other energy and related resources, amounting to 0.03% of sales. On a national basis, solid waste management is calculated to cost around $96 million.

38 Recycling of solid waste is common practice among many firms, with one in every two companies undertaking recycling.

Recycling by firm size



39 Just under 15% of companies have initiated changes that have contributed to savings in solid waste generated in 2005/6.

40 The savings in solid waste generated was equivalent to 7.5% in 2005/6, rising to 7.6% in 2006/7 and 8.0% in 2007/8. If applied nationally, these savings are calculated to $1.1 million in 2005/6, rising to $1.4 million in 2006/7 and $1.7 million in 2007/8.

41 Examples of solid waste saving practices include:

- Improved process control
- Lean (clean) manufacturing
- Recycling all waste
- Ordering goods bulk packed
- Returning all pallets and packaging to supplier
- Tracking wastes from building sites
- Waste sorted into paper, plastic, glass and metal
- Establishing a total waste management plan
- Filtering of acid wastes
- Improving the design of products.

Product design

42 Just under 62% of products sold by firms are considered recyclable. Around 18% of firms assess all or most of their new products for lifecycle impacts.

43 Around one in five firms engage their suppliers to assess the impact of their products on the environment, 4% formally and 15% informally.